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Twentieth Annual

Undergraduate Research Conference

Butler University

April 18, 2008

Welcome!

Welcome to Butler University and to Indianapolis!

For twenty years, the Butler Undergraduate Research Conference has brought together people from colleges and universities across the Midwest to present papers and poster sessions. The largest gathering of undergraduate researchers in the Midwest, this occasion offers students from a variety of disciplines the opportunity to present the results of their labors, replicating the format and climate of professional conferences.

On the occasion of this anniversary year, I want to thank Butler Professor Emeritus Jim Berry, whose vision and foresight led to the establishment of this Conference; Doctor Robert Padgett, who coordinated the proceedings for many years; and current Co-Directors Richard McGowan and Robert Holm, who continue to burnish the splendor of this annual meeting.

I encourage you to take this opportunity to share in the enthusiasm and knowledge of your fellow students at this event. May your own presentations go well, but also support other presenters by attending sessions that pique your interest. Enjoy your experiences today!

Sincerely



Bobby Fong
President, Butler University

Butler University takes special joy in welcoming you to the 20th Annual Undergraduate Research Conference. For 20 years, this conference has brought together students, their mentors, and friends from schools and communities across the country.

This year's conference is the largest ever with over 480 scholars presenting the results of their research. We thank the participants for demonstrating the initiative to engage the world of ideas and assuming the risks of presenting ideas in public. We commend your character and congratulate you for successfully meeting the challenges posed by the pursuit of knowledge. Your presence here bodes well for the future of the academy and society.

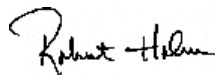
We thank the faculty for their support of these scholars. You have encouraged these talented young women and men to pursue a life of the mind. You reaffirm and renew intellectual traditions for another generation.

Support derives not only in the form of hard work. We thank Eli Lilly and Company for its continued financial support of this event.

We hope that your experience on Butler's campus will provide you with a forum to present your work, engage in dialogue with others, meet individuals from other communities, and grow in understanding.

This conference represents people coming together to affirm the value of knowledge and truth. Of such values are bonds of community strengthened. Thank you for contributing to "20 years of bright ideas".

Sincerely,



Robert F. Holm, Ph.D.
Co-Director



Richard J. McGowan, Ph.D.
Co-Director

Conference Personnel

Conference Co-Director

Dr. Richard McGowan

Administrative Assistant

Jamie Survance

Conference Co-Director

Dr. Robert Holm

Special Events Advisor

Mary Azar Callahan

Area Coordinators

Anthropology

Dr. Elise Edwards

Art History

Dr. Elizabeth Mix

Biology

Dr. Michael Maloney

Business Administration & Economics

Dr. Deborah Skinner

Chemistry

Dr. Geoffrey Hoops

Communication: Speech and Journalism

Dr. William Neher

Earth and Environmental Sciences

Dr. Robert Holm

Education

Dr. Arthur Hochman/Dr. Meredith Beilfuss

Exercise Science and Human Performance

Dr. Michael Worrell

Hanover College

Foreign Languages

Dr. Willi Schwoebel

Gender Studies

Dr. Katharina Dulkeit

History

Dr. Scott Swanson

International Studies

Dr. Montgomery Broaded

Literature

Dr. William Watts

Math and Computer Science

Dr. Rebecca Wahl

Media Studies

Dr. Allison Harthcock

Performing Arts

Dr. Frank Felice

Pharmacy/Health Sciences

Bruce Hancock M.S. RPH

Philosophy & Religion

Dr. Tiberiu Popa

Physics

Dr. Xianming Han

Political Science

Dr. David Mason

Psychology

Dr. Joel Martin

Sociology

Dr. Antonio Menéndez

URC Conference Schedule

7:30 a.m.	Conference Registration and Check-in 2nd Floor Atherton Union Continental Breakfast, Reilly Room, Atherton Union
8:45 a.m.	Opening Remarks Dr. Richard McGowan Reilly Room, Atherton Union
9:00 a.m. – 4:00 p.m.	Conference Sessions
10:00 a.m. – 3:00 p.m.	Poster Sessions First Floor, Jordan Hall
11:30 a.m. – 1:30 p.m.	Lunch Reilly Room, Atherton Union
12:00 p.m.	Welcome Address Dr. Bobby Fong, President Reilly Room, Atherton Union
4:00 p.m.	Conference Concludes

Presentation Schedule

Anthropology

Session A Jordan Hall, Room 276

- 09:15AM The Meanings of Artifacts: Dynamics and Complexities within Museums and Archaeology. Jonathan Irons.
09:30AM Are Zoos a Type of Museum? Diane Matacale.
09:45AM Separate but Not Yet Equal: Women in Museums. Christina Lear.
10:00AM Museum Collections Departments: Strongholds of Western Culture. Samantha Hyler.
10:15AM The Sacred Museum or the Museum of the Sacred: The Context Behind Religion Museums. Keith Lohse.
10:30AM Authority and Choice in Student Health Information Behavior. Lauren Holditch, Steven Viall, James Nyce.
10:45AM The Internet: Serious Business. Ashley Holmes.

Session B Jordan Hall, Room 276

- 01:00PM Refugees, American policy, and the American people. Stacey Summitt.
01:15PM Strength in Numbers: A Reflection on the Benefits of Community for Karen Refugees. Laura Naughton.
01:30PM Intersecting Themes in Dance Therapy and Dance Anthropology. Brittany Pohl, Alison McReynolds.
01:45PM Henshin: Ranma 1/2, Gender, and Body Transformation in 1990s Japan. Bess Anderson.
02:00PM Analysis of Cranial Deformation Practices in Taino Society. Darryl Ricketts.
02:15PM Saami Reindeer Herding: 'Traditional' Practice in Modern Scandinavia. Samantha Hyler.

Art History

Session A Fairbanks Center, Room 146

- 02:00PM Rina Banerjee: Western and Asian Cultures Combined. Tarin Milligan.
02:15PM Sergio Gomez's Self Portrait, 1999. Lindsey Gargas.

Biology

Session A Gallahue Hall, Room 101

- 09:00AM Effect of Cover, Temperature, Time of Day, and Season on Foraging in Birds. Kathleen O'Brien.
09:15AM Turtles of the Central Canal: A comparative study in reproductive ecology. Kati Rush.
09:30AM Effect of Selection Over Time and the Nature of the Trap on Gene Frequencies in a Population Cage of *Drosophila* Initiated with Equal Numbers of Wild and Bar Flies. LaToya Draughon, Jessica Davis.
10:00AM Niche partitioning in five species of non-migratory insectivorous bark-foraging birds in Indiana deciduous forests. Daniel Albrecht-Mallinger, Chelsea Blake, Evan Dalton.
10:15AM Spider Diversity of Dominica: a habitat comparison. Susan Kennedy, Erick Lundgren.
10:45AM Biology and Conservation of the Bald Eagle and other Raptors at the Dwight D. Chamberlain Raptor Rehabilitation Center, Hardy Lake Recreation Area, Scottsburg, Indiana. Brittany Terry.
11:00AM Does DiazaCon™ effectively reduce aggression and number of offspring in wild waterfowl populations? Jessica Corder, David Porta, Gregory Hobbs, Roy Burns, III, Christi Yoder.
11:15AM Analysis of Coral Reef Community Structure and Composition Inside and Outside of Marine Protected Areas in the Turks and Caicos Islands, Caribbean Sea. Matthew Helms.
11:30AM Biological assessment of stream health in two urban watersheds. Carly Decker.

Session B Gallahue Hall, Room 102

- 09:00AM Ion Deficiency Symptoms across Tissue Culture. Kirk Bradtmiller.
09:15AM Auxin Amides as Slow Release Forms of Auxin in Tissue Culture. Agna Win.
09:30AM Refining the Annotations of Malaria Genomes. Lindsey Howlett, Gaya Hettiarachchi, Will Vincent, Alfred Simkin.
10:00AM An investigation of the mechanism for epithelial mesenchymal transformation in retinal pigment epithelium. Trish Todd.
10:15AM The Effects Reishi Mushroom Extracts on Human Lung Cancer Cells. Sanda Zolj, Melissa Pawley.
10:30AM Ambrosia Project: Characterization of a Pollen cDNA Library from Giant Ragweed. Kathryne Blair.

Session C Gallahue Hall, Room 101

- 12:30PM Spider Diversity of Dominica: Diurnal vs. Nocturnal Species Assemblages. Yvonne Matos.
- 12:45PM The Effect of Selection Over Time and the Nature of the Trap on Gene Frequencies in a Population Cage of *Drosophila* Initiated with Equal Numbers of Wild and Bar Flies. James Amaya, Matthew Abbott.
- 01:00PM The Effect of Selection Over Time and the Nature of the Trap on Gene Frequencies in a Population Cage of *Drosophila* Initiated with Equal Numbers of Wild and Bar Flies. Kristen Smith, Kelly Murphy.
- 01:15PM Leaf Herbivory and Fall Leaf Drop Date in Invasive vs. Native Shrubs. Laura Herbstreit, Stephen Martin.
- 01:30PM Sapling and Environmental Characteristics Across an Edge to Interior Gradient. Megan Carter, Dorothy Christopher, Haley Wicklein.
- 01:45PM The Effects of a Sediment Trap on Benthic Macroinvertebrate Populations In the North Branch of the Boardman River, Michigan. Whitney Nelson, Dan Ippolito.
- 02:00PM Vertical Distribution of Cladocerans and Copepods in Lake Larrew (Kosciusko County, IN) in Fall 2007. Leeland Shaw, Jeff Grabowski.
- 02:15PM Abundance and growth of largemouth bass (*Micropterus salmoides*) in an unexploited population. Jacob Wenger, Emma Eilts, Jared Mobley.

Session D Gallahue Hall, Room 102

- 11:00AM Comparative Leaf Development in *Kalanchoe delagoensis* and *Kalanchoe pinnatum*. Heather Pence.
- 11:15AM Investigation of *Kalanchoe homobox 1* gene in *Kalanchoe pinnatum*. Jessica Kirkpatrick.
- 11:30AM The effect of ontogenetic changes on the passive buoyancy of the freshwater turtle, *Graptemys geographica*. Rachel Deal.
- 12:30PM Hatchling Orientation in a Hatchling Turtle (*Kinosternon flavescens*). Evan Dalton.
- 12:45PM Patterns of thermoregulation in the Big-eyed Pit Viper, *Trimeresurus macrops*, a small tropical forest snake in northeastern Thailand. Tracy Tamashiro.
- 01:00PM The Effects Of Medications On Alzheimer Pathology & Neurogenesis. Sara Pourheydarian.
- 01:15PM Continued Presence of Airborne Fungi: An Update Study of Airborne Fungi at the Louisville Zoological Gardens. Brian Murphy.
- 01:30PM Prevention of Hospital Acquired Infections at Mercy Suburban Hospital in Southeastern Pennsylvania. Margaret Feeney.
- 01:45PM The Functional Outcomes Of Simultaneous Bilateral And Unilateral Total Knee Arthroplasty. Deren Bagsby.

Business Administration & Economics

Session A Holcomb Building, Room 235

- 10:00AM Finances of Medical Journals. Benjamin George, Elias Dayoub, E. Ray Dorsey.
- 10:15AM Which factors affect demand for tourism in Madison area? Van Pham.
- 10:30AM Do Preschool Interventions Affect K-10th Grade? Performance: An Econometric Evaluation of Family School Partners. Nicholas Hotz.
- 10:45AM Examining the Spectrum of Eligibility of Professional Sports. Tom McLaughlin.

Chemistry

Session A Gallahue Hall, Room 108

- 09:00AM Synthesis Of Specifically Substituted 3-Phenylisoxazolines And 3-Phenylisoxazoles. Laura Bandy, Robert Sammelson.
- 09:15AM Microwave-Assisted Synthesis of Secondary and Tertiary Amides with a Platinum Catalyst. Felicia Fullilove.
- 09:30AM Progress Toward the Synthesis of Sattabacin. Levi Rupp.
- 09:45AM Microwave Reactions of Chromium Carbene Complexes with Alkenes and Acetylenes. Joel Meyer.
- 10:00AM Palladium-catalyzed cross-coupling of a functionalized aryl iodide. Joseph Barlan, Eric Smith.
- 10:15AM Distillation of an unknown, two-component system for use in the undergraduate laboratory. Coy McNew.

Session B Gallahue Hall, Room 108

- 10:45AM X-Ray Fluorescence Analysis on Bronze Age Potshards Utilizing a Portable XRF Spectrometer. Lynda Wilkinson, Chad Wallace, Anderson Capsel, Amanda Spencer, David Neidert, Dale Bales.
- 11:00AM Lead Determination in Toys Using X-Ray Fluorescence. Anderson Capsel, Scott Carr, Dale Bales, Lynda Wilkinson.
- 11:15AM Luminescence Studies of Lanthanide Compounds within Room Temperature Ionic Liquids. Matthew Goldey.

Session C Gallahue Hall, Room 108

01:00PM	The effect of the Cnidicolous chayamansa (chaya) plant on the mealworm cholesterol absorption. Nicole Jaspers, Dominique Edwards.	01:45PM	The effect of chaya extract on the ergosterol synthesis in <i>S. cerevisiae</i> . Martin Jaspers, Nichole Sheaffer.
01:15PM	Functional Characterization of a 3-Ketoacyl-CoA Synthase from <i>Dictyostelium discoideum</i> . Andrea Grotenhuis, Brenda Blacklock.	02:00PM	Investigation of Two Site-Directed Mutants of Serine Hydroxymethyltransferase from <i>Escherichia coli</i> . Samantha Fulton, Justin Beauchamp.
01:30PM	Toward the detection of polyphenols from tea using direct-insertion mass spectrometry. Eric Smith.	02:15PM	Determination of Impact of Phosphate Ions on Surface Coverage and Orientation of Cytochrome c on a Silica Surface with Polarized ATR Spectroscopy. Ken Clevenger.

Communication: Speech & Journalism

Session A Fairbanks Center, Room 246

09:00AM	An Ethical Analysis of Clinton-Lewinsky Coverage in Print Media. Cassie Krisher.
09:15AM	The Ethics of Fox News Channel's Iraq War Coverage. Reid Bradley.
09:30AM	Blurring the Lines: An Ethical Analysis of Advertorials. Kelly Patrick.
09:45AM	Hardly "Beyond Petroleum": A glance into BP's deceptive marketing tactics. Patricia Geary.
10:15AM	A Great American Scare: A sociological prospective study of McCarthyism and the countermovement that secured its failure. Christianna Luy.
10:30AM	Should the American Horse Slaughter Ban be Passed? Jada Buchanan.
10:45AM	Facebook: An Examination of the Relationship Between Gender, School Affiliation and Facebook Content. Lara Smitley.
11:00AM	Facebook: A Study of its Effect on Taylor University's Community Life. Alyssa Allen, Heidi Babson.
11:15AM	An Examination of the Use of Humor by Professors in the Classroom. Wade Finicle.
11:30AM	Romantic Relationships: Who Knows Whom Best? Lynette Miller.

Session B Fairbanks Center, Room 246

01:00PM	An Examination of the influence of celebrity endorsements on purchasing behavior. Bethany Lewis.
01:15PM	An Examination of the Effects of Make-up on Non-physical Attributes. Jaime Blosser.
01:30PM	An examination of the Effects of School Background and Gender on discerning emotional displays. Leslie Newton.
01:45PM	An Examination of Perceptions Associated With Romantic Interracial Relationships. Laura Bowman.
02:00PM	An Examination of Gender and Argument Style Preference. Daniel Schroeder.
02:30PM	English Reading Comprehension Ability in Bilingual Education. Lindsey Harrington, Morgan Pledger, Jenna Young.
02:45PM	English Spelling Ability in Bilingual Education. Jessica Diefenbach, Breanne Pascoe.
03:00PM	The Influence of Orthographic Depth on English Reading and Spelling in Bilingual Education. Shawna Kennedy, Kacy Winegar.
03:15PM	The Relationship between Reading Comprehension and Spelling Ability in a Bilingual Education Setting. Lydia Glass, Lindsay Gough.

Earth & Environmental Sciences

Session A Gallahue Hall, Room 105

11:00AM	Diversified Huertas: Importance for Income and Familial Consumption. Yvonne Matos.
11:15AM	Predicting Soil Frost and its Response to Climate Change in Northeastern U.S. Forests. Haley Wicklein, Scott Ollinger, John Campbell, Steve Frolking.
11:30AM	Investigation of the High Pressure-Temperature Behavior of Binary Hydrogen-Helium Mixtures. Seth L. King.

Education

Session A Jordan Hall, Room 183

09:00AM	"A Study of the Academic Success of Student Musicians and Student Athletes". Johanna Marvin.
09:30AM	Classrooms Today vs Hollywood. Alecia Prince.

Exercise Science and Human Performance

Session A Gallahue Hall, Room 105

01:00PM	How Does the Fibula Help the Leg Resist Torsion? Sara Goblirsch, David Porta.	01:45PM	Influence of Placebo Treatments on Muscular Endurance. Audrey Long.
01:15PM	Is Traction a Reasonable Mechanism of Injury for an Isolated Ruptured Disc? Charles Barrett, David Porta.	02:00PM	Work Efficiency during arm versus leg work. Miranda Udem.
01:30PM	Impact of Aerobics and Strength Training on Body Composition. Laurel Knecht.	02:15PM	Heart Rate as an Indicator of Metabolic Cost when Speed and/or Elevation Change During Treadmill Walking. Kristen Davis.

Foreign Languages

Session A Jordan Hall, Room 301

10:00AM	La Voix du valet au XVIIIe siècle. Ashley Kohl.	11:00AM	The Passion of Clermont-Ferrand. Molly Moyer.
10:15AM	English Language Learners. Kristina VanDyke.	11:15AM	La nueva identidad: Transición y recreación de la identidad en la migración mexicana a los Estados Unidos de América. Michael Ripley.
10:30AM	The effect of reading books in American Sign Language to Deaf children on English literacy skills. Lydia Glass.		
10:45AM	Deconstructing the Novela Rosa through the works of Lucia Etxebarria. Kelly Stephens.	11:30AM	How to lose Money in Germany: An Analysis of Wal-Mart's Failure in Germany. Nicholas Hotz.

History

Session A Jordan Hall, Room 205

09:00AM	George Whitefield's Gospel of Immediacy. John Hutchins.		
09:15AM	The Rhetoric of Jonathan Edwards. Nate Antiel.		
09:30AM	Lessons of Infinite Advantage: The California Experiences of William Taylor, 1851–1856. Casey Wittekind, Audra Gustin.	11:45AM	A Popular Critic: Dorothy L. Sayers' Popular Fiction as Historical Source Material. Margaux Reeves.
09:45AM	The Ghosts of Uganda: The Forgotten Lives of the Child Soldiers of Northern Uganda. Rebecca Scherpelz.	12:00PM	Every Child a Wanted Child: An Analysis of the Gendered History of Birth Control. Laura Weiskopf.
10:00AM	An Exile's Shamrock: The Evolution of Irish Identity from Ireland to America, 1845-1920. Maire Gurevitz.		
10:15AM	The Queen Isabella Association: Eliminated From American Memory. Lauren Maxwell.		
10:30AM	"Don't Let Your Friends Forget About Us": Echoes of the Great War in the Poetry, Prose, and Music of Operation Iraqi Freedom. Amber Gowen.		
11:00AM	Different Dreams: An Examination of America's and Japan's National Characters. Tori Koenig.	01:15PM	Identity Crisis: The Algerian War and the Fall of the French Fourth Republic. Thomas Pilotte.
11:15AM	Joining the Women's Army Corps. Amanda Rutherford.	01:45PM	Living in the Shadows of Gomorrah: (Re)Discovering Homosexuality in the Middle Ages. Jordan Carroll.
11:30AM	Hands-on Jesus: Christian Consumer Culture in Contemporary America. Elizabeth Orr.	02:00PM	The Hillary Chronicles: An Examination of Gender in Politics. Lauren Maxwell, Laura Weiskopf, Amanda Rutherford, Annmarie Salach, Heather Sperry, Jessica Nelson, Hannah Muehlbauer, Regina Cantrell, Katie McCabe, Maire Gurevitz.

Session B Jordan Hall, Room 205

International Studies

Session A Jordan Hall, Room 207

09:00AM	One Visual with Two Voices. Shanna Saubert.
09:15AM	Enchanted Subcultures. Kerri Jones.
09:30AM	Modern Global Slavery: Its Existence and Our Solutions. Phillip Call.

Session B Jordan Hall, Room 207

10:00AM	Secularism and Islam in the Republic of Turkey. Richard Saunders.
10:15AM	Refugees: Gender Differences, Why is Refugee Status More Difficult to Obtain for Females? Allison Rief.
10:30AM	Image and Reality of Hamas' 2006 Palestinian Election Win. Jordan Vinson.

Literature

Session A Jordan Hall, Room 303

- 09:00AM Ishmael, the Rhetoric of Tragedy, and the Cathartic Experience. Leah Weinzapfel.
09:15AM Small Acts of Rebellion: Faultlines in the Micro-Powers of "The Known World". Rachel Custer.
09:30AM A Plaything of Angels: The Beauty of Pearl in Hawthorne's "The Scarlet Letter". Mike Graczyk.
09:45AM The Ambiguities of the Tragic Flaw: Cleopatra, Hester Prynne, and the Restoration of Order. Ashley Czuba.

Session B Jordan Hall, Room 303

- 10:00AM "The Fall of the Sparrow": Hamlet's Move toward Providence. Julia Johnson.
10:15AM Race, Identity, and Self-Conception in Shakespeare's Othello. Emily Wendel.
10:30AM Revealing Through Language: An exploration of Cleopatra's final moments. Amanda Clark.

Session C Jordan Hall, Room 303

- 11:00AM Words and myths: Tolkien's invented languages and their role in shaping Middle-earth. Emily Bowerman.
11:15AM "A Ghost of the Wind". Melody Landis.
11:30AM Reflections Of Joseph Campbell's "Monomyth" In "Pedro Páramo": The Heroic Nature Of Juan Preciado. Neal Monroe.
11:45AM An Exploration of the Heroic Transformation of Futurama's Fry. Patrick Spears.

Session D Jordan Hall, Room 303

- 01:00PM Social Tensions in Stow's Survey of London and English Renaissance City Comedies. Leigh Malach.
01:15PM The Use of Servants in Tobias Smollett's Travels through France and Italy. Jennifer Smith.
01:30PM Angela Carter's Deconstruction of the Imperialist Perspective in the Construction of Identity. Deborah Celizic.
01:45PM Treading the Line Between Family and Business in Road to Perdition. Jonita Davis.

Session E Jordan Hall, Room 303

- 02:00PM Spiritual Marriage as Expressed in Three Models. Juli Digate.
02:15PM Marvell's "To His Coy Mistress": A Look at Tone and Intentions. Marcus Whalbring.
02:30PM Bridles and Bowres: Temperance in Book II of Spenser's The Faerie Queene. Catherine Barnett.
02:45PM Entrapment and Deliverance: Hardy's Tess of the D'Urbervilles and Conrad's Heart of Darkness. Wesley Scott.

Math and Computer Science

Session A Jordan Hall, Room 242

- 10:00AM A Metrics Tool for Multi-Language Software. Sigmon Myers, Andrew Rauff.
10:15AM Visualizing Digital Library Search Results. Jon Scott.

Session B Jordan Hall, Room 242

- 10:30AM A new approach in estimating the couple removal rate in gender structured demographic models. Jared Erickson.
10:45AM An Exploration of Cardinality using Binary Numbers. Jeremy Erickson.

Media Arts

Session A Fairbanks Center, Room 146

- 12:00PM Profanity In Music: The difference between the levels of profanity in popular and country music. Staci Windsor.
12:15PM Critical Analysis of Scrubs from the Feminist Media Studies Perspective. Audrey Carie.
12:30PM Dominant Ideology in Sex and the City. Lindsey Olsen.
12:45PM Grey's Anatomy's Diverse Way of Oppressing Women and Minorities. Mackenzie Murnane.

Performing Arts

Session A Lilly Hall, Room 120

09:30AM	The Florentine Camerata and Their Influence on the Beginnings of Opera. Amanda Fawcett-Lothson.	11:00AM	Alles ist hin!: The Renunciation of Tonality in Schoenberg's String Quartet No. 2. David Rugger.
09:45AM	The Impact of Paganini on the Evolution of the Virtuoso. Eun Lee.	11:15AM	The Brandenburg Concertos of JS Bach:. Matthew Abbott.
10:00AM	Rousseau's War of the Buffoons. Rose Vorenkamp.	11:30AM	Ives and Place. Robert Phillips.
10:15AM	Body/Language. Michael Burke.	11:45AM	Social and Political Commentary in Shostakovich's Symphony No. 13 "Babi Yar". Natalie Todd.
10:30AM	Paddywack and The Unseen World of Puppetry, Politics, and Social Commentary. Patrick Weigand.	12:00PM	Shostakovich's Tenth Symphony and its Political Underpinning. Stephanie Wabnitz.
10:45AM	A Diachronic Critique of the 'Neoclassical' as Seen in the Symphonies of Igor Stravinsky. David Rugger.	12:15PM	The New Babylon: Dmitri Shostakovich's Influence on Soviet Film Music. Emily Toth.

Pharmacy/Health Sciences

Session A Pharmacy Building, Room 015

08:30AM	Prescription To My Younger Self: What I Learned After Pharmacy School. Alisha Broberg.	11:00AM	Impact of Patient Mortality with Bloodstream Infections Associated with Prompt Positive Cultures and Appropriate Therapy. Matthew Ertmoed, Lauren Moja.
08:45AM	An Assessment of Colleges of Pharmacy's Introductory to Pharmacy Practice Experience Programs. Melanie Byers, Jennifer Fuller.	11:15AM	An Assessment of a Worksite Health Promotion Program at Butler University. Joseph Owen.
09:00AM	Evaluation of the Efficacy of Methotrexate-Dendritic Nanodevices Using Cell Survival Studies in MES-SA Cells. Samreen Khatri.		
09:15AM	Implementing and assessing a human papillomavirus (HPV) health promotion campaign on a university campus. Kelly Cochran, Sarah Literal.		
09:30AM	Public's Perception of the Pharmacist's Role with OTC Medications. Elizabeth May.		

Session B Pharmacy Building, Room 103

08:30AM	Utilization of Statin Therapy in All Diabetic Patients, According to 2006 ADA Guidelines. Jerry Huff, Lily Kleynberg.
08:45AM	Risk of Falls in the Elderly at Community Hospital East. Heather Mihalek.
09:00AM	Evaluating Outcomes of Patient's Receiving Oral Metronidazole or Oral Vancomycin in the Treatment of Clostridium difficile Associated Diarrhea (CDAD). Jonathan Brown, Andrew Russell, Nathan Lucas, Jarrett Amsden.
09:15AM	Inhaler Technique: Pharmacists memory put to the test. Daniel Bollmann.
09:30AM	The Impact of Statin Therapy on Cardiovascular Events in Diabetic Patients Regardless of Initial LDL Levels. Jeremy Hooker, Ronnie Gandhi.
10:00AM	An Evaluation of the use of an Argatroban Weight-based Dosing Nomogram in Obesity. Daina Wells.
10:15AM	Implementing and assessing a human papillomavirus (HPV) health promotion campaign on a university campus. Sarah Literal, Kelly Cochran.
10:30AM	Physicians' attitude toward a pharmacist managed outpatient anticoagulation clinic at Hendricks Regional Health. Bryanne England.
10:45AM	Evaluating possible interventions by reconciling medications at discharge to determine the highest risk patient population: A Prospective Observational Study. Angela Allsup.

Session C Pharmacy Building, Room 106A

08:30AM	Prescription to My Younger Self: What I Learned After Pharmacy School. Jennell Colwell.
08:45AM	Evaluation of Memantine Use in a Predominantly Indigent Population. Keely Hahn.
09:00AM	Thiazolidinediones and the Incidence of Cardiovascular Morbidity and Mortality: A Meta-Analysis. Lauren Frigo, Julie Koehler, Lauren Butterbaugh, Iftekhar Kalsekar, Laura Miars, Natasha Burgener.
09:15AM	Impact of Patient Mortality with Bloodstream Infections Associated with Prompt Positive Cultures & Appropriate Therapy. Lauren Moja, Matthew Ertmoed, Joan Barenfanger.
09:30AM	Evaluating possible interventions by reconciling medications at discharge to determine the highest risk patient population: A Prospective Observational Study. Stephanie Franklin, Lisa Leombruni, Angela Allsup, Jamie Rogers.
10:00AM	Appropriate Dosing of Renally-Dosed Medications in Long Term Care Patients with Renal Insufficiency. Sarah Eversman.
10:15AM	An Assessment of Colleges of Pharmacy's Introductory to Pharmacy Practice Experience Programs. Jennifer Fuller, Trish Devine, Melanie Byers.
10:30AM	Comparing Metronidazole vs. Vancomycin in CDAD. Andrew Russell.
10:45AM	Impact of modifiable factors in the utilization of community pharmacists by patients. Mirella DeRango.
11:00AM	An Analysis of Sleep Habits and Stimulant Use in PharmD and Physician Assistant Students with Respect to Exams. Alishia Leavell, Elizabeth Micke.
11:15AM	Evaluation and implementation of a computerized database to manage medications for indigent patients using prescription assistance programs. Aaron Myers, Greg Ruth.

Session D Pharmacy Building, Room 106B

08:30AM	Levetiracetam for Early Seizure Prophylaxis in Closed Head Injuries. Justin Biancardi, Clayton Deeb.
08:45AM	Implementation of a DKA Protocol and Analysis of Outcome Measures in a Community Hospital Setting. Alan Durm.
09:00AM	Impact of Medication Therapy Management and Pharmacist Counseling: A Survey Analysis of Patient Perception and Expectations from Pharmacists in a Community Setting. LaMontae Guynn.
09:15AM	The Impact of the Ethnicity of the Provider on the Utilization of Preventive Health Care Services for Minorities. Allyson Murray, Iftekhar Kalsekar, Jenna Lammers.
09:30AM	Development of a Quality-based Reporting System for CMS Physician Quality Reporting Initiative. Emily Hauguel.
10:00AM	Development and Implementation of a Medication Reconciliation Process in the Roudebush VA Medical Center Outpatient Clinics. Derek Cole, Melanie Kuester.
10:15AM	Prevalence of vitamin D deficiency among elderly patients. Kristen Hubertz, Noll Campbell, PharmD, FASCP, BCPP, CGP.
10:30AM	Multicultural Health Care: A Quality Improvement Guide. Erin Hight.
10:45AM	Public's Perception of the Pharmacist's Role with OTC Medications. Alicia Jochim, Elizabeth May, Krista Kleiman.
11:00AM	Evaluating the duration of post-operative cefuroxime prophylaxis on infectious outcomes in pediatric cardiovascular surgery patients. Rachel Brown, Kevin Koves, Chad Knoderer.
11:15AM	Evaluating the effect of patient education on the use of metamizole in Latino patients: phase 2 of the metamizole education initiative. Michael Alwan, Karie Morrical-Kline, Toni Eash.

Session E Pharmacy Building, Room 202

08:30AM	National Estimates of Enrollment in Disease State Management Programs in the United States. Karly Nesnidal, Samantha Flasch.
08:45AM	Evaluating the duration of post-operative cefuroxime prophylaxis on infectious outcomes in pediatric cardiovascular surgery patients. Kevin Koves, Rachel Brown, Chad Knoderer.
09:00AM	Evaluating possible interventions by reconciling medications at discharge to determine the highest risk patient population: A Prospective Observational Study. Lisa Leombruni, Stephanie Franklin, Angela Allsup, Jamie Rogers.
09:15AM	Observance of prescribing patterns and the level of adherence to the AHA stroke guidelines in patients with recurrent strokes: A retrospective chart review. Mollie Pletcher, Rohini Rakalla.
09:30AM	Evaluation of Treatment of Hypertension in a Clinic Serving Indigent and Homeless Patients. April Toops.
10:00AM	Prescription to My Younger Self: What I Learned After Pharmacy School. Bradley Koselke.
10:15AM	Retrospective Chart Review of Hypertension at Cornerstone Pharmacy in Comparison to The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC-7) Guidelines. Vipul Soni, Adam Rendaci.

10:30AM	Levetiracetam for Early Seizure Prophylaxis in Closed Head Injuries. Clayton Deeb, Justin Biancardi.
10:45AM	Evaluation of IV Vitamin C Therapy in Hepatitis B and Hepatitis C Patients. James Moynihan.
11:00AM	Thiazolidinediones and the Incidence of Cardiovascular Morbidity and Mortality: A Meta-Analysis. Natasha Burgener, Julie Koehler, Lauren Butterbaugh, Lauren Frigo, Iftekhar Kalsekar, Laura Miars.
11:15AM	Awareness of Public Health Clinics in the College Student Population. Megan Martin.

Session F Pharmacy Building, Room 204

08:30AM	Risk of Falls in the Elderly at Community Hospital East. Christina Papillon.
08:45AM	Assessing Patterns of Development and Treatment of Clostridium difficile in a Veterans Affairs Medical Center. Meghan Estill.
09:00AM	Transplant Patients' Utilization of Medication Access Programs. Melissa Scott, Jennifer McComb.
09:15AM	Assessment of Retail Pharmacists' Attitudes Regarding Over-the-Counter (OTC) Availability of Emergency Contraceptives. Katie McHugh, Jennifer Sundin, Emily Peron.
09:30AM	I'm Sorry!: A Survey of Pharmacy Professors and their Teaching about Medical Apologies. Molly Lickliter.
10:00AM	Awareness of Public Health Clinics in the College Student Population. Chad Naville.
10:15AM	A Retrospective Review of Infection Rates in Patients Receiving Propofol Versus a Benzodiazepine While in an Intensive Care Unit. Ryan Lechleidner.
10:30AM	Evaluating the Timeliness of FDA Medwatch Alerts. Justin Knapke.
10:45AM	Strategies for Treatment of Patients with Preserved Ejection Fraction: Negative Inotropes Versus Drugs Affecting the Angiotensin System. Kenneth Frush.
11:00AM	Correlation of mycophenolic acid serum concentrations with adverse events and rejection rates in heart transplant patients; a retrospective chart review. Jennifer Kelly, Jennifer McComb.
11:15AM	Thiazolidinediones and the Incidence of Cardiovascular Morbidity and Mortality: A Meta-Analysis. Lauren Butterbaugh.

Session G Pharmacy Building, Room 205

08:30AM	Awareness of Public Health Clinics in the College Student Population. Agatha Zurawska.
08:45AM	Multicultural Health Care: A Quality Improvement Guide. Maren Zuber.
09:00AM	Evaluation of IV Vitamin C and Hepatitis. Chris McMullen, James Moynihan.
09:15AM	Prevalence of Diabetic Peripheral Neuropathy and Treatment Assessment Within a VA Population. Jessica Neal.
09:30AM	Assessment of Retail Pharmacists' Attitudes Regarding Over-the-Counter (OTC) Availability of Emergency Contraceptives. Emily Peron, Jennifer Sundin, Katie McHugh.
10:00AM	Prescription To My Younger Self: What I Learned After Pharmacy School, A Book Project. Annah Steckel.

- 10:15AM Assessing Patterns of Development and Treatment of Clostridium difficile in a Veterans Affairs Medical Center. Shawna Li.
- 10:30AM Clinical Manifestation of Duloxetine Toxicity. Dianna Proulx, James Mowry.
- 10:45AM Pharmacy Continuing Education: A Survey on Pharmacists' Perception of the Usefulness of Patients Discussion During Continuing Education Programs. Natalie Hosier.
- 11:00AM Assessment of Diabetes Control at a Community Family Medicine Center. Karen LaBorn.
- 11:15AM Evaluating possible interventions by reconciling medications at discharge to determine the highest risk patient population: A Prospective Observational Study. Jamie Rogers, Lisa Leombruni, Stephanie Franklin, Angela Allsup.

Session H Pharmacy Building, Room 212

- 08:30AM The Use of Acid Suppressive Therapy on ICU and Non-Critical Care General Medicine Services at a Veterans Affairs Medical Center. Rachel Ranz.
- 08:45AM Breast Care and Cancer Awareness: A Survey to Determine and Increase Public Knowledge to Enhance Patient Care. Abby Thomas.
- 09:00AM National estimates of enrollment in disease state management programs in the United States. Samantha Flasch, Karly Nesnidal.
- 09:30AM Assessment of Diabetes Control at a Community Family Medicine Center. Andrea Sands.
- 10:00AM Observance of prescribing patterns and the level of adherence to the AHA stroke guidelines in patients with recurrent strokes: A retrospective chart review. Rohini Rakalla, Mollie Pletcher.
- 10:15AM The Impact of the Ethnicity of the Provider on the Utilization of Preventive Health Care Services for Minorities. Jenna Lammers, Allyson Murray.
- 10:30AM Assessment of Retail Pharmacists' Attitudes Regarding Over-the-Counter (OTC) Availability of Emergency Contraceptives. Jennifer Sundin, Katie McHugh, Emily Peron.
- 10:45AM Opioid Prescribing and Renewal for Veterans with Chronic Pain: Defining the Gaps. James Milosshoff.
- 11:00AM Evaluation and implementation of a computerized database to manage medications for indigent patients using prescription assistance programs. Greg Ruth, Aaron Myers.
- 11:15AM Strategies for Treatment of Patients with Preserved Ejection Fraction: Negative Inotropes Versus Drugs Affecting the Angiotensin System. Dusty Linn, Erin Cleary, Kenneth Frush, Alison Walton.

Session I Pharmacy Building, Room 015

- 01:00PM Evaluation of an Argatroban Protocol and Identification of Dose-Altering Patient Characteristics. Bridget Morse, Tracy Sprunger, Erin Schaff, Sarah Lackey, Michelle Elias.
- 01:15PM The Impact of Statin Therapy on Coronary Events in Diabetic Patients Regardless of Initial Cholesterol Levels. Ronnie Gandhi, Jeremy Hooker.
- 01:30PM Necessity and accuracy of both blood and catheter tip cultures when determining the causative organism in patients with infection. Margaret Barry.

- 01:45PM A Comparison of the Efficacy of 0.5 units/mL versus 1 unit/mL of Heparin in Neonatal TPNs. Laura Mobley, Jane Gervasio, Elaina Szeszycki PharmD, Alyson Kastner.
- 02:15PM Appropriate vancomycin continuation or discontinuation based on antibiotic sensitivity profile. Brandon Martin.
- 02:30PM Utilization of Vitamin D and Calcium Supplementation in Persons Currently Receiving Bisphosphonates for Osteoporosis. Mohit Patel.
- 02:45PM The impact of inhaled corticosteroids on cardiovascular events in patients with COPD: A retrospective chart review. Paul Stein.
- 03:00PM Continuing Education Needs Assessment Survey of Non-Community Pharmacists for the Office of Postgraduate Education at Butler University. Brent Burkett, Kyle Decker.

Session J Pharmacy Building, Room 103

- 02:15PM Design of a Community Pharmacy Medication Assistance Referral Service. Erin McCann.
- 02:30PM Utilization of Statin Therapy in All Diabetic Patients According to 2006 ADA Guidelines. Lily Kleynberg, Jerry Huff.
- 02:45PM The Relationship Between Serum Cholinergic Receptor Blockade and Constipation Frequency. Andrew Johannig, Christopher Sammon.
- 03:00PM Continuing Education Needs Assessment Survey of Community Pharmacists for the Office of Postgraduate Education at Butler University. Kyle Decker, Brent Burkett.
- 03:15PM Design of a community pharmacy medication assistance referral service. Kelli Salmon, Carriann Richey.

Session K Pharmacy Building, Room 106A

- 01:00PM An Evaluation of the use of an Argatroban Weight-based Dosing Nomogram in Obesity. Michelle Winkler, Alex Ansara.
- 01:15PM Pharmacologic Management of Chronic Obstructive Pulmonary Disease in the Long-Term Care Setting of Central Indiana. Nicole Budgake, Brenda Greenen, Sarah Clay.
- 01:30PM Drug Utilization Evaluation of Daptomycin at Indiana University Hospital. Andrea Dell, Cindy Selzer, Suellyn Sorensen, Tracy Buganski.
- 01:45PM The Relationship between Serum Cholinergic Receptor Blockade and Constipation Frequency. Christopher Sammon, Andrew Johannig.
- 02:15PM Necessity and accuracy of both blood and catheter tip cultures when determining the causative organism in patients with infection. Megan Knightly.
- 02:30PM A Comparison of the Efficacy of 0.5 units/mL versus 1 unit/mL of Heparin in Neonatal TPNs. Alyson Kastner, Laura Mobley, Jane Gervasio.
- 02:45PM Evaluating Outcomes of Patients Receiving Oral Metronidazole or Oral Vancomycin in the Treatment of Clostridium difficile Associated Diarrhea (CDAD). Nathan Lucas.
- 03:00PM Drug Utilization Evaluation of Daptomycin at Indiana University Hospital. Tracy Buganski, Cindy Selzer, Suellyn Sorensen, Andrea Dell.

Session L Pharmacy Building, Room 106B

01:00PM	Retrospective Review & Analysis of Antibiotic Use in Patients with Acute COPD Exacerbations Admitted to Methodist Hospital in 2004.. Allison Graves.
01:15PM	Student professional elective choices and perspective on the extent to which pharmacy topics currently included in the curriculum are discussed. Kelly Lyons.
01:30PM	Assessment of Telepharmacy Applications in Indiana. Brian LaRowe.
01:45PM	Pharmacologic Management of Chronic Obstructive Pulmonary Disease in the. Sarah Clay, Nicole Budgake, Brenda Greenen, Jodi Mann.
02:15PM	Impact of Medication Therapy Management and Pharmacist Counseling: A Survey Analysis of Patient Perception and Expectations from Pharmacists in a Community Setting. Eric Izynski.
02:30PM	Awareness of Public Health Clinics in the College Student Population. Jennifer Ingram.
02:45PM	The Impact of Nutrition Support on the Management of Intestinal Transplant Patients: A Retrospective Chart Review. Tamara Neff, An Phan.
03:00PM	Retrospective Review of Levetiracetam Use in Treating Seizure Disorders at Methodist Hospital and Comparison to FDA-Approved Indications. Jason Petty.
03:15PM	Continuous Quality Improvement in Disease State Management Programs for National Committee for Quality Assurance Recertification. Meghan Luers.

Session M Pharmacy Building, Room 202

01:00PM	Evaluation of English-Language Medical References Providing Information on Medications Sold in Mexico. Bethany Anderson, Susana Henri.
01:30PM	Comparison of Tertiary Drug Information Databases. Sabrina Hopkins, Rebecca Lambert, Amy Peak.
01:45PM	Comparison of Tertiary Drug Information Databases. Rebecca Lambert, Sabrina Hopkins.
02:15PM	An Analysis of Sleep Habits and Stimulant Use in PharmD and Physician Assistant Students with Respect to Exams. Elizabeth Micke, Alishia Leavell.
02:30PM	Pharmacologic Management of Chronic Obstructive Pulmonary Disease in the Long-Term Care Setting of Central Indiana. Brenda Greenen, Nicole Budgake, Sarah Clay.
02:45PM	Assessing the outcomes of liquid medications given via enteral feeding tubes in a VAMC: A retrospective chart review. Brooke Speheger, Jane Gervasio, Maria Beitel, Lydia Strole.
03:00PM	Necessity and accuracy of both blood and catheter tip cultures when determining the causative organism in patients with infection. Rebecca Spurgeon.
03:15PM	The Impact of Nutrition Support on the Management of Intestinal Transplant Patients: A Retrospective Chart Review. An Phan, Tamara Neff.

Session N Pharmacy Building, Room 204

01:00PM	An Assessment of a Worksite Health Promotion Program at Butler University. Jessica Pohlig, Joseph Owen.
01:15PM	Assessing the outcomes of liquid medications given via enteral feeding tubes in a VAMC. Maria Beitel, Brooke Speheger.
01:30PM	Design and Assessment of the Need for a Community Pharmacy Patient Referral Service for a Medication Assistance Program. Tiffany LaMar.
01:45PM	Patient Perceived Barriers to Hypertension Control. Jordan Nuger.
02:15PM	Preparing Fourth-year Pharmacy Students to Become Immunization Pharmacists. Zachary Marcum.
02:30PM	The impact of high-dose vancomycin therapy on efficacy and toxicity: A retrospective chart review. Sarah Hollis.
02:45PM	Leveling the playing field for basic health care: A study evaluating resources available for non-English speaking Hispanic patients in retail pharmacy settings in Indianapolis. Eberenna Egwu, Tynesha Dodd.
03:00PM	Retrospective Review & Analysis of Antibiotic Use in Patients with Acute COPD Exacerbations Admitted to Methodist Hospital during 2005. Stephanie Owen.
03:15PM	Exploring Immigrant Chronic Disease Management. Katie Carpenter.

Session O Pharmacy Building, Room 205

01:00PM	Pharmacist Driven Education on an Elderly Community. Christy Reznik.
01:15PM	Additive Triglyceride Lowering Effects of Gemfibrozil and Fish Oil Combination Compared to Gemfibrozil or Fish Oil Alone in a VA Population: A Retrospective Chart Review. Victoria Lehman.
01:30PM	Evaluation of Smoking Cessation Success Rates Within a Veterans Affairs Medical Center. Ashley Willhoite.
01:45PM	Use of Hypoglycemic Medications in Patients with Impaired Glucose Tolerance or Type 2 Diabetes after Roux-en-Y Gastric Bypass Surgery. Mallory Pearson.
02:15PM	Who Am I? An Introduction to the P1 Class. Julie Williams.
02:30PM	Retrospective Review & Analysis of Antibiotic Use in Patients with Acute COPD Exacerbations Admitted to Methodist Hospital 2006. Nicole Blackwell, Stephanie Owen, Allison Graves.
02:45PM	Retrospective Review of Emergency Department Medication Histories Obtained by Certified Pharmacy Technicians Versus Registered Nurses. Jessica Broadstreet, Derek Fields.
03:00PM	Impact of Method of Testing and Patient Factors on the Variability of Results Using the Cholestech L-D-X Portable Lipid Analyzer. Cory Holland.

Session P Pharmacy Building, Room 212

01:00PM	The impact of inhaled corticosteroids on cardiovascular events in patients with COPD: A retrospective chart review. Shawn Zwilling.	02:30PM	Assessment of Osteoporosis Therapy at Community Family Medicine Clinic. Neil Creasey.
01:15PM	The effect of inhaled corticosteroids on cardiovascular hospitalizations in patients with COPD. Ashley Perkins.	02:45PM	Additive Triglyceride Lowering Effects of Gemfibrozil and Fish Oil Combination Compared to Gemfibrozil or Fish Oil Alone in a VA Population: A Retrospective Chart Review. Tracie Winn.
01:30PM	A Survey of Pharmacy Students' Perceived Preparedness to Handle Pharmacy Fraud and Robbery. Danielle Schott.	03:00PM	Sweet Success of Lost in Translation? A Comparison of branded and private - labeled glucometers. Alisson Keillor.
01:45PM	Pharmacist driven education on an elderly community. Kristy Booziotis.		
02:15PM	Assessing Patterns of Development and Treatment of Clostridium difficile in a Veterans Affairs Medical Center. Nisha Patel.		

Philosophy & Religion

Session A Jordan Hall, Room 201

10:00AM	Mind-Body Supervenience through Mechanism. John Schneider.
10:15AM	The War on AIDS in sub-Saharan Africa. Michael Hole.
10:30AM	The Way Forward: Womanist Theology and South Africa in Discussion with Mercy Oduyoye. Shelley Sellwood.

Session B Jordan Hall, Room 201

11:00AM	J.S. Bach and Catholicism: BWV 18, 126 and the B minor Mass. Nicole Koehler.
11:15AM	Exploring Religion Through Experience. Diane Hardin.
11:30AM	The Lament Psalms: A Resource for Faith-Based Counseling? Stephanie Slemp.

Physics

Session A Gallahue Hall, Room 348

09:30AM	Measurement and Analysis of ECH Power Injected Into DIII-D. Phillip Johnson.	10:30AM	Searching for Transiting Exoplanets. Bob Daugherty.
09:45AM	Optogalvanic Effect of Carbon Monoxide and Neon. Kyle Obergfell.	10:45AM	A Visualization System for N-body Models of Star Clusters. Dayna Thompson.
10:00AM	Long period grating based transducer for sensing hydrocarbon species. Matthew Hein, Christopher Kennedy.	11:00AM	Nanomedicine. Daniel Baker.
10:15AM	Modeling the Line Strength of the Optical Jet Lines in SS 433. Erin Lueck, Todd Hillwig, Doug Gies, Herman Marshall, Amy Mioduszewski.	11:15AM	Nanoparticle Response in Biological Media: An Exploration of Dual-Temperature Modeling Constraints. Brett Bollinger, Renat Letfullin.
		11:30AM	Nanoclusters and Methods of Their Aggregation. Andrew Brush.

Political Science

Session A Jordan Hall, Room 203

11:00AM	The Transition of Macau. Sydney Archibald, Kenneth Martin, David Eccard.
11:15AM	China, Taiwan and the Chaos in Between. David Eccard.
11:30AM	The Lack of Influence of Sea Power Upon Chinese History. Kenneth Martin.

Session B Jordan Hall, Room 203

12:00PM	Pakistan's Deobandi Madrasas: Breeding grounds for international terror or misunderstood religious organizations. Amy Watkins.
12:15PM	An Analysis of the Structural and Proximate Causes of Hunger and Food Insecurity in the Occupied Palestinian Territories. Syed Obaid Quadri.
12:30PM	The Audacity of the North American Free Trade Agreement. Malachi Cowells.
12:45PM	A Right to Healthcare in the United States. Andrew Perryman.

Psychology

Session A Jordan Hall, Room 216

- 09:00AM A Closer Look at Indiana's Adoption Agencies: The Accessibility to Resources Promoting a Positive Transracial Adoption. Nicole Rambeau.
- 09:15AM Effects of Gender on Parental Attitudes Toward Punishment of Children. Amanda Nocton, Lindsay Ludwig.
- 09:30AM Examining the Roles of Fear and Prior Knowledge in Attitude Change: An Experimental Study. Charla Chailland, Brianna Raatz.
- 09:45AM The Effects of Children's Books on First Grader's Perceptions of Availability of Careers to Each Gender. Jennifer Cotton, Amanda Ernstberger.
- 10:15AM Influence of Soap Operas upon Nepalese Women's Identity: A Qualitative study. Pragati Shah.
- 10:30AM First Versus Non-First Generation Students: Determining Variables of Academic Success. Heather Osterman, Michelle Coffman.
- 10:45AM The Effects of Perceived Team Cohesion on Aggression, Cheating and Alcohol Consumption. Lauren Drew, Jennifer Braun.
- 11:00AM Hypercompetitive Attitudes and Narcissistic Symptoms: Who Illustrates More, Athletes or Non-Athletes? Kylie Swisher.
- 11:15AM The Imposter Phenomenon among College Students. Giselle Salina.

Session B Jordan Hall, Room 236

- 09:00AM Predictors of relationship disenchantment. Kristen Kaminski.
- 09:15AM College Students' Expectations for Hook-Ups. Amanda Smitley.
- 09:30AM Examining the Interaction of Weight and Ethnicity on Perceived Compatibility of Couples. Schweinhart April, Sarah Blanton.
- 09:45AM Identifying Women's "Sexual Agency" in their Reports of First Sexual Encounters: A Qualitative Study. Rachel Pittard, Rachel Robertson.
- 10:00AM The effects of body image on frequency of sexual behavior. Holly Heindselman, Rachel Yates.
- 10:30AM The Effects of Viewing Magazine Advertisements on Body Self-Image in Males. Heather Powell.
- 10:45AM Assessing communication in popular American movies: Does training increase the ability to distinguish good and bad communication? Candace Hall.
- 11:00AM The effect of personality trait on communication: regarding extroverts and introverts, which can more accurately assess communication between others? Megan Coffman.
- 11:15AM Does More Self-Affirmation Lead to Happiness? Catherine Matteson.

Session C Jordan Hall, Room 238

- 09:00AM Grumpy Old Men and Golden Girls: Using Stereotypes to Alter Memory Self-Perceptions in Older Adults. Coty Nicoson, Ashley Dick, Tara Lineweaver.
- 09:15AM Does Stereotype Threat Affect Intelligence Test Performance in Students With ADHD? Laura Cobb.
- 09:30AM Does Stereotype Threat require stereotypes? Sarah LeStourgeon, David Phelps.
- 09:45AM Can You Repeat That?: College Students with ADHD Struggle with Verbal Working Memory. Eric Massey, Kathleen O'Brien, Tara Lineweaver, Suneeta Kercood.
- 10:15AM Preference for Touch and Empathy. Michael Draper, Annamarie Elmer.
- 10:30AM Decreasing Homophobic Attitudes: An Intervention Study. Steven Minett.
- 10:45AM Does Your View of God Affect How You View Your Life? Cody Davis, David Phelps, Brianna Raatz, Kristine Schuster, Charla Chailland, Seyram Kekessi.
- 11:00AM The Relationship between Religiosity and Drinking Behaviors in College Students. Lani Allbright.
- 11:15AM A Study of the Relationship between Eating Disorders and Emotional Intelligence. Alyssa McLean.

Session D Jordan Hall, Room 216

- 01:00PM Effects of finger pinprick sensation and anticipation on emotion and autonomic response. Nicholas Del Grosso, Josephine Wilson, Berhane Messay, Tiegian Brick.
- 01:15PM Embodiment and Mental Rotation. Tyler Thrash.
- 01:30PM Video Game Experience and Psychomotor Performance. Michael Starling.
- 01:45PM Using Regional Accents to Form First Impressions of a Speaker. Michaelia Gilbert, Ben Paciorowski.
- 02:00PM Confessions and Convictions. James Gentry, Jared Smith.
- 02:30PM Female Impersonation: Social and Psychological Aspects. Nathan Smith, Christian Driver.
- 02:45PM Drug Use in College Student Correlated to Sensitivity to Reward and Sensitivity to Punishment. Rachel Lowman.

Session E Jordan Hall, Room 236

- 01:00PM Affective Influences on Episodic Performance at Work. Kerry Spalding.
- 01:15PM University Faculty Members' Roles: Satisfaction and Stressors. Jade Avelis, Ashley Davison.
- 01:30PM Creative Artistic Expression and its Effect on Mood. Erin Suplinskas, Bethany Platt, Brittany Ellis, Micah Hoffman.
- 02:00PM An investigation into the effects of age and media focus on candidate credibility. Jessica Berryhill.
- 02:15PM A comparison of male and female conflict tactics and aggression intensity in dating relationships. Christin Fleming.
- 02:30PM The Contact Hypothesis Applied: Evaluating the Efficacy of a Peace Camp. Ashlee Kirk.
- 02:45PM Creating Positive Attitudes toward People with Disabilities through Social Inclusion. Christina Banks.
- 03:00PM The Effects of Positive and Negative Self-Presentation on Female Self-Esteem and Relationship Choices. Robyn Hooker, Stephanie Gunderson.
- 03:15PM Impact of Openness and Implicit Associations on Hispanics. Jennifer Milks.

Session F Jordan Hall, Room 238

01:00PM	Examining the Effects of Self-Affirmation on Evaluations of Heterosexism. Delphia Flenar.	02:30PM	Examining Characteristics and Differences between Target and Non-target Witnesses' Perceptions of and Reactions to Prejudice Incidents. John Blanchar, Georgia Waddups, Leslie Ashburn-Nardo.
01:15PM	Evaluations of men in cross-gender majors: The role of masculinity. Whitney Brockus.	02:45PM	Tales of Confrontations: Exploring Individuals' Naturalistic Responses to Prejudice. Maraysa Raffensparger, Melissa Paschke, Katherine Figueroa.
01:30PM	Determining Who Is Responsible for Confronting Prejudice. Laura Wojcik, Katy Kaesebier, Laura Spice, Alishia Lane.	03:00PM	African Americans' Implicit Racial Biases as Predictors of Healthcare Provider Ratings. Winnie Manicl, Edy Bledsoe.
01:45PM	Stigma Controllability & Confronting Anti-gay Prejudice. Cheyenne Dunbar, Sisi Yu.	03:15PM	Is There a Relationship between Implicit Stereotypes and Implicit Attitudes among African Americans? Edy Bledsoe, Arrenwa Mancil.
02:15PM	CPR for the Kind, Rude, and Prejudiced: An Investigation of Confrontations Using the Confronting Prejudiced Responses (CPR) Model. Katherine Figueroa, Melissa Paschke, Maraysa Raffensparger.		

Sociology

Session A Jordan Hall, Room 348

09:00AM	A Study of Depression and Social Connectedness. Rebecca Lohrmann, Kelly Erikson, Colette Doerschuk, Amanda Littell.
09:15AM	College Students: Cultural Background in Correlation to Diffusion of Responsibility. Thomas Kaelin.
09:30AM	Attitudes and Beliefs about Homosexuality: A Comparative Study of Male vs. Female Athletes. Jessica Butler.
09:45AM	Community Involvement of the Deaf. Josh Muller.
10:00AM	Investigation of Poverty Opinions on Valparaiso University's Campus. Karen Meuzelaar, Shariliz Martinez, Shannon Speaker.
10:15AM	Shelters for Battered Women and Children: A Case study on a mid-western Women's shelter. Jennifer Del Valle.
10:30AM	Advancing the Hyperreal through Heavily Mediated Sports. Jeffrey Barber.
11:00AM	Prison Gang Member Recidivism. Chad Undercoffer.
11:15AM	Consumerist Tendencies: Teaching Teens to Solve Their Problems Through Purchasing. Anna Smitherman.
11:30AM	The Law Reciprocity: a Study on Human Interaction. Jamie Floris.

Session B Jordan Hall, Room 387

09:30AM	Children in Self Care. Tara Dial.
09:45AM	Effects of Public Housing Residency and Subsidy Receipt on Adolescent Substance Use. Lani Warner.
10:00AM	Youth's Perceptions of the Effectiveness of the Teen R.A.P. Program. Brittany Newman.
10:15AM	Economic Mobility according to Ethnicity, Class, and Educational Opportunity. Adam Butler.
10:30AM	Maltreated Children and Juvenile Delinquency. Patricia Bennett.
10:45AM	Corporate Ties. Rachel Magrdichian.
11:00AM	The Effects of War on Children in Post-Colonial, Sub-Saharan Africa. Jarod Wilson.
11:15AM	Adoption, Identity Formation, and Definitions of Family. Tracey Randolph.
11:30AM	Religion's Effect on Capital Punishment. Michael DeAngelis.

Session C Jordan Hall, Room 348

12:30PM	Late Night Values: Content Analysis of Social Issues Addressed in Late Night Television Monologues. Elisa Liszewski.
12:45PM	The Language of Hip-Hop. Christopher Flood.
01:00PM	Between the Sheets: A Peek at Russian Sexual Culture. Rebecca Wilson.
01:15PM	Slasher Films and their Morality. Stephen Curley.
01:30PM	Violence in Media: A Study on Cartoons and Violence over the Years. Marianne Barnett.
01:45PM	Case Study of the Jeffersonstown Police Department's Use of Tasers. Brendan Mills.
02:00PM	Post 9/11 News Coverage Of Muslims And Islam. Colin Joyce.
02:15PM	How Newspapers Represent the Female Criminal. Jennifer Lux.
02:30PM	Secondary Data Analysis: Correlation Between Views on Abortion and Capital Punishment. Kimberly Roberts.

Session D Jordan Hall, Room 387

01:00PM	The Meaning Attached to Automobiles. Brandon Berry.
01:15PM	Extraversion versus Introversion and Classroom Performance. Timothy Hessel.
01:30PM	Images of the Female Body in the Media and Body Satisfaction. Alexandria Brzozowski.
01:45PM	No Fault Divorce or Covenant Marriage. William Herman.
02:00PM	Measuring the Effectiveness of a Youth Program. Mike Green.
02:15PM	A Secondary Data Analysis: Looking at the correlation between race (African-American and White-American) and their views on homophobia. Anthony Montero.
02:30PM	Working to Death in Juarez: Social and Economic Conflicts Between Genders in the Border City. Dalila Huerta.
02:45PM	To Be Thin: The Impossible American Dream vs. The American Reality. Katherine Hegarty.
03:00PM	Fear of Failure. Ray Finnegan.

Poster Presentations

Group A 10:00am - 10:50am

- 1 Preliminary examination of a fish population in a small, artificial pond. Caesarea Nash, Carlos Garza, Jr.
- 2 Dendroarchaeological Analysis of a Nineteenth Century Building. Cassie Morris.
- 3 The Effect of di-n-butyl phthalate on the Embryological Development of *Xenopus laevis* by way of FETAX. Brittney Kunce.
- 4 Salivary testosterone and dehydroepiandrosterone (DHEA) as predictors of vocal register in adolescent male singers. Wesley Thomas.
- 5 Comparison of the activity of beta glucosidase and polyphenol oxidase in woody and grassy soils in La Copita, Texas. Valerie Dooling, Timothy Filley, Diane Stott.
- 6 The effects of gonadal hormones on cortical reorganization following infraorbital nerve transection in rats. Kevin Elliott.
- 7 Cloning and Characterization of Plant Oxalate Transporters. Carrie Anderson, Aaron Wyman, Mary Alice Webb.
- 8 Isolation of Arbuscular Mycorrhizal Fungi from Successional Dune Soil. Kelli Martin.
- 9 2-Dimensional Analysis: Proteins Possibly Involved in Host Cell Invasion. Charles Siddall.
- 10 Optical Losses or Neural Losses? A Comparison of the Effect of Age on Conventional Automated Perimetry and Contrast Sensitivity Perimetry. Dawn Meyer.
- 11 The effect of altering pappus length on germination of North American dandelion (*Taraxacum officinale*) seeds. Jessica Mobley.
- 12 Do CD46, beta-1 integrin and discs large play a functional role in retinal pigment epithelium detachment? Kacy Vaughn.
- 13 The importance of different regions of the face, temperature, and gender in eliciting the human diving reflex. Sam Weigel.
- 14 Validating the use of salivary alpha-amylase as a biomarker for autonomic nervous system activation in response to a startle stimulus. Jason Lally.
- 15 Impact of Two ASR Fungicides on Aquatic Organisms. Dusty Kime.

Group B 11:00am - 11:50am

- 1 Species and Concentration of *Actaea* in Dietary Supplements Marketed as Containing Black Cohosh. Samantha Kohlman.
- 2 Exercise During Chemotherapy Treatment for Breast Cancer. Samantha Carpenter.
- 3 The Effect of Vibration Testing on the Wrist Extensor Muscles at Maximal Effort. Daniel Siepler.
- 4 Cross Education As A Result Of Unilateral Post Activation Potentiation In The Wrist Extensor Muscles. Michael Clay.
- 5 Oh, Make Me Over The Transformative Power of Makeup. Alison Chemers.
- 6 Lifestyle Characteristics and Amenorrhea. Kristen Blood.
- 7 Impact of self-determination on exercise adherence. Megan Clifton.
- 8 Pilates and Rotator Cuff Rehabilitation: A Theoretical Investigation. Taulbi Schnetzer.
- 9 Ordered versus randomized ratings of perceived exertion. Kristina Thomas.

- 10 Helen Bosart Morgan: Representing the Female Nude in Mid-Twentieth Century Sculpture. Kara Blakley.
- 11 Acute Effects of Massage on Hamstring Flexibility and Strength. Danielle Hazelbaker, Professor Bill Tereshko, Dr. Barbara Wahl, Bryant Stamford.
- 12 With the First Pick in the NBA Draft: A Statistical Analysis of the 1997-2001 NBA Drafts. Matt Poisel.
- 13 Impact of vibration on acute hamstring muscle flexibility. Megan Smith.

Group C 12:00pm - 12:50pm

- 1 Removal of the thiol from coenzyme A using Raney Nickel to produce desulfo-coenzyme A. Alexandria Henning.
- 2 The Effects of Electron Donating Groups on the Solvatochromism of the Benzo[a]fluorenone and Benzo[b]fluorenone Chromophores. Lisa Meyers, Jeffrey Wilson.
- 3 A Computationally Efficient Potential for Metallic Nanoparticles in an Aqueous Environment. Patrick Holvey, Dan Gezelter, Charles Vardeman.
- 4 Effects of Alcohols and Ligands on the Estrogen Receptor Half-Life. Michele Mumaw, Mark Brandt.
- 5 Particle size analysis of catalytically active palladium. Cecilia Latta.
- 6 Exploring Alternates to Alkyltin Hydrides in Enantioselective Radical Reactions. Joshua Judkins.
- 7 Synthesis of Genetically Engineered, Multi-Domain Proteins. Nicholas Zehner, Nicolas Villelli.
- 8 Synthesis of Fluorescent Chemosensors for Metallic Ions. Rachel Koontz, Travis Rider.
- 9 Platination of water-soluble cationic porphyrins. Chris Gianopoulos.
- 10 Quality of Oil Extracted from Fast Food French Fries. Barbara Higgins.
- 11 Determination of Ideal Conditions for the Production of an Epoxy-Cyanate Ester Resin Blend. Hannah Ryan.
- 12 Progress Towards the Synthesis of a Phosphorus Ylide to be used in the Production of an Aporpinone Compound via a Pseudo-Wittig Reaction. Kayla Harmeyer.

Group D 1:00pm - 1:50pm

- 1 Optical and Thermal Modeling for Selective Laser Treatment of Cancer Cells. Emily Walker.
- 2 Asteroid Lightcurve Analysis at the Oakley Observatory. Heath Shipley, Richard Ditteon, Jason Sauppe, Thomas Kleeman, Alexander Dillard, Jordan Kendall, Matthew Reichert, Nelson Shaffer.
- 3 Hematocrit and Sonographic Heart Size in Aerobic and Anaerobic Athletes. Juan Hernandez.
- 4 Effect of the Phytoestrogen Genistein on NCI-H1793 Adenocarcinoma Cells. Ryan Lederman.
- 5 Cover Object Preference in Forest Dwelling Salamanders. Rebecca Hughes.
- 6 A preliminary morphological investigation of the oogenic cycle in a parthenogenic species of cave cricket, *Hadenoeus cumberlandicus*. Danielle Carey.
- 7 A Histological Analysis of Spermatogenesis within the Southeastern House Gecko, *Hemidactylus turcicus*. Erik Poldemann.
- 8 Reptilia: An evolutionary intermediate based on testicular organization and germ cell development strategy. Justin Rheubert.
- 9 Target Thickness Determination for Neutrinoless Double Beta Decay. Rosabelle Conover.
- 10 Measuring the Thermal Neutron Cross Section of Tc-99 as a Study on the Feasibility of Thermal Neutron Waste Processing. Lawrence Selvy.
- 11 Abundance Correlation between Codon Usage and tRNA Expression in *Caulobacter crescentus*. Rachel Applefield.
- 12 Large Scale Eutherian Phylogeny from Full Mitochondrial Genomes. Tyler Fromm.
- 13 Effect and Comparison of Different Mechanisms in Cancer Treatment by Laser Activated Nanoheaters. Christopher Dapkus, Alex Mulvihill, Renat Letfullin.

Group E 2:00pm - 2:50pm

- 1 Father and Mother Absence and their Effects on Self-Esteem and Aggression. Asher Weaver.
- 2 Stress and College Students. Jennifer Schmedes, Thomas Bever, Megan Fleming.
- 3 The Role of Sexual Orientation of the Defendent in Jury Decision Making. Randi Irwin.
- 4 Standardized Testing Fitted for the Visual, Auditory, and Kinesthetic Learner. Erica Enochs.
- 5 College Wesleyan Church Spiritual Transformation Study. Jonathan Steele, Ashley Goodwin, Pamela Rumsey, Whitney Butterfield, Amy Matthews, Rachel Ogorek, Dr. Tim Steenbergh.
- 6 Can Social Bonds Predict Civic Engagement? Melissa Moore.
- 7 An examination of the relationship between emotional intelligence and career indecision. Elisabeth Beam, Ben Yoder, Angelo Soto, Hannah Smith, Crystal Glover.
- 8 The Effect of Reminders of 9/11 on the Relative Value of Security and Civil Liberty. Isaac Weinkauff, Jacob Cooper, Karin Schubert.
- 9 Optimization of Colors for Visual Map Searches. Keri Bias.
- 10 Does Training (or modifiers) Enhance Specific Aspects of Cognition? Ashlee Lochbaum, Ruben David, Jon Treece.
- 11 The Value of Product Differentiation. Brian Biggs, Robert Scott.
- 12 The Motivation to Seek Help: The Role of Gender in the Decision About Therapy. Amber Bennington, Chelsea Parker.
- 13 Attitudes Toward Smoking Survey: The Perceived Dangers of Secondhand Smoke. Kelly Atkinson.

Conference Abstracts

Anthropology

Session A: Investigating Information and Authority in Museums and Virtual Worlds

Jordan Hall, Room 276

Moderator: Dr. Elise Edwards

09:15AM

The Meanings of Artifacts: Dynamics and Complexities within Museums and Archaeology. Jonathan Irons. Butler University, Indianapolis, IN. Sponsor: Elise Edwards

The museum is possibly the most powerful means that archaeology has to communicate its ideas. The majority of debates about museums focus on politics of representation and exhibit design; a discussion that has drastically complicated the role of museums. In this paper I attempt to undercut the discussion of displaying things and complicate the actual things themselves. I address and explore the role that archaeological artifacts have in museums and the array of meanings they acquire. Through literature about anthropology in museums, artifact biographies and personal experience in museums, I outline seven categories of meanings that artifacts acquire while within museums. These categories show themselves to be nebulous; artifacts at any one time may fall under several different types of meaning. My ultimate goal is to illustrate the complex dynamics that artifacts have in museums to ensure that their place in museums not be taken for granted.

09:30AM

Are Zoos a Type of Museum? Diane Matacale. Butler University, Indianapolis, IN. Sponsor: Elise Edwards

How would our analyses of the designs and intended purposes of museums change if we thought of them within the rubric of museums? Many exhibits in zoos include information about the animal's natural lifestyle and the additional information about the animal's environment. Zoos are updating animal exhibits by removing the caged atmosphere to replicate the animal's natural setting. Zoos exist in today's society because there is a need to educate people about the wildlife and to help preserve the animals. Zoos are essentially a wildlife catalogue where living animals are collected to preserve endangered species from extinction. Zoos also have research labs that observe certain animals so that they may be able to understand biological and behavioral characteristics. This type of institution is expensive to maintain and is often criticized by animal rights activists. Some zoos in the past have mistreated their animals, and now zoos are under constant attack about how the animals are maintained. Zoos are also struggling with the public's interest in zoos and to maintaining attendance. The newer designs of the natural habitats help people feel connected to the animals they are observing. This intrinsic connection with the audience and the animals helps the audience to participate with the educational purpose of the exhibit and to maintain the information the exhibit presents.

09:45AM

Separate but Not Yet Equal: Women in Museums. Christina Lear. Butler University, Indianapolis, IN. Sponsor: Elise Edwards

When I set out to research the portrayal of women in museums, I was surprised to find that this is still a largely unexplored topic. Instead of finding stories of successful integration, I came upon a surprising recent trend for separate comprehensive women's museums. In this paper, I will discuss the evolution of a feminist perspective in museums according to

Lois W. Banner's "Three Stages of Development". This model describes a process for decreasing prejudice in academia in three parts: identification of discrimination, separation and finally integration. According to this model of progress, I will examine the benefits and problems associated with separate women's museums and explore possible solutions for better integration of women in traditional museums.

10:00AM

Museum Collections Departments: Strongholds of Western Culture. Samantha Hyler. Butler University, Indianapolis, IN. Sponsor: Elise Edwards

As integral parts of our society's understanding of history and collective identity, museums are becoming increasingly aware that individual interpretations of cultural history should be emphasized. The latest visible storage rooms and online databases are accomplishing this by cracking into back rooms to reveal what has been hidden for years. In doing so, museums are publicly airing their collections, choosing to remove a measure of the imperial curatorial power previously held. Though rarely seen by visitors and often overlooked, museum storage rooms have become the strongholds of cultural preservation. Museums institutionalize remembering the past and emphasize that role as a vitally important way of knowing who we are collectively today. Therefore, storage rooms actually have a huge impact on how our society's past is perceived. Collections departments are entrusted with keeping our culture safe for generations, whether or not they have the means to do so, both theoretically and financially.

10:15AM

The Sacred Museum or the Museum of the Sacred: The Context Behind Religion Museums. Keith Lohse. Butler University, Indianapolis, IN. Sponsor: Elise Edwards

Museums and religion have always had a conversation with each other but this conversation has not been done directly. Instead religion has always been hidden behind the veil of culture. Culture and religion are intricately tied to one another but a few brave museums have begun to look at religion as an individual entity that can be presented without the veil. These museums have the difficult task of balancing the age old question of "temple versus forum" that all museums deal with but religion museums deal with in a unique way. The temple versus forum question is best summed up as whether museums are spaces that merely showcase objects or are they their to have a conversation with the public that they cater too. Thus when it is suggested that these religion museums are "temples" this could be taken in a literal sense where guests come and venerate artifacts. This is why the context used in the display of religious artifacts must be chosen carefully so as not to offend those who come to venerate them and to not alienate those who come to simply learn. Thus the focus of my project will be on religious museums and the context in which they display their artifacts and why they have chosen to use this context. I plan to review multiple museums including museums that focus on religion and those that do not. I intend to show the unique difficulties of this young but growing field of specialized museums.

10:30AM

Authority and Choice in Student Health Information Behavior. Lauren Holditch, Steven Viall, Steven Viall, James Nyce. Ball State University, Muncie, IN. Sponsor: James Nyce

With the availability of countless medical websites, college students have ready access to a variety of information resources on diseases, medicine and other health related issues. Most research on health information seeking has assumed that the Internet is for most individuals the most valued health resource. This study, which looks at health information seeking behavior of college students, challenges both these assumptions. In this research, we conducted more than fifty open-ended interviews with Ball State University college students, asking both general questions about how they search for health information, and how they would seek aid and information if they were diagnosed with mononucleosis. Although this research is still ongoing, it is clear that while the Internet is a commonly used source, it is for students not necessarily the "first step" when they seek health information. Nor does it seem that students regard Internet health resources as either the most valuable or the most authoritative. Demographic factors, such as gender, what students major in and country of origin are being taken into consideration when analyzing results. Our preliminary results suggest that many college students choose to use textbooks to answer their medical questions. Kin and friends are also a common source of health information, particularly if they have any medical education or training. Not surprisingly, students also turn to their physician for health information. While the Internet remains a powerful information seeking resource, it seems that researchers need to reexamine the assumptions they have made re lay health information behavior.

10:45AM

The Internet: Serious Business. Ashley Holmes. Butler University, Indianapolis, IN. Sponsor: Elise Edwards

This study explores how online communities further their own priorities by appointing leaders as guardians of those values. In many online communities, these individuals do more than perform basic administrative duties. In many cases they are directly responsible for admitting new members, banishing nuisances, and appointing other users to positions of lesser power. The context of these interactions (digital spaces) and agents involved (identities with varying degrees of relation to the proximal world) shape the ways in which obligation, accountability, and identity all determine who has authority and what ought to be done with it.

Session B: Transformed, Deformed, Entoxitized, and Exiled Bodies

Jordan Hall, Room 276

Moderator: Dr. Elise Edwards

01:00PM

Refugees, American policy, and the American people. Stacey Summitt. Butler University, Indianapolis, IN. Sponsor: Elise Edwards

Refugees account for nearly 1% of the world's population. This represents only a fraction of the people affected by refugee issues, however, as countries attempt to relocate refugees and integrate them into their local communities. The United States is one such country, accepting refugees from 14 different countries, and yet rarely is information published about the United States efforts or policy regarding refugees in American media sources. With this being a subject of high importance internationally, why is the American media not extending coverage to these issues? The media is a powerful tool in today's world and has a large impact on the attitudes and opinions of society. Is the media's portrayal of refugee's responsible for the oftentimes negative attitude of American citizens towards refugees,

or is this lack of coverage a reflection of a much larger issue of prejudice present in our society today?

01:15PM

Strength in Numbers: A Reflection on the Benefits of Community for Karen Refugees. Laura Naughton. Butler University, Indianapolis, IN. Sponsor: Elise Edwards

Exodus Refugee/Immigration is a local refugee relocation agency that serves the Indianapolis refugee population. Exodus assists their clients with such services as greeting them at the airport, finding them housing and gainful employment, assisting with medical issues, registering children for school and proving ESL classes. However, the most beneficial assistance that Exodus provides to their refugee clients is the sense of community; a community that provides more assistance to the refugees than any relocation agency could ever provide. The value is placed on community is far greater than can be easily expressed. This sense of community allows the refugees to help one another transition into the surrounding culture and way of life. The common bonds that the refugees have from their pasts help them to better navigate the relocation process.

From this common bond comes a level of trust and strength that is evident in every aspect of this community. These refugees recognize that they have come through a horribly difficult, and often times, traumatic past. They see that the steps that come after arriving in the United States are nothing close to easy or simple. These refugees recognize that through their common pasts, they can create a common future and make the effort to help one another through every step of the way.

01:30PM

Intersecting Themes in Dance Therapy and Dance Anthropology. Brittany Pohl, Alison McReynolds. Ball State University, Muncie, IN. Sponsor: Gregory Lund

Dance therapy has its roots in modern dance and evolved into a creative art therapy that is active in the world today. It incorporates movement into the dialogue between client and therapist. Our project started as a way for us to explore movement as a healing force in the lives of people in a variety of cultures. Driven by our personal dance experiences, we look for common themes found in both formalized dance therapy theories and the psychological healing customs involving movement recorded by various ethnographers. The commonalities and connections we discovered exceeded our expectations. Our purpose here is to showcase the possible universal therapeutic qualities of movement.

01:45PM

Henshin: Ranma 1/2, Gender, and Body Transformation in 1990s Japan. Bess Anderson. Butler University, Indianapolis, IN. Sponsor: Elise Edwards

While training in China, Ranma Saotome, 17, of the "Anything Goes School of Martial Arts" falls into a cursed spring and discovers what will become the dominating theme of his life; from that point onwards, contact with cold water transforms Ranma into a girl, and hot water changes him back into a boy. So goes the premise of Ranma 1/2, the longest running manga, or comic, and anime series created by one of the most famous and prolific manga artists in Japan, Rumiko Takahashi. Published in a boy's manga magazine from 1987 to 1996, with a television series that ran seven seasons, Ranma spans a very unique and important moment in contemporary Japanese history. What, then, if anything does Ranma 1/2 say about late 1980s to mid 1990s Japan, a time period that includes both the height and collapse of Japan's "bubble economy" which figuratively burst in 1989? Is it more an agent of expression, challenge, and play? Or does it primarily use its unusual premise to act as a reminder of gender norms and proper behavior? Building on the work of both gender theorists and scholars interested in what has been termed "late modern" Japan, I will explore how conceptions of gender and sexuality are played out in Ranma

½, and suggest a relationship between these representations and the “moral panics” surrounding sexuality and youth in 1990s Japan.

02:00PM

Analysis of Cranial Deformation Practices in Taino Society. Darryl Ricketts. Indiana University-South Bend, IN. Sponsor: James VanderVeen

From the beginnings of human history individuals in a variety of cultures have practiced head binding in an effort to produce a more elongated skull, known as Artificial Cranial Deformation (ACD). This was very prevalent in Mesoamerican cultures such as the Maya, and indeed, has been found from the Native American cultures of the northern plains through Central America to the heart of South America and Peru. Intentional cranial deformation has also been seen in the Taino Indian population of the Dominican Republic, dating back to 800-1200 A.D.

Little research has been done on the Taino practice, and the question of why is still vague. Was this practice to signify social status? Was this performed only on the elite, or was it intended as a purely aesthetic modification practice for cultural identification? This paper will explore the issues of why and how this binding was done in Taino Culture, and what significance this had among the Tainos. Sex, stature, illness, and occurrence of ACD from a preliminary analysis of one individual from a mass burial at the Juan Dolio site in the Dominican Republic will also be presented.

Art History

Session A

Fairbanks Center, Room 146

Moderator: Dr. Elizabeth Mix

02:00PM

Rina Banerjee: Western and Asian Cultures Combined. Tarin Milligan. Valparaiso University, Valparaiso, IN. Sponsor: Nina Corazzo

In my presentation I will be focusing on the art work of Rina Banerjee. I will begin with a brief biography of Rina Banerjee, and how her heritage as a native from India and her upbringing in the United States has affected the art that she has produced. Previous experience in engineering by the artist is very significant in the materials she uses in her work I will explain how. I will also discuss her avid use of the color pink and its significance in her work. My main focus of her work will be "Pink Eye" and how it is a dialogue about the British colonization of India.

Biology

Session A: Ecology

Gallahue Hall, Room 101

Moderator: Dr. Travis Ryan

09:00AM

Effect of cover, temperature, time of day, and season on foraging in birds. Kathleen O'Brien. Butler University, Indianapolis, IN. Sponsor: Carmen Salsbury

Foraging behavior can vary greatly among animals and within the same species. How animals approach searching for food and the predator-prey interactions that accompany these behaviors can vary in terms of the locations in which the animal searches for food, the timing with regards to both period during the day and season, and the duration of the foraging effort. Predation risk, hunger level, travel time, competition, and weather may also influence foraging behaviors. In this project, the effect of time of

02:15PM

Saami Reindeer Herding: 'Traditional' Practice in Modern Scandinavia. Samantha Hyler. Butler University, Indianapolis, IN. Sponsor: Paul Valliere

This presentation will focus on how researchers and anthropologists have represented Saami as traditional reindeer herders. Saami are the indigenous people who live in Northern Scandinavia and the Kola Peninsula and have been widely represented as reindeer herders. Despite the fact that fewer than ten percent of Saami are occupational reindeer herders today, researchers past and present have largely ignored other occupations and practices when labeling Saami as pastoralists. Arguably, Saami have been hunter-gatherers as much as pastoralists; reindeer were hunted before they were herded, and fishing has always been an important resource for Saami. Today Saami also have paid work comparable to that of other Scandinavians. This focus on reindeer diminishes the importance of other occupational and non-occupational aspects of Saami society. While the introduction of the snowmobile and other modifications in herding practices have been well documented, changes not directly relating to pastoralism have been largely ignored in English texts, keeping the Saami in the realm of "traditional" cultures. Do Saami have a place as "traditional" people now—or are they kept there in the minds of outsiders as a form of imposed cultural preservation and romanticization?

02:15PM

Sergio Gomez's Self Portrait, 1999. Lindsey Gargas. Valparaiso University, Valparaiso, IN. Sponsor: Nina Corazzo

Chicagoland artist, Sergio Gomez has experienced firsthand the challenges and joys of immigrating to the United States. Struggling with a dual identity and wanting to fit into American society, he redefined himself as he intertwined his Mexican heritage with his American citizenship. Throughout his career, Gomez has attempted to "...acculturate without compromising his own self." His main goal in his work is to bring his two identities together, but not take any characteristics away from either. In 1999, Sergio Gomez created Self Portrait, which reflects Gomez's personal concern to establish a visual dialogue with his physical and spiritual identities. The lack of racial, ethnic, and even gender specificity in Gomez's Self Portrait allows any viewer to freely interact with the piece. The image therefore assists in breaking down barriers between people based on gender and/or the formation of one's facial features and the color of one's skin.

day, ambient temperature, and season on bird foraging behavior at feeders varying in distance from cover were studied. Foraging behavior was assessed based on food consumed and occasional observation of bird visits to the feeders. Foraging rates did not vary with time of day, but did vary significantly by site, distance from cover, and season. Birds foraged more readily from feeders close to tree cover and foraging levels were higher in the fall compared to the summer months. These trends also varied by site. Further, foraging rates were not significantly correlated to ambient temperatures. These results are pertinent considering that passerine populations are declining worldwide and any information regarding foraging behavior could prove key to their survival.

09:15AM

Turtles of the Central Canal: A comparative study in reproductive ecology. Kati Rush. Butler University, Indianapolis, IN. Sponsor: Travis Ryan

In the field of biological conservation and management, the study of an organism's life history characteristics is crucial. In particular, reproductive ecology is key in understanding the population dynamics. Complex ecological relationships are often influenced by human interactions such as habitat destruction and urbanization. The Central Canal of Indianapolis provides a habitat for many aquatic and semi-aquatic organisms, including turtles, in an urban setting. Through a combination of personal observations, mark-recapture data, and radiographs, this study looks at the reproductive ecology of three turtle species (*Graptemys geographica*, *Sternotherus odoratus*, and *Apalone spinifer*) that inhabit the Central Canal.

09:30AM

Effect of Selection Over Time and the Nature of the Trap on Gene Frequencies in a Population Cage of *Drosophila* Initiated with Equal Numbers of Wild and Bar Flies. La'Toya Draughon, Jessica Davis. Marian College, Indianapolis, IN. Sponsor: Michael Eoff

Flies were sampled weekly for their gene frequencies. Trapping conditions were altered with the addition of fresh fruit to study their effects on gene frequency in the sample. Causes of changes in gene frequencies are discussed.

10:00AM

Niche partitioning in five species of non-migratory insectivorous bark-foraging birds in Indiana deciduous forests. Daniel Albrecht-Mallinger, Chelsea Blake, Evan Dalton. Earlham College, Richmond, IN. Sponsor: Brent Smith

We studied niche partitioning among five species of non-migratory, bark foraging insectivorous birds in the deciduous forests of east-central Indiana: *Picoides pubescens*, *Melanerpes carolinus*, *Sitta carolinensis*, *Poecile carolinensis* and *Baeolophus bicolor*. For each bird observed foraging, we recorded the tree species on which the bird foraged, as well as the substrate, horizontal and vertical location. Chi-square (χ^2) analyses showed significant differences between bird species for both substrate and location. When divided into two feeding subguilds: probers (DOWO, RBWO, WBNU) and gleaners (CACH and TUTI); the probers showed significant preference for foraging on the trunk, while the gleaners preferred inner branches. Data suggests the birds are partitioning niches by foraging on different substrates and locations.

10:15AM

Spider Diversity of Dominica: a habitat comparison. Susan Kennedy, Erick Lundgren. Earlham College, Richmond, IN. Sponsor: Leslie Bishop

For the past five years we have been conducting a survey of spider diversity in Dominica, W. I. Spiders, as first level predators in terrestrial food webs may be good indicators of total arthropod diversity. We have collected spiders using a standard protocol in the following habitats: rainforest, rainforest transition, montane, riparian, dry forest, dry scrub, and cultivated gardens. The natural habitats richest in spider species include rainforest, riparian habitats, and rainforest transitional sites. Each habitat has a unique assemblage of spider species, including a high percentage of rare species. We analyzed data to compare habitat diversity using Simpson's Diversity Index and will discuss the implications of our results.

10:45AM

Biology and Conservation of the Bald Eagle and other Raptors at the Dwight D. Chamberlain Raptor Rehabilitation Center, Hardy Lake Recreation Area, Scottsburg, Indiana. Brittany Terry. Hanover College, Hanover, IN. Sponsor: Daryl Karns

The Dwight D. Chamberlain Raptor Rehabilitation Center, located at Hardy Lake State Recreational Area near Scottsburg, Indiana, is the only state operated raptor rehabilitation center in Indiana. I have been an intern at the center since November, 2006 and will discuss the work of the center. In addition, I had the opportunity to study the effects of birth order on feeding behavior of wild Bald Eagles (*Haliaeetus leucocephalus*) nesting at Hardy Lake in May 2007. I determined the percentage of food distributed to each eaglet by observing feeding events and counting the number of food items each eaglet took over a four week period. I calculated the total number of food items along with the percentage of food each eaglet received. The first-born chick, and consequently the largest, ate 63% of all food, while Chicks 2 and 3 received 20% and 17% of the food items. The study ended with the death of second and third born eaglets. The deaths of the eaglets could have been due to starvation, disease, or other unknown factors. I will discuss the biology and conservation of Bald Eagles and other raptors in the context of the work being done at the Raptor Center.

11:00AM

Does DiazaCon™ effectively reduce aggression and number of offspring in wild waterfowl populations? Jessica Corder, David Porta, Gregory Hobbs, Roy Burns, III, Christi Yoder. Bellarmine University, Louisville, KY. Sponsor: David Porta

Wild waterfowl species such as mallards and Canadian geese can become nuisances when they migrate to residential areas often becoming overpopulated due to the abundant resources available. They can also become aggressive especially during the breeding season. The population at The Louisville Zoo will be given DiazaCon™, an avian contraceptive, which prevents desmosterol from being converted to cholesterol, and therefore reduces the amounts of reproductive steroids produced such as testosterone and estradiol. The contraceptive will be given on cracked-corn bait for a period of about two weeks. One mL blood samples will be collected from the jugular vein of random individuals within the population after the feeding period is completed. The samples will be centrifuged and the plasma will be analyzed for cholesterol and reproductive hormones using immunoassays and compared to standard levels. Nest scouting will take place and any eggs that are found will be collected, recorded, and candled to determine fertility. The percent of fertile eggs will be compared to control data from the previous year. Waterfowl aggression is documented by the number of public complaints, incident reports, etc. and will also be compared to the control year. It is our hope that DiazaCon™ will successfully reduce the population and decrease aggression of wild waterfowl that are residing at The Louisville Zoo.

11:15AM

Analysis of Coral Reef Community Structure and Composition Inside and Outside of Marine Protected Areas in the Turks and Caicos Islands, Caribbean Sea. Matthew Helms. Hanover College, Hanover, IN. Sponsor: Daryl Karns

Marine Protected Areas (MPAs) are a widely utilized conservation technique, despite the discouraging lack of research which accurately quantifies their actual effects. This field study evaluated the structure of coral reef communities based on surveys of 24 transects equally distributed inside and outside of protected areas off of the Caribbean island of South Caicos in June 2007. Benthic habitat composition and coral species composition were assessed, as well as the abundance of fish species from families of commercially-important food fish (Serranidae, Lutjanidae, and Haemulidae), and families of herbivorous reef fish (Chaetodontidae and Scaridae). We also investigated the relationship between the abundance of

fish from these two groups and the percentage of substrate composed of live coral. Contrary to our expectations, more total fish were recorded outside MPAs (n = 664) than inside (n = 164). In both MPA and non-MPA sites, the family Haemulidae, particularly the species *Haemulon flavolineatum* (French grunt), was observed more than any other fish; the boulder star coral, *Montastrea annularis*, dominated the coral communities; sand was the most prominent substrate type; and no significant relationship was found between coral cover and abundance of either food fish or herbivorous fish. The difference in fish abundance in spite of the community similarities within the two types of habitats indicates that some element unrelated to MPA effectiveness may be at work; the majority of existing literature seems to recognize that MPAs do provide a refuge for aquatic fauna. This report discusses further issues related to the evaluation of MPAs.

11:30AM

Biological assessment of stream health in two urban watersheds. Carly Decker. Butler University, Indianapolis, IN. Sponsor: Travis Ryan

The purpose of urban ecology is to study organisms in an urban landscape to better understand the effects of human development on plants and animals. This research centered on assessing the health of two riparian systems in Indianapolis, thereby estimating the impact of urbanization on natural environments and wildlife. I used standard field techniques to collect and identify benthic macroinvertebrates and used a Benthic Index of Biological Integrity (B-IBI) to analyze the data. Global positioning systems (GPS) were used to mark the location of sample sites and geographic information system (GIS) software was used to identify and quantify land cover within various sized "buffer zones" surrounding each watershed sampled. The analysis of these data determined to what extent land cover within buffer zones influenced the B-IBI scores. This research is significant in urban ecology as it contributes to our understanding of the scope of human influence on wildlife populations living in highly urbanized areas.

Session B: Cell/Molecular Biology Gallahue Hall, Room 102

Moderator: Dr. Katherine Schmid

09:00AM

Ion Deficiency Symptoms across Tissue Culture. Kirk Bradtmiller. Indiana University/Purdue University at Fort Wayne, Fort Wayne, IN. Sponsor: Michael Bosela

Hydroponics typically involves growing plants in mineral solutions. Unlike plants grown in soil, the synthetic solutions allow the observer to control the concentrations of all nutrients in the solution. However, the roots are not held in place, which could be detrimental for studies of root morphology and branching. Various maintenance concerns (ex: alga, water loss, etc.) can also arise when using liquid solutions. Besides turning to sand or gravel as an alternative, a sterile nutrient solution containing a gelling agent, or a plant tissue culture, could be a substitute. Since the solution is firm and clear, the plant can imbed its roots and the observer can collect data on the root growth patterns. Also, since tissue cultures are kept in closed vessels they are easy to maintain. Though there are clear advantages to using tissue cultures there is also a downside. Gelling agents can contribute mineral nutrients to the solution that could be available to the plant. These mineral nutrients could be present at concentrations that are toxic or could interfere with mineral nutrient deficiency studies. To test for these possibilities, an experiment of ion deficiencies (-nitrogen, -phosphorus, -magnesium, -calcium, -iron, -potassium) across three gelling agents (gelrite, agar, agarose) was performed. Two plants, carnation and tomato, were used. The runtime was six-eight weeks and weight data, analytical notes, and photographs were taken over the course of the experiment. Data from these experiments and from mineral analyses of the gelling agents will be presented.

09:15AM

Auxin Amides as Slow Release Forms of Auxin in Tissue Culture. Agna Win. Indiana University/Purdue University at Fort Wayne, Fort Wayne, IN. Sponsor: Michael Bosela

Auxin Amides as Slow Release Forms of Auxin in Tissue Culture
Agna Win (Michael Bosela), Indiana University-Purdue University Fort Wayne, Fort Wayne, IN 46805

Auxins are plant hormones that promote root formation and callus growth in tissue culture. All have carbon ring structure and are weak acids. In auxin amides the hydroxyl group on the acid is replaced by an amine group. Auxin amides may act as slow release forms of auxin as has been demonstrated for auxin-amino acid conjugates, which release 'free' auxin upon hydrolysis of the amino acid. Auxin amides promote root formation from stem cuttings, but their effects on plant tissue cultures have not been previously evaluated. Our research group demonstrated that auxin amides are effective for root induction in aspen tissue cultures, but the minimum concentrations required were higher in the auxin amides than for the free auxin as would be predicted for a slow release (indirect) mechanism. We have recently initiated pulse exposure experiments to assess whether auxin amides are hydrolyzed in the culture media or in the plant tissues after they have been absorbed. The tissue samples (callus or leaf sections) were exposed to auxins or auxin amides either continuously or for different lengths of time followed by transfer to hormone-free medium. The results from these experiments will help us identify the location of hydrolysis.

09:30AM

Refining the Annotations of Malaria Genomes. Lindsey Howlett, Gaya Hettiarachchi, Will Vincent, Alfred Simkin. Earlham College, Richmond, IN. Sponsor: Peter Blair

Malaria remains a global scourge to human life and existence and is responsible for up to 500 million cases and 3 million deaths annually. Therefore the need to establish and design novel malaria drug and vaccine strategies is crucial yet remains challenged, in part, due to the current status of malaria gene annotations. While the human malaria (*P. falciparum*) genome deserves the majority of attention, the accuracy of the rodent model (*P. yoelii*) genome is imperative for the traditional pipeline of drug/vaccine development and validity studies. Our research utilizes published large-scale datasets, notably Expressed Sequence Tags (ESTs), comparative genomics, and bioinformatic approaches to resolve and correct the current *P. yoelii* gene annotations. To date our research group has examined over 10% of the genes in the *P. yoelii* genome (approximately 5,700 total genes) and has successfully confirmed or corrected more than 70 genes, of which 60% required intron/exon boundary correction. Our data is being submitted to the free online genomic resource, PlasmoDB (www.plasmodb.org), for dissemination to the greater malaria research community. This presentation will offer both a description of our methodology and an update of our results.

10:00AM

An investigation of the mechanism for epithelial mesenchymal transformation in retinal pigment epithelium. Trish Todd. Bellarmine University, Louisville, KY. Sponsor: Dr. Steven Wilt

Proliferative vitreoretinopathy (PVR) is a medical condition that can cause visual impairment or blindness in human beings and other animals. PVR is induced when a tear in the retina allows the retinal pigment epithelium (RPE) to be exposed to vitreous. Interaction between vitreous and the RPE, which serves as a blood-retinal barrier in the eye, stimulates the RPE to undergo an epithelial mesenchymal transformation (EMT). This morphological differentiation prohibits the epithelium from serving its barrier role and leads to the formation of contractile membranes that further detach the retina from the choroid. Our study investigates the mechanism by which RPE cells are induced to undergo epithelial mesenchymal

transformation. We propose that vitreous exposure activates the transcription factors, Snail1 and Snail2, which subsequently repress intercellular junction proteins. Semi-quantitative PCR and protein immunoblotting techniques were used to analyze changes in expression of the transcription factors as well as their target tight and adherens junction proteins, E-cadherin, occludin, and claudin-1. Contrary to our hypothesis, comparison of control versus 48-hour vitreous-treated cells showed no significant difference in mRNA or protein expression.

10:15AM

The Effects Reishi Mushroom Extracts on Human Lung Cancer Cells. Sanda Zolj, Melissa Pawley. Bellarmine University, Louisville, KY. Sponsor: Joann Lau

According to the CDC, lung cancer is the second most common cancer in the US and it currently accounts for more deaths than colon, prostate, and breast cancer combined. Standard methods of treatment include chemotherapy, radiation, and surgery, or a combination of these. Therefore, there is a growing interest in the use of natural products for the treatment of cancer. For instance, Chinese herbalists have used a fungus called *Ganoderma lucidum* (Reishi mushroom) as a traditional remedy for diseases like hepatitis, bronchitis, and cancer. This study was conducted to examine the effect of *G. lucidum* derivatives, on the proliferation of lung cancer. Lung cancer cells were grown in vitro using 96-well plates and then treated with 15 different concentrations of *G. lucidum*. Using a colorimetric assay, cell proliferation was monitored 1, 2 and 7 days following treatment. Overall, there was a decrease in cell proliferation as *G. lucidum* concentrations increased. Furthermore, the higher concentrations of *G. lucidum* did not appear to impact cell proliferation until 48 hours after treatment. Results suggest that there is a range of *G. lucidum* that are effective in decreasing cancer cell proliferation in vitro. *Ganoderma lucidum* may appear to have potential for the treatment of lung cancer.

10:30AM

Ambrosia Project: Characterization of a Pollen cDNA Library from Giant Ragweed. Kathryn Blair. Bellarmine University, Louisville, KY. Sponsor: Joann Lau

About 36 million Americans are allergic to pollen released by grasses, trees, and weeds. A major source of this allergenic pollen is giant ragweed (*Ambrosia trifida* L.), a common weedy plant in the U.S. As of June 2007, there were only 6 nuclear DNA sequences from giant ragweed published in the NCBI GenBank. To examine gene expression in giant ragweed pollen, a cDNA library was constructed from mRNA isolated from dehiscing male flowers. To date, 155 clones have been characterized according to their biological, cellular, and molecular functions using NCBI BLASTX searches. The most common cellular location for these gene products was the nucleus with a majority appearing to be involved with transcriptional, post-transcriptional, or other DNA/RNA processing events. Examples of gene homologies include a metallothionein, an auxin-response factor, a floral homeotic protein, chitinase, and calmodulin. Several potential allergenic proteins were also isolated, including pectate lyase. Primer walking was performed to determine the entire sequence of the pectate lyase, and PCR primers were designed to isolate the genomic sequence. To look at the expression of pectate lyase in specific tissues, RNA was extracted from multiple tissues, as well as different stages of flower and pollen development. Reverse Transcription-PCR was used on the resulting tissue samples. Then further analysis will be performed using an expression vector. This research has the potential to reveal much about the biology of this important allergenic plant.

Session C: Ecology 2 Gallahue Hall, Room 101 Moderator: Dr. Chris Hess

12:30PM

Spider Diversity of Dominica: Diurnal vs. Nocturnal Species Assemblages. Yvonne Matos. Earlham College, Richmond, IN. Sponsor: Leslie Bishop

The island of Dominica in the West Indies is unique due to its pristine habitats, and yet little is known about its overall biodiversity. Spiders, as first-level predators in terrestrial food webs, may be good indicators of total arthropod diversity. In 2003 and in 2006, two groups of students traveled with Dr. Leslie Bishop to initiate a study comparing the diversity of spiders across habitats. In the spring of 2006, we began processing these samples, organizing them into morphospecies based on their physical characteristics. Altogether we found over 152 morphospecies belonging to 20 different families. In 2007, we returned to certain collection sites for nocturnal sampling. We will present a comparison of nocturnal vs. diurnal species assemblages of various habitats.

12:45PM

The Effect of Selection Over Time and the Nature of the Trap on Gene Frequencies in a Population Cage of *Drosophila* Initiated with Equal Numbers of Wild and Bar Flies. James Amaya, Matthew Abbott. Marian College, Indianapolis, IN. Sponsor: Michael Eoff

Flies were sampled weekly for their gene frequencies. Trapping conditions were altered with the addition of fresh fruit to study their effects on gene frequency in the sample. Causes of changes in gene frequency are discussed.

01:00PM

The Effect of Selection Over Time and the Nature of the Trap on Gene Frequencies in a Population Cage of *Drosophila* Initiated with Equal Numbers of Wild and Bar Flies. Kristen Smith, Kelly Murphy. Marian College, Indianapolis, IN. Sponsor: Michael Eoff

Flies were sampled weekly for their gene frequencies. Trapping conditions were altered with the addition of fresh fruit to study their effects on gene frequency in the sample. Causes of changes in gene frequency are discussed.

01:15PM

Leaf Herbivory and Fall Leaf Drop Date in Invasive vs. Native Shrubs. Laura Herbstreit, Stephen Martin. Earlham College, Richmond, IN. Sponsor: Brent Smith

It is crucial to understand the environmental impacts of invasive species and understand those characteristics which make them such successful competitors. We examined percent leaf herbivory and fall leaf drop date of three native (*Lindera benzoin*, *Ribes cynosbati*, *Viburnum prunifolium*) and three invasive (*Lonicera maackii*, *Elaeagnus umbellata*, and *Ligustrum vulgare*) species of shrubs in a 60 year-old mid-succession forest in east-central Indiana, USA. We predicted that the three invasive species would hold their leaves longer and have lower percent leaf herbivory. On ten individuals of each species, we randomly marked 25 leaves and recorded the number remaining weekly, from October 7, 2007 to November 11, 2007. On two occasions, we collected 50 leaves from each species and calculated the percent herbivory using a trace, cut, and mass method. We performed a one-way ANOVA to test for differences in herbivory and leaf drop between species. There were differences in both percent leaf herbivory and leaf retention time between species; *L. vulgare* had the lowest percent herbivory in both the early and late data sets and *V. prunifolium* had the highest percent herbivory in the early and in the later

set. *L. benzoin* and *R. cynosbati* lost their leaves earliest followed by *V. prunifolium*. *L. vulgare*, *L. maackii*, and *E. umbellata* had high leaf retention rates throughout the study. We believe invasive species holding their leaves longer, and experiencing less herbivory may help in explaining their overall success in their introduced environments.

01:30PM

Sapling and Environmental Characteristics Across an Edge to Interior Gradient. Megan Carter, Dorothy Christopher, Haley Wicklein. Earlham College, Richmond, IN. Sponsor: Brent Smith

Edge effect is the gradual change in forest structure and composition from the edge to the interior and has many conservation implications. We investigated whether the sapling density, size, shade tolerance, and species composition, as well as microclimatic conditions varied depending on proximity to the forest edge. Within a small (2.5ha), roughly square, forest fragment surrounded by agriculture, we created 8 north-interior-south-running transects, each with eleven 10m diameter quadrats, 20m apart. In each plot, we measured density, size, and species composition of saplings less than 8.3 cm DBH from the north to south edge of the forest. In each of the eight rows we also measured light intensity and soil moisture. To test for agricultural influence, we analyzed soil samples for differences in soil nutrients and pH between the edge and the interior. We monitored temperature and relative humidity on the north edge, interior, and south edge. Using one factor analysis of variance, we found both the north and south edges had significantly higher sapling density and light intensity and lower average sapling size. Average shade tolerance was highest on the south edge. Temperature was greatest on the south edge and relative humidity was greatest in the interior. Soil moisture, nutrient concentrations, and pH showed no significant trends. This suggests that light is the most important environmental factor in determining species composition, density, and size of saplings in our study site.

01:45PM

The Effects of a Sediment Trap on Benthic Macroinvertebrate Populations In the North Branch of the Boardman River, Michigan. Whitney Nelson, Dan Ippolito. Calvin College, MI. Sponsor: Dan Ippolito

Excess sediment in a stream bed causes changes in the shape of the stream channel, as well as affecting the benthos by impacting food supply and habitat availability. One method of removing excess sand in a river is the installation of a sediment trap. One such trap is located in the north branch of the Boardman River off Guernsey Lake Road in Grand Traverse County, Michigan. This study was conducted to assess the effect of sand removal on the benthic macroinvertebrates by sampling sites upstream and downstream of the sediment trap. During the summer of 2007, 8 sites were sampled (4 upstream and 4 downstream of the sand trap). Riffles were chosen for data collection due to their reported sensitivity to physical changes. Macroinvertebrate samples were identified to genus and morphospecies (for calculation purposes), with the exception of midges, which were identified to subfamily. Density and diversity indices were calculated for upstream vs. downstream populations. Additionally, there were higher percentages of the gatherer-collector and scraper functional groups in the downstream site, which is expected in riffle habitats. The riffle sites

upstream of the sand trap contained a higher percentage of filtering and grazing benthos, which are often not characteristic of riffle habitats, suggesting their increased presence results from a habitat disturbance. The genus *Brachycentrus* had especially high numbers of individuals upstream. The slower current velocity upstream due to overall habitat degradation suggests their increased number is a result of an opportunistic move.

02:00PM

Vertical Distribution of Cladocerans and Copepods in Lake Larrew (Kosciusko County, IN) in Fall 2007. Leeland Shaw, Jeff Grabowski. Manchester College, North Manchester, IN. Sponsor: Dr. Jerry Sweeten

Zooplankton are important in the structure and function of aquatic ecosystems. More specifically, within freshwater lentic ecosystems, microcrustaceans such as copepods and cladocerans serve as the base of aquatic food chains and their populations may be affected by biotic and abiotic factors. The purpose of this study was to examine copepod and cladoceran populations across depths and time in Larrew Lake. Larrew Lake is a five acre kettle lake owned by Manchester College located in north central Indiana. Zooplankton samples were collected at one meter depths from 23 September – 29 November with a Kemmerer water sampler and preserved in isopropyl alcohol. Temperature and dissolved oxygen profiles were determined at one meter depths at each sample location and time. Results clearly show there were no plankton found where dissolved oxygen was less than 0.1 mg/L and the distribution of the microcrustaceans was greater at depths with a higher concentration of dissolved oxygen and a higher temperature.

02:15PM

Abundance and growth of largemouth bass (*Micropterus salmoides*) in an unexploited population. Jacob Wenger, Emma Eilts, Jared Mobley. Manchester College, North Manchester, IN. Sponsor: Dr. Jerry Sweeten

Larrew Lake, a 5 acre kettle lake in Kosciusko County, Indiana, is located in the center of Manchester College's Koinonia Nature Preserve. Due to this location the lake harbors many unexploited populations of indigenous Indiana fauna; of particular note that of the largemouth bass (*Micropterus salmoides*). The largemouth bass, being of economic and recreational value, have been widely studied and exploited. So rarely is such an undisturbed population available for scientific inquiry. Over a period of eight weeks largemouth bass were collected, Passive Integrated Transponders were injected and dorsal spine samples were taken for age estimation. A population estimate was established through mark and recapture technique. The combination of these allows one to view age class strength structure for the entire estimated population of unexploited largemouth bass in Larrew Lake. The population was determined to be around 1,450 bass with a Proportional Stock Density of a staggering 94.9%. 56% of the bass captured and aged were between 3-5 years of age, with a max age of 8+ years. The majority of bass were found to be in the RSD (Relative Stock Density) Preferred category with substantially fewer numbers being RSD memorable and RSD quality. Larrew Lake sets a bench mark that couldn't be reached in public waters but it shows what a natural population of largemouth bass would have looked like prior to the intense pressures placed on public waters.

Session D: Organismal Biology

Gallahue Hall, Room 102

Moderator: Dr. Phil Villani/Dr. Shelley Etnier

11:00AM

Comparative Leaf Development in *Kalanchoe delagoensis* and *Kalanchoe pinnatum*. Heather Pence. Butler University, Indianapolis, IN. Sponsor: Philip Villani

The unique propagation methods of plants classified in genus *Kalanchoe* have been the subject of numerous research projects, which have attempted to determine the origins and triggers of the *Kalanchoe* species' foliar propagation adaptations. As of yet, no research team has completed a purposeful study comparing the developmental characteristics in two different species of *Kalanchoe*—the objective of this research was to establish a comprehensive and comparative development study of leaf morphology in *K. delagoensis* and *K. pinnatum*. Specimens from each type of plant were imaged and analyzed using scanning electron and light microscopy. Specifically, the developmental stages of leaf 5 morphology in both species were compared. Light microscopy images revealed that the shape of the shoot apical meristems (SAM) in both species was the same. While the SAM was found to be the same in these two species, subsequent SEM images indicated that the observed divergence in overall leaf morphology occurred between plastochrons 1 and 2 in both species of *Kalanchoe*. The developmental progress of each species was monitored using the microscopy equipment of the Butler University Biology and Chemistry Departments.

11:15AM

Investigation of *Kalanchoe homobox 1* gene in *Kalanchoe pinnatum*. Jessica Kirkpatrick. Butler University, Indianapolis, IN. Sponsor: Philip Villani

Kalanchoe pinnatum is an unusual plant that develops plantlets on the edge of severed leaves. Dr. Philip Villani has determined the gene believed to be responsible for this plantlet development: *Kalanchoe homobox 1*. Apical meristems from plants at various stages of development were obtained, thinly sliced and mounted on slides. In-situ hybridization was then performed to identify the mRNA which would have been transcribed from DNA if the gene was in fact present.

11:30AM

The effect of ontogenetic changes on the passive buoyancy of the freshwater turtle, *Graptemys geographica*. Rachel Deal. Butler University, Indianapolis, IN. Sponsor: Shelley Etnier

Freshwater turtles dive in order to feed or avoid predators. Diving represents a substantial energetic cost as the turtle uses muscles for locomotion as well as to overcome buoyancy. The buoyancy of turtles is influenced by body composition, including the amount of bone, muscle, and lipids. During turtle ontogeny, the relative amounts of these body tissues are likely to change as their shell size, and possibly shell density, greatly increases. Therefore, the buoyancy of turtles may be affected by body size, and specifically, shell size and density. I measured mass, volume, and carapace length in an ontogenetic series of both living and skeletal samples of *G. geographica*. These measurements were then used to determine the density and buoyancy of the turtles. I hypothesized that hatchling turtles are positively buoyant and have a lower shell density, and thus float to the surface, while adult turtles are negatively buoyant with a higher shell density, and sink. While the relative shell mass of turtles increased significantly during ontogeny, I did not detect a significant increase in shell density or a decrease in buoyancy. The changes in shell mass may be compensated by active mechanisms, such as changes in the lung volume, or by changes in the proportions of other tissues.

12:30PM

Hatchling Orientation in a Hatchling Turtle (*Kinosternon flavescens*). Evan Dalton. Earlham College, Richmond, IN. Sponsor: John Iverson

Hatchling orientation has been widely studied among marine turtle species, but much less studied in non-marine turtles. Yellow mud turtles (*Kinosternon flavescens*) exhibit a unique semiaquatic life history with terrestrial estivation or hibernation in summer through winter and aquatic mating and feeding in spring and early summer. Hence, these turtles migrate back and forth between wetlands and uplands at least twice each year, along the same migration path. To understand the orientation methods used by these turtles as well as their acquisition in juveniles, hatchling and second-year mud turtles emerging from hibernation were captured before reaching the water and released in one of two circular arenas placed out of sight and on the opposite side of the wetland. Recapture locations of turtles along the perimeter of the arena suggested that hatchlings used visual cues (probably polarized light) to determine the direction to the wetland and to reorient in that direction. However, second-year turtles maintained the same compass bearing on which they were headed prior to initial capture, suggesting that they employed an internal compass mechanism that was not overridden by light cues. Our results imply that this compass mechanism is acquired during the first year of life, but not during their initial migration to water.

12:45PM

Patterns of thermoregulation in the Big-eyed Pit Viper, *Trimeresurus macrops*, a small tropical forest snake in northeastern Thailand. Tracy Tamashiro. Hanover College, Hanover, IN. Sponsor: Daryl Karns

The majority of reptile thermal biology studies have been done in the temperate zone where reptiles spend a significant amount of time and energy engaged in thermoregulatory behavior. Researchers have questioned the importance of active thermoregulation in tropical reptiles living in warm, uniform climates. We conducted an investigation to document the daily patterns of thermoregulation for *Trimeresurus macrops*, the Big-eyed Pit Viper, a relatively small, tropical forest snake, in northeastern Thailand. We utilized an array of thermal data loggers to record microhabitat temperatures. We surgically implanted temperature-sensitive radio transmitters in seven snakes and used radio telemetry to collect snake body temperatures in June and July of 2007. This study is based on four snakes monitored for body temperature over 1,114 hours at half-hour intervals. Mean snake body temperatures (26.4 ± 1.52 SE, range = 23.2-30.8) were closely correlated with closed canopy microhabitat temperatures (mean = 25.9 ± 1.83 , range = 22.5 – 32.5). We found that snake body temperatures were dependent on environmental temperature ($R^2 = 0.944$, $R^2 = 0.785$, $R^2 = 0.798$, $R^2 = 0.906$ for each of the four snakes monitored) suggesting that *T. macrops* is a passive thermoconformer. These results, plus behavioral observations on microhabitat use and feeding, support the suggestion that at least some tropical reptiles do not make significant investment in thermoregulatory behavior.

01:00PM

The Effects of Medications on Alzheimer Pathology & Neurogenesis. Sara Pourheydarian. Hanover College, Hanover, IN. Sponsor: Daryl Karns

Alzheimer's (AD) is a neurodegenerative disease which impacts nearly four million people in the United States. Acetylcholine esterase inhibitors have been linked to decreasing AD symptoms with recent studies suggesting reduction of AD pathology. In addition, antidepressant use has been linked to neurogenesis. Evidence for the production of new neurons after old ones have been damaged, known as neurogenesis, has been cited within the subventricular zone, olfactory bulb, and hippocampus but not in the cerebellum. The effect of acetylcholine esterase inhibitor and antidepressant usage on AD pathology and neurogenesis was studied.

Medical records and brains of eighteen patients, sixteen Alzheimer's and two without AD pathology were analyzed. Thioflavin-S was used to stain

for amyloid plaques, a hallmark of AD, within both the frontal and parietal cortices of every patient. Immunohistochemical staining for doublecortin was used to investigate the presence of new neuronal cells within the cerebellum. Using a t-test for statistical analysis, no correlation ($p > 0.05$) was found between acetylcholine esterase inhibitor use and the average amyloid plaque distribution. Also, no correlation ($p > 0.05$) was found between the plaque distribution and other medications including Namenda and Statins probably due to significant variability within AD patients. However, positive results were obtained for the presence of doublecortin stained neurons within the cerebellar tissue. The presence of this neuronal cell marker suggests that neurogenesis is occurring within the cerebellum of AD patients.

01:15PM

Continued Presence of Airborne Fungi: An Update Study of Airborne Fungi at the Louisville Zoological Gardens. Brian Murphy. Bellarmine University, Louisville, KY. Sponsor: Joanne Dobbins

Airborne microorganisms can have various effects on different species. Aspergillus, an airborne mold, affects both humans and animals. Aspergillosis, the disease caused by Aspergillus, can be especially harmful to animals in a zoo setting, where they are placed in an unfamiliar environment and exposed to different types of pollens, molds, etc. A six week experiment was performed at the Louisville Zoological Gardens using air sampling in outdoor and indoor exhibits. The sampling yielded an average 22.6 colonies per 3 minute collection period, with six identified organisms and three different types of bacteria. A comparison was made between the exhibits at the zoo and an outdoor air sample taken at Bellarmine University. Another analysis was made between the public and non-public zoo exhibits. The research found that the sampled sites at the Louisville Zoo contained higher numbers of colony forming units than the outdoor control. Of the zoo sites, the private areas yielded more colony forming units than the public. This research will help to aid the zoo and others in proper maintenance of air quality in and around zoo exhibits and habitats.

01:30PM

Prevention of Hospital Acquired Infections at Mercy Suburban Hospital in Southeastern Pennsylvania. Margaret Feeney. Hanover College, Hanover, IN. Sponsor: Daryl Karns

Prevention of hospital acquired infections is a significant health care issue in the United States. Attention has been focused recently on infectious agents like Methicillin-resistant Staphylococcus aureus (MRSA) and Vancomycin-resistant Enterococci (VRE). In the state of Pennsylvania, the passing of Pennsylvania Act 52 caused repercussions for every hospital in the state; the act mandated a reduction of hospital acquired infections throughout the state hospital system. In the summer of 2007, I interned at Mercy Suburban Hospital in East Norriton, in southeastern Pennsylvania. As an intern assigned to the Infection Control team, I was charged with determining how to reduce hospital acquired infections in the hospital. To do so, I compiled infection rates for previous years, completed lab and chart reviews, and investigated the causes of hospital acquired infections for the Mercy Suburban Infection Control team. Throughout the process, I documented interesting cases of hospital acquired infections and related diseases; I gained insight into the many microbes that can plague a hospital, especially MRSA. I will review the microbes that are the primary source of hospital acquired infections, and I will report on my findings and the recommendations that I made to Mercy Suburban hospital.

01:45PM

The Functional Outcomes of Simultaneous Bilateral and Unilateral Total Knee Arthroplasty. Deren Bagnsby. Hanover College, Hanover, IN. Sponsor: Michael Worrell

Many patients in need of total knee arthroplasty (TKA) present with bilateral symptoms, requiring multiple surgeries. While most current literature deals with post-operative complication rates, the purpose of this study was to assess pain and functional outcomes associated with simultaneous bilateral TKA. There was no statistically significant difference in pain, represented by Knee Society Score ($p = 0.161$). However, it was shown that there is a significantly higher postoperative functional outcome, as represented by range of motion ($p = 0.001$) and functional score ($p < 0.001$), associated with the bilateral compared with unilateral TKA. In conclusion, simultaneous bilateral total knee replacement is an effective treatment option and might be worth possible, slight added risk because of the better functional outcome it produces.

Business Administration & Economics

Session A

Holcomb Building, Room 235

Moderator: Dr. Deborah Skinner

10:00AM

Finances of Medical Journals. Benjamin George, Elias Dayoub, E. Ray Dorsey. University of Rochester, NY. Sponsor: E. Ray Dorsey

Background: Knowledge of the finances of leading U.S. medical journals and their publishers is limited.

Methods: We identified the top 20 U.S. general and internal medicine journals as ranked by 2005 Institute for Scientific Information impact factor. For these 20 journals, we identified the publishers and their tax status. We then analyzed the finances for the publishing organizations that had at least one journal ranked in the top 10 using publicly available data from 2000-2005.

Results: Of the top 20 journals, 8 are published by non-profit entities, including the 6 highest ranked journals. The remaining 12 journals are published by for-profit companies, including 6 by a single company.

Financial data were available from 2002-2005 for non-profit organizations and from 2000-2005 of for-profit companies. The total publishing revenue for all the non-profit publishers with journals ranked in the top 10 rose from \$153 million in 2002 to \$187 million in 2005. The average operating margin of non-profit publishers was 41 percent in 2005. The total revenue of the medical publishing units of for-profit entities doubled from \$1.7 billion in 2000 to \$3.4 billion in 2005. The average operating margin was 28 percent in 2005.

Conclusions: The majority of the leading U.S. medical journals are published by for-profit companies. Publishers of the leading journals have experienced substantial growth in revenue and favorable operating margins from their operations over the past 5 years. Much of the profit from publishing medical journals flows to public investors.

10:15AM

Which factors affect demand for tourism in Madison area? Van Pham. Hanover College, Hanover, IN. Sponsor: Rob Graham

Madison is located in Jefferson County, Indiana, along the Ohio River. In 2006, the majority of Madison's downtown area was designated one of the largest national historic landmarks in the United States. The purpose of this study is to develop a better understanding of tourism demand in Madison in recent years, to analyze factors that have affected the demand for tourism in Madison, and to suggest some ideas to increase this demand. According to "The 2004 Economic Impact of Travel and Tourism in Jefferson, Indiana," tourism in this area has not reached its full potential. By examining six factors that directly affect the demand for tourism: income of visitors, relative price, fashion and taste, advertising, opportunity for consumption, and population, the paper will attempt to show some factors affecting demand and recommend some options Madison can pursue in order to improve the position of tourism in contributing to the area economy.

10:30AM

Do Preschool Interventions Affect K-10th Grade Performance: An Econometric Evaluation of Family School Partners. Nicholas Hotz. Butler University, Indianapolis, IN. Sponsor: Robert Main

This study examines some of the potential benefits of Family School Partners, a small preschool intervention program based in Columbus, Indiana. The K-10th grade school performance of former preschool

students is evaluated using six different measures: grade point average, number of disciplinary visits to the dean, absentee rate, both Indiana's standardized math and English test scores, and special education rate. The former preschoolers' figures are then compared against the general school population. The lack of data prevents an accurate matched group comparison; therefore, the program's effectiveness is evaluated based on the relative performance of the students over time under the assumption (supported by other studies) that the benefits of preschools wane over time. The results show that the former preschoolers' absentee rate and special education rates become significantly worse relative to the general student population over time. This suggests that Family School Partners helps reduce its participants' absentee and special education rates but that the benefits dissipate as the children age. None of the other four measures yielded statistically significant results.

10:45AM

Examining the Spectrum of Eligibility of Professional Sports. Tom McLaughlin. Butler University, Indianapolis, IN. Sponsor: Richard McGowan

A former Ohio State running back was unsuccessful in his attempts against the NFL to enter the NFL draft after only one year of college. However, 14 year old Freddy Adu signed a contract with DC United, a Major League Soccer team. My presentation compares professional sports with respect to other industries with an eye to the free market principles of our society. Are certain sports violating the athletes ability to work?

Chemistry

Session A: Synthetic Chemistry

Gallahue Hall, Room 108

Moderator: Dr. LuAnne McNulty

09:00AM

Synthesis of Specifically Substituted 3-Phenylisoxazolines and 3-Phenylisoxazoles. Laura Bandy, Robert Sammelson. Ball State University, Muncie, IN. Sponsor: Robert Sammelson

Phenylpyrazoles are known to be extremely potent noncompetitive inhibitors of the GABA-gated chloride channel on the GABA receptor. Unfortunately, they do have some toxicity issues. This project involves the synthesis of new isoxazoles that have similar structural features to the phenylpyrazole, Fipronil. We have developed and optimized the synthesis of specifically substituted 3-phenylisoxazoles. Building on previous results on the 2,4,6-trichlorophenyl system we are now focusing on 2,6-dichloro-4-trifluoromethylphenyl derivatives. 2,6-Dichloro-4-trifluoromethylaniline was converted to 4-bromo-3,5-dichlorobenzotrifluoride and then bromo/lithium exchange was accomplished with n-butyllithium in toluene. Formylation of these aryllithiums with N,N-dimethylformamide provided the benzaldehydes. The aldehydes were converted to their oximes and then reacted with bleach to prepare the nitrile oxides in situ, which in the presence of various aliphatic alkynes deliver the target 5-alkyl-3-arylisoxazoles. The nitrile oxides were reacted with aliphatic alkenes to produce the corresponding 5-alkyl-3-arylisoxazolines.

09:15AM

Microwave-Assisted Synthesis of Secondary and Tertiary Amides with a Platinum Catalyst. Felicia Fullilove. Butler University, Indianapolis, IN. Sponsor: Anne Wilson

In the presence of a platinum catalyst and heat, secondary and tertiary amines or amides will add to the alkene portion of styrene derivatives. The reaction of these species will form the more substituted Markovnikov product. Conventionally, this process can take between 24 and 48 hours,

depending upon the nature of the nucleophile. However, with the use of new microwave technology substantial product formation can occur within 8 hours.

09:30AM

Progress Toward the Synthesis of Sattabacin. Levi Rupp. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Bruce Allison

Sattabacin, a compound isolated from the soil bacterium *Bacillus* sp. B. 60, has been shown to exhibit antiviral properties against Herpes Simplex Virus Type I and II. A total synthesis of sattabacin with the goal of producing analogues with increased antiviral properties or decreased cytotoxicity was attempted. The alpha hydroxy ketone moiety of sattabacin presents an interesting synthetic challenge, and several pathways designed to construct this functionality have been attempted. Difficulties encountered to date and future synthetic routes will be discussed.

09:45AM

Microwave Reactions of Chromium Carbene Complexes with Alkenes and Acetylenes. Joel Meyer. Butler University, Indianapolis, IN. Sponsor: Stacy O'Reilly

This project involves the microwave assisted reactions of chromium carbene complexes with various alkenes, alkynes, and phosphines. Phenyl substituted carbenes reacted with various alkynes in a microwave reactor to yield quinones in yields comparable to thermal methods in substantially less reaction time. Cyclopropanes could also be generated using the microwave methodology from a styryl substituted carbene. Substitution of two CO ligands from the pentacarbonyl carbene compound with a bidentate phosphine ligand was also accomplished via the microwave reactor. The phosphine derivative did not react with alkynes or alkenes under microwave conditions.

10:00AM

Palladium-catalyzed cross-coupling of a functionalized aryl iodide. Joseph Barlan, Eric Smith. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Rebecca DeVasher

Green chemistry focuses on the utilization of cheaper, more environmentally friendly and efficient use of substrates and reaction conditions. We explore Heck and Suzuki-Miyaura coupling reactions that employ a palladium catalyst in the coupling of an aryl iodide with styrene or phenylboronic acid, respectively. We focus on the use of heterogeneous palladium catalysts for Suzuki reactions in an aqueous-polyethylene glycol [Mn4600] (PEG) environment. Anionic resins such as Amberlyst® A-26(OH) in the presence of palladium(II) acetate (0.75 mol%), sodium formate, and water at 80°C have been used toward the synthesis of 4-hydroxy-3-methoxy-5-[(E)-2-phenylvinyl]benzaldehyde and 6-hydroxy-5-methoxy-1,1'-biphenyl-3-carbaldehyde. It appears that these reaction conditions are most favorable in the cross-coupling of phenylboronic acid via the Suzuki-Miyaura reaction, and is not generally true with styrene via the Heck reaction. It was found that under these conditions, the Heck coupling reactions had significantly less yield than the Suzuki-Miyaura coupling reaction. Ongoing research includes optimizing the Heck reactions through varying the Suzuki-Miyaura conditions and analytically quantifying product yields from both the Suzuki-Miyaura and Heck coupling reactions. This lab is intended for use in the undergraduate laboratory in a multistep synthesis starting with vanillin, 4-hydroxy-3-methoxybenzaldehyde.

10:15AM

Distillation of an unknown, two-component system for use in the undergraduate laboratory. Coy McNew. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Rebecca DeVasher

The most important technique for separating and purifying organic liquids is distillation. Students in sophomore organic chemistry will be introduced to this technique and some fundamental principles of separation in the liquid and vapor phase. In addition, students may use graphs of the vapor-liquid equilibrium of a binary mixture to determine separation efficiency, which may lead to higher purity materials while using milder conditions. We present a fractional distillation method for a two-component system that provides pure components as verified by FT-IR spectroscopy. We explore the separation of two compounds containing organic functional groups such as alcohols, ketones, and aromatics and we provide a verified model by which one can develop their own distillation laboratory.

Session B: Chemical Analysis of Inorganic Systems

Gallahue Hall, Room 108

Moderator: Dr. Todd Hopkins

10:45AM

X-Ray Fluorescence Analysis on Bronze Age Potshards Utilizing a Portable XRF Spectrometer. Lynda Wilkinson, Chad Wallace, Anderson Capsel, Amanda Spencer, David Neidert, Dale Bales. Anderson University, Anderson, IN. Sponsor: Chad Wallace

Anderson University's Gustav Jeeninga Museum of Bible & Near Eastern Studies has a collection of original Bronze Age pots and potsherds from a cemetery tomb located in Bab Ed-Dhra, Jordan. In an attempt to determine the origins of these pots, their compositions were compared to the museum's collection of Bronze Age pots from known locations throughout Palestine. Elemental compositions of the pots were determined by x-ray fluorescence using a portable x-ray fluorescence (XRF) spectrometer built at Anderson University using Amptek components. Ratios of the elemental emissions were used in the comparisons.

11:00AM

Lead Determination in Toys Using X-Ray Fluorescence. Anderson Capsel, Scott Carr, Dale Bales, Lynda Wilkinson. Anderson University, Anderson, IN. Sponsor: Scott Carr

Lead-based paint has been found in toys originating from China. This lead contamination has recently been in the news leading to a recall of many toys. The amount of lead in various recalled toys was determined by a portable XRF spectrometer assembled from components from Amptek, Inc.

11:15AM

Luminescence Studies of Lanthanide Compounds within Room Temperature Ionic Liquids. Matthew Goldey. Butler University, Indianapolis, IN. Sponsor: Todd Hopkins

This study examined the luminescence properties of europium (+3) and terbium (+3) compounds within room temperature ionic liquids. The ionic liquids used in this study were derived from imidazolium cations and varying anions (e.g. Br-, bis(trifluoromethylsulfonyl)amide, ...) in order to select for the solvent properties. A number of lanthanide compounds were chosen in order to maximize solubility within the ionic liquids. Spectroscopic properties of lanthanide compounds in ionic liquids were characterized using luminescence, excitation, and time-resolved luminescence measurements. Results from these measurements were used to examine the solvation and coordination environment of the lanthanide ion within each ionic liquid.

Session C: Chemical Analysis of Biological Systems
Gallahue Hall, Room 108
Moderator: Dr. Geoff Hoops

01:00PM

The effect of the Cnidicolous chayamansa (chaya) plant on the mealworm cholesterol absorption. Nicole Jaspers, Dominique Edwards. Purdue University North Central, Westville, IN. Sponsor: Rosa Rivera-Hainaj

Cnidicolous chayamansa (chaya) is a leafy dark green shrub native of tropical Mexico that has been used as a dietary supplement over the centuries. The nutritional values of chaya compare to those of spinach. Chaya has been observed as a potential remedy for ailments like high cholesterol and diabetes. However, there is no scientific data supporting the role of chaya in the treatment of the mentioned conditions. Cholesterol is a sterol essential to normal cellular activity including protein function, maintenance of normal permeability and fluidity of the plasma membrane, and organelle identity. Biosynthesis of cholesterol in higher eukaryotes and some bacteria uses the enzyme HMG-CoA reductase, which is the target of many anti-cholesterol medications. On the other hand, other animals such as annelids, nematodes and insects are not capable of utilizing the HMG-CoA reductase pathway and require dietary inclusion of the plant sterol ergosterol. The effect of chaya tea extracts on the cholesterol absorption by *Tenebrio molitor* (mealworm) was investigated. Groups of six mealworms were raised in identical surroundings. Negative controls were fed with a medium in the absence of chaya tea extracts. Positive controls were fed on a medium supplemented with chaya tea extracts. After a one-week period, the concentration of total cholesterol in the worms was determined using a spectrophotometric assay.

01:15PM

Functional Characterization of a 3-Ketoacyl-CoA Synthase from *Dictyostelium discoideum*. Andrea Grotenhuis, Brenda Blacklock. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Brenda Blacklock

Very long chain fatty acids (VLCFA) are key components in lipids active in a number of biological processes and are synthesized by elongation of existing fatty acids. There are two known pathways for fatty acid elongation: one based on 3-ketoacyl-CoA synthase (KCS), and the other on a group of gene products known as ELOs (for elongation). In order to compare and contrast the functions of the KCS and ELO pathways, we are studying fatty acid elongation in the social amoeba, *Dictyostelium discoideum*, which carries genes for both pathways. The goal of our research was to determine the substrate specificity of the *D. discoideum* KCS. We tested the hypothesis that DdKCS is specific for saturated C18 to C24 fatty acids by expression of the gene in wild type and mutant *Saccharomyces cerevisiae* and in *D. discoideum*. The effect of expression was examined by gas chromatography-mass spectrometry analysis of fatty acid methyl esters prepared from total cellular lipids. *S. cerevisiae* cell lines expressing DdKCS produced increased levels of saturated C20, C22, and C24 fatty acids compared to the control. We expect that this substrate specificity will be reflected in *D. discoideum* by increased levels of C20 to C26 VLCFA upon overexpression of DdKCS.

01:30PM

Toward the detection of polyphenols from tea using direct-insertion mass spectrometry. Eric Smith. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Rebecca DeVasher

Various types of teas, including green tea, have been promoted due to their potential health benefits. A class of antioxidant compounds found in tea, called catechins, may be responsible for many of the observed benefits of drinking green teas. We present a method for the extraction of these substances from Japanese sencha whole leaf tea using standard organic

techniques, and the analysis of the isolated dark powder by mass spectrometry using the direct-insertion method. We present the methods developed toward successful isolation of polyphenol-rich compounds found in green tea.

01:45PM

The effect of chaya extract on the ergosterol synthesis in *S. cerevisiae*. Martin Jaspers, Nichole Sheaffer. Purdue University North Central, Westville, IN. Sponsor: Rosa Rivera-Hainaj

Cnidicolous chayamansa (chaya) is a leafy dark green shrub native of tropical Mexico that has been used as a dietary supplement over the centuries. The nutritional values of chaya compare to those of spinach. Chaya is used in Central American countries as a folk remedy for high cholesterol. This plant has been observed as a potential remedy for ailments like high cholesterol and diabetes. However, there is no scientific data supporting the role of chaya in the treatment of the mentioned conditions. Cholesterol is a sterol essential to normal cellular activity including protein function, maintenance of normal permeability and fluidity of the plasma membrane, and organelle identity. Biosynthesis of cholesterol in higher eukaryotes and some bacteria uses the enzyme HMG-CoA reductase, which is the target of many anti-cholesterol medications. In this study, we investigated the effects of a traditionally prepared chaya tea extract on the ergosterol synthesis of *Saccharomyces cerevisiae* (yeast). *S. cerevisiae* was chosen because the pathway it uses for ergosterol synthesis is similar to the pathway that humans used in the synthesis of cholesterol. Negative controls were grown in a medium in the absence of chaya tea extracts. Positive controls were grown in a medium supplemented with chaya tea extracts. The concentration of total ergosterol in the yeast was determined using a spectrophotometric assay.

02:00PM

Investigation of Two Site-Directed Mutants of Serine Hydroxymethyltransferase from *Escherichia coli*. Samantha Fulton, Justin Beauchamp. Goshen College, IN. Sponsor: Douglas Schirch

Two site-directed mutants of *E. coli* serine hydroxymethyltransferase (SHMT), a 95kDa homodimer, were isolated and characterized. The first mutant, G67V, replaced a glycine residue believed to be a key hinge point in the enzyme's folding pathway. Comparison of the *E. coli* enzyme with SHMT and related enzymes from other organisms revealed a high degree of conservation. The mutant was more difficult to isolate than the wild-type enzyme due to loss of the pyridoxal phosphate cofactor. Surprisingly, the mutant binds the cofactor at 30° but not very effectively at 4°. The specific activity of the G67V mutant after incubation at 30° is one-third of the wild-type enzyme. Spectral analysis of the G67V mutant also shows less pyridoxal phosphate as an aldimine and more in the quinonoid structure than in the wild-type. Limited proteolysis determined the monomeric folding of G67V is similar to the wild-type. A second mutant, F257W, was purified to 95% homogeneity and had a specific activity of three-fourths that of the wild type enzyme.

02:15PM

Determination of Impact of Phosphate Ions on Surface Coverage and Orientation of Cytochrome c on a Silica Surface with Polarized ATR Spectroscopy. Ken Clevenger. Butler University, Indianapolis, IN. Sponsor: Geoffrey Hoops

Attenuated Total Internal Reflection (ATR) Spectroscopy is used to study the electrostatic adsorption of cytochrome c (cyt c) from horse heart to a fused silica surface. Values for the adsorption equilibrium constant, surface coverage, and protein orientation of cyt c as they are influenced by changes in bulk solution phosphate concentration have been determined. Elucidations of cyt c's surface behavior are valuable for the insight they provide into how cyt c may adsorb and operate in its biologically native mitochondrial membrane, as well as providing knowledge that has potential for application in protein chips and biochemical engineering.

Communication: Speech & Journalism

Session A

Fairbanks Center, Room 246

Moderator: Dr. William Neher

09:00AM

An Ethical Analysis of Clinton-Lewinsky Coverage in Print Media. Cassie Krisher. Butler University, Indianapolis, IN. Sponsor: Charles St. Cyr

In January 1998, media consumers witnessed the uncovering of President Clinton's affair with White House intern Monica Lewinsky and the legal troubles that ensued. The print media was voracious in covering the subject. However, in the Clinton-Lewinsky coverage, many journalists—both professional and amateur—allowed ethics to be pushed aside in the race to be first. Unverified facts, anonymous sources and sensationalism can be found in almost every printed article about the investigation. The purpose of this research is to examine the pitfalls of print journalists and editors in covering the investigation and impeachment of President Clinton in regards to his affair with former intern Monica Lewinsky. First, this research will establish a background of the Clinton-Lewinsky investigation and the print media's coverage of it. Second, this research will identify print media's problems in covering the investigation. Third, a thorough application of the Potter Box method of ethical analysis will evaluate the definition, values, principles and loyalties of print media pertaining to Clinton-Lewinsky coverage. Finally, feedback from the Society of Professional Journalists' Code of Ethics will provide a conclusion as to the ethics of this case. This research is significant because it will provide an ethical guideline for similar cases of political sex scandals.

09:15AM

The Ethics of Fox News Channel's Iraq War Coverage. Reid Bradley. Butler University, Indianapolis, IN. Sponsor: Charles St. Cyr

As the public is subject to a micro-managed barrage of media messages, it is important to examine and question media performance. An analysis of the media's ethics of news judgment can help identify certain aspects of the media that may have a negative impact on society. Through using the Potter Box model of reasoning, examining the ethical practices of The Fox News Channel's coverage of the Iraq War was broken down in a systematic approach in order to better understand the ethics involved. The presentation will provide an overview of the findings followed by a brief question and answer period.

09:30AM

Blurring the Lines: An Ethical Analysis of Advertorials. Kelly Patrick. Butler University, Indianapolis, IN. Sponsor: Charles St. Cyr

American journalism has enjoyed a relatively high level of credibility over the years through its reputation as a reliable source of balanced reporting and its tendency for playing the role of government and corporate watchdog. Advertising, on the other hand, is generally received with some skepticism and suspicion because of its blatant self-serving motives and perceived lack of objectivity. Professionals in the advertising industry are aware of society's general dislike for advertising and have opted to try new techniques to recapture the attention of their audience. One technique that has been gaining popularity since the early 1980s is the advertorial, an editorial/advertisement hybrid that is sometimes called a "special advertising section," "advertising supplement" or "niche publication." The success of the advertorial depends on the fact that people are five times more likely to read editorial content than advertising content. The purpose of the advertorial is to fool the reader into thinking that they are reading editorial content; by the time the reader realizes they are reading an advertisement, the intended message has already been implanted. The use of advertorials, though widely successful, raises ethical questions. What are

the implications of blurring the lines between editorial content and advertising? Are advertorials ethical? This project examines advertorials based on ethics and analyzes them from two perspectives: the advertiser who creates advertorials and the editor who chooses to print them.

09:45AM

Hardly "Beyond Petroleum": A glance into BP's deceptive marketing tactics. Patricia Geary. Butler University, Indianapolis, IN. Sponsor: Charles St. Cyr

In a world where high-speed technology is more prevalent than fresh air, the competition for business markets to win the affection of their consumers is at its steepest. Finding the newest and most innovative ways to convince today's doubtful society has caused brand management to take a turn for the worst, almost completely losing sight of ethical standards. Although honest and truthful at face value, many companies in today's markets find their ultimate success in deception. This method holds especially true for companies in the oil industry. Throughout the past seven years, BP has proven the power of promising words. In the careful manipulation of its brand, it has nearly convinced consumers that its environmentally devastating business is an energy saving powerhouse.

10:15AM

A Great American Scare: A sociological prospective study of McCarthyism and the countermovement that secured its failure. Christianna Luy. Taylor University, Upland, IN. Sponsor: Jessica Rousselow-Windquist

Joseph Raymond McCarthy was one senator who left a permanent mark on American society; however, the study of McCarthyism as a social movement is underdeveloped. Keeping in mind McCarthy's legacy, this essay seeks to follow his movement to "purify" the U.S. State Department of Communists. Using a social movement method developed by Leland Griffin and Robert S. Cathcart, this study will show a brief history of the cold war, the historical events leading up to the first and second nationwide Red Scare, why McCarthy was such a key rhetorical player in the rise of Red Hysteria, and how influential individuals, such as Edward R. Murrow, Margaret Chase Smith and Arthur Miller, spoke through rhetorical practices to stop the spread of McCarthyism and to secure the failure of McCarthy's movement. This essay will also detail the ways in which McCarthy's movement passed through Griffin's Cycle-of-Change, how McCarthy's movement mirrored the Salem Witch Trials and the 2001 Patriot Act, and how political cartoons and persuasive language humorously became key players in the McCarthy countermovement.

10:30AM

Should the American Horse Slaughter Ban be Passed? Jada Buchanan. Ball State University, Muncie, IN. Sponsor: Sheryl Swingley

There are 9.2 million horses in the United States, statistically 80,000–100,000 of those horses end up as unwanted each year and are sent to slaughter. The slaughter of unwanted American horses has resulted in a national controversy regarding whether slaughter should be legal in the U.S. The majority of the meat from slaughtered U.S. horses is shipped overseas for consumption. The controversy has been the subject of substantial coverage in the media and among the legislature, professional organizations, academia, topic specific interest groups and the general public. The issue is important for Americans because regardless of the final outcome of the pending legislation, changes have and will continue to occur in the horse industry throughout the nation. One side of the issue believes that there should be a permanent ban of horse slaughter in the U.S.; the other side thinks that horse owners should be allowed to determine the disposal of their animals. Both sides state probable outcomes that will impact either the horses or the owners if slaughter is allowed to resume or if a total ban is enacted.

10:45AM

Facebook: An Examination of the Relationship Between Gender, School Affiliation and Facebook Content. Lara Smitley. Huntington University, Huntington, IN. Sponsor: Mike Rowley

The term facebook has become both a noun and a verb among students. The increased popularity of social network sites like Facebook provides a rich resource for social science research. The purpose of this study is to discover if there is a relationship between a person's gender and the type of information displayed on their Facebook account. Additionally, do students at Christian schools post different information than those who attend state schools? A content analysis will be conducted of multiple facebook accounts of both males and females who attend both Christian and State schools.

11:00AM

Facebook: A Study of its Affect on Taylor University's Community Life. Alyssa Allen, Heidi Babson. Taylor University, Upland, IN. Sponsor: Jessica Rousselow-Windquist

Technology is on the rise through online communication. Taylor University students are avid users of Facebook- the online social network that connects people with friends. The main purpose of our research was to find out if Facebook enhanced the community on Taylor's campus. Although we surveyed a sample of each graduating class at Taylor, our research focused mainly on the incoming freshman class of 2012. We chose to look at relationships the freshman class pursued on Facebook before attending Taylor. The research then evaluated the quality of these relationships as the freshmen entered the Taylor community. Our research into Facebook is both pertinent in today's society and important to how technological communication will look in the future.

11:15AM

An Examination of the Use of Humor by Professors in the Classroom. Wade Finicle. Huntington University, Huntington, IN. Sponsor: Mike Rowley

The use of humor in teaching contexts has long been considered an asset. The purpose of this study is to examine what types of humor are most commonly used by professors in the classroom. Additionally, does the gender of the professor affect his or her use of humor in the classroom?

11:30AM

Romantic Relationships: Who Knows Whom Best? Lynette Miller. Huntington University, Huntington, IN. Sponsor: Mike Rowley

Conventional wisdom tells us that self-disclosure is an important element in romantic relationships. However, just because people disclose personal information does not mean the receivers are listening. The purpose of this study is to examine the differences in personal knowledge of people's significant other. Specifically, does one's gender affect the type of information one retains about their significant other? Additionally, is there a difference between men and women and the amount of emotionally-based knowledge each possesses of the other? Is there a difference between men and women and the amount of fact-based knowledge each possesses of the other? Fifty couples will serve as participants in this study.

Session B

Fairbanks Center, Room 246

Moderator: Dr. William Neher

01:00PM

An Examination of the influence of celebrity endorsements on purchasing behavior. Bethany Lewis. Huntington University, Huntington, IN. Sponsor: Mike Rowley

Celebrity endorsements impact consumer spending. The purpose of this study is to examine the weight of celebrity endorsements on purchasing behavior of college students. How influential are these endorsements compared to other issues related to purchasing behavior such as product quality, price and availability? Does one's gender influence the weight of a celebrity endorsement when purchasing a product?

01:15PM

An Examination of the Effects of Make-up on Non-physical Attributes. Jaime Blosser. Huntington University, Huntington, IN. Sponsor: Mike Rowley

Cosmetic sales are a billion dollar industry. Women spend money and time to adorn their faces with make-up, but to what end? The purpose of the study is to examine the effects of make-up on people's perceptions. Are women who wear make-up perceived differently than those who do not wear make-up when considering non-physical issues such as trustworthiness, credibility, approachability and intelligence?

01:30PM

An examination of the Effects of School Background and Gender on discerning emotional displays. Leslie Newton. Huntington University, Huntington, IN. Sponsor: Mike Rowley

This study seeks to evaluate the accuracy of interpreting nonverbal cues between home-schooled and public-schooled students. Participants from both educational backgrounds will view several photos of emotional displays and label the emotion. The research questions are: does one's educational environment affect one's ability to accurately label nonverbal emotional displays? Does one's gender affect one's ability to accurately label nonverbal emotional displays?

01:45PM

An Examination of Perceptions Associated With Romantic Interracial Relationships. Laura Bowman. Huntington University, Huntington, IN. Sponsor: Mike Rowley

The purpose of this study is to examine people's perceptions of romantic interracial relationships. Is there a difference in perceptions of romantic interracial relationships when the male is the minority compared to when the female is the minority? Does a person's education, political views, age, religion or location affect their perceptions of romantic interracial relationships?

02:00PM

An Examination of Gender and Argument Style Preference. Daniel Schroeder. Huntington University, Huntington, IN. Sponsor: Mike Rowley

People argue. But does one's gender affect the style in which a person chooses to argue? Moreover, does the context of the argument (personal versus impersonal) affect a person's argument style preference? Will people choose different argument styles as the context changes or will people gravitate towards a single style? Participants will read multiple responses to a hypothetical conflict and choose the one that best reflects their preference.

02:30PM

English Reading Comprehension Ability in Bilingual Education. Lindsey Harrington, Morgan Pledger, Jenna Young. Butler University, Indianapolis, IN. Sponsor: Suzanne Reading

This study investigated the English reading comprehension abilities of 125 English-speaking 2nd, 3rd, and 4th grade children enrolled in a bilingual education setting, in which children received academic instruction in either French or Spanish. The Passage Comprehension subtest of the Woodcock Reading Mastery Tests-R (WRMT-R) was administered at the beginning of the school year. Results suggest that there are differences between performances of children in French and Spanish in 2nd grade that do not appear in later grades. Implications for reading instruction for second language learners will be presented.

02:45PM

English Spelling Ability in Bilingual Education. Jessica Diefenbach, Breanne Pascoe. Butler University, Indianapolis, IN. Sponsor: Suzanne Reading

This study investigated the English spelling abilities of 125 English-speaking 2nd, 3rd, and 4th grade children enrolled in a bilingual education setting, in which children received academic instruction in either French or

Spanish. The Test of Written Spelling – 4 (TWS-4) was administered at the beginning of the school year. Results suggest that most children were within normal limits and that there were no significant differences between performances of children in French and Spanish. The effect of the orthography of the second language on English spelling will be discussed.

03:00PM

The Influence of Orthographic Depth on English Reading and Spelling in Bilingual Education. Shawna Kennedy, Kacy Winegar. Butler University, Indianapolis, IN. Sponsor: Suzanne Reading

This study investigated the orthographic depth of French and Spanish and the influence of this factor on the development of English reading comprehension and spelling abilities for 125 English-speaking 2nd, 3rd, and 4th grade children enrolled in a bilingual education setting. The Test of English Nonword Spelling (TENS), designed to assess various English regular and irregular spelling rules, was administered at the beginning of the school year. Results suggest that the orthographic depth of the second language has an effect on English spelling ability. The differences in performance between children learning French and Spanish will be discussed.

03:15PM

The Relationship between Reading Comprehension and Spelling Ability in a Bilingual Education Setting. Lydia Glass, Lindsay Gough. Butler University, Indianapolis, IN. Sponsor: Suzanne Reading

This study investigated the relationship between English reading comprehension and spelling abilities of 125 English-speaking 2nd, 3rd, and 4th grade children enrolled in a bilingual education setting, in which children received academic instruction in either French or Spanish. The Passage Comprehension subtest of the Woodcock Reading Mastery Tests – R (WRMT-R) and the Test of Written Spelling – 4 (TWS-4) were administered at the beginning of the school year. Correlations between reading comprehension, a decoding skill, and spelling, an encoding skill, will be presented and discussed.

Earth & Environmental Sciences

Session A

Gallahue Hall, Room 105

Moderator: Dr. Robert Holm

11:00AM

Diversified Huertas: Importance for Income and Familial Consumption. Yvonne Matos. Earlham College, Richmond, IN. Sponsor: Leslie Bishop

The diversified huerta is an agricultural system in which a wide variety of crops of all sizes are cultivated together in a single field. Huertas are a sustainable system because they maintain high soil quality and prevent erosion. Some crops are grown for sale and others for consumption within the family. This study was conducted in San Pedro de Vilcabamba in southern Ecuador during November, 2007. The focus was to investigate the importance of huertas in the lives of farmers in this region – which crops serve for income, which are grown for autoconsumption, and which crops farmers would like to cultivate and why. Information was gathered through a series of interviews, informal conversations, and photography. I will present conclusions based on my results and discuss prospects for conserving this agricultural system which is being threatened by monocultivation in this region of Ecuador.

11:15AM

Predicting Soil Frost and its Response to Climate Change in Northeastern U.S. Forests. Haley Wicklein, Scott Ollinger, John Campbell, Steve Froliking. Earlham College, Richmond, IN. Sponsor: Brent Smith

In the northeastern U.S., recent predictions are that climate warming over the coming century will cause an increase in soil freezing as soils lose the insulation of continuous wintertime snow cover. These studies have also linked soil freezing to elevated nitrate export from soils and streams. In the present study, we used a physically based energy and water exchange model, SHAW (Simultaneous Heat and Water), to predict soil frost and snowpack dynamics at three forested sites in New England: Hubbard Brook (NH), Harvard Forest (MA), and Howland Forest (ME). Results indicate an inverse relationship across all three sites between the depth and duration of the snowpack and soil frost. Simulations were conducted for all three sites with historical weather data for the past 20-40 years, and for future projections (2000-2100) using two different IPCC climate scenarios (A1fi and BI) derived from statistically downscaled GCM simulations. Under both scenarios and at all three sites, SHAW predicted that both the amount of soil frost and the number of extreme soil freezing events will decrease during the 2000-2100 period. In addition, there was no relationship between predicted soil frost, 1966-2000, and observed stream nitrate concentration at Hubbard Brook. There was, however, a positive correlation between predicted soil frost and growing season CO₂ uptake at Harvard Forest over the 1992-2002 period. This suggests that soil freezing does play an important role in forest biogeochemistry, albeit a different role than that which has been discussed in the literature.

11:30AM

Investigation of the High Pressure-Temperature Behavior of Binary Hydrogen-Helium Mixtures. Seth L. King. Purdue University, West Lafayette, IN. Sponsor: Timothy Filley

The gas giant planets are currently thought to be composed primarily of hydrogen-helium mixtures, with the interiors of these planets potentially composed of metallic hydrogen. The phase diagram for one such binary H₂- He mixture (70% He and 30% H₂) was investigated in the pressure-temperature region of 300-500 K and 2-10 GPa in order to develop a

satisfactory experimental methodology for mapping the temperature-pressure-composition field of the H₂- He system. The gas mixture was loaded into a diamond anvil cell, then both resistance and laser heating methods were employed to access high temperatures. Raman spectroscopy was then used to monitor the temperature and pressure dependence of the H₂ vibrational (vibron) frequency. We find that the H₂ vibron frequency of the H₂- He mixture (4305 cm⁻¹) is significantly higher than that of pure H₂ (4200 cm⁻¹) at 6 GPa, indicating that He dilutes H₂ and disrupts the intermolecular coupling. The results of this study show that there is a definitive difference between the vibron frequencies of a 30% H₂ sample and those of a pure H₂ sample.

Education

Session A

Jordan Hall, Room 183

Moderator: Dr. Meredith Beilfuss/Dr. Arthur Hochman

09:00AM

"A Study of the Academic Success of Student Musicians and Student Athletes". Johanna Marvin. Butler University, Indianapolis, IN. Sponsor: Penny Dimmick

The influence of musical involvement and/or athletic involvement on a student's academic achievement is a highly touted claim of both music educators and athletic departments in schools today. Adolescents involved in these activities often show high test scores, earn top grades, and emerge as leaders in their respective classes. Are there similarities that can be discerned between students who participate in music and athletics, attributing to their academic success?

This presentation, as part of an Honors Thesis, will explore this idea. The assumption is that the students studied are already academically successful; I am asking the question "why?"

09:30AM

Classrooms Today vs Hollywood. Alecia Prince. Bellarmine University, Louisville, KY. Sponsor: Curtis Berstrand.

In our children's classrooms today, we are facing single parent homes, bad neighborhoods, drug usage, witnessing of violence, alcohol use, and negative child attitudes. This research is to compare the studies that researchers have done in the classroom hands on versus the way Hollywood displays the classroom in movies. The researcher is testing to see if Hollywood highlights the same issues that the researchers have done in the classroom and if the way Hollywood solved the problem was realistic or not.

Exercise Science and Human Performance

Session A

Gallahue Hall, Room 105

Moderator: Dr. Michael Worrell

01:00PM

How Does the Fibula Help the Leg Resist Torsion? Sara Goblirsch, David Porta. Bellarmine University, Louisville, KY. Sponsor: David Porta

The purpose of this study is to identify the contribution of the fibula to the strength of the lower leg when torsion is applied. A previous study (Thambyah et al. 2006) also tested this, but only to the extent of a five degree lateral rotation. In this study, the lower leg will be rotated until anatomical failure occurs. Two male (ages 55 and 70) and two female (ages 55 and 62) cadavers will be studied. One leg will be tested with the fibula/tibia intact, and the match tested after the fibula is removed. Legs will be potted at the ankle and the proximal end of the tibia and fibula using Easy-Flo 60 low-viscosity polyurethane casting resin. In order to recreate the most realistic anatomical situation, half of the 50th percentile weight for the particular gender will be applied as an axial load. Torsion will be applied to the proximal end of the leg through a Socket Extension Torque Sensor model 01190-123 (Sensor Developments Inc.). The transducer is joined to an InstruNet Analog/Digital Converter, model 100. The converter will transmit a signal to a PC equipped with InstruNet World Win32 software. The software will plot torque over time, until failure. The nature of the failure will be documented by digital photography. The torque values for the legs with the fibula intact will be compared to the matched pair with the fibula removed. The difference in torque in this study will be compared to the published study.

01:15PM

Is Traction a Reasonable Mechanism of Injury for an Isolated Ruptured Disc? Charles Barrett, David Porta. Bellarmine University, Louisville, KY. Sponsor: David Porta

The objective of this study was to replicate a published mechanism of injury for an isolated ruptured disc due to traction force. VAX-D® consists of a traction machine that stretches the back to decompress the spine. A patient typically undergoes 15 cycles of tension (up to 75 lbf.) and relaxation (20 lbf.) in one 45-minute treatment. A 2003 case study published in the Mayo Clinic Proceedings described a man who supposedly suffered a ruptured L5-S1 disc from VAX-D. There were no force plots provided and no concomitant injuries described. In this series of experiments, traction forces were applied to 8 embalmed cadaver spines (6 females age 55-83, 2 males age 55 and 84). The L-1 vertebra was potted using Easy-Flo 60 polyurethane casting resin. A cable and winch, driven by a power drill, applied traction force to the pelvis through an in-line force transducer (Omega DLC 101-5K). The transducer signal was fed to a PC equipped with InstruNet World Win32 software which plotted the force over time. Traction force was increased over 5-10 seconds until gross failure was detected. The potting failed in 2 specimens (at 128 and 218 lbf.). In the remaining 6, the failure force ranged from 195 to 270 lbf. and no isolated ruptured discs were produced. Three tests resulted in sacral fractures (avg. 237 lbf.) and 3 resulted in vertebral fractures (avg. 226 lbf.) with associated ligamentous injuries. The injury noted in the case report could not be replicated in this series of experiments.

01:30PM

Impact of Aerobics and Strength Training on Body Composition. Laurel Knecht. Hanover College, Hanover, IN. Sponsor: Bill Tereshko and Barbara Wahl

The purpose of this study is to determine the veracity of claims made by the Firm Fitness Program (FFP) to “generate visible results in ten workouts or less.” The visible effect is assumed to be a loss of body fat.

Methodology: Ten female students (ages 18 to 25) will perform a 52 minute FFP training session. In pilot data (two subjects), heart rate was monitored (Polar monitor) each minute during exercise. On a second day, a modified Balke Treadmill test served as the basis for associating heart rate per minute during the FFP with a per minute kcal expenditure.

Results and Discussion: The mean kcal expenditure from pilot studies was 350 kilocalories in 52 minutes, with a high of 10 kcals/min sustained for 5 minutes, and a low of 3.6 sustained for 2 minutes. The majority of the work out had a median range of 6.4 to 9.6 kcals/min. Although this suggests a sizeable caloric expenditure during an exercise session, and clearly it is productive and valuable exercise, the likely net loss of body fat (all things being equal, including caloric intake throughout) would be one pound of body fat in ten sessions (10 sessions x 350 kcals per session = 3500 kcals), because one pound of body fat contains 3500 kcals. While this is a change, it is not likely that a one pound loss of body fat would be considered “visible results” on any reasonably sized adult. Thus, this study challenges the validity of the claims made by the Firm Fitness Program.

01:45PM

Influence of Placebo Treatments on Muscular Endurance. Audrey Long. Hanover College, Hanover, IN. Sponsor: Michael Worrell

The purpose of this study was to determine the placebo effect of a perceived ergogenic aid in the form of a magnetic titanium bracelet on acute endurance performance of the wrist extensor muscles (EPWEM).

Method: Ten college aged females participated in four sessions. (1) a control trial to determine the EPWEM; (2) an experimental trial to determine the EPWEM with a placebo bracelet; (3) an experimental trial to determine the EPWEM with the combined influences of the placebo bracelet plus considerable verbal hype; (4) a repeat of the control trial. Experimental sessions 2 and 3 were randomly assigned. After each session a questionnaire regarding perceived success and the degree of pain experienced during testing was completed.

Results and Discussion: The results to this study are pending. However, pilot data indicated that a placebo effect can influence EPWEM, and the placebo effect can be increased with verbal hype. Answers to the questionnaire suggested that subjects perceived an increased performance plus a reduction in pain associated with the placebo sessions. This suggests that a placebo bracelet can influence endurance performance of the wrist extensor muscles, especially if the bracelet is coupled with verbal hype.

02:00PM

Work Efficiency during arm versus leg work. Miranda Udem. Hanover College, Hanover, IN. Sponsor: Dr. Barbara Wahl and Bryant Stamford

Statement of Problem: The purpose of this study was to investigate the assumption that a given amount of work requires a given amount of energy by measuring work efficiency during arm versus leg work at the same absolute work intensities.

Methods/Results

- VO₂, R and heart rate (HR) were determined during arm cranking (AC) versus leg cycling (L) at 50W and 75W.
- Kcal cost was lower at both workloads for AC than L, resulting in a higher gross efficiency for AC (12% and 13%) at both workloads as compared to L (10% and 11%) (contrary to hypothesis).
- Metabolic overhead was measured (reflected in HR and respiratory rate) and was higher at both workloads for AC than L (supporting hypothesis).
- Kcal cost of unloaded AC and L was determined to provide actual energy cost of work (net/work efficiency).
- This resulted in a substantial increase in the net/work efficiency of L at both intensities of work (35% and 28%) compared with AC (20% and 19%).

Discussion: Cost of unloaded pedaling (zero work output) was substantially greater for L because it is a larger muscle mass. When factored out, providing a true energy cost of the work performed, L was more efficient. Conclusion: The hypothesis was upheld -- performing a given amount of work with a smaller muscle mass is less efficient when all contributing factors are taken into consideration.

02:15PM

Heart Rate as an Indicator of Metabolic Cost when Speed and/or Elevation Change During Treadmill Walking. Kristen Davis. Hanover College, Hanover, IN. Sponsor: Dr. Barbara Wahl, Bryant Stamford

Introduction: The purpose of this study was to determine the various combinations of speed and elevation that elicit a given heart rate response. Manipulating the speed and/or elevation of the treadmill can alter intensity of exercise during treadmill walking. Because intensity is a key element of an exercise prescription, it may be helpful to know what combinations of speed and elevation elicit the same degree of intensity—the same heart rate.

Methods: Seven subjects (2 males) completed three randomly assigned experimental sessions at speeds of 2, 3, and 4 mph. Elevation was increased in 2% increments at each speed to a maximum of 14%. Heart rate was monitored with a Polar F6 Monitor.

Results/Discussion: Results demonstrated consistent and predictable relationships between speed and elevation. A mathematical model was crafted which provides the various combinations possible for a given heart rate response. Step one is to determine a comfortable walking speed and elevation that elicits the target heart rate (140 bpm) for example 3mph, 11%. Step two is to determine alternative speed and elevation combinations that elicit the same heart rate response found by the following equation. The equation is $(HR=33.473+22.372(\text{speed in mph})+3.484(\text{incline in } \%)$). Applying the following equation, these combinations elicit the same heart rate, 2.5mph, 14%, 3.5 mph, 8%, and 4mph, 5%.

Conclusions: Shifting from one combination to another would allow a consistent intensity throughout a bout of exercise, but would also permit variety, thus decreasing boredom.

Foreign Languages

Session A

Jordan Hall, Room 301

Moderator: Dr. Willi Schwoebel

10:00AM

La Voix du valet au XVIIIe siècle. Ashley Kohl. Butler University, Indianapolis, IN. Sponsor: Eloise Sureau

This presentation is a literary analysis (given in French) of the role of the servant in 18th century literature just before the French Revolution. Three works in particular, *Le Mariage de Figaro* written by Pierre Beaumarchais, *Le jeu de l'amour et du hasard* written by Pierre de Marivaux, and *Jacques le fataliste et son maître* written by Denis Diderot illustrate the power struggles of 18th century society. Each of these authors intentionally uses the valet to set the ideas of the enlightenment into motion, and this progression is illustrated by the degree to which each servant speaks out against society. The goal of these authors was to criticize the existing system of social hierarchy in 18th century France and to show that social rank and class do not determine a person's true value. The presentation will also delve into the affects these pieces of literature had on society and their importance today.

10:15AM

English Language Learners. Kristina VanDyke. Hanover College, Hanover, IN. Sponsor: Miryam Criado

A growing number of students in the United States come to their schools with little or no background in the English language. These students' families have either just entered this country, or they do not speak English in their household. Federal and local laws require that school corporations implement some sort of program to teach these English Language Learners (ELLs) the English language until they are able to function by themselves in a normal classroom. There are many different types of programs for ELLs, including English as a Second Language, Immersion, and Bilingual Education. A comparison can be made between our schools' ELL programs in the United States and similar programs in other countries for non-native speakers. Although not all schools have sufficient programs for ELLs in their classrooms, teachers can implement lessons into their curriculum that can accommodate those students who are just learning English for the first time.

10:30AM

The effect of reading books in American Sign Language to Deaf children on English literacy skills. Lydia Glass. Butler University, Indianapolis, IN. Sponsor: Suzanne Reading

Many Deaf children experience difficulties learning to read English since it is a second language for most of them, and one which they do not learn to speak. The grammar of their native language, American Sign Language (ASL) is different from English, which makes learning English a challenge. Since English literacy skills are essential to academic success, educators of the Deaf are looking for effective ways to improve English reading skills. One method reported to be beneficial for this purpose includes reading books in ASL repeatedly, with each repetition becoming more representative of the English text. In this study, three Deaf children with first-grade reading levels were read books using ASL. English reading comprehension was measured both before and after the book reading. Performance probe results indicated that children improved in some important aspects of deciphering English text, such as past tense verbs. Full results for the pre- and post reading tests, improvement in responsiveness to the books, and other literacy gains will be presented.

10:45AM

Deconstructing the Novela Rosa through the works of Lucia Etxebarria. Kelly Stephens. Hanover College, Hanover, IN. Sponsor: Miryam Criado

My presentation will cover the deconstruction of the Novela Rosa through the works of Lucia Etxebarria. The works I will be discussing are: *Amor, Curiosidad, Prozac y Dudas*, *Beatriz y los Cuerpos Celestes*, *La Eva Futura/La Letra Futura*, and *Un Milagro en Equilibrio*. My paper analyzes the types of female protagonists that are represented in these works and how they are different from those that were represented in the traditional Novela's Rosas, or "Pink Novels," popular in Spain during the dictatorship of Franco. Also evaluated are the relationships between the female protagonists and their sisters, mothers, friends, and male figures (husbands, boyfriends, and fathers). These relationships are contrasted with the traditional relationships of husband and wife represented in the Novelas Rosas. Finally, I analyze the concept of the "happy ending" and characters living "happily ever after" within these works by Lucia Etxebarria. Her lack of the traditional "happy ending" is presented as another deconstruction of the Novela Rosa.

*presentation will be given in Spanish.

11:00AM

The Passion of Clermont-Ferrand. Molly Moyer. Ball State University, Muncie, IN. Sponsor: Dr. Ellen Thorington

The Old French *Passion de Clermont-Ferrand*, a Passion poem that dates to the tenth century, is not well-known to a modern audience. The most recent translation of the poem into any modern language is D'Arco Silvio Avalle's Italian translation, published in 1962. This jewel of Old French literature, therefore, remains largely unexplored. For these reasons, I have completed a translation of the poem into Modern English, to make it accessible to a wider public, and have also completed an accompanying analysis. My goal in the translation was to preserve the sense of syntax and word choice found in the original Old French. In my paper, I first discuss the cultural and religious climate in Clermont-Ferrand and France that gave birth to the *Passion*. Through an exploration of the France when the poem was written, including various religious, artistic, and public figures living near Clermont-Ferrand, I explore the poem's origins and the intellectual climate surrounding it at that time. I also give an analysis of the genre of *Passion* poems, which helps to place the poem within a literary context. Finally, I include a discussion of the poet's language and of the choices I made in my translation. This and other *Passion* poems were written in Old French so that the *Passion* stories in Latin could reach a wider audience. I aimed to uphold that intent by making this beautiful and emotional poem available to be appreciated by English speakers.

11:15AM

La nueva identidad: Transición y recreación de la identidad en la migración mexicana a los Estados Unidos de América. Michael Ripley. Hanover College, Hanover, IN. Sponsor: Eduardo Santa Cruz

Este estudio trata de explicar algunos aspectos de la experiencia mexicana antes, durante, y después del proceso de inmigración. Usa un trasfondo histórico de México para establecer la rica historia que llevan los ciudadanos mexicanos a los Estados Unidos. También el estudio describe unas deficiencias del gobierno mexicano actual en servir su propia gente y como los Estados Unidos han aumentado estas deficiencias. El proceso de cruzar la frontera también forma una parte clave para entender que retos hay para inmigrantes. Finalmente el estudio trata de mostrar las retos que se enfrentan a los mexicanos una vez que han llegado a los Estados Unidos y las comunidades que les ayudan para acostumbrarse a la vida estadounidense sin perder su identidad mexicana.

11:30AM

How to lose Money in Germany: An Analysis of Wal-Mart's Failure in Germany. Nicholas Hotz. Butler University, Indianapolis, IN. Sponsor: Fred Yaniga

Wal-Mart exited Germany in 2006 after a miserable nine years marked by employee distress, customer dissatisfaction, legal dilemmas, and staggering losses totaling over \$2 billion. This study investigates various catalysts that led to Wal-Mart's downfall. The article (written in German) divides Wal-

Mart's failures into three major arguments: 1) Wal-Mart competed in one of the most difficult times in Germany's very competitive retail market, 2) Wal-Mart could not control its own operations, and 3) Wal-Mart failed to please the German consumer. Taken together, Wal-Mart's ultimate failure stems from its inability to accurately assess both the German business environment and the demands of the consumers. Rather, the company blindly attempted to control all of its operations through its Americanized "Wal-Mart Way" in a heavily regulated market where many of these methods violated culture and laws. This presentation will utilize some German but will be given mostly in English.

History

Session A

Jordan Hall, Room 205

Moderator: Dr. Scott Swanson

09:00AM

George Whitefield's Gospel of Immediacy. John Hutchins. Taylor University, Upland, IN. Sponsor: Joseph Ricke, Stephen Messer

The great itinerant preacher George Whitefield sought to stir countless commoners to revival during the Great Awakening. In so doing he received both unprecedented acclaim and caustic opposition. How did his actions cause such polarized responses? Ultimately, his sermons shed light on people's reactions. Analyzing his preaching includes studying his written sermons to understand their content, examining first-hand accounts to appreciate his preaching style, and surveying primary sources such as personal journals to find reactions for or against his sermons. These reactions included long-term commitment and experience of New Birth, quickly fading emotional response, disinterested mocking from outside the church, and criticism based on doctrine and tradition from inside the church. Whitefield's passionate sermons can explain all of these diverse reactions. His unprecedentedly dramatic preaching style communicated Gospel truth to the hearts of all who heard him. His powerful voice and emotional exhortation effected strong response from within the audience. Whitefield transformed traditional doctrine by placing it near to the soul in both space and time, passionately conveying a sense of imminence. To his audience, judgment and salvation were no longer distant, but personal and immediate. This style inspired some to react on an emotional level alone, others to reject his untraditional approach, and others to commit their lives to Christ. Such an analysis of Whitefield's preaching shows how Gospel delivery was evolving during the Great Awakening and how the colonial population responded.

09:15AM

The Rhetoric of Jonathan Edwards. Nate Antiel. Taylor University, Upland, IN. Sponsor: Stephen Messer

This paper will examine Jonathan Edwards' rhetoric in regards to why he proved effective in his time and why he continues to be influential. After offering a short educational biography of Jonathan Edwards, paying special attention to both his education at Yale and his personal study of Enlightenment authors, I will define Classical Rhetoric and use the processes outlined by Aristotle and Cicero as a touchstone for evaluating Edwards' rhetoric. I will then conclude with several rhetorical analyses of Edwards' sermons.

Ultimately, Edwards' rhetorical approach proved effective because he successfully grounded his arguments in logic and coupled his logistic proofs with strong though subversive emotional appeal. Edwards was thus able to appeal to emotion, without succumbing to it – that is that he was able to speak on emotional topics, but he himself refrained from becoming overly emotional while in the pulpit. In essence, Edwards makes religious arguments by utilizing a method of Classical Rhetoric both non-exclusive to Christianity and accepted by those 'Enlightened,' non-religious members

of society. This contributes to the ability of Edwards' writings to transcend time in that Edwards approached Biblical topics through a means viewed as permissible by secular audiences. Edwards thus offers an example to secular scholars that a Christian may be involved with scholarship without sacrificing his credibility due to his religious beliefs.

09:30AM

Lessons of Infinite Advantage: The California Experiences of William Taylor, 1851–1856. Casey Wittekind, Audra Gustin. Taylor University, Upland, IN. Sponsor: Robert Lay

Bishop William Taylor (1821-1902) was an American missionary and evangelist who crossed the equator thirty-seven times, traveled more than 250,000 miles, and preached on all six inhabited continents. Although Taylor has been called the last great Methodist itinerant minister, he is little known in American history.

During the summer of 2007, seven Taylor University students with the assistance of Dr. Robert Lay, researched Taylor. The donation of Taylor's gold rush era journal to his namesake university was a treasure of American history that needed to be further examined, researched, and published. It provides a first hand account of people living in California during the gold rush. Often studies of the gold rush focus upon the miners but little is considered of the other citizens. Taylor's writing provides valuable information on California culture at the time.

This presentation will focus upon the process involved in transcribing, researching, and preparing these journals for publication, including specific student and faculty roles. Bishop Taylor has never been the feature of a modern, scholarly biography. Prior to research, our understanding was limited to myths and legends and needed to be analyzed for truth. The final publication, *Lessons of Infinite Advantage: The California Experiences of William Taylor, 1851–1856* (Scarecrow Press, 2009), will provide the text of the journal and extensive annotations placing the journal in historical context. Readers will be provided with an understanding of the California work of Bishop Taylor, of Methodist itinerant preachers and of the culture in California during the Gold Rush.

09:45AM

The Ghosts of Uganda: The Forgotten Lives of the Child Soldiers of Northern Uganda. Rebecca Scherpelz. Butler University, Indianapolis, IN. Sponsor: Vivian Deno

"One of the other abducted girls tried to escape but she was caught. The rebels told us that she had tried to escape and must be killed. They made the new children kill her. They told us that if we escaped, they would kill our families" (Sharon, age 13). Since 1986, a war between the Lord's Resistance Army rebels and the Ugandan government has devastated the people of Northern Uganda. Displacing millions and killing thousands, the conflict is destroying the Acholi people. However, the most devastating atrocity is the LRA's forced use of child soldiers to feed their forces and fight their war. Children as young as five are abducted from their homes, facing an indoctrination process nothing short of horrific: beaten, tortured, raped, and forced to kill other children, the child soldiers are deprived of

any sense of childhood or home, let alone future. As the war continues and the international community does nothing to heed their cry, entire generations of Ugandan children are becoming ghosts in the bush of Africa. It is time for their story to be heard. Thus, "The Ghosts of Uganda" will be a culmination of two years of research, advocacy, and travels to Uganda and Washington DC, examining the historical context that led to today's atrocities, as well as sharing projections for the future of the peace process. The children of Uganda have known nothing but war for twenty-two years. Now is the time to hear their cry for peace.

10:00AM

An Exile's Shamrock: The Evolution of Irish Identity from Ireland to America, 1845-1920. Maire Gurevitz. Butler University, Indianapolis, IN. Sponsor: Vivian Deno

The Great Hunger, or the Famine of 1847 to 1852 is generally seen as a sort of watershed in Irish history, as it began a new chapter of the Irish experience in terms of both emigration and the movement for independence from Britain. A prevailing theme that comes out of the Famine experience and crosses the ocean with the tides of immigrants is the philosophy of cultural nationalism. There have been many studies looking at the way the Irish preserved their cultural identity on both sides of the Atlantic through the vehicle of cultural nationalism. However, these studies focus on either the development of cultural nationalism either strictly in Ireland or strictly in America. This paper attempts to synthesize the parallel movements into an analysis which will use the basis of the Irish reaction to British colonialism- the Celtic Revival- to look at the ways in which the Irish in America, recognizing the effects of their colonial past, used cultural nationalism to preserve their identity in an American society that increasingly pushed for assimilation. This paper incorporates secondary sources to establish the context of the Celtic Revival in Ireland, Ireland's complicated colonial situation, and the social situation of the Irish in the United States. It also relies on primary sources acquired through the Keogh-Naughton Institute of Irish Studies at the University of Notre Dame, namely the Irish American periodical *An Gaodhal*, along with images from songbooks and biographies published by the Irish American press in the turn of the century period, in order to further the analysis of the evolution of Irish cultural nationalism that travelled from Ireland to America with the Irish people.

10:15AM

The Queen Isabella Association: Eliminated From American Memory. Lauren Maxwell. Butler University, Indianapolis, IN. Sponsor: Vivian Deno

The World's Columbian Exposition of 1893 was a landmark event in American history. The Exposition celebrated modernity through opulent displays of technology and culture. One of the aspects of the Exposition that set it apart as progressive was the inclusion of women in its official organization. This was the first time that Congress allowed women a legislated role in government affairs through the creation of the Board of Lady Managers. During the planning for the Exposition, another women's organization, the Queen Isabella Association, engaged in a debate with the Board over the proper way to present the accomplishments of women. This debate had a significant effect on the decisions of the Board. Despite this historical milestone, the contributions of the Queen Isabella Association have been all but forgotten by American historians. This project reestablishes the women of the Association in the historical narrative and provides an analysis of the ways in which they were excluded from the historiography of the Exposition. Through an investigation of archival sources and a literary analysis of those sources, "The Queen Isabella Association: Eliminated From American Memory" will recover the voices that have previously been silenced in the historical narrative.

10:30AM

"Don't Let Your Friends Forget About Us": Echoes of the Great War in the Poetry, Prose, and Music of Operation Iraqi Freedom. Amber Gowen. University of Evansville, Evansville, IN. Sponsor: Dr. James MacLeod

As a volunteer with the Soldiers Angels Foundation, I have had the opportunity to personally correspond with deployed military personnel over the past four years. Many similarities became visible between the experiences of Operation Iraqi Freedom personnel and the experiences of soldiers in past wars. Though the technology of war has changed substantially since the Great War, the experience of the individual soldier on the ground has remained fundamentally unchanged. Soldiers are asked to see and do the unthinkable, and then must reconcile their wartime experiences with the rest of their lives. In wartime correspondence, the current generation of American soldiers is echoing the words of past warriors. Patriotism, the horrors of combat, disconnection with civilians, and attachment to "home" are common themes in both eras expressed in the poetry, prose, and music written by service personnel.

11:00AM

Different Dreams: An Examination of America's and Japan's National Characters. Tori Koenig. Ball State University, Muncie, IN. Sponsor: Anthony Edmonds

When trying to distinguish what makes a member of one society different from an individual of another, the idea of national character often assumes a prominent role in discussion. National character is the set of values that one culture treasures as the most important to the majority of individuals. This paper examines the American and Japanese national characters and looks at the fundamental dissimilarities between the two. In the United States, the definition of who is an American is based on whether or not the person appreciates the American Dream. As opposed to the individualistic outlook that this ideal promotes, the Japanese share a sense of duty and view the group as the basis for society. The contrast between these two views is clearly seen in the societies' reactions to national tragedies. To analyze this theory, the public's responses to the Oklahoma City bombing and the Tokyo subway sarin attacks are utilized as case studies.

11:15AM

Joining the Women's Army Corps. Amanda Rutherford. Butler University, Indianapolis, IN. Sponsor: Vivian Deno

Scholarship on the Women's Army Corps is limited, and almost entirely founded on the work of Mattie E. Treadwell. Mattie E. Treadwell was commissioned by the US Army to write the most influential work on the Women's Army Corps. Because of the influence of her work and its strong Army bias, much of the scholarship on the Women's Army Corps also reflects a strong Army bias. "Joining the Women's Army Corps" looks at the reasons women joined the Women's Army Corps and how they were recruited to the Women's Army Corps. The vast majority of this study is based on the letters and news stories about the women, and then this information is compared to the reasons for joining cited in Mattie E. Treadwell's book. The purpose of this study is to show that the Army bias of Women's Army Corps scholarship has skewed the story of why the women joined the Women's Army Corps. I suggest that the reasons women joined are different than the most prevalent reasons found in the scholarship.

11:30AM

Hands-on Jesus: Christian Consumer Culture in Contemporary America. Elizabeth Orr. Butler University, Indianapolis, IN. Sponsor: Vivian Deno

Every day we are presented with a variety of signs and symbols that make up the iconography of American life. Every morning, we make a conscious choice of what we would like to present to the world and how we will do so. When we leave our doorsteps, we become part of the public realm. Through our ornamentation we silently address the world; our clothing, crosses, and cars engage others in an unconscious dialogue. They view these images without giving them a second thought; however, there is an involuntary discourse that persists even after the images are out of sight—it discusses the meaning behind those personal displays. Through my exploration of material culture, I have awakened my perception to the profusion of religious items that are publicly displayed. The meaning behind these displays of quotidian objects (consumer products like pencils, t-shirts, and bumper stickers), which advertise a religious significance, is intriguing. In *Hands-on Jesus: Christian Consumer Culture in Contemporary America*, I have interpreted that language of material goods, explored the personal significance of tangible religious objects and learned how they fit into our secular American society.

11:45AM

A Popular Critic: Dorothy L. Sayers's Popular Fiction as Historical Source Material. Margaux Reeves. Taylor University, Upland, IN. Sponsor: Joseph Ricke

Since the 1970s, perspectives regarding the subject of history have been changing from one of defined 'metanarratives' to a more pluralistic approach. Giving voices to under-represented or overlooked people, groups and issues has become a driving force of historical study, especially in the realms of cultural and social history. Introducing the voices of writers such as Dorothy L. Sayers into historical discourse adds elements of cultural reflection and criticism that a popular contemporary writer is best placed to see. Fiction and narrative play an important role in culture, whether in the form of novels, plays, operas, music, film or television; thus by including fictional works in the study of a period a historian gains greater depth of cultural understanding.

12:00PM

Every Child a Wanted Child: An Analysis of the Gendered History of Birth Control. Laura Weiskopf. Butler University, Indianapolis, IN. Sponsor: Vivian Deno

The Obscenity Act of 1873, also known as the Comstock Laws, made it illegal to produce publications that promoted acts of a sexual and inappropriate nature, including the topic of contraception. Throughout the era of the Comstock Laws, Planned Parenthood provided Americans with a source of information about birth control. After World War II and the Baby Boom, birth control education increased and family planning became the new catchphrase. Planned Parenthood adopted the slogan "Every Child a Wanted Child" to curb the increasing birth rate from the Baby Boom's effort to re-populate America after the war.

The advertisements of Planned Parenthood and similar 'family planning' organizations were revolutionized in 1960 with the distribution of the first oral contraceptive for women. Simply known as "the Pill," it changed the way sex and sexuality was talked about and treated by society. The reaction of the public to the Pill was gender biased, as it was either referred to as the liberator of female sexuality or the cause of female promiscuity, with no mention of its effect of men's reproductive responsibility. "Every Child a Wanted Child" examines primary documents from the era of the Pill and analyzes the way in which birth control education during the mid-twentieth century was gendered towards women, in an effort to assess man's place in the reproductive revolution.

Session B

Jordan Hall, Room 205

Moderator: Dr. Scott Swanson

01:15PM

Identity Crisis: The Algerian War and the Fall of the French Fourth Republic. Thomas Pilotte. Ball State University, Muncie, IN. Sponsor: Dr. Ellen Thorington

Post-World War II France faced a complicated situation in finding its national identity. After being a European and World power for the first half of the 20th century, its reputation and influence were in decline. One of its remaining sources of prestige was its colonial empire. But after rebellion broke out in Algeria, which was considered part of France itself, in November of 1954, the French government faced difficult questions concerning its role in the world. Although the French National Assembly strongly supported attempts to maintain a hold on Algeria, thereby maintaining France's international strength, it could never find a political solution to end the insurrection led by the Front de Libération Nationale, and many Algerians flocked to the cause of Algerian nationalism. The government of the French Fourth Republic was structured so that ministerial instability and weak cabinets prevented any sort of political cohesion in foreign policy, and political squabbles led to disorder. When the French government eventually decided on a military solution to keep the peace in Algeria, the results brought about military victories, but political and ideological defeats. In "Identity Crisis", I argue that this new power thrust onto the army gave it license to interfere in the affairs of the Fourth Republic, leading to a coup in the colonial capital of Algiers, the ascension of General Charles de Gaulle to the presidency, and the destruction of the feeble French Fourth Republic in favor of the much stronger French Fifth Republic.

01:45PM

Living in the Shadows of Gomorrah: (Re)Discovering Homosexuality in the Middle Ages. Jordan Carroll. University of Evansville, Evansville, IN. Sponsor: Annette Parks

In *The History of Sexuality* Michel Foucault wrote that medieval society did not have concepts of homosexuality because medieval people only understood sex acts and not sexual preference. However, he was wrong. After examining a broad sample of medieval legislation, I have concluded that ecclesiastical and secular authors did have concepts of homosexuality because they were aware of and wrote about "repeat offenders." Furthermore, medieval rulers lived in the shadow of Sodom and Gomorrah's destruction and feared the loss of their kingdoms. In their minds, men who preferred same-sex relationships would bring imminent destruction upon their lands and people. It becomes evident that subcultures of homosexuals existed within the framework of an intensely homophobic society. These men habitually preferred same-sex relationships and were more than just sodomites.

Many secondary authors label medieval homosexuals as sodomites, emphasizing sex acts instead of persons. These authors have relegated medieval homosexuals to an inferior position by defining them solely by their sexual behaviors, and not as "beings" that consciously practiced them. Medieval legislators clearly understood the difference between men with a homosexual preference and those who experimented with sodomy. I do not deny the existence of sodomites or "one-time offenders." However, distinctions made in medieval legislation allow me to speak not only of sodomites, but also of homosexuals. By deliberately using the term homosexual, I lobby for the awareness of an identity or person in medieval society-- someone who preferred the same sex and did not engage in random same-sex acts as Foucault suggested.

02:00PM

The Hillary Chronicles: An Examination of Gender in Politics. Lauren Maxwell, Laura Weiskopf, Amanda Rutherford, Annmarie Salach, Heather Sperry, Jessica Nelson, Hannah Muehlbauer, Regina Cantrell, Katie McCabe, Maire Gurevitz. Butler University, Indianapolis, IN. Sponsor: Vivian Deno

Mass media has become a powerful force in our society. Twenty-four hour news coverage and the internet have bombarded the American public with vast amounts of information, especially regarding the 2008 Presidential

elections. Over the course of the semester, Butler University's U.S. Women's History class has collected varying examples of such media with the common theme of politics and gender. Of especial importance are Senators Hillary Clinton and Barack Obama, along with their spouses, and other major players in the election race. Together, the class has a wide source base from which to analyze the way in which gender is a factor in the discussion and portrayal of the candidates. "The Hillary Chronicles" will analyze numerous facets of this media coverage such as fashion choices, the role of spouses, pop culture, and family dynamics to explore the gendered politics of the upcoming election.

International Studies

Session A

Jordan Hall, Room 207

Moderator: Dr. Montgomery Broaded

09:00AM

One Visual with Two Voices. Shanna Saubert. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

Globalization is a commonly accepted fact of life today. As cultures interact, vast amounts of information have been transported across borders to new territories, whether through direct or indirect influences such as mass media. People across the globe have access to American products more than ever before. However, the question remains whether the American entertainment industry has overstretched its bounds and created a new state of imperialism over other cultures worldwide. The basis behind the cultural imperialism theory is that the United States is continuously promoting national cultural ideas through mediums, ex. films, which are then capable of altering other cultures, making them increasingly more like the U.S.A. The Walt Disney Company, for example, has been repeatedly successful marketing its animated films both in the United States and around the world, which has led many to refer to it as the "evil empire." Mickey Mouse and Disney World have truly become part of a larger global culture, included and yet distinct from American culture.

By examining the ways in which Disney has adapted its products for non-Americans, a more complete picture of the current global situation can be seen. By examining the original and German-translated versions of four Disney animated feature films, in order to identify instances in which American ideas or concepts have or have not been directly transferred to German speakers, the cultural imperialism theory seems inadequate. While the images remain constant, the words and meanings are not always transferable between cultures and languages.

09:15AM

Enchanted Subcultures. Kerri Jones. Earlham College, Richmond, IN. Sponsor: Kumiko Sato

The internet and globalism have changed society in myriad ways. Among these, the Internet has allowed individuals with marginalized or unusual beliefs to form large communities. This paper examines two emergent online subcultures: otaku and soulbonders. Online, the term soulbonding is often used to refer to the experience of having a friendship or other relationship with a fictional character, and the term soulbond refers to the character. Otaku is a similar colloquial term coined from the Japanese word "otaku" (commonly used in America to refer to fans of Japanese popular culture) to describe individuals who self-identify as fictional characters, usually drawn from Japanese media. Special attention is given to their relationship to capitalism as it is understood in Japan and in the West, and the role of fictional characters as commodities. I argue that a distinctly non-western approach to capitalism has a role in the formation of this culture of identification with commodities.

09:30AM

Modern Global Slavery: Its Existence and Our Solutions. Phillip Call. Ball State University, Muncie, IN. Sponsor: Donald Gilman

According to Dr. Kevin Bales, there are currently 27 million slaves worldwide. Slavery exists in many countries, including the United States, even though it is expressly illegal in every nation. It takes on many forms that include child labor, debt bondage, the sex trade, and human trafficking. The factors that contribute to slavery are numerous and complicated. Local cultures, national laws, international trade agreements, individual circumstances, corporate operations, consumer preferences, environmental situations, and many other influences all work together to bring about slavery.

An educated understanding of these forces can empower us to do something about eradicating slavery at home and abroad. Through reading publications from Free the Slaves (an organization of which Dr. Bales is president), analyzing international relations, studying local business, and observing our personal consuming habits, we can create plans of actions in our personal lives that will help in the movement against modern global slavery.

As an example of a plan in action, a chapter of Free the Slaves has begun in Muncie just recently. An exploration into their methodologies, goals, and activities can shed light on the over-arching question that often haunts each of us when we hear of such issues as modern globalized slavery: "What can I do about it?"

Session B

Jordan Hall, Room 207

Moderator: Dr. Montgomery Broaded

10:00AM

Secularism and Islam in the Republic of Turkey. Richard Saunders. Hanover College, Hanover, IN. Sponsor: Mi Yung Yoon

This study addresses the contemporary rise of political Islam, embodied in the Justice and Development Party, in the Republic of Turkey and the conflict of this rising power with the established political elite which has supported a fiercely secular agenda since the founding of Turkey. Through an exploration of the history of political conflict between secularism and Islam in modern Turkey, a pattern of political repression on the part of the Turkish military and political elite can be discovered. This historical pattern is seen to carry on into the present conflict between Turkey's Islamist Justice and Development Party and the General Staff of the Turkish military. Furthermore, a study of the Justice and Development Party's record of achievements disproves many of the claims made by the military regarding the threat that Justice and Development poses to the future of Turkish democracy. The results of this study demonstrate that the rise of the mild Islamist Justice and Development party constitutes an insignificant threat to Turkish democracy and demonstrates that the illiberal

policies of the Turkish military and secular political elites likely constitutes the greatest threat to Turkey's future.

10:15AM

Refugees: Gender Differences, Why is Refugee Status More Difficult to Obtain for Females? Allison Rief. Hanover College, Hanover, IN. Sponsor: Mi Yung Yoon

The main purpose of the research was to show that the road to gaining refugee status is much more difficult for females than it is for males. The presentation begins with an introduction of facts, statistics, and topics. The definition of "refugee" is discussed, followed by the dissemination of refugees. Next will be a section about refugee experiences. Then a look at the rights of refugees under international law. There is a literature review of the barriers to gaining refugee status, followed by a case study of these barriers, and finally the conclusion.

Literature

Session A: Faultiness and Tragedies in American Literature Jordan Hall, Room 303 Moderator: Dr. Andrew Levy

09:00AM

Ishmael, the Rhetoric of Tragedy, and the Cathartic Experience. Leah Weinzapfel. University of Southern Indiana, Evansville, IN. Sponsor: Michael Kearns

In *Moby Dick*, Melville modified the generic conventions of tragedy as expressed in Aristotle's *Poetics*. In particular, he modified such conventions as the reversal of fortune, suffering, and recognition. Ishmael's rhetoric leads a reader to experience catharsis when recognizing the role of fate in the novel and to experience a release of pity and fear when encountering the final chapters. This tragic rhetoric employs both Shakespearean and Romantic language to capture the emotions of the audience as they are led through Ishmael's representation of human experience. Through flashbacks and monologues, the tragic hero is shown to be a fallen man plotting revenge against the speechless antagonist, *Moby Dick*. Captain Ahab, the "solid bronze" hero, is humanized as the narrator uses tragic rhetoric to produce "pity" for Ahab's condition and "fear" concerning his eventual battle with *Moby Dick*. The response conventionally understood to be elicited by tragedy, however, is complicated by Ahab's consciousness of his actions when reflecting upon the magnitude of the task before him and his inability to avoid the "iron rails" of destiny. Standards of dramatic tragedy, such as a focus on fate and the boundaries of human experience, lead readers to question free will and the tragic hero's unyielding determination. Melville's use and modification of the elements of dramatic tragedy culminate in the novel's final chapters, which intensify the emotions and then resolve them, allowing for catharsis.

09:15AM

Small Acts of Rebellion: Faultlines in the Micro-Powers of "The Known World". Rachel Custer. Indiana University-South Bend, IN. Sponsor: Lee Kahan

In "The Known World," Edward P. Jones offers a text ripe for analysis of the power dynamics that supported the system of slavery (and, by extension, those that maintain other systems of power through subjection of a designated "other"). Michel Foucault's concept of "micro-powers," outlined in his critical work "Discipline and Punish," addresses the ways in

10:30AM

Image and Reality of Hamas' 2006 Palestinian Election Win. Jordan Vinson. Hanover College, Hanover, IN. Sponsor: David Buchman

The purpose of this paper is to demonstrate that, contrary to popular Western opinion, the election of the Palestinian political, social, and militant organization, Hamas, to parliament in the 2006 Palestinian parliamentary elections was not the reason the Israeli-Palestinian peace process was derailed early in 2006. The popular notion that Hamas' election win severely impaired any hopes for attaining a just and lasting peace to the Palestinian-Israeli conflict is flawed in two major ways: 1) the partiality inherent in the U.S. and Israeli popular media's and political establishments' interpretation of the conflict has often overlooked the importance of Israel's strategic role in prolonging the conflict; and 2) that same partiality has overlooked and neglected recognition of Hamas' significant process in moderating its attitude and ideology toward the conflict in the era leading up to the elections in 2006. This paper focuses on these points of interest within the context of the 2000 Camp David Summit, the origins and instigation of the Al-Aqsa Intifada, the Road Map initiative, and the era leading up to the 2006 elections.

which these systems of power operate, maintain power, and perpetuate themselves. In "Cultural Materialism, Othello, and the Politics of Plausibility," Alan Sinfield discusses "faultlines," places of weakness in these existing power structures where subversion may be effective in bringing about socio-political change. In "Small Acts of Rebellion: Faultlines in the Micro-Powers of The Known World, I place Jones and his "Known World" into conversation with Foucault and Sinfield, demonstrating and analyzing areas in the text where the author presents faultlines in the micro-power system that was slavery in the United States.

09:30AM

A Plaything of Angels: The Beauty of Pearl in Hawthorne's "The Scarlet Letter". Mike Graczyk. Ball State University, Muncie, IN. Sponsor: Donald Gilman

In Nathaniel Hawthorne's 1850 masterpiece "The Scarlet Letter," the iconic Hester Prynne and the town reverend Arthur Dimmesdale engage in an illicit relationship and produce a child named Pearl as a result. While the father hides nervously in the shadows after his transgression, a caustic society quickly indicts Hester for her indecency, her violation of Puritan ideals, and—most tangibly—for the baby she cradles tenderly in her arms. As nobody intentionally asks to be born, Pearl is wholly undeserving of both the criticism of stern authority figures and the ostracism imposed on her by fellow children. Furthermore, this young girl's harmlessly playful tendencies are fiercely and misguidedly judged by the outer world, which sees the individual's penchant for fantasy as an evil tumor, a representation of her supposed demonic status. But, to quote Hawthorne himself, Pearl is "worthy...to be the plaything of the angels" with her "native grace" and "absolute circle of radiance" that surrounds her. Like the symbolic rose bush that thrives near the town's prison door, this precious child born to Hester injects a vibrant color into the gray landscape she inhabits in an attempt to debunk the false dichotomy that exists between religion and imagination. Thus, Pearl's innocence and remarkable insight cause her to evolve as a catalytic agent, greatly in contrast to the rigidity and somberness of the Puritan society in which she lives.

09:45AM

The Ambiguities of the Tragic Flaw: Cleopatra, Hester Prynne, and the Restoration of Order. Ashley Czuba. Ball State University, Muncie, IN. Sponsor: Donald Gilman

Cleopatra in Shakespeare's *Antony and Cleopatra* and Hester Prynne in Hawthorne's *The Scarlet Letter* are two strong but tragically flawed women

who are viewed not by their numerous good deeds or their positive morals. In fact, it is quite the opposite. Cleopatra is known for her governance of an entire country, which had never before been accomplished as successfully by a woman. She was also able to influence Antony to cater to her every whim. At the same time, though, she destroyed him and their love. Hester is remembered for her ability to stay strong to herself, although the entire Puritan colony scorned and even exiled her. These flaws, though, form part of a destiny that restores order. Without Cleopatra's betrayal of Antony,

Session B: Shakespeare
Jordan Hall, Room 303
Moderator: Dr. William Walsh

10:00AM

"The Fall of the Sparrow": Hamlet's Move toward Providence. Julia Johnson. Wittenberg University, Springfield, OH. Sponsor: Ty Buckman

The state of Hamlet's Christianity in William Shakespeare's play has been questioned for centuries, often by examining biblical references in his speech. Some critics have emphasized Hamlet's response and relationship to the Ghost who commissions him to revenge. Throughout the play Hamlet oscillates between emotion and reason, also between defeated fatalism and faith in Providence. In this essay I assert that Hamlet's responses to his father's ghost, his problems handling his emotions and fatalistic thoughts, and his ultimate show of faith are very carefully mirrored within his "fall of a sparrow" passage. Hamlet's conversation with Horatio demonstrates his acceptance of Providence, just before he steps into the duel that ultimately claims his life.

10:15AM

Race, Identity, and Self-Conception in Shakespeare's Othello. Emily Wendel. Wittenberg University, Springfield, OH. Sponsor: Ty Buckman

Did Shakespeare mean for Othello to be Black, Arab, or somewhere in between? And how much do race and heritage have to do with Othello's fate? These ambiguities have captivated critics for centuries; while some camps work to produce definitive evidence for one nationality or another, I will argue that it is Othello's lack of a precise identity, and his status as the Other, that lead to his inner collapse. Othello wishes to become an important member of Venetian society, but the deluge of negative stereotypes, the Venetians' refusal to allot him a unique identity, and the stress and insecurity that come from his doubt of Desdemona, lead Othello to classify himself as the Black/Muslim/Jewish Other.

10:30AM

Revealing Through Language: An exploration of Cleopatra's final moments. Amanda Clark. Ball State University, Muncie, IN. Sponsor: Donald Gilman

William Shakespeare uses the imagery and the technicality of language to develop a story and give information about the characters and the world in which they exist. This paints a clear picture for the audience, transporting them into the world of the play and explains why an element of universality can be found in all of his works. This information allows one to understand the action and the story and a relationship with the character. In this way one can form an appreciation for his complete works. In an exploration of the language used by Cleopatra in Act V of "Antony and Cleopatra", it becomes possible to follow her development from manipulative and authoritative queen to prideful lover, leading to suicide. Shakespeare utilizes precise diction accompanied by literary devices such as homonyms, the repetition of sounds, onomatopoeia and the etymological origins of words to characterize Cleopatra and the world in which she exists. This accompanied by research into the historical context of the play, creates an understanding of why Cleopatra takes her own life at the end of the play.

and eventually her death, the rule of Augustus Caesar would have been greatly compromised. Without Hester's fate to be marked with the letter A, the community of seventeenth-century Boston would have never realized the foolishness of their judgments. Similarly, without Hester hiding the true identity of the father of her child, Arthur Dimmesdale would never have been able to discover his own redemption. Death and exile, then, result in a tragic situation and outcome but lead to a restored world and clarified vision of human existence.

Session C: Modern Myths and Heroic Transformations
Jordan Hall, Room 303
Moderator: Dr. Susan Neville

11:00AM

Words and myths: Tolkien's invented languages and their role in shaping Middle-earth. Emily Bowerman. Taylor University, Upland, IN. Sponsor: Joseph Ricke

If anyone had an understanding of the history of language, it was J.R.R. Tolkien, though he is better known for his literary achievements than his work in philology. Yet Tolkien himself saw little distinctions in these fields. Throughout his life he gained at least a basic knowledge of multiple living and dead languages, and as a philologist studied the relationships between them. In doing so, Tolkien discovered that there are fundamental principles common to language in general; first, that language has inherent creative power, and second, that the word is the essence of the story. It only followed that when Tolkien began to experiment in writing his own, invented languages, he applied these principles to them. The result was inevitable: he was inspired to write his classic works of fiction, *The Silmarillion*, *The Hobbit*, and *The Lord of the Rings*. Tolkien applied his linguistic beliefs to his invented languages, and thus his fiction became the necessary history or mythology of his personal languages.

11:15AM

"A Ghost of the Wind". Melody Landis. Butler University, Indianapolis, IN. Sponsor: Jon Porter

In many pieces of literature the reader is left to deduce many things. But can they deduce and prove things that aren't there? Yes. I will be proving that there is a character in J.R.R Tolkien's *Lord of the Rings* and more specifically the *Hobbit* that exists throughout the books without actually being mentioned.

11:30AM

Reflections Of Joseph Campbell's "Monomyth" In "Pedro Páramo": The Heroic Nature Of Juan Preciado. Neal Monroe. Wabash College, Crawfordsville, IN. Sponsor: Dr. Daniel Rogers

The application of Joseph Campbell's "monomyth" to the hero archetype redefined the critical theory of mythology by providing a model for the hero quest. In "The Hero with a Thousand Faces," Campbell described the monomyth as a formula to define the hero archetype. This method provides a uniform pattern that eliminates the ambiguous and all-inclusive nature of the term "hero." Contemporary interpretations of the "hero" reflect the limitation of the hero-quest with analogical and rational confinement, such that the hero is a fantastic archetype that is governed by the laws of physical reality. This interpretation of the logical myth is evident in the novel "Pedro Páramo" by Juan Rulfo, in which the protagonist Juan Preciado dies and is labeled an anti-hero. However, prior investigations on the heroism of Juan Preciado contain a flaw in the interpretation of the hero because several critics rationalize myth with logic, when the monomyth follows an illogical process. With this consideration, the character Juan Preciado is the hero of "Pedro Páramo" because his role in the novel satisfies the formula of the Joseph Campbell's monomyth. This

investigation entailed a psychological analysis of heroism with Jungian and Freudian motifs that focused on the collective unconscious of human psyche and Oedipus complex to explicate the myth. "Pedro Páramo" is a mythical adventure to Purgatory where the redeeming hero appears to return humanity from a "paradise lost" to Eden.

11:45AM

An Exploration of the Heroic Transformation of Futurama's Fry. Patrick Spears. Hanover College, Hanover, IN. Sponsor: Dee Goertz

Though many would not immediately consider it so, television is as credible a mode of literature as prose, poetry, and drama. Using a reader-response method of criticism, I identified a story arc which emerges in the third and fourth seasons of Futurama. The arc focuses on the characters of Fry and Leela as they both discover their love for one another and become better, nobler people. The basic story proceeds as a romantic comedy generally does: Fry, a gormless slacker, tries again and again to win the heart of Leela, an uninterested yet appealing mate. Through his failures, Fry realizes that he must transform himself into his heroic ideal, or the person he has always wanted to be. In the first of the four primary episodes of the story arc, Fry discovers who he wants to be through an artificial means. Discarding the artifice, he redefines himself from a slacker to a compassionate and brave adult who is ready, at the conclusion of the story, to "walk off into the sunset" with his love, Leela.

Session D: Surveying the Social Order Jordan Hall, Room 303 Moderator: Dr. Carol Reeves

01:00PM

Social Tensions in Stow's Survey of London and English Renaissance City Comedies. Leigh Malach. Wittenberg University, Springfield, OH. Sponsor: Ty Buckman

In his 1598 work, the Survey of London, John Stow gives an account of the city that for him was both contemporary and historical. He chooses a nostalgic approach in writing his work on the city, and depicts the city as very ordered and structured. This is in stark contrast to the genre of the city comedies, the first example of which was staged that same year, works that that comically look at one aspect of life in Elizabethan London. These plays, unlike Stow's account, show the city of London as a chaotic, ever-changing world. In this paper, I look at the ways in which Stow discusses disorder in his Survey, and how this compares to the depiction of London in three city comedies, Bartholomew Fair, A Shoemaker's Holiday, and A New Way to Pay Old Debts. My paper seeks to explain why Stow omits the element of social chaos from his work, and to contrast this omission with the social mobility and disrespect for hierarchy on display in the city comedies of the period.

01:15PM

The Use of Servants in Tobias Smollett's Travels through France and Italy. Jennifer Smith. Ball State University, Muncie, IN. Sponsor: Dorothy Stegman

Though often overlooked and given little credit for their work, eighteenth century servants played a large role in the daily lives of those they served. Servants were typically held responsible for a variety of jobs, rather than specializing in one specific duty. Particularly in households of only one or two servants, this jack-of-all trades mentality was necessary. The master-servant relationship varied depending upon culture and region. Scotland celebrated a long-standing history of patronage, where the servants were treated as a part of the family structure. In eighteenth century France, however, masters generally looked upon their hired help with a mixture of familiarity and contempt, despite their reliance upon servants. In his Travels through France and Italy, Tobias Smollett records interactions with his own servants, providing readers an understanding of societal (as well as personal) views on servitude. In this analysis, I propose to further identify the master-servant relationship between Smollett and his hired help as it relates to eighteenth century ideals and societal considerations. An examination of Smollett's travel journal will reveal the ironic mixture of recognition and disregard shown toward French servants, as well as the significant role that Smollett's hired help plays in his daily life.

01:30PM

Angela Carter's Deconstruction of the Imperialist Perspective in the Construction of Identity. Deborah Celizic. Hanover College, Hanover, IN. Sponsor: Melissa Eden

Throughout her works, Angela Carter frequently grapples with the concept of imperialism. However, she frequently works beyond the definition of literal "imperialism" and examines the word as a broader concept that affects her characters' everyday lives and relationships with one another, creating images that can be described as the "imperialism of desire" or the "imperialization of women". Thus, within this concept of "imperialism," Carter is also able to comment upon human relationships as well as the establishment of gender and identity. These issues are particularly prominent in four of her novels: The Magic Toyshop, The Infernal Desire Machines of Doctor Hoffman, The Passion of New Eve, and Wise Children.

01:45PM

Treading the Line Between Family and Business in Road to Perdition. Jonita Davis. Purdue University North Central, Westville, IN. Sponsor: Jesse Cohn

"Road to Perdition is not O'Sullivan's [the father's] story: it's the boy's story," said Max Allan Collins in an interview, referring to mob hitman Michael "Angel" O'Sullivan and son Michael in the graphic novel. Why did Collins concentrate the story on a boy, Michael O'Sullivan Jr.? Because Michael is the key to two very different worlds: that of the Looney mob family, founded on ambition, money, and competition; and the O'Sullivan family, rooted in love, support, and cooperation. By crossing the frail line between the two worlds, Michael uncovers the volatility and violence that threatens the coexistence of business and family.

Session E: Courtship, Love and Spiritual Deliverance
Jordan Hall, Room 303
Moderator: Dr. William Watts

02:00PM

Spiritual Marriage as Expressed in Three Models. Juli Digate. Ball State University, Muncie, IN. Sponsor: Dr. Ellen Thorington

In the twelfth century, mandatory celibacy among priests became the accepted rule. This highlights the conflict between the worldly and the spiritual: many who received a clerical education were confronted with the difficult choice to marry or to enter the religious life. Two works from the late-eleventh and early twelfth century propose a resolution to this conflict that might be called spiritual marriage. Both the *Life of Saint Alexis* and the *Letters of Abelard and Heloise* demonstrate this notion by binding together religion and marriage; this view later serves to inform other literary works, specifically Marie de France's *Eliduc*.

In the *Life of Saint Alexis* the saint deserts his wife immediately following their marriage, in order to devote himself to a life of celibacy and service to God. Through their chastity, Alexis and his wife are later joined in a spiritual union that transcends the earthly. Similarly, Abelard and Heloise take religious orders after marriage, but maintain a spiritual relationship through their *Letters*. The influence of these models on Marie de France's *Eliduc* is evident in the similar plotlines and in the sacrifice *Eliduc's* wife makes in taking religious orders so her husband may be free to marry his mistress. Spiritual marriage, then, is embodied when couples choose lives of celibacy and service, showing their love for one another through devotion to God. This paper explores the notion of spiritual marriage expressed in these works as a way to further an understanding of twelfth century literature.

02:15PM

Marvell's "To His Coy Mistress": A Look at Tone and Intentions. Marcus Whalbring. University of Indianapolis, Indianapolis, IN. Sponsor: Toni Morris

This paper examines the poem "To His Coy Mistress" by Andrew Marvell. In the poem, the narrator attempts to break through the "coyness" and persuade her to give in to his romances by using several forms of imagery

and a clear language. This paper attempts to show that, though the narrator uses clever words that are poetic and romantic, his intentions are purely based on personal desire. By dissecting and researching many of the prominent forms of imagery in the poem, this paper attempts to show that the narrator is not interested in displaying true affection for his mistress, but, instead only wishes to satisfy himself.

02:30PM

Bridles and Bowres: Temperance in Book II of Spenser's *The Faerie Queene*. Catherine Barnett. Taylor University, Upland, IN. Sponsor: Joseph Ricke

Temperance is the overarching theme in Book II of Edmund Spenser's *The Faerie Queene*. The poem makes it clear that the fundamental idea of temperance is not so much the rejection of something as it is finding the balance between extremes. Spenser especially develops this concept with regards to moderation in wrath, pride, and pleasure. The properly ridden horse is a significant illustration of self-control over pride and wrathful impulses, revealing that passion and certain kinds of pride are natural and can, if bridled, be positive forces. In addition to managing his wrath, Guyon must learn temperance in pleasure. While Spenser does not ignore the goodness of recreation in moderation, he clearly demonstrates the danger of indulging in excessive pleasure.

02:45PM

Entrapment and Deliverance: Hardy's *Tess of the D'Urbervilles* and Conrad's *Heart of Darkness*. Wesley Scott. Ball State University, Muncie, IN. Sponsor: Donald Gilman

In spite of the dark world created by Conrad, his protagonist Marlow discovers the powers of individuality that enable him to transcend the artificial boundaries imposed by society. Hardy's world, though, inflicts upon Tess a determinism that suggests the cruelty of a destiny reflected by the machinery of society and social strata. The world of Hobbes exists in both world-views. Nonetheless, Tess's fate to see her individuality in terms of worldly fortunes condemns her to pain and decay and, unlike the peace evoked by Marlow's existential stance, depicts the starkness and despair of twentieth-century Europe.

Math and Computer Science

Session A: Envision Computer Science

Jordan Hall, Room 242

Moderator: Dr. Rebecca G. Wahl

10:00AM

A Metrics Tool for Multi-Language Software. Sigmon Myers, Andrew Rauff. Butler University, Indianapolis, IN. Sponsor: Panos Linos

In this presentation, we present a prototype tool that automates the process of detecting, gathering and visualizing multi-language software metrics at an intermediate-language level. More specifically, the current version of our tool focuses on code written using the Microsoft Visual Studio.NET software development environment. It facilitates the process of locating and extracting software metrics found at the MSIL (Microsoft Intermediate Language) level. We illustrate the basic functionality of our tool and we discuss a preliminary case study performed in order to verify its functionality and validate its usefulness. Based on the results of this study, we continue improving the tool. Our broader research goal is to show that complexity analysis of multi-language software, when it is done at an intermediate language level, it can be as effective as when conducted at the level of each individual language. This will eventually eliminate the need for developing different syntax parsers for each programming language

used to develop multi-language software. The prototype tool described in this presentation is the first step towards accomplishing such an objective.

10:15AM

Visualizing Digital Library Search Results. Jon Scott. Indiana University/Purdue University at Fort Wayne, Fort Wayne, IN. Sponsor: Dr. Beomjin Kim

Digital Libraries are quickly becoming important resources for obtaining information. The ability to present users with a wide variety of information quickly and easily is a highly desirable trait of such systems. However, search functionality is commonly achieved through text based descriptions and summaries. This can require the user to examine and compare each search result in some detail to determine its relevancy. To address these difficulties when searching for books in digital library systems, we have developed a visualization system that makes use of indexes. These are a valuable resource for evaluating the quality of books with regard to the users interest. The developed application takes user provided keywords, and searches each book index for a matching entry. Those entries are then mapped to a circular node, whose size represents the magnitude of relevancy the topic encompasses. Each sub-term for that entry is then mapped to a branch off of its parent word in much the same way; with the addition that position relative to the parent correlates to the

number of pages between the two in the book. Utilizing various attributes on each node, additional information such as the book's publication year, online rating, and repeated significance of a word throughout the index, can be expressed to the user. In summary, by presenting this information in a visual manner, the user should be better able to compare search results and quickly determine which have better coverage of the desired topic.

Session B: Mathematical Bytes

Jordan Hall, Room 242

Moderator: Dr. Rebecca G. Wahl

10:30AM

A new approach in estimating the couple removal rate in gender structured demographic models. Jared Erickson. Valparaiso University, Valparaiso, IN. Sponsor: Daniel Maxin

We analyze a gender structured model with a modified couple mortality that takes into account the probability that both partners die within the same amount of time when demographic data is collected. The traditional

approach of adding the mortality rates of both females and males into the couple death rate overestimates the number of couples that are lost since some of the eliminated pairs may be counted twice. We found that the new model leads to important differences in the predicted population outcome. A comparison analysis, using real data, between our model and the traditional one is also provided.

10:45AM

An Exploration of Cardinality using Binary Numbers. Jeremy Erickson. Taylor University, Upland, IN. Sponsor: Jeremy Case

Examining the cardinalities of sets of bits, or "computer files," enables us to make some statements about the cardinalities of other infinite sets. For instance, we can use a technique called "proof by representation" to demonstrate that a set is countable if we can come up with a regular scheme to express the elements it contains. We can also prove results about larger sets of numbers by extending our notion of "computer files." This presentation provides a brief introduction to these proof techniques, and also brings up some philosophical questions about infinity.

Media Arts

Session A: Media & Difference

Fairbanks Center, Room 146

Moderator: Dr. Ann Savage

12:00PM

Profanity In Music: The difference between the levels of profanity in popular and country music. Staci Windsor. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

The present presentation is a content analysis of the levels of profanity in country and popular music. The sample consists of fifty different songs from each genre. The sample was taken from the billboard charts for popular and country music from 2007. The research was coded by a second person to ensure inter coder reliability.

12:15PM

Critical Analysis of Scrubs from the Feminist Media Studies Perspective. Audrey Carie. Butler University, Indianapolis, IN. Sponsor: Ann Savage

On the surface, the hit television series Scrubs, seems to offer a harmless, comical escape from the doldrums and frustrations of life. However, from a feminist media studies perspective, I contend that Scrubs, as a part of a larger media landscape, perpetuates dominant ideology at the expense of those with less power, access and agency. In particular, I will demonstrate how the episode, "My Intern's Eyes," reifies our culture's notion of what it means to be a "real man" while simultaneously punishing men who are unable to reach the "male ideal." Through an in-depth textual analysis, I will reveal how Scrubs establishes a hierarchy of masculinity by positioning the traditional, preferred masculine characters as superior to both effeminate/gay men as well as men of color. By continuing to analyze texts such as Scrubs, people can help to understand and promote new diverse and equal representations of all people.

12:30PM

Dominant Ideology in Sex and the City. Lindsey Olsen. Butler University, Indianapolis, IN. Sponsor: Ann Savage

I will be presenting the aspects of dominant ideology present in the television show Sex and the City; more specifically, how the women in the show strive to overcome the ideology, but are caught in the cultural construction of a male-dominated society. The writers of this show make it a point to present strong, independent women as their main characters. However, the internalized oppression displayed by these women creates the underlying issues that present a larger problem in society's entertainment today. Topics highlighted will include overall appearance of the characters, relationships between characters, and career paths and choices.

12:45PM

Grey's Anatomy's Diverse Way of Oppressing Women and Minorities. Mackenzie Murnane. Butler University, Indianapolis, IN. Sponsor: Ann Savage

Television is pervasive and a major influence in American culture, much the same as religion, education, art, and government. Because television is pervasive and influential, it is imperative to critically analyze television texts in an effort to unpack its meanings and implications in our culture. ABC's primetime hit, "Grey's Anatomy," is one such text. "Grey's Anatomy" has received considerable critical acclaim for its diverse cast and progressive storylines which seemingly challenge dominant ideology, particularly with its portrayal of women. However, despite the popular praise the show has received for its progressiveness, from a feminist media studies perspective, it is questionable whether "Grey's Anatomy" is deserving of such recognition.

The final requirement in Dr. Savage's class, Media & Cultural Criticism, was textually analyze a television show from a feminist media perspective. I chose "Grey's Anatomy" because of the praise it has received for portraying a diverse cast and representing women in a successful profession. Feminist media criticism is intended to reveal how media programming perpetuates dominant ideology. The close textual analysis I conducted to write this paper ultimately reveals that "Grey's Anatomy" perpetuates the oppression of women and racial and sexual minorities and reinforces dominant ideology by privileging white, heterosexual men and portraying women as neurotic, helpless, and relationship-obsessed. The research used to write this paper along with clips from the show will support this thesis.

Performing Arts

Session A

Lilly Hall, Room 120

Moderator: Dr. Frank Felice

09:30AM

The Florentine Camerata and Their Influence on the Beginnings of Opera. Amanda Fawcett-Lothson. Indiana University-South Bend, IN. Sponsor: Dr. Robert Kolt

There is still debate over the extent to which the Florentine Camerata believed they were reviving Ancient Greek drama. What we can say with more certainty is that their discussions revolved mainly around Greek traditions and how they could be implemented into the music of the day. The Florentine Camerata's principal concern was to reform the ornamental excesses and bring about a more beautiful and expressive style of singing, but in so doing, they laid foundations for later operatic composers such as Monteverdi.

09:45AM

The Impact of Paganini on the Evolution of the Virtuoso. Eun Lee. Butler University, Indianapolis, IN. Sponsor: James Briscoe

The reason why I have chosen this topic is because I believe there is an important difference between the ways the violin was performed in the Classic and the Romantic Eras. There were certain great violinists and composers who defined that change, but none more so than Paganini. He was not only a significant violin composer, but also he was the most astounding virtuoso on the instrument of the early nineteenth century. His technique was impeccable and dazzling, so that people often called him a "devil" or "one who had sold his soul to the devil." His impact on the pianist Franz Liszt, as one example, was pronounced.

I first will approach a background of Paganini's life. From there, I would like to compare a few of his works, the Concerto No. 1 and Variations on the G String on Rossini's "MOSES", with a concerto by Mozart, such as No. 5, since both composers wrote the concertos for their own performance. This will help clarify the differences between the violin technique of the two, how they played and how they composed for the violin. Finally I would like to observe how Paganini far more than satisfied the bourgeois need for musical entertainment, and indeed bedazzlement, in his day.

10:00AM

Rousseau's War of the Buffoons. Rose Vorenkamp. Indiana University-South Bend, IN. Sponsor: Dr. Robert Kolt

On October 4, 1746, Giovanni Pergolesi opened his opera *Il Prigionier Superbo*, *The Pridelful Prisoner*, and the intermezzo *La Serva Padrona*, *The Maid as Mistress in Paris*. While initially received with minor interest, rising philosopher Jean-Jacques Rousseau created a maelstrom of protest when he published his *Lettre sur la Musique Francaise*. The pamphlet war that ensued dramatically altered both Jean-Jacques Rousseau's life and the course of music in France. This war came to be known as the *Querelle des Bouffons* or the *War of the Buffoons*. It entangled not only the realm of music but also had an impact on Rousseau's writings and career.

10:15AM

Body/Language. Michael Burke. Butler University, Indianapolis, IN. Sponsor: Melli Hoppe

Theatre is the art of storytelling and recreating life, one where the effectiveness of this storytelling depends most on the communicative device used to tell the story. Physical theatre is a genre of theatrical

performance that makes use of the body as the primary means of performance and communication with an audience, as opposed to spoken language. Through textual research, both scientific and historical, and visual observation, "Body/Language" aims to discover the body's full capacity for communication, to determine the body's communicative breaking point. From this study, a greater understanding of how the body communicates will be determined; furthering the understanding of what physical theatre is capable of communicating through the body.

10:30AM

Paddywack and The Unseen World of Puppetry, Politics, and Social Commentary. Patrick Weigand. Butler University, Indianapolis, IN. Sponsor: Wendy Meaden

In current American culture, puppets are usually considered to be used for children's entertainment and education. In spite of some of the traditions found throughout other parts of the world, puppets in America are rarely used for political or social messages intended for adults. On the occasions when puppets are being used for adults, they are usually used in a similar vein as those for children's entertainment; using goofy, even crude humor to promote their agenda.

My senior thesis explores the possibility that puppets can be used in a serious dramatic context with serious messages. I believe that if a common, theatre-going audience were to see a production incorporating puppetry, the messages of the play would not be lost. I believe that the use of puppets will help the audience be more open to the message because the puppets will cause the audience to lower their defenses. To test this theory, I directed Daniel Magee's *Paddywack*, which has been shown to be an effective vehicle for political and social commentary, but staged it to be performed with puppets.

My presentation will focus on the foundation of my theories and on the process of working on *Paddywack*. I will present the difficulties faced with the production, how they were overcome, and the ultimate reaction to the piece in relation to my thesis.

10:45AM

A Diachronic Critique of the 'Neoclassical' as Seen in the Symphonies of Igor Stravinsky. David Rugger. Butler University, Indianapolis, IN. Sponsor: James Briscoe

T. S. Eliot, a contemporary of Stravinsky, was, like Stravinsky, a religious conservative and a classicist and as such seems the literary analogue to Stravinsky's musical genius. In his essay 'Tradition and the Individual Talent', Eliot writes:

'The emotion of art is impersonal. And the poet cannot reach this impersonality without surrendering himself wholly to the work to be done. And he is not likely to know what is to be done unless he lives in what is not merely the present, but the present moment of the past, unless he is conscious, not of what is dead, but of what is already living.'

One need only substitute the word 'composer' for 'poet' for an eloquent description of Stravinsky's approach to the art form; however, despite the simplicity of such a comparison, the suggestion of art divorced from subjectivity, seems difficult to understand and almost impossible to achieve.

Stravinsky belongs to the generation of modernists, including Picasso and Joyce, whose work is characterized not so much by a consistent style, but a consistent rejection of idiomatic convention. The sheer variety found in Igor Stravinsky's music makes it very difficult to 'define' his style; however, while his musical syntax changed constantly throughout his career, there is, I believe, a semantic continuity to his compositions. Through a careful study of Stravinsky's output in a single genre (the symphony) with special consideration of the social, political, and philosophical context in which he worked I hope to produce an comprehensive critique of Stravinsky's 'Neoclassical' style.

11:00AM

Alles ist hin!: The Renunciation of Tonality in Schoenberg's String Quartet No. 2. David Ruggier. Butler University, Indianapolis, IN. Sponsor: James Briscoe

Töte das sehnen/schliesse die wunde!/Nimm mir die liebe./gieb mir dein Glück! (Kill my longing/close my wounds!/Take love from me,/and give me your happiness!)

In this poem by Stefan George, the speaker desperately begs God for freedom from the pains of longing and love. More intriguing perhaps is the context in which the poem is found: in the third movement of Arnold Schoenberg's String Quartet No. 2, sung by a mezzo-soprano, George's poetry is set to otherworldly music that lacks a tonal center. Schoenberg's Second String quartet is an important historical document for all of twentieth century music, since it marks the beginning of the fragmentation of a relatively unified German modernist style (Reich, 259). While Schoenberg's style had been progressively drifting further and further beyond that of Strauss, Reger, and Brahms, the final blow to tonality seems very sudden. This shift can perhaps be linked to traumatic events in Schoenberg's personal life: his marriage broke down during the composition of the Second Quartet and his professional standing was very much in question. In this presentation I wish to establish a causal link between Schoenberg's personal trials and the emergence of atonicity in his Second Quartet.

11:15AM

The Brandenburg Concertos of JS Bach.: Matthew Abbott. Valparaiso University, Valparaiso, IN. Sponsor: Linda Ferguson

The Brandenburg concertos of J.S. Bach are exuberant compositions that stand out greatly from the generic concerti grossi of Bach's contemporaries. They challenge the traditional style of concerto composition through the use of new and distinctive instrumentation and by experimenting with the genre. From using the newest instruments of his day to using traditional instruments in inventive manners, Bach has given these concerti a unique sound. In an effort to further distinguish these concerti, composed for the Margrave of Brandenburg and dedicated in 1721, Bach strays from the traditional fast-slow-fast, three-movement concerto form by playing with movement length, clarity of movements, and even adds an "additional movement" in the first concerto. In so doing, Bach has given us a critical mass for the classical style of composition years before it became a part of compositional practice.

The reason, if any exists, for these changes to traditional concerto composition has been the subject of debate among Bach scholars for years. Michael Marissen has gone to great pains to show the socio-political implications of the concerti and argues strongly for their cohesive nature. Countering those arguments is Martin Geck, a strong believer in the distinctive nature of each of the concerti. He shows that even when these pieces were composed they were rarely performed from one to six in one performance. So, while each of these concerti is significant in its own right, they stand out in history as a set, though rarely performed as such.

11:30AM

Ives and Place. Robert Phillips. Butler University, Indianapolis, IN. Sponsor: Frank Felice

My goal is to examine the impact that living in New England at the turn of the 20th century had on Charles Ives's music. At first, I will discuss Ives's early years in the small town of Danbury, Connecticut, the son of a former Army bandleader, his bizarre musical training on the organ from his father, and how he was exposed to military bands and the parlor songs of Stephen

Foster at an early age. Next, I will explore the formal New England education Ives received at Yale University in music and liberal studies. Finally, I will discuss Ives's part in the conventional, white-collar New England world as an insurance salesman, while keeping up his composing. Prototypical New England literary Transcendentalists influenced his music significantly, such as Emerson and Thoreau, in pieces such as the Concord Piano Sonata, and his fascination with New England landscape moved him, as heard in Three Pieces in New England. Ives's essential, New England habits of thought, independence, and intellectual exclusivity instilled in him by his upbringing had an effect on his works as well. I thereby will be establishing a direct connection between the effects of growing up and living in a traditional New England society and Charles Ives's musical compositions.

11:45AM

Social and Political Commentary in Shostakovich's Symphony No. 13 "Babi Yar". Natalie Todd. Butler University, Indianapolis, IN. Sponsor: James Briscoe

The first movement of Shostakovich's Thirteenth Symphony is a setting of Yevgeny Yevtushenko's poem "Babi Yar," which combines a critique of Russian anti-Semitism with the story of a Nazi massacre of Ukrainian Jews at the Babi Yar ravine. In this presentation, I will discuss the controversy surrounding the symphony's production (including the story of how it was nearly banned), present a small amount of background on Babi Yar and Russian anti-Semitism, and show how Shostakovich makes a powerful political statement by musically highlighting Yevtushenko's text.

12:00PM

Shostakovich's Tenth Symphony and its Political Underpinning. Stephanie Wabnitz. Butler University, Indianapolis, IN. Sponsor: James Briscoe

In this presentation, I will show how Shostakovich's Tenth Symphony offers a glimpse into the Soviet Union as it existed under Stalin's oppressive rule, and how it reflects the country's new realities after his death in 1953. I will discuss the overlapping political and musical arenas under Stalin, the style of the 1953 work as it relates to Stalin's tyranny, and the reflection in the symphony of national thought upon Stalin's passing. Several of Shostakovich's symphonies--including the Tenth--"were true novels of their time, which combined an epic grasp of historical events from a birds-eye view with the most subtle psychological insights" (Volkov). Thus, the Tenth Symphony is a particularly representative depiction of the widespread hatred and fear Stalin inspired in the Soviet Union and of the relief expressed after his death.

12:15PM

The New Babylon: Dmitri Shostakovich's Influence on Soviet Film Music. Emily Toth. Butler University, Indianapolis, IN. Sponsor: James Briscoe

An interesting aspect of Dmitri Shostakovich's life, often overlooked, is his involvement and success with film music. One never forgets the success of his fifth symphony nor his string quartets; yet his revolutionary works in film music never rise to the same critical acclaim that his symphonic works have gained. And yet, Shostakovich has contributed an immeasurable amount to the progression of film music. His influence on world cinema, particularly Soviet cinema, is significant as seen through his revolutionary score for The New Babylon. I offer a brief summary of both the state of Soviet cinema leading up to The New Babylon and the impact of Socialist society on film and its music. I primarily consider the importance of Shostakovich's score, its ground-breaking status in the Soviet cinema, and the reasons the score was so greatly criticized.

Pharmacy/Health Sciences

Session A

Pharmacy Building, Room 015

Moderator: Dr. Leticia Jones

08:30AM

Prescription To My Younger Self: What I Learned After Pharmacy School. Alisha Broberg. Butler University, Indianapolis, IN. Sponsor: Erin Albert

Background: Throughout pharmacy school, students are lectured, quizzed, and tested over every aspect of health and medications; however, little, if any, time is spent preparing students for the real-life situations and decisions that will soon affect them following graduation.

Objectives: To use the experiences and insight of current pharmacists to help prepare pharmacy students for their future careers as pharmacists.

Methods: We plan to publish a book of letters written by pharmacists reflecting on experiences or stories that they believe will help guide or inspire current pharmacy students. The book will be titled Prescription to My Younger Self: What I Learned After Pharmacy School. We selected pharmacists in multiple professional settings who we felt had become respected members of our profession and contacted them via email, phone, mail, or personal interviews. We also invited pharmacists to participate through press and media releases in the Pharmacy Times, Indianapolis Star, Indianapolis Business Journal, and Inside Indiana Business. Once the letters were gathered, they were edited and compiled into a manuscript that was sent to AuthorHouse for publication.

Results: The deadline for letter submission was December 15, 2007. The manuscript was sent to the publisher containing a total of 31 letters, including four from the student authors and one from our project mentor. Conclusions: The book is set to be published in April of 2008. Thanks to a grant from Johnson & Johnson, each graduating pharmacy student at Butler University in 2008 will receive a free copy of our book.

08:45AM

An Assessment of Colleges of Pharmacy's Introductory to Pharmacy Practice Experience Programs. Melanie Byers, Jennifer Fuller. Butler University, Indianapolis, IN. Sponsor: Trish Devine

Background: The Accreditation Council for Pharmacy Education (ACPE) requires 300 hours of introductory pharmacy practice experiences (IPPE). Studies have assessed the effectiveness of specific programs. National trends of IPPE programs' adaptability to the standards are lacking.

Objectives: To determine how colleges of pharmacy are implementing IPPE standards, to maximize the effectiveness of Butler's program. To determine whether colleges believe non-paid IPPE will impact quality of these experiences.

Methods: Data was collected through electronic surveys sent to 75 coordinators of IPPE programs at schools of pharmacy across the nation. This study's results are based on 34 completed responses. Questions asked pertained to design of programs and challenges in meeting the guidelines. Descriptive statistics and qualitative analysis were performed on the data collected.

Results: Most IPPE programs schedule experiential hours in rotation blocks (68%) often during the school year and summer. Many programs link IPPE to a course and to credit hours (70% and 75% respectively). A majority of IPPE coordinators do not believe there is a correlation between quality of experience and remuneration for experience (73%). Insufficient staffing resources, site quality, and site availability were recurrent challenges reported in adapting to the guidelines.

Conclusion: This data will allow for evaluation and improvement of the current IPPE program at Butler University and may set a national benchmark that other schools will use in developing an effective IPPE program.

09:00AM

Evaluation of the Efficacy of Methotrexate-Dendritic Nanodevices Using Cell Survival Studies in MES-SA Cells. Samreen Khatri. Butler University, Indianapolis, IN. Sponsor: Nandita Das

Background: Methotrexate (MTX) successfully stops tumor cell division, but it also stops other normal cell proliferation, leading to its extensive side effect profile. If MTX is linked to dendrimers, the MTX-dendrimer conjugates may have the potential to target the tumor, while sparing healthy tissues from the deleterious side effects of the drug.

Objectives: 1. To develop polyamidoamine (PAMAM) dendrimer-MTX conjugates and characterize them through nuclear magnetic resonance (NMR) spectroscopy and ultraviolet (UV) spectroscopy. 2. To assess the cellular uptake of the conjugates in the MES-SA cell line utilizing the MTT cell viability assay.

Methods: Dendritic nanodevices were prepared by dissolving PAMAM-G5-NH₂ dendrimer in absolute methanol. Methotrexate (MTX) and dicyclohexylcarbodiimide (DCC) dissolved in anhydrous dimethyl sulfoxide (DMSO) were added to the dendrimer solution and stirred in darkness for three days at room temperature to allow for conjugate formation. Initial characterization was completed through NMR and UV spectroscopy. MES-SA cells were treated with various concentrations of the MTX-dendrimer complex, MTX, dendrimer, and blank media. MTT assay was performed according to standardized protocols.

Results: Preliminary NMR data suggests possible conjugate formation. Dialysis of the MTX-dendrimer conjugate against water using a 3kD MW cutoff membrane yielded less than 0.1% of the MTX payload in the dialysate, indicating that nearly 100% of the MTX payload was present as the conjugate. In the MTT cell proliferation assay, the MTX-dendrimer conjugate was shown to be more effective in inducing cell death compared to the controls.

Conclusions: The MTX-dendritic nanodevices were successful in inducing cell death.

09:15AM

Implementing and assessing a human papillomavirus (HPV) health promotion campaign on a university campus. Kelly Cochran, Sarah Literal. Butler University, Indianapolis, IN. Sponsor: Carrie Maffeo

Background: The Centers for Disease Control and Prevention reports that approximately 10 million sexually active young men and women aged 15 – 24 are infected with the genital human papillomavirus (HPV), making it the most common sexually transmitted infection. Recent approval of a HPV vaccination to prevent infection has opened the door to the discussion of HPV awareness, prevention, and detection.

Objective: To determine the impact of a HPV health promotion campaign of Butler University students regarding HPV, the HPV vaccine, and cervical cancer risk.

Methods: The study utilizes a voluntary, self-administered, electronic survey for all current students enrolled at Butler University before and after the HPV health promotion campaign. The survey is comprised of four components: demographic information, sexual perception and behavior, basic HPV knowledge, and perception about HPV and the HPV vaccine.

Extensively trained peer educators lead health education seminars across campus. To determine the effectiveness of the health promotion campaign, survey data will be analyzed for changes in HPV knowledge and perceptions. Descriptive statistics of survey respondents' demographic data will be performed, including analysis of gender differences. Additionally, the Butler Student Health Center will collect HPV vaccination rates for the student population, assessing the impact of the health promotion campaign.

Significance: Previous studies have examined HIV/AIDS awareness health education campaigns; however, limited research has been done on HPV education. Awareness and prevention are essential to reduce the spread of this growing health concern. After this study, other campuses can assess awareness of HPV and implement similar education programs.

09:30AM

Public's Perception of the Pharmacist's Role with OTC Medications. Elizabeth May. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: It is currently a law that patients are asked if they would like to speak to a pharmacist regarding their prescriptions. However, there are no requirements for a pharmacist to ask if the patient has any questions when the patient is selecting an over-the-counter medication. No studies have been performed to obtain the public's opinion regarding the pharmacist's knowledge of over-the-counter, (OTC), medications and their level of comfort to ask a pharmacist questions about OTC medications.

Objective: The goal of our study is to determine the public's perception of a pharmacist's knowledge and role in helping patients choose appropriate OTC medications in a Target pharmacy in Evansville, IN.

Methods: A survey will be used as the data source. The study population will include adults age eighteen and over that shop in the OTC aisles of a Target store in Evansville, Indiana. Then, analyses will be done to determine whether or not differences in age, gender, education level, concomitant disease states, and/or number of medications affect whether or not a patient asks a pharmacist for help choosing an appropriate OTC medication. We are also trying to analyze the public's willingness to ask the pharmacist to help them choose OTC medications or whether they rely on other sources. Chi-square statistical analyses will be performed to analyze our data.

Results: The process of data collection is complete. However, statistical analyses are still being performed.

Conclusions: Conclusions are to be determined once all data has been analyzed.

Session B

Pharmacy Building, Room 103

Moderator: Dr. Dr. Carrie Maffeo

08:30AM

Utilization of Statin Therapy in All Diabetic Patients, According to 2006 ADA Guidelines. Jerry Huff, Lily Kleynberg. Butler University, Indianapolis, IN. Sponsor: Meghan Bodenber

Background: A large randomized study called 'The Heart Protection Study' demonstrated significant risk reductions related to cardiovascular disease. This study involved only diabetic patients assigned to receive either simvastatin 40mg or placebo. The treatment group showed a reduced risk of cardiovascular disease events. The results of this study prompted the ADA to release their 2006 guidelines incorporating the use of a statin medication in all diabetic patients over the age of 40, without consideration of their LDL levels.

Objective: To determine compliance rates and overall incorporation of the ADA's 2006 guidelines into practice by reviewing patient charts at Methodist Hospital.

Methods: Retrospective cohort chart review was utilized to meet the study objectives. The patient population involved in this review included both inpatient and outpatient diabetic patients that received care at Methodist hospital beginning January 2006 to present day. A multivariate framework was used to evaluate the impact on diabetic patient care.

Significance: The Heart Protection Study demonstrated a significant risk reduction in cardiovascular disease related events. Therefore, it is important to evaluate the utilization of these new 2006 ADA guidelines into clinical practice. Based on adherence to the new guidelines, or lack of adherence, the information provided may demonstrate an area of improvement or a model for other hospital facilities to follow.

08:45AM

Risk of Falls in the Elderly at Community Hospital East. Heather Mihalek. Butler University, Indianapolis, IN. Sponsor: Tracy Sprunger

Background: Falls are one of the main causes of patient injury while in a hospital. Multiple studies have addressed risk factors that may increase falls within the hospital setting, such as nurse to patient ratio and disease states such as dementia, osteoporosis, epilepsy and stroke. However, there are a lack of studies examining the relationship between falls and concomitant medication classes including antipsychotics, antidepressants, anticonvulsants, and pain medications.

Objective: The objective of this study is to evaluate medication classes as well as other risk factors that may increase the incidence of falls in Community Hospital East's elderly inpatient population.

Methods: A retrospective, case-control chart review will be used to meet the study objective. In patients who fell while admitted at Community Hospital East between January 1, 2007 and June 30, 2007 will be randomly selected and 100 charts will be reviewed. Three controls will be assigned to every case patient.

Cases will be matched to controls based on their fall date and hospital unit location. Information was collected on key medications that have been associated with an increased risk of falling.

Significance: At this time there has been no research at CHE regarding falls and their association with certain medication classes. This study will help us develop a better understanding of risk factors for falls in our institution. Also with new policies implemented by CMS that state that Medicare will not reimburse for complications of falls, this study may give insight on ways to reduce injury and costs.

09:00AM

Evaluating Outcomes of Patient's Receiving Oral Metronidazole or Oral Vancomycin in the Treatment of Clostridium difficile Associated Diarrhea (CDAD). Jonathan Brown, Andrew Russell, Nathan Lucas, Jarrett Amsden. Butler University, Indianapolis, IN. Sponsor: Jarrett Amsden

Background: Clostridium difficile is responsible for 25% of all antibiotic associated diarrheas. A recent retrospective chart review indicated the incidence and disease severity of CDAD had increased over a 12-year period, possibly due to a new strain of C. difficile that produces much more toxin than the older strains. Metronidazole and vancomycin are the drugs of choice against C. difficile, Metronidazole being preferred, due to similar efficacy and lower cost. Recent studies show vancomycin may be more efficacious in more severe cases of CDAD.

Objective: The primary objective is to compare the efficacy of the above oral agents, stratifying for disease severity. Primary outcome measures include cure, and treatment failure.

Methods: A retrospective, non randomized, severity stratified chart review (2004-present) will be conducted at Indiana University Hospital, and will include all patients with a diagnosis of *C. difficile* or CDAD over that time period. Inclusion criteria are: all patients with CDAD defined as a positive *C. difficile* toxin assay, colonic histopathology characteristic of *C. difficile* infection, or pseudomembranous colitis on endoscopy, and receiving greater than 3 days of either 1000mg of metronidazole or vancomycin or greater. Exclusion criteria are: pregnancy, age 89, receiving IV or PO metronidazole or vancomycin within 14 days of *C. difficile* or CDAD diagnosis, abdominal or colorectal surgery in the previous 30 days, or receipt of anti-diarrheal agents or any concomitant drugs with possible or known effect or activity on or against *C. difficile*.

Results: Data collection is ongoing.

Conclusion: This study will aid practitioners by examining the efficacy of both oral metronidazole and oral vancomycin based on disease severity in CDAD.

09:15AM

Inhaler Technique: Pharmacists memory put to the test. Daniel Bollmann, Butler University, Indianapolis, IN. Sponsor: Carrie Maffeo

Background: With an increase in the amount of inhaler prescriptions being written every day and the importance of using the correct technique to receive the medication it is necessary that the pharmacists can teach the correct inhaler technique.

Objective: The objective is to test the pharmacist's techniques by using checklists made from the drug monographs of Combivent® and Spiriva®. The overall goal is to demonstrate that pharmacists are very capable of teaching inhaler technique and help further the pharmacist's reputation as a valuable health resource.

Methods: A survey design was used to complete the objective of this study. Pharmacists will be selected from Walgreens by responding to handouts left at the pharmacies, or an emailed announcement to pharmacists in the surrounding Indianapolis area. The pharmacists will be scored on a checklist derived from the manufacturer's patient information found in the monograph and the results will be computed to show the level of comprehension of the pharmacists' ability to teach correct inhaler technique.

Significance: The study intends to show the great ability for the pharmacist to teach inhaler technique and also address any questions or concerns the pharmacist has in terms of teaching inhaler technique. The study will also breakdown the results into categories that can determine if the pharmacist's education level, years of experience, and number of inhalers dispensed has an effect on the teaching results.

09:30AM

The Impact of Statin Therapy on Cardiovascular Events in Diabetic Patients Regardless of Initial LDL Levels. Jeremy Hooker, Ronnie Gandhi, Butler University, Indianapolis, IN. Sponsor: Kristal Williams, Tracy Botorff.

Background: Eighty percent of diabetic patients will experience or die from a cardiovascular event. Several studies have investigated the efficacy of statin therapy in this patient population regardless of baseline LDL levels in attempt to decrease prevalence of cardiovascular events. The majority of these studies reported a relative risk reduction in the primary outcome measured as a cardiovascular event in control groups.

Objective: The purpose of this study is to determine the efficacy of statin therapy for the reduction of CV events in diabetic patients. The study will also take a look at the prevalence with which empiric statin therapy is prescribed in the diabetic patient population.

Methods: The study is a multi-center retrospective chart review in which nearly 200 patients over the age of 18 with type 2 diabetes mellitus were randomly identified and reviewed. Study sites include the Family Medical Center at Community East Hospital and the outpatient Family Medical Center at Methodist Hospital. Patients from both sites will be randomly selected using ICD-9 codes from the family medicine residency program's electronic database. Baseline patient information, lipid panel data, and pertinent medication history will also be collected.

Significance: Results will provide greater understanding into the efficacy of statin therapy in diabetic patients to reduce prevalence of cardiovascular events, as well as the frequency of the prescribed therapy, and most effective agents.

10:00AM

An Evaluation of the use of an Argatroban Weight-based Dosing Nomogram in Obesity. Daina Wells, Butler University, Indianapolis, IN. Sponsor: Alex Ansara

Background: Argatroban, a direct thrombin inhibitor, is approved in the United States for prevention or treatment of thrombosis in patients with immune-mediated heparin-induced thrombocytopenia (type II HIT) and has been shown to significantly improve HIT-associated outcomes. The Food and Drug Administration's approved dosing of argatroban is based on patients' body weight. For this reason, dosing in obese patients presents difficulties.

Objective: To determine the effectiveness of Clarian Health's argatroban dosing nomogram at achieving therapeutic aPTT values in obese patients. **Methods:** A retrospective chart review will be conducted at Methodist Hospital. All data will be collected by reviewing clinical charts. The study will be limited to patients = 18 years of age with actual body weight = 150% their ideal body weight. Argatroban dosing was adjusted based on the Methodist Hospital Argatroban Dosing Standard Nomogram. All aPTTs within 96 hours of initiation of argatroban will be categorized into subtherapeutic, therapeutic, or supratherapeutic based on aPTT levels obtained.

Significance: It is unknown whether the current practice is providing adequate treatment for obese patients. Currently at Methodist Hospital, Argatroban is dose adjusted for obesity, even though this has not been proven through clinical trials to produce therapeutic aPTT levels. The results of this study will be useful in determining if the current dosing guidelines at Methodist Hospital for Argatroban in obese patient are producing therapeutic aPTT values, with minimal adverse effects.

10:15AM

Implementing and assessing a human papillomavirus (HPV) health promotion campaign on a university campus. Sarah Literal, Kelly Cochran, Butler University, Indianapolis, IN. Sponsor: Carrie Maffeo

Background: The Centers for Disease Control and Prevention reports that approximately 10 million sexually active young men and women aged 15 – 24 are infected with the genital human papillomavirus (HPV), making it the most common sexually transmitted infection. Recent approval of a HPV vaccination to prevent infection has opened the door to the discussion of HPV awareness, prevention, and detection.

Objective: To determine the impact of a HPV health promotion campaign of Butler University students regarding HPV, the HPV vaccine, and cervical cancer risk.

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Significance: Previous studies have examined HIV/AIDS awareness health education campaigns; however, limited research has been done on HPV education. Awareness and prevention are essential to reduce the spread of this growing health concern. After this study, other campuses can assess awareness of HPV and implement similar education programs.

10:30AM

Physicians' attitude toward a pharmacist managed outpatient anticoagulation clinic at Hendricks Regional Health. Bryanne England. Butler University, Indianapolis, IN. Sponsor: Dennis Gardner

Background: Outpatient anticoagulation therapy requires frequent monitoring, patient education, and dose adjustments in order for patients to receive optimal care while avoiding adverse effects. This requires much time and effort on the part of the physicians. In order to insure optimal care for patients on anticoagulation therapy, Hendricks Regional Health is evaluating opening a pharmacist managed outpatient anticoagulation clinic. For the anticoagulation clinic to be successful, it is important to have cooperation and support from the physicians of Hendricks Regional Health. **Objective:** The objective of this study is to determine whether physicians in the Hendricks Regional Health system would support and utilize a pharmacy run outpatient anticoagulation clinic. **Methods:** A survey will be sent to physicians in the Hendricks Regional Health network who would have patients on anticoagulation therapy. The survey would assess physicians' acceptance of a pharmacy managed anticoagulation clinic, determine if they believe there is a need for a clinic, and if they believe a clinic would help improve patient safety and outcomes.

10:45AM

Evaluating possible interventions by reconciling medications at discharge to determine the highest risk patient population: A Prospective Observational Study. Angela Allsup. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Medication errors are an alarmingly common problem in the United States healthcare system. It is estimated that medication errors affect 1.5 million people and kill several thousand each year in the United States alone. Implementing a medication reconciliation program has been shown to decrease medication errors by approximately 70-80% and decrease adverse drug events by over 15%. However, few studies are available regarding adverse events that occur specifically at discharge.

Objective: The objective of this study is to determine errors that may occur at discharge and the potential impact that pharmacists may have in error prevention. Using this data, it will be possible to identify patients at highest risk for errors upon discharge, therefore, resources for pharmacist intervention would be best allocated towards these patients.

Methods: A prospective observational study design at Methodist Hospital, Indianapolis, Indiana will be used to meet the study objectives. Fifty charts from specific adult units (surgery north, surgery south, neurology, pulmonary, and family practice) will be reviewed. Parameters will be identified to determine "high risk" factors (multiple medications, complex

medication therapies, drugs requiring monitoring). Identifying patients at higher risk for medication errors allows pharmacy resources to be utilized in a more appropriate manner.

Results: Data collection is ongoing.

Conclusion: To be determined subsequent to data collection.

11:00AM

Impact of Patient Mortality with Bloodstream Infections Associated with Prompt Positive Cultures and Appropriate Therapy. Matthew Ertmoed, Lauren Moja. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Bloodstream infections have a significant mortality and are considered to be the 10th leading cause of death in the United States. The Gram stain of the positive blood culture is the single most important factor influencing appropriate antibiotic selection. A problem lies in that there are national staffing problems in the laboratory, causing a delay in blood culture readings.

Objective: To determine if timely processing of Gram stains followed by appropriate antibiotic therapy will lead to a decrease in patient mortality.

Methods: An ongoing retrospective case-control study was conducted from 2001 through 2005. We evaluated the impact of Gram stain turnaround time (TAT) of first positive blood culture, as well as, whether the patient was placed on appropriate antibiotic therapy.

Primary outcomes include: mortality, determination of appropriate antibiotic therapy based on Gram stains and tested susceptibility.

Secondary outcomes include: length of hospital stay and hospital costs.

Results: The results showed that the arm of the study with the TAT <1 hour had a crude mortality of 10.1%, and an average TAT of 0.1 hours. The other arm of the study that looked at TAT = 1 hour showed a crude mortality of 19.2%, and an average TAT of 3.3 hours. The crude rate of mortality and TAT proved to be statistically significant.

Conclusions: This study concludes that the sooner positive blood cultures and appropriate antibiotic therapy is initiated it will lead to a decrease in mortality for the patient.

11:15AM

An Assessment of a Worksite Health Promotion Program at Butler University. Joseph Owen. Butler University, Indianapolis, IN. Sponsor: Carrie Maffeo

Background: In April 2004, the Butler University College of Pharmacy & Health Sciences (COPHS) Health Education Center was established to ensure that Butler COPHS graduates are prepared to serve as health educators. In collaboration with Human Resources and the COPHS Health Education Center, a worksite health promotion program was developed with the aim to "create a symbiotic relationship among the Butler community with the objective of improving the health of the faculty and staff and to decrease the cost of healthcare coverage."

Objective: To compile and assess initial participant and yearly follow-up health screening data for participants in a worksite based health promotion program at Butler University. A sub-group analysis of faculty versus staff and male versus female participants will be performed.

Methods: A retrospective chart review will be performed on all participants that underwent an initial and one year follow-up health screening from March 2005 to the present. The health screening includes a fasting lipid panel, blood glucose, body mass index calculation, and blood pressure assessment. Two data sets will be analyzed: first, initial screenings from 2005 and 2007 and second, yearly follow-up screenings. Descriptive and

inferential statistics will be performed to compare yearly health screening data using SPSS.

Results: Proposed results will show overall positive outcomes. Possible reasoning for proposed positive outcomes includes improved health among participants and increased health goal attainment.

Session C

Pharmacy Building, Room 106A

Moderator: Dr. Stephanie Enz

08:30AM

Prescription to My Younger Self: What I Learned After Pharmacy School. Jennell Colwell. Butler University, Indianapolis, IN. Sponsor: Erin Albert

Background: What happens in terms of education after pharmacy school? What can we learn from our mentors already in practice? This book is a collection of letters written by pharmacists in varying professional settings, who have either excelled in the profession of pharmacy, or are inspirations and are willing to share their stories in print. We asked the pharmacists to provide a one paragraph biography, and a letter written from the present day, back to the time they graduated from pharmacy school to share the pearls of wisdom they learned about their profession after graduating from pharmacy school.

Objectives: To gain knowledge and insight, on life experiences and the pharmacy field, from past and current pharmacists.

To expose students to professionals in the pharmacy field, making the students aware of the accessibility of practicing pharmacists.

To gather, culminate, and warehouse knowledge not found in a textbook about the pharmacy profession post formal education.

Methods:

Email

Personal phone calls

Personal contact and interaction

Conversations and interviews

Press and media releases (Pharmacy Times, Indianapolis Star, IBJ, Inside Indiana Business)

Results:

27 individuals participated

Finished product is undergoing editing at this time

Conclusions: Prescription to My Younger Self: What I Learned After Pharmacy School, was completed by December 2007 in anticipation for a spring book release. Bloomington, Indiana based publisher AuthorHouse, will be publishing this guide. Also, Johnson & Johnson has awarded Butler University an unrestricted educational grant to provide one copy of the publication to each graduating pharmacy student in 2008 for inspiration, as each student embarks on their own future career paths.

08:45AM

Evaluation of Memantine Use in a Predominantly Indigent Population. Keely Hahn. Butler University, Indianapolis, IN. Sponsor: Dr. Bonnie Brown

Background: Memantine is indicated for moderate to severe dementia of the Alzheimer's type and is also used for Lewy-Body, vascular, and Parkinson's dementia. Uninterrupted therapy with memantine up to 52 weeks may maintain functioning that has been preserved and delay progression of cognitive impairment and functional decline

Objective: The primary objective of this study is to examine how memantine is used in patients with and without renal insufficiency. Secondary objectives include duration of therapy and why memantine is

discontinued, memantine use in patients who are below or near the poverty level, and frequency of concomitant antipsychotics used.

Methods: A retrospective observational study will be performed. All data will be collected by reviewing clinical charts from Wishard Health Services and from Regenrief Medical Records System (RMRS). The study will be limited to patients who are over 55 years of age with identified diagnosis of dementia. Exclusion criteria are non-dementia patients and patients who used memantine for less than one month.

Outcomes: The primary outcome measure is the frequency of patients taking the maximum dosage of memantine tolerated. Secondary outcome measures frequency of patients using memantine in conjunction with a cholinesterase inhibitor, and frequency of patients taking an antipsychotic concurrently.

Results: Data collection is ongoing.

Conclusions: This study aims to conclude if memantine is cost-effective and appropriately used in renal patients and patients who are under-represented in clinical trials.

09:00AM

Thiazolidinediones and the Incidence of Cardiovascular Morbidity and Mortality: A Meta-Analysis. Lauren Frigo, Julie Koehler, Lauren Butterbaugh, Iftexhar Kalsekar, Laura Miars, Natasha Burgener. Butler University, Indianapolis, IN. Sponsor: Julie Koehler

Background: Thiazolidinediones (TZDs) are a class of oral hypoglycemic agents including rosiglitazone and pioglitazone. Recent data suggest that rosiglitazone causes an increased risk of myocardial infarction (MI), but it is unknown if this is a class effect or if other cardiovascular complications are associated with one or both TZDs.

Objective: To conduct a systematic meta-analysis of published studies to estimate the impact of TZDs on the incidence of MI, edema, heart failure (HF), and mortality.

Methods: MEDLINE, Science Citation Index, manufacturer websites, National Controlled Trials registry, and www.clinicalstudyresults.org were searched using the following terms: TZDs, Thiazolidinediones, Rosiglitazone, Avandia, Pioglitazone, and Actos combined with terms related to cardiovascular outcomes. Data extraction was performed by two independent reviewer pairs using a standardized data collection form. The summary effect size was computed using a random effects model with the software-Comprehensive Meta Analysis.

Results: Forty-six studies evaluating the incidence of MI were included (rosiglitazone= 43, pioglitazone= 3). Neither rosiglitazone [RR= 1.2; 95% CI (0.9-1.6)] nor pioglitazone [RR= 0.8; 95% CI (0.6-1.1)] increased the risk of MI. Thirty studies evaluating the incidence of HF were included (rosiglitazone= 27, pioglitazone=3). The relative risk estimates for both rosiglitazone [RR= 1.7; 95% CI (1.3-2.3)] and pioglitazone [RR= 1.4; 95% CI (1.2-1.6)] indicated that TZDs increased the incidence of HF. No significant publication bias or heterogeneity was found among studies.

Conclusion: Both rosiglitazone and pioglitazone showed a significant increase in the relative risk of HF, but neither drug showed a significant increase in the relative risk of MI.

09:15AM

Impact of Patient Mortality with Bloodstream Infections Associated with Prompt Positive Cultures & Appropriate Therapy. Lauren Moja, Matthew Ertmoed, Joan Barenfanger. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Bloodstream infections have a significant mortality and are considered to be the 10th leading cause of death in the United States. The sooner a blood culture can be read and appropriate antibiotic therapy can be initiated, will result in a better prognosis for the patient. There are national staffing problems in the laboratory, causing a delay in blood culture readings. This also, will delay the patient from receiving appropriate antibiotic therapy.

Objective: To determine if timely processing of Gram stains followed by appropriate antibiotic therapy will lead to a decrease in patient mortality.

Methods: An ongoing retrospective case-control study was conducted to evaluate the impact of Gram stain turn around time (TAT) of first positive blood culture, as well as, whether the patient was placed on appropriate antibiotic therapy. Patients were matched based on same infecting organism, similar disease severity, and time to detection (who were processed either <1 hour or with a delay =1 hour).

Primary outcomes include: mortality, determination of appropriate antibiotic therapy based on Gram stains and tested susceptibility.

Results: The results showed that the arm of the study with the TAT <1 hour had a crude mortality of 10.1%. The other arm of the study that looked at TAT = 1 hour showed a crude mortality of 19.2%. The crude rate of mortality proved to be statistically significant (p=0.0389).

Conclusions: This study concludes that the sooner positive blood cultures and appropriate antibiotic therapy is initiated it will lead to a decrease mortality for the patient.

09:30AM

Evaluating possible interventions by reconciling medications at discharge to determine the highest risk patient population: A Prospective Observational Study. Stephanie Franklin, Lisa Leombruni, Angela Allsup, Jamie Rogers. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Medication errors are an alarmingly common problem in the United States healthcare system. It is estimated that medication errors affect 1.5 million people and kill several thousand each year in the United States alone. Nearly one in five patients experience an adverse event upon hospital discharge. Implementing a medication reconciliation program has been shown to decrease medication errors by approximately 70-80% and decrease adverse drug events by over 15%. However, few studies are available regarding adverse events that occur specifically at discharge.

Objective: The objective of this study is to determine errors that may occur at discharge and the potential impact that pharmacists may have in error prevention. Using this data, it will be possible to identify patients at highest risk for errors upon discharge, therefore, resources for pharmacist intervention would be best allocated towards these patients.

Methods: A prospective observational study design at Methodist Hospital, Indianapolis, Indiana will be used to meet the study objectives. Fifty charts from specific adult units including (4N, 4S, 5N, 6N, or 6S; surgery north, surgery south, neurology, pulmonary, and family practice, respectively) will be reviewed. Parameters will be identified to determine "high risk" factors (e.g. multiple medications, complex medication therapies, drugs requiring monitoring, disease states). By identifying patients at higher risk for medication errors, pharmacy resources can be utilized in a more appropriate manner.

Results: Data collection is ongoing.

Conclusion: To be determined subsequent to data collection.

10:00AM

Appropriate Dosing of Renally-Dosed Medications in Long Term Care Patients with Renal Insufficiency. Sarah Eversman. Butler University, Indianapolis, IN. Sponsor: Bruce Clayton

Background: Renal insufficiency is a common condition in patients and becomes more prevalent with increasing age. Many disease states such as diabetes, heart failure, and hypertension can cause destruction of the kidneys and worsen renal insufficiency. Many medications are renally eliminated and depend upon proper kidney function to be properly excreted. These medications require dosing adjustments based upon the patient's current renal function. It can be dangerous for a patient with renal insufficiency to be receiving a medication that is not dosed correctly. Drugs and their metabolites can accumulate, leading to toxicities such as seizures, hypotension, myalgia, or death.

For the purpose of this study, the current guidelines from the Micromedex, Clinical Pharmacology, and Lexi-Comp databases as well as information from the drug manufacturers will be used to determine if drugs that must be renally-dosed are being dosed correctly based on each individual patient's calculated creatinine clearance. By analyzing which drugs are and are not being dosed appropriately, we can learn how to prevent future dosing errors and prevent harm to patients.

Objective: To assess whether medications that must be dosed based on renal function are being dosed according to manufacturers' recommendations.

Research Design & Methods: This study utilizes a retrospective chart review of the charts of patients living at Ripley Crossing Health Care Facility in Milan, Indiana, during the month of October 2007. The patient population used in this study will include all patients receiving a drug that must be renally dose-adjusted. All patients used in research will be identified with a nondescript code to ensure anonymity and privacy.

Results: Pending.

Conclusion: Pending.

10:15AM

An Assessment of Colleges of Pharmacy's Introductory to Pharmacy Practice Experience Programs. Jennifer Fuller, Trish Devine, Melanie Byers. Butler University, Indianapolis, IN. Sponsor: Trish Devine

Background: The Accreditation Council for Pharmacy Education (ACPE) requires 300 hours of introductory pharmacy practice experiences(IPPE). Studies have assessed the effectiveness of specific programs. National trends of IPPE programs' adaptability to the standards are lacking.

Objectives: To determine how colleges of pharmacy implement IPPE standards, to maximize the effectiveness of Butler's program. To determine whether colleges believe non-paid IPPE will impact quality of these experiences.

Methods: Data was collected through electronic surveys sent to 75 coordinators of IPPE programs at schools of pharmacy across the nation. This study's results are based on 34 completed responses. Questions asked pertained to design of programs and challenges in meeting the guidelines. Descriptive statistics and qualitative analysis were performed on the data collected.

Results: Most IPPE programs schedule experiential hours in rotation blocks (68%), often during the school year and summer. Many programs link IPPE to a course and to credit hours (70% and 75% respectively). A majority of IPPE coordinators do not believe there is a correlation between quality of experience and remuneration for experience (73%). Insufficient staffing resources, site quality, and site availability were recurrent challenges reported in adapting to the guidelines.

Conclusion: This data will allow for evaluation and improvement of the current IPPE program at Butler University and may set a national benchmark that other schools will use in developing an effective IPPE program.

10:30AM

Comparing Metronidazole vs. Vancomycin in CDAD. Andrew Russell. Butler University, Indianapolis, IN. Sponsor: Jarrett Amsden

Background: Clostridium difficile is an anaerobic, gram positive, spore forming bacillus that is responsible for 25% of all cases of antibiotic associated nosocomial diarrhea. Recent reviews have indicated an increase in the incidence and severity of CDAD. Metronidazole and vancomycin have been the traditional therapies against C. difficile due to their similar efficacies, but metronidazole has been preferred due to its lower cost and collateral effects on resistance. A recent study has indicated that vancomycin was more efficacious in the treatment of severe cases of CDAD.

Objective: The primary objective of this study is to compare the efficacy of oral metronidazole versus oral vancomycin in the treatment of CDAD.

Methods: A retrospective chart review will be conducted at Indiana University Hospital. Medical charts will be reviewed from 2004 until the present and the study population will include all patients greater than 18 years of age with a diagnosis of C. difficile or CDAD. Patients will further be stratified based on their disease severity and compared based on their treatment regimen for CDAD. The primary outcome measure will be clinical cure or treatment failure as defined in our protocol.

Significance: The results of this study will help improve treatment choices in patients with CDAD based on disease severity at Indiana University Hospital.

10:45AM

Impact of modifiable factors in the utilization of community pharmacists by patients. Mirella DeRango. Butler University, Indianapolis, IN. Sponsor: Angela Ockerman, PharmD

Background: Recent literature has revealed that pharmacists in a community setting are underutilized. This underutilization has been linked to patient demographics, attitudes and beliefs about health care. Unfortunately, these factors cannot be controlled by the pharmacist.

Objective: To identify modifiable factors, under control of the pharmacist, to increase the likelihood of patients consulting with the pharmacist in a community setting.

Methods: A survey will be conducted by a self-administered questionnaire to meet the study objectives. Patients will be asked to complete a paper survey while waiting for their prescriptions to be filled in a community pharmacy. The outcome/dependent variable is the extent of individual services utilization on a five point scale. Statistical testing will be conducted through descriptive statistics to help simplify and summarize the collected data. Demographic information such as gender and age are used to help measure frequency distributions.

Significance: Identifying ways to increase patient utilization of pharmacists is a first step to improved health care. Changes can be made to the pharmacy environment to improve awareness of pharmacy services available to patients. Patients would benefit knowing their pharmacist is a knowledgeable, reliable member of the health care team. Pharmacists would benefit from increased career satisfaction resulting from increased utilization by their patients.

11:00AM

An Analysis of Sleep Habits and Stimulant Use in PharmD and Physician Assistant Students with Respect to Exams. Alishia Leavell, Elizabeth Micke. Butler University, Indianapolis, IN. Sponsor: Meghan Bodenber

Background: Pharmacy and Physician Assistant students are exposed to different exam schedules which may have an impact on sleep habits and stimulant use. Previous studies have not been conducted in this population and have not addressed the issues of sleep habits or stimulant use with respect to exam schedules.

Objective: To evaluate if there is a correlation between the type of examination schedule students are exposed to and their sleep habits and stimulant use.

Methods: An online survey using Survey Monkey was made available at www.surveymonkey.com to professional phase PharmD (P1-P3) and PA (PA1 and PA2) students from November 26, 2007 until December 17, 2007. Analysis methods employed to explain data collected will include descriptive statistics, Mann Whitney U test and Chi-square test of independence. This study design and statistical tests will be used to meet the study objective.

Significance: The results of the study will identify if there is a difference in the sleep habits and stimulant use of students exposed to a traditional exam schedule compared to students exposed to a cluster exam schedule.

Results: Pending

Conclusion: Pending

11:15AM

Evaluation and implementation of a computerized database to manage medications for indigent patients using prescription assistance programs. Aaron Myers, Greg Ruth. Butler University, Indianapolis, IN. Sponsor: Jeanne Van Tyle

Background: Prescription assistance programs (PAPs) offer medications to low income or indigent patients for little or no cost. However there are multiple barriers which may impede the application process for PAPs. There are multiple computer programs available that may be utilized in aiding the application process. There are no studies available that examine the implementation of a computerized PAP application aid.

Objective: The purpose of this study is to implement the MedData Services software at the Gennesaret Clinic in Indianapolis, Indiana and examine outcomes in the ensuing months both pre and post software implementation.

Methods: Data will be obtained from a chart review of patients at Gennesaret Clinic. Data collected will include the number of patients at Gennesaret enrolled in PAP programs and demographics of said patients. We will examine the savings to the clinic, savings to the patient, and number of medications each patient obtained through a PAP before and after implementation of MedData Services software. We will also examine the time required to fill a PAP medication enrollment form pre and post to the utilization of the MedData Services software by examining the time for the healthcare provider to complete the initial patient interview, enrollment form process and renewal application for the PAP.

Significance: In 2006 there was an additional 2.2 million Americans list as uninsured increasing the total to 47 million people. The need for PAPs may be more than ever and it is our hope that the implementation of MedData Services software will help aid in this process.

Session D
Pharmacy Building, Room 106B
Moderator: Dr. Wes Garmon

08:30AM

Levetiracetam for Early Seizure Prophylaxis in Closed Head Injuries. Justin Biancardi, Clayton Deeb. Butler University, Indianapolis, IN. Sponsor: Alex Ansara

Background: Studies have shown that early post-traumatic seizures occur in about 10% of patients following a traumatic closed head injury. These seizures put the patient at risk for secondary damage to an already injured brain by increasing intracranial pressure or may cause systemic injury. When short-term seizure prophylaxis is indicated, phenytoin is the agent of choice, but levetiracetam is also being used off-label at some hospital sites.

Objective: The purpose of this study is to determine if levetiracetam provides similar efficacy to phenytoin in reducing the incidence of early post-traumatic seizures.

Methods: A retrospective chart review study will be conducted. Patients aged 18 or older, admitted with a traumatic closed head injury and started on levetiracetam will be included. The primary outcome will be the presence of an early post-traumatic seizure, defined as within 7 days of the injury. The incidence of early seizure in these patients will be compared to an average incidence of seizures in studies involving similar patients receiving seizure prophylaxis with phenytoin. A secondary analysis will be done comparing the incidence of seizures in this study and the average incidence of seizures with the placebo groups in similar studies.

Results: Data collection is ongoing.

Conclusion: This study aims to assess the efficacy of levetiracetam for the prophylaxis of early post-traumatic seizures in comparison to phenytoin.

08:45AM

Implementation of a DKA Protocol and Analysis of Outcome Measures in a Community Hospital Setting. Alan Durm. Butler University, Indianapolis, IN. Sponsor: Joseph Jordan

Background: Each year, diabetic ketoacidosis (DKA) is responsible for approximately 85% of all emergency room admissions in patients with type 1 diabetes mellitus, as well as a significant proportion of admissions in patients with type 2 diabetes mellitus. Even though numerous protocols have been implemented to optimize the management of DKA, a 2-5% mortality rate has persisted in this patient population since the 1970's.

Objective: To compare the efficacy and therapeutic outcomes of patients with DKA treated via a standardized protocol compared to pre-protocol patients.

Study Significance: If proven successful in maximizing therapeutic outcomes in hospitalized patients admitted with DKA, this protocol may serve as a foundation for the development of an evidence-based process that can be implemented as standard operating procedure for institutions nationwide.

Methods: A retrospective case-control design will be used to meet the study objective. All patients presenting with DKA (both pre- and post-protocol) will be identified from the Meditech Client Server database, the operating system of Marion General Hospital. Therapeutic outcomes and development of adverse events for patients in both arms of the study will be analyzed. Continuous data (age, length of stay, length of time on insulin drip, etc) will be analyzed by means of a Mann Whitney U test. A Chi-square test of independence will be utilized to examine the relative hazards ratio for categorical variables (gender, type of diet, etc). All statistical

analyses will be conducted using Statistical Package for Social Sciences, version 14.0.

09:00AM

Impact of Medication Therapy Management and Pharmacist Counseling: A Survey Analysis of Patient Perception and Expectations from Pharmacists in a Community Setting. Eric Izyński, LaMontae Guynn. Butler University, Indianapolis, IN. Sponsor: Erin Albert

Background: With the advent of third party reimbursement for medication therapy management (MTM), the practice of pharmacy in the community setting is evolving to meet the healthcare needs of the patient.

With this evolution, however, it is unclear from a patient perspective as to the value of medication counseling and disease state management in a community pharmacy setting.

Currently, there is a lack of studies showing public perception and expectations of pharmacists in a community setting as it relates to medication therapy management and disease management counseling.

Objective: To assess the value of medication therapy management and pharmacist counseling through surveying patients in a community pharmacy setting

Methods: A survey will be elicited to patients, by someone other than the candidates evaluating the surveys, receiving counseling of any kind at the community pharmacy (Walgreens and CVS) pick-up areas

The survey will consist of 10 questions assessing the patient's experience and general knowledge as well as patient willingness to participate in MTM services.

Significance: This survey may provide community pharmacists with an idea of patient expectations of counseling. This survey may also provide pharmacist with an idea of the significance of MTM services in the community setting

09:15AM

The Impact of the Ethnicity of the Provider on the Utilization of Preventive Health Care Services for Minorities. Allyson Murray, Iftekhar Kalsekar, Jenna Lammers. Butler University, Indianapolis, IN. Sponsor: Iftekhar Kalsekar

Background: Minority women have a greater risk of mortality from breast and cervical cancer and factors improving preventive screening in this population need to be identified.

Study Objective: To assess the impact of concordance between patient and physician ethnicity on the utilization of preventive services.

Methods: Data was collected using the 2004 Medical Expenditure Panel Survey (MEPS). The final sample included minority females 40 years and older without a prior diagnosis of breast or cervical cancer. Logistic regression was performed to examine the association between patient-physician concordance of ethnicity and the dichotomous outcomes of mammography or Papanicolaou testing within the appropriate time-frame.

Results: A total of 1,121 and 1,135 participants were identified as eligible respondents for the mammography and Papanicolaou groups, respectively. In the analysis of mammography screening, racial concordance did not significantly impact the rate of preventive screening ($p=0.169$), with 70.9% of the concordant and 74.8% of the discordant groups receiving appropriate screening. However, racial concordance did significantly impact the rate of preventive screening among the Papanicolaou analysis ($p=0.008$) with higher rates of screening for the discordant group (83.7%) compared to the concordant group (77.3%). The results of the logistic regression after

controlling for other demographic and confounding variables were consistent with these univariate results.

Conclusions: Results of this study indicate that patient-physician concordance does not affect rates of mammography screenings, but papnicolaou screening rates were higher for discordant patient-physician ethnicity groups implying that non-minority physicians may be more likely to recommend preventive services.

09:30AM

Development of a Quality-based Reporting System for CMS Physician Quality Reporting Initiative. Emily Hauguel. Hanover College, Hanover, IN. Sponsor: Darrin Rubino

Medicare has maintained an active role in assessing the quality of care physicians provide to patients. For the 2007 reporting period, a set of 74 quality reporting standards has been established for physician use. These quality reporting standards allow physicians to compare their level of care with physicians nationwide. Each specialty is expected to report a different set of standards using diagnosis and CPT codes. An electronic medical record (EMR) system should provide the most efficient method to relay this data to Medicare.

This project was designed to assess the EMR software used at a primary care facility. The basis for this study included the compliance rates from 2006, a timeline created to establish the reporting goals for this group, an assessment of the Medicare reporting requirements, and an evaluation of various methods for reporting quality care procedures that are currently being used in other offices.

Several modules were designed to help make reporting to Medicare a simple transition from the current reporting methods. A list of procedures was created within the current EMR system to automatically display the necessary tasks to be completed for each patient based on diagnosis and procedure codes.

10:00AM

Development and Implementation of a Medication Reconciliation Process in the Roudebush VA Medical Center Outpatient Clinics. Derek Cole, Melanie Kuester. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: The Joint Commission has required healthcare facilities to implement medication reconciliation in both the inpatient and outpatient settings since 2005. Currently, the Richard L. Roudebush VA Medical Center is using medication reconciliation in the inpatient setting, but does not have a formalized process in place in their outpatient clinics.

Objective: The objective of this study was to organize an outpatient medication reconciliation program, and to assess its effectiveness by measuring completeness of medication profiles, number of changes to the medication list made per patient at each visit, time necessary to obtain and amend a medication list for each patient, potential cost savings for each patient, and costs to initiate and complete the program.

Methods: Interviews were conducted on selected patients to obtain a list of home medications which were then be available for the patient's reference and for a physician or pharmacist to reconcile with new orders that were made during the visit. Before leaving the clinic, the patient's medication list was updated based on the changes made by the physician during the visit and then sent home with the patient.

Significance: This study will help determine an effective way to reconcile medications in the outpatient setting. The medication reconciliation process will benefit each patient in many ways, such as decreasing costs by discontinuing medications they may no longer be taking, decreasing medication errors and adverse drug events, and improving the continuum of care, both within the VA facility and other healthcare institutions.

10:15AM

Prevalence of vitamin D deficiency among elderly patients. Kristen Hubertz, Noll Campbell, PharmD, FASCP, BCPP, CGP. Butler University, Indianapolis, IN. Sponsor: Noll Campbell, PharmD, FASCP, BCPP, CGP

Background: Insufficient vitamin D serum concentrations can predict an individual's predisposition to osteoporosis and increased fracture risk. In addition, vitamin D deficiencies may be linked to the development of hyperparathyroidism and various cancers. Recent evidence suggests that vitamin D deficiencies are prominent, under recognized and untreated, especially within the elderly population. However, data demonstrating prevalence of vitamin D deficiency among a low socioeconomic or indigent, community-dwelling elderly population is currently lacking.

Objective: To estimate the prevalence of vitamin D deficiency among the community-dwelling elderly population of Wishard Hospital, Indianapolis, IN. Secondary objectives include evaluating differences between vitamin D deficiency rates during the warm six months of the year in comparison with the cold six months of year, and identifying risk factors for vitamin D deficiency in the elderly population.

Methods: A retrospective, cross-sectional chart review will be used to meet the study objective. Laboratory values will be reviewed over a 12 month period, November 1, 2006 to October 31, 2007, to identify patients that had 25-hydroxyvitamin D serum concentrations drawn and were 65 to 100 years old. Data collected will include basic demographic information, serum 25-hydroxyvitamin D concentration and date it was drawn, PTH, iPTH, serum calcium concentration, comorbid disease states and current medications. Patients will then be divided into two groups based on serum concentration of <25ng/ml and those =25ng/ml of 25-hydroxyvitamin D. Analysis will then be performed comparing these two groups and baseline characteristics of these patients to look for trends and identify variables.

Results: Pending.

Conclusion: Pending.

10:30AM

Multicultural Health Care: A Quality Improvement Guide. Erin Hight. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: The Institute of Medicine's landmark study in 2003, Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care, showed that racial and ethnic disparities in health care exist across a wide range of health conditions and health care services. The report also showed that most disparities remain even when controlling for socioeconomic status and other access-related factors.

Objective: To develop, produce and disseminate a resource guide for health plans and health systems working to improve care to diverse populations, and to reduce health care disparities. The guide, which will be co-owned by Eli Lilly and Company and the National Committee for Quality Assurance (NCQA), will use a quality improvement approach to address disparities and will provide tools for these organizations to use in improving them.

Methods: Various tools to identify and implement culturally competent health care services were identified, reviewed and approved by a panel of national experts convened by NCQA for inclusion in the resource guide. Permissions were granted from the owners of the tools to reprint, recreate, and use examples from each respective tool. Assistance in publishing and layout design was given from a local marketing communications firm.

Results: Multicultural Health Care: A Quality Improvement Guide was developed containing seven separate components: introduction, assessment, planning, implementation, evaluation, conclusion, and acknowledgements. Eighty-two tools were identified and recreated to help address disparities within health care organizations, and ultimately help to improve them.

10:45AM

Public's Perception of the Pharmacist's Role with OTC Medications. Alicia Jochim, Elizabeth May, Krista Kleiman. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: It is currently a law that patients are asked if they would like to speak to a pharmacist regarding their prescriptions. However, there are no requirements for a pharmacist to ask if the patient has any questions when the patient is selecting an over-the-counter medication. No studies have been performed to obtain the public's opinion regarding the pharmacist's knowledge of over-the-counter, (OTC), medications and their level of comfort to ask a pharmacist questions about OTC medications.

Objective: The goal of our study is to determine the public's perception of a pharmacist's knowledge and role in helping patients to choose appropriate OTC medications in a Target pharmacy in Evansville, IN.

Methods: A survey will be used as the data source. The study population will include adults aged eighteen and over that shop in the OTC aisles of a Target store in Evansville, Indiana. Then analysis will be done to determine whether or not differences in age, gender, education level, concomitant disease states, and/or number of medications affects whether or not a patient asks a pharmacist for help choosing an appropriate OTC medication. We are also trying to analyze the public's willingness to ask the pharmacist to help them choose OTC medications or whether they rely on other sources. Chi-squared statistical analyses will be performed to analyze our data collected.

Results: The process of data collection is complete. However, statistical analyses are still being performed. **Conclusions:** Conclusions are to be determined once all data has been analyzed.

11:00AM

Evaluating the duration of post-operative cefuroxime prophylaxis on infectious outcomes in pediatric cardiovascular surgery patients. Rachel Brown, Kevin Koves, Chad Knoderer. Butler University, Indianapolis, IN. Sponsor: Dennis Gardner

Background: Use of antimicrobials for cardiovascular surgical infection prophylaxis is a standard of care with clearly associated benefits, and is aimed at prevention of surgical site infections such as wound infection, mediastinitis, and endocarditis, which remain serious complications. A change in practice limiting cefuroxime usage for 24 hours after surgery for cardiovascular surgical prophylaxis at Riley Hospital for Children was implemented on August 1, 2006. Prior to that time use of post-operative antibiotic prophylaxis was unlimited and commonly continued in children until all invasive intravenous catheters and chest tubes were removed.

Objectives: To determine if there is a difference in infectious outcomes between children receiving 24 hours of cefuroxime prophylaxis after cardiac surgery and in children receiving unlimited durations of cefuroxime prophylaxis.

Methods: This is a retrospective study of children, younger than 18 years of age, with congenital heart defects having undergone corrective or palliative cardiac surgery. Infectious outcomes will be compared between two groups of patients before and after the change in cefuroxime prophylaxis practice was implemented. Thirty-five patients will be randomly selected for each group. Parameters to be evaluated include demographic data, infectious outcome (none, bacteremia, rule out antibiotic episode, urinary tract infection, pneumonia, endocarditis, culture negative episode of clinical sepsis, and wound infection) duration of cefuroxime use, additional antibiotic use and duration, steroid use, temperature, culture data, white blood cell count, platelet count, and blood glucose levels. Independent sample t-tests and chi-square analysis will be used to determine a difference in infectious outcomes.

11:15AM

Evaluating the effect of patient education on the use of metamizole in Latino patients: phase 2 of the metamizole education initiative. Michael Alwan, Karie Morrical-Kline, Toni Eash. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: Metamizole is a nonsteroidal anti-inflammatory medication removed from the United States market in 1979 due to its potential to cause agranulocytosis. Phase 1 of the Metamizole Education Initiative found that 62% of participants reported taking a metamizole-containing product during their lifetime. Patients were provided education regarding the dangers of using metamizole-containing products.

Objective: The purpose of phase 2 of the Metamizole Education Initiative is to assess the effect of patient education on use of metamizole-containing products. We hypothesize that less than 62% of the participants in phase 2 will report a personal history of metamizole use in the last four years.

Methods: Prior to conducting research, this study was approved by the Institutional Review Board. The 199 patients that participated in Phase 1 will be interviewed to assess their use of metamizole. The study will exclude participants that cannot be reached by telephone or that are no longer patients of the family medicine clinic. The survey will be conducted via telephone call by Spanish-speaking interpreters. The survey will also evaluate the aspects of the original patient education that influenced patients' metamizole use. The frequency of metamizole use after patient education will be compared to metamizole use prior to patient education.

Significance: The results from phase 2 of the Metamizole Education Initiative may be used to help health care providers develop patient education concerning foreign medications. It is the goal of this study to improve the way health care providers communicate with international patients to ensure safe medication use.

Session E

Pharmacy Building, Room 202

Moderator: Dr. Amy Owczarek

08:30AM

National Estimates of Enrollment in Disease State Management Programs in the United States. Karly Nesnidal, Samantha Flasch. Butler University, Indianapolis, IN. Sponsor: Iftekhar Kalsekar

Objective: Disease state management (DSM) programs are recommended for patients with conditions such as diabetes, hypertension, and hyperlipidemia. However, the level of adoption of these programs is unknown. The objective of this study is to determine the level of utilization of DSM programs.

Methods: Data from the National Ambulatory Medical Care Survey (NAMCS), which includes a national sample of outpatient physician office visits, utilized to meet the study objectives. In 2005, NAMCS included an additional item regarding enrollment in DSM programs. Patients with chronic conditions were identified and estimates for enrollment in DSM programs were computed. Logistic regression analysis was used to identify predictors of enrollment. Sample weights and the complex sampling design of the NAMCS were accounted in all the analyses.

Results: The final study sample included 3,884 patient visits. Patients with diabetes had the highest rate of enrollment (24.6%), followed by patients with hyperlipidemia (20.4%) and hypertension (19.5%). Insurance status was an important predictor of enrollment status with patients enrolled in Medicare [Odds Ratio (OR)=1.68;p=0.021] and Medicaid (OR=2.13;p=0.008) significantly more likely to be enrolled in a DSM program as compared to those without insurance. Patients of Hispanic ethnicity were 67% less likely to be enrolled in a DSM program (OR=0.33;p<0.001).

Conclusion: Although the benefits of DSM programs have been documented, their adoption rate remains extremely low. This study indicates that Hispanic ethnicity and insurance status were predictors of enrollment. Additional studies are needed to identify other predictors and to tailor interventions to increase the adoption of such programs.

08:45AM

Evaluating the duration of post-operative cefuroxime prophylaxis on infectious outcomes in pediatric cardiovascular surgery patients. Kevin Koves, Rachel Brown, Chad Knoderer. Butler University, Indianapolis, IN. Sponsor: Dennis Gardner

Background: Use of antimicrobials for cardiovascular surgical infection prophylaxis is a standard of care with clearly associated benefits, and is aimed at prevention of surgical site infections such as wound infection, mediastinitis, and endocarditis, which remain serious complications. A change in practice limiting cefuroxime usage for 24 hours after surgery for cardiovascular surgical prophylaxis at Riley Hospital for Children was implemented on August 1, 2006. Prior to that time use of post-operative antibiotic prophylaxis was unlimited and commonly continued in children until all invasive intravenous catheters and chest tubes were removed.

Objectives: To determine if there is a difference in infectious outcomes between children receiving 24 hours of cefuroxime prophylaxis after cardiac surgery and in children receiving unlimited durations of cefuroxime prophylaxis.

Methods: This is a retrospective study of children, younger than 18 years of age, with congenital heart defects having undergone corrective or palliative cardiac surgery. Infectious outcomes will be compared between two groups of patients, before and after the change in cefuroxime prophylaxis practice was implemented. Thirty-five patients will be randomly selected for each group. Parameters to be evaluated include demographic data, infectious outcome (none, bacteremia, rule out antibiotic episode, urinary tract infection, pneumonia, endocarditis, culture negative episode of clinical sepsis, and wound infection) duration of cefuroxime use, additional antibiotic use and duration, steroid use, temperature, culture data, white blood cell count, platelet count, and blood glucose levels. Independent sample t-tests and chi-square analysis will be used to determine a difference in infectious outcomes.

09:00AM

Evaluating possible interventions by reconciling medications at discharge to determine the highest risk patient population: A Prospective Observational Study. Lisa Leombruni, Stephanie Franklin, Angela Allsup, Jamie Rogers. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Medication errors are an alarmingly common problem in the United States health care system. It is estimated that medication errors affect 1.5 million people and kill several thousand each year in the United States alone. Implementing a medication reconciliation program has shown to decrease medication errors by approximately 70-80%, and decrease adverse drug events by over 15%. However, few studies are available regarding adverse events that occur specifically at discharge.

Objective: The objective of the study is to determine errors that may occur at discharge and the potential impact that pharmacists may have in error prevention. Using this data, it will be possible to identify patients at highest risk for errors upon discharge, therefore, resources for pharmacist intervention would be best allocated towards these patients.

Methods: A prospective observational study design at Methodist Hospital, Indianapolis, Indiana will be used to meet the study objectives. Fifty charts from specific adult units (surgery north, surgery south, neurology, pulmonary, and family practice) will be reviewed. Parameters will be identified to determine "high risk" factors (multiple medications, complex

medication therapies, drugs requiring monitoring). Identifying patients at higher risk for medication errors allows pharmacy resources to be utilized in a more appropriate manner.

Results: Data collection is ongoing.

Conclusion: To be determined subsequent to data collection.

09:15AM

Observance of prescribing patterns and the level of adherence to the AHA stroke guidelines in patients with recurrent strokes: A retrospective chart review. Mollie Pletcher, Rohini Rakalla. Butler University, Indianapolis, IN. Sponsor: Alex Ansara

Background: Strokes are the third leading cause of death and most common cause of disability in the United States. History of an ischemic stroke or transient ischemic attack (TIA) presents the most significant risk factor for recurrent strokes. Several antiplatelet agents have been demonstrated to reduce this risk, including aspirin, clopidogrel, and dipyridamole. The American Heart Association (AHA) has established guidelines for the appropriate use of antiplatelet agents in patients with recurrent stroke. The guidelines recommend avoiding addition of aspirin to clopidogrel due to the increased risk of bleeding. Despite these specific guidelines, clinicians continue to place patients on combination therapy with aspirin and clopidogrel.

Objective: The objective of this study is to analyze the treatment being utilized when patients fail first-line antiplatelet therapy and suffer from a recurrent stroke and to compare the chosen treatment with the recommendations outlined by the AHA in the Stroke guidelines.

Methods: A retrospective chart review will be used to meet the study objective. The patient population will include patients with a history of ischemic stroke or TIA admitted to an inpatient hospital in Indianapolis, IN from January 2005 to January 2007. Agents to be included are aspirin, clopidogrel, and combination aspirin and dipyridamole. A chi-square test or Fischer-exact test will be used to assess univariate analyses of proportions. Logistical regression analyses can be used to examine the association of variables which may increase the risk of stroke.

Results: Data collection is ongoing.

Conclusion: To be determined subsequent to data collection.

09:30AM

Evaluation of Treatment of Hypertension in a Clinic Serving Indigent and Homeless Patients. April Toops. Butler University, Indianapolis, IN. Sponsor: Jeanne Van Tyle

Background: Hypertension is a chronic disease that affects millions of Americans. Adequate control of hypertension is necessary to prevent long-term complications.

Objectives: To evaluate management of blood pressure in patients receiving primary care at the Blue Triangle Clinic while comparing that management with the JNC VII guidelines.

Methods: A retrospective chart review was completed. Patients with the diagnosis of hypertension were identified by a simple review of all charts. Those charts pulled were then reviewed to determine the management of blood pressure in each of the patients

Preliminary Results: There were a total of 136 charts reviewed at BT. A total of 80 charts will be included for statistical analysis. After reviewing charts, 1.3% of patients are Type 1 diabetics, 28.8% are Type 2 diabetics, 26.3% have hyperlipidemia, 1.3% has renal failure, and 3.8% have had a myocardial infarction. First line treatment for 72.5% of patients was

thiazides, 21.3% was ACE-Is, 25% was CCBs, 16.3% was beta-blockers, 3.75% was ARBs and alpha-agonists. There were 35% patients started on more than one antihypertensive on their first day of hypertension treatment.

Conclusion: The data from this study will be used to evaluate the effectiveness of treatment of hypertension in the indigent and homeless population. Recommendations to improve JNC VII compliance rates will be made to the GFC Medical services board.

10:00AM

Prescription to My Younger Self: What I Learned After Pharmacy School. Bradley Koselke. Butler University, Indianapolis, IN. Sponsor: Erin Albert

Prescription To My Younger Self: What I Learned After Pharmacy School

Background: Pharmacy school provides students with the proper knowledge and skills required to succeed following graduation. What my colleagues and I set out to explore with our project focused on the concepts one does not acquire directly from pharmacy school, including life lessons learned through practice and knowledge and insight regarding professional and personal gratification. To accomplish this, we contacted many pharmacists from across the country that have greatly impacted the field of pharmacy or influenced us directly and asked them to share their stories with us through a book entitled, Prescription to My Younger Self: What I Learned After Pharmacy School.

Objectives: Our objective is to provide first-hand knowledge, insight, advice, and life experiences gained from pharmacists within various professional settings to current pharmacy school graduates.

Methods: For participation in the project, we reached out through email, phone, interviews, and press/media releases. We asked the pharmacists to provide us with a letter written to themselves at the time they graduated pharmacy school sharing what they've learned throughout their career.

Results: A total of 27 contributions are included in the book, as well as a letter from each of the students that took part in the project.

Conclusions: Our book project is currently in the publication process and will be made available to Butler's 2008 pharmacy graduates in May at no charge thanks to an educational grant from Johnson & Johnson. The book will hopefully provide inspiration and insight to each student as they embark on their own career path.

10:15AM

Retrospective Chart Review of Hypertension at Cornerstone Pharmacy in Comparison to The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC-7) Guidelines. Vipul Soni, Adam Rendaci. Butler University, Indianapolis, IN. Sponsor: Dr. Bonnie Brown

Introduction: Hypertension is a common and prominent risk factor for premature disability and death. It is a leading cause of stroke, congestive heart failure, and other cardiovascular diseases. Diagnosis and treatment is often inadequate. JNC-7 sets forth new guidelines to help practitioners improve the standard of care for hypertension.

Objective: The objective of this retrospective chart review is to evaluate if physicians are adhering to JNC-7 guidelines.

Methods: Patients having hypertension will be identified from the population at Cornerstone Pharmacy. A retrospective chart review will then be conducted, as approved by the IRB at Butler University.

Data collection includes:

- Subjects' code number (randomly assigned)
- Age

- Gender
- Weight & Height
- 3 Recent blood pressures
- Serum Creatinine
- Anti-hypertensive medications
- Compelling indications

Results: The results, which are descriptive statistics, indicate whether physicians' prescribing habits are consistent with JNC-7 and if the patients' BPs meet specified goals. 22 patients did not meet their goal BP. Demographic data on the 78 patients is included, as is additional information on compelling indications and use of medications. The figures may be given as feedback to those physicians treating the population to improve outcomes.

Conclusion: Means of medication use and BP suggests this population's hypertension is controlled, however the incidence of patients above BP goals was high (28%). Individual analysis of regimens shows that JNC-7 guidelines were not strictly adhered to. The low population is an apparent disadvantage of the study and major concerns are demographics and incomplete records.

10:30AM

Levetiracetam for Early Seizure Prophylaxis in Closed Head Injuries. Clayton Deeb, Justin Biancardi. Butler University, Indianapolis, IN. Sponsor: Alex Ansara, ansara

Background: Studies have shown that early post-traumatic seizures occur in about 10% of patients following a traumatic closed head injury. These seizures put the patient at risk for secondary damage to an already injured brain by increasing intracranial pressure or may cause systemic injury. When short-term seizure prophylaxis is indicated, phenytoin is the agent of choice, but levetiracetam is also being used off-label at some hospital sites.

Objective: The purpose of this study is to determine if levetiracetam provides similar efficacy to phenytoin in reducing the incidence of early post-traumatic seizures.

Methods: A retrospective chart review study will be conducted. Patients aged 18 or older, admitted with a traumatic closed head injury and started on levetiracetam will be included. The primary outcome will be the presence of an early post-traumatic seizure, defined as within 7 days of the injury. The incidence of early seizure in these patients will be compared to an average incidence of seizures in studies involving similar patients receiving seizure prophylaxis with phenytoin. A secondary analysis will be done comparing the incidence of seizures in this study and the average incidence of seizures with the placebo groups in similar studies.

Results: Data collection is ongoing.

Conclusion: This study aims to assess the efficacy of levetiracetam for the prophylaxis of early post-traumatic seizures in comparison to phenytoin.

10:45AM

Evaluation of IV Vitamin C Therapy in Hepatitis B and Hepatitis C Patients. James Moynihan. Butler University, Indianapolis, IN. Sponsor: Joseph Jordan

Background: The hepatitis B and hepatitis C virus attacks the liver of infected individuals, which can ultimately lead to liver failure and death. Patients respond differently to standard anti-viral therapy and research is still needed to determine if IV vitamin C therapy could be useful as an adjunctive treatment option. IV vitamin C has been shown to reduce serum viral loads in a small number of hepatitis patients.

Objective: The study will evaluate the effectiveness of IV vitamin C in hepatitis patients.

Methods: A retrospective observational study will be performed reviewing a physician's office charts of patients who have hepatitis B or C and have received IV vitamin C.

Primary Outcome Measures: Baseline serum viral concentrations, baseline liver function tests and baseline patient signs and symptoms will be established prior to vitamin C therapy. These same measurements will then be evaluated after vitamin C administration.

Results: Data collection is pending.

Conclusions: The study aims to conclude if vitamin C therapy is safe and effective for hepatitis patients.

Significance: The prevalence of Hepatitis B worldwide is estimated to be 360 million, with another 170 million people estimated to be infected with hepatitis C. In the United States alone there are approximately 6,000 deaths per year from hepatitis B and 8,000 – 10,000 deaths per year from hepatitis C. If vitamin C therapy is shown to safely reduce serum viral concentrations and liver function tests, it could be useful as an adjunctive therapy option, along with standard anti-viral treatments.

11:00AM

Thiazolidinediones and the Incidence of Cardiovascular Morbidity and Mortality: A Meta-Analysis. Natasha Burgener, Julie Koehler, Lauren Butterbaugh, Lauren Frigo, Iftekhar Kalsekar, Laura Miars. Butler University, Indianapolis, IN. Sponsor: Julie Koehler

Background: Thiazolidinediones (TZDs) are oral hypoglycemic agents including rosiglitazone and pioglitazone. Recent data suggest that rosiglitazone causes increased risk of myocardial infarction (MI). It is unknown whether other cardiovascular complications are associated with one agent or with the class.

Objective: To conduct a systematic meta-analysis of published studies estimating TZDs impact on the incidence of MI, edema, heart failure (HF), and mortality.

Methods: MEDLINE, Science Citation Index, manufacturer websites, National Controlled Trials registry, and www.clinicalstudyresults.org were searched using the terms: TZDs, Thiazolidinediones, Rosiglitazone, Avandia, Pioglitazone, and Actos combined with cardiovascular outcome terms. Data extraction was performed by two independent reviewer pairs using a standardized collection form. The summary effect size was computed using a random effects model with software-Comprehensive Meta Analysis.

Results: Forty-six studies evaluating the incidence of MI were included (rosiglitazone= 43, pioglitazone= 3). Neither rosiglitazone [RR= 1.2; 95% CI (0.9-1.6)] nor pioglitazone [RR= 0.8; 95% CI (0.6-1.1)] increased risk of MI. Thirty studies evaluating incidence of HF were included (rosiglitazone= 27, pioglitazone=3). The relative risk estimates for rosiglitazone [RR= 1.7; 95% CI (1.3-2.3)] and pioglitazone [RR= 1.4; 95% CI (1.2-1.6)] indicated that TZDs increased incidence of HF. No significant publication bias or heterogeneity was found.

Conclusion: Both thiazolidinediones showed a significant increase in the relative risk of HF, but neither showed a significant increase in the relative risk of MI.

11:15AM

Awareness of Public Health Clinics in the College Student Population. Megan Martin. Butler University, Indianapolis, IN. Sponsor: Bruce Clayton

Background: Studies in the 1990's evaluated high school and college students' understanding of what public healthcare resources are available to them to gauge their awareness of them. More recent studies provide information regarding high school students' understanding and perceptions

towards health care, but information about the college student population is lacking.

Objective: To gauge an understanding of college students' awareness of public health clinics regarding their locations and services available through the local branches.

Methods: A survey will be used to meet the objectives of the study. The survey will be distributed via the internet to the students of Butler University. Awareness of the survey will be announced via a campus-wide messaging system. The data collected from the survey will be anonymous.

Significance: Results from the survey will be used to develop educational material for the college student population of Butler University to increase public health clinic awareness.

Session F

Pharmacy Building, Room 204

Moderator: Dr. Maria Tsoras

08:30AM

Risk of Falls in the Elderly at Community Hospital East. Christina Papillon. Butler University, Indianapolis, IN. Sponsor: Tracy Sprunger

Background: Falls are one of the main causes of patient injury while in a hospital. Multiple studies have addressed risk factors that may increase falls within the hospital setting, such as nurse to patient ratio and disease states such as dementia, osteoporosis, epilepsy and stroke. However, there are a lack of studies examining the relationship between falls and concomitant medication classes including antipsychotics, antidepressants, anticonvulsants, and pain medications.

Objective: The objective of this study is to evaluate medication classes as well as other risk factors that may increase the incidence of falls in Community Hospital East's elderly inpatient population.

Methods: A retrospective, case-control chart review will be used to meet the study objective. Inpatients who fell while admitted at Community Hospital East between January 1, 2007 and June 30, 2007 will be randomly selected and 100 charts will be reviewed. Three controls will be assigned to every case patient.

Cases will be matched to controls based on their fall date and hospital unit location. Information was collected on key medications that have been associated with an increased risk of falling.

Significance: At this time there has been no research at CHE regarding falls and their association with certain medication classes. This study will help us develop a better understanding of risk factors for falls in our institution. Also with new policies implemented by CMS that state that Medicare will not reimburse for complications of falls, this study may give insight on ways to reduce injury and costs.

08:45AM

Assessing Patterns of Development and Treatment of Clostridium difficile in a Veterans Affairs Medical Center. Meghan Estill. Butler University, Indianapolis, IN. Sponsor: Christopher Degenkolb

Background: The increasing incidence of Clostridium difficile-associated diseases (CDAD) are contributing to the rise of healthcare costs. For every 1000 hospital admissions, 3.4 to 8.4 cases have been reported, along with a doubling in CDAD hospital discharges. In addition, The Center for Disease Control (CDC) has expressed concern for a newly identified strain that has developed antibiotic resistance. There are a lack of studies evaluating C.

difficile complications in a community hospital setting, specific treatment regimens, and individualized outcomes.

Objective: To improve current hospital guidelines and outcomes of patients with *C. difficile*.

Methods: A retrospective, case-controlled chart review will be conducted to evaluate a patient's therapeutic regimen and outcome. All patients with a positive *C. difficile* toxin assay during 2006 at the Veterans Affairs Medical Center (VAMC) in Indianapolis, IN will be identified through a centralized database system. The targeted population was selected on diagnosis of the following: diarrhea, an overnight stay at the VAMC within the past 3 months, and positive evidence of a *C. difficile* infection. Each patient will be categorized according to age, gender, admission date, and floor unit. The cases will be evaluated to assess risk factors compared to the matched controls. The control group will be randomized based on admission dates and nursing unit.

Results: Data analysis is ongoing.

Conclusion: To be determined following completion of data collection.

09:00AM

Transplant Patients' Utilization of Medication Access Programs. Melissa Scott, Jennifer McComb. Butler University, Indianapolis, IN. Sponsor: Dennis Gardner

Background: Medication nonadherence after transplantation can lead to graft loss, increased health care costs, morbidity, and mortality. One of the leading causes of noncompliance in transplant patients is cost. For example, a typical transplant recipient's annual medication cost is greater than \$15,000. Due to the severe consequences associated with nonadherence, it is important to understand how patients are currently covering the cost of their medications, the options available to them, and to educate new patients preparing to undergo a transplant.

Objective: To evaluate what programs transplant patients use to gain access to their medications, estimate compliance problems due to cost, and compare actual and expected cost of those medications.

Methods: A survey will be given to post-transplant patients when they come into clinic. All patients that arrive during the time of data collection will be given the option to complete a survey. All answers will remain confidential.

Significance: This study will help healthcare workers better prepare patients for the financial impact of their post-transplant medications. Patients will have access to more information and improved planning for medication cost.

09:15AM

Assessment of Retail Pharmacists' Attitudes Regarding Over-the-Counter (OTC) Availability of Emergency Contraceptives. Katie McHugh, Jennifer Sundin, Emily Peron. Butler University, Indianapolis, IN. Sponsor: Laurence Kennedy

Background: On August 24, 2006, the Food and Drug Administration approved the sale of Plan B®, an oral emergency contraceptive, for OTC sale to consumers 18 and older. Much media attention has been focused on this subject; however, there is a lack of studies regarding its impact on pharmacists.

Objective: The primary objective is to assess the attitudes of community pharmacists in Indianapolis, IN regarding OTC sale of oral emergency contraceptives. The secondary objective is to determine benefits of and barriers to Plan B® reclassification in a community setting.

Methods: This is a cross sectional survey based study. The survey was adapted from the survey distributed to New Mexico pharmacists entitled

"Pharmacists' Knowledge, Attitudes, and Beliefs Toward Prescribing Oral Emergency Contraception." A total of 250 surveys were distributed to 50 randomly selected community pharmacies in Indianapolis, IN. Surveys were completed over a two-week period in January 2008.

Significance: Now that Plan B® has been approved for OTC sale to consumers over the age of 18, pharmacists play a critical role in expanding access to this time sensitive medication. More than a year has passed since the reclassification of Plan B®, and an updated study is needed to elicit pharmacists' attitudes regarding this change.

09:30AM

I'm Sorry! A Survey of Pharmacy Professors and their Teaching about Medical Apologies. Molly Lickliter. Butler University, Indianapolis, IN. Sponsor: Carriann Richey

Background: Research has shown that medical apologies lead to fewer law suits and less money spent on court cases, as well as an increase of trust in the health care system.

Objective: The primary objective is to assess if other pharmacy law and/or ethics professors are teaching pharmacy students about medical apology laws. The secondary objective is to understand professors' awareness of medical apologies and any reasons, other than lack of awareness, which would explain why they are not teaching this topic in their curriculum

Methods: Using the AACP contact list, professors were e-mailed a link to the 18-question survey. The survey asked about their knowledge, the inclusion of medical apologies into the curriculum, and any reasons for not teaching the topic.

Results: The survey was emailed to 63 contacts. Forty-four (80%) surveys were initiated and 24 were completed. When participants were asked whether they incorporate information about medical apology and/or laws into their teaching, sixteen of the respondents indicated they incorporated information. When asked what items are included when teaching about medical apologies, the most common answers were the role of medical apology in building relationships with patients (n=13) and the role of a medical apology in managing malpractice lawsuits (n=13). Eight respondents had not currently incorporated medical apology into their teaching; however, three of these indicated they are considering adding it.

Implications: This information will be shared with the college curriculum committee for consideration and may be applicable to other colleges and schools of pharmacy.

10:00AM

Awareness of Public Health Clinics in the College Student Population. Chad Naville. Butler University, Indianapolis, IN. Sponsor: Bruce Clayton

Background: Studies in the 1990's evaluated high school and college students' understanding of what public healthcare resources are available to them to gauge their awareness of them. More recent studies provide information regarding high school students' understanding and perceptions towards health care, but information about the college student population is lacking.

Objective: To gauge an understanding of college students' awareness of public health clinics regarding their locations and services available through the local branches.

Methods: A survey will be used to meet the objectives of the study. The survey will be distributed via the internet to the students of Butler University. Awareness of the survey will be announced via a campus-wide messaging system. The data collected from the survey will be anonymous.

Significance: Results from the survey will be used to develop educational material for the college student population of Butler University to increase public health clinic awareness.

10:15AM

A Retrospective Review of Infection Rates in Patients Receiving Propofol Versus a Benzodiazepine While in an Intensive Care Unit. Ryan Lechleider. Butler University, Indianapolis, IN. Sponsor: Maria Tsoras

Background: Lipid emulsions administered alone or as part of parenteral nutrition (PN) are utilized as a source of calories and to prevent essential fatty acid deficiency. Unfortunately, PN has been associated with increased infectious complications in hospitalized patients. Risk factors for infection from PN include use of a central venous line, formula contamination, bacterial translocation and immune suppression from the use of a lipid emulsion. Propofol is a sedative-hypnotic agent used for the induction and maintenance of anesthesia or sedation. Propofol is formulated as an oil-in-water emulsion which is similar to the emulsions used in PN. Whether there is an associated risk of infection from the propofol formulation is unknown.

Objective: To determine if there is an increased rate of infection in patients receiving propofol intravenous emulsion compared to patients receiving a benzodiazepine (midazolam or lorazepam) for sedation in the ICU.

Methods: A retrospective chart review of 50 patients receiving propofol and 50 patients receiving a benzodiazepine (BZD). Patients will be included if they are 18 years of age or older and received either propofol or a BZD (midazolam or lorazepam) for sedation. Patients greater than 80 years of age who had an existing infection prior to the initiation of a sedative, were actively immunocompromised, or received both propofol and a BZD will be excluded. The frequency, type, and location of documented infections over the entire length of hospital stay will be recorded for each patient.

Results: pending

10:30AM

Evaluating the Timeliness of FDA Medwatch Alerts. Justin Knapke. Butler University, Indianapolis, IN. Sponsor: Joseph Jordan

Background: The FDA is responsible for not only approving drugs before they reach the market, but also for monitoring their safety once they have been put into use. The timeliness of these reported adverse events is extremely important. These alerts are brought to the FDA's attention by physicians, pharmacists, and patients, but mainly by the drug companies who produce the medications. Sometimes these reports are late or are not reported at all, or they might not get the attention they should have received and are overlooked by the physicians, pharmacists, and other healthcare professionals.

Objective: To determine if pharmacists should be or can be aware of possible adverse reactions that a drug might cause before an official MedWatch Alert or "blackbox warning" comes out. This would be possible by researching the primary literature that was released on the medication when it was first approved and before any safety alert came out on it. The objective is not to disprove MedWatch, but to let pharmacists know if there is information available on drugs with particular concerns that they can be aware of it and where to find this information.

Method: Researching MedWatch for the previous year and choosing 2-3 drugs that have new safety alerts out for physicians and pharmacists to be aware of. Then doing a primary literature search to find out when the first notifications about these concerns were available before the alerts came out through MedWatch.

Results: Literature searches are ongoing.

Conclusions: To be determined subsequent to literature searches.

10:45AM

Strategies for Treatment of Patients with Preserved Ejection Fraction: Negative Inotropes Versus Drugs Affecting the Angiotensin System. Kenneth Frush. Butler University, Indianapolis, IN. Sponsor: Julie Koehler

Background: Recent studies have suggested that the prevalence of heart failure (HF) with preserved ejection fraction (EF) may be higher than previously thought. Few clinical trials have been performed to guide the treatment of patients with preserved EF. Studies exploring the role of angiotensin-converting enzyme inhibitors (ACEIs), angiotensin receptor blockers (ARBs), beta-blockers (BBs), and calcium channel blockers (CCBs) have been inconclusive.

Objective: To determine whether a superior treatment strategy exists in preventing hospital readmission or death due to HF in patients with preserved EF.

Methods: Patients discharged from Methodist Hospital with a diagnosis of HF between January 1, 2000 and December 31, 2003 were targeted for inclusion in the study. The charts of patients classified as having HF with preserved EF, who received a drug in one of the classes being studied (ACEI, ARB, BB, or CCB), were retrospectively reviewed over a period of three years following the date of hospital discharge. Primary outcomes included re-hospitalization or death due to HF. The percentage of patients experiencing these outcomes are being compared among each of the treatment groups. The statistical significance of any differences between the four treatment groups will be determined.

Results: To date, 407 charts have been reviewed. Of these, 105 patients met criteria for having a preserved EF. 49% received an ACEI, 17% received an ARB, 31% received a BB, and 26% received a CCB. In all, there were 137 documented occurrences of the primary outcome measure during the period being studied. Statistical analyses are pending.

11:00AM

Correlation of mycophenolic acid serum concentrations with adverse events and rejection rates in heart transplant patients; a retrospective chart review. Jennifer Kelly, Jennifer McComb. Butler University, Indianapolis, IN. Sponsor: Jeanne Van Tyle

Background: In patients receiving a heart transplant it is common for mycophenolate mofetil to be used as immunosuppressive therapy to prevent graft rejection. In the past, mycophenolic acid (MPA) serum levels have been drawn to individualize dosing for patients. It is unclear whether these serum levels correlate with the incidence of rejection, infection, leukopenia or adverse events with the medication.

Objective: Determine if there is a correlation between heart transplant patients receiving mycophenolate mofetil and their MPA serum levels with the incidence of rejection, infection, leukopenia, and adverse effects.

Methods: A retrospective chart review of heart transplant patients at Lutheran Hospital in Fort Wayne, Indiana was performed to meet the study objective. Patients who received a heart transplant within the past five years were included in the study. Serum levels drawn within the first year of the patient receiving mycophenolate mofetil as immunosuppressant therapy post-transplant were used. A total of twenty patients were identified and included in the review. MPA serum levels were recorded at the time of a dosage change. The serum levels were divided into three groups: sub-therapeutic, therapeutic, supra-therapeutic. The primary endpoint will evaluate the correlation between MPA serum levels and rejection rates. Secondary endpoints will address correlations between MPA serum levels and total daily doses, incidence of infection, and adverse effects.

Significance: To identify whether it is beneficial for heart transplant patients to have MPA serum levels drawn regularly while on mycophenolate mofetil immunosuppressive therapy.

11:15AM

Thiazolidinediones and the Incidence of Cardiovascular Morbidity and Mortality: A Meta-Analysis. Lauren Butterbaugh. Butler University, Indianapolis, IN. Sponsor: Iftekhar Kalsekar

Background: Thiazolidinediones (TZDs) are a class of oral hypoglycemic agents including rosiglitazone and pioglitazone. Recent data suggest that rosiglitazone causes an increased risk of myocardial infarction (MI), but it is unknown if this is a class effect or if other cardiovascular complications are associated with one or both TZDs.

Objective: To conduct a systematic meta-analysis of published studies to estimate the impact of TZDs on the incidence of MI, edema, heart failure (HF), and mortality.

Methods: MEDLINE, Science Citation Index, manufacturer websites, National Controlled Trials registry, and www.clinicalstudyresults.org were searched using the following terms: TZDs, Thiazolidinediones, Rosiglitazone, Avandia, Pioglitazone, and Actos combined with terms related to cardiovascular outcomes. Data extraction was performed by two independent reviewer pairs using a standardized data collection form. The summary effect size was computed using a random effects model with the software-Comprehensive Meta Analysis.

Results: Forty-six studies evaluating the incidence of MI were included (rosiglitazone= 43, pioglitazone= 3). Neither rosiglitazone [RR= 1.2; 95% CI (0.9-1.6)] nor pioglitazone [RR= 0.8; 95% CI (0.6-1.1)] increased the risk of MI. Thirty studies evaluating the incidence of HF were included (rosiglitazone= 27, pioglitazone=3). The relative risk estimates for both rosiglitazone [RR= 1.7; 95% CI (1.3-2.3)] and pioglitazone [RR= 1.4; 95% CI (1.2-1.6)] indicated that TZDs increased the incidence of HF. No significant publication bias or heterogeneity was found among studies.

Conclusion: Both rosiglitazone and pioglitazone showed a significant increase in the relative risk of HF, but neither drug showed a significant increase in the relative risk of MI.

Session G

Pharmacy Building, Room 205

Moderator: Dr. Deborah Zeitlin

08:30AM

Awareness of Public Health Clinics in the College Student Population. Agatha Zurawska. Butler University, Indianapolis, IN. Sponsor: Bruce Clayton

Background: Studies in the 1990's evaluated high school and college students' understanding of what public healthcare resources are available to them to gauge their awareness of them. More recent studies provide information regarding high school students' understanding and perceptions towards health care, but information about the college student population is lacking.

Objective: To gauge an understanding of college students' awareness of public health clinics regarding their locations and services available through the local branches.

Methods: A survey will be used to meet the objectives of the study. The survey will be distributed via the internet to the students of Butler University. Awareness of the survey will be announced via a campus-wide messaging system. The data collected from the survey will be anonymous.

Significance: Results from the survey will be used to develop educational material for the college student population of Butler University to increase public health clinic awareness.

08:45AM

Multicultural Health Care: A Quality Improvement Guide. Maren Zuber. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: The Institute of Medicine's landmark study in 2003, Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care, showed that racial and ethnic disparities in health care exist across a wide range of health conditions and health care services. The report also showed that most disparities remain even when controlling for socioeconomic status and other access-related factors.

Objective: To develop, produce and disseminate a resource guide for health plans and health systems working to improve care to diverse populations, and to reduce health care disparities. The guide, which will be co-owned by Eli Lilly and Company and the National Committee for Quality Assurance (NCQA), will use a quality improvement approach to address disparities and will provide tools for these organizations to use in improving them.

Methods: Various tools to identify and implement culturally competent health care services were identified, reviewed and approved by a panel of national experts convened by NCQA for inclusion in the resource guide. Permissions were granted from the owners of the tools to reprint, recreate, and use examples from each respective tool. Assistance in publishing and layout design was given from a local marketing communications firm.

Results: Multicultural Health Care: A Quality Improvement Guide was developed containing seven separate components: introduction, assessment, planning, implementation, evaluation, conclusion, and acknowledgements. Eighty-two tools were identified and recreated to help address disparities within health care organizations, and ultimately help to improve them.

09:00AM

Evaluation of IV Vitamin C and Hepatitis. Chris McMullen, James Moynihan. Butler University, Indianapolis, IN. Sponsor: Joseph Jordan

Background: The hepatitis B and hepatitis C virus attacks the liver of infected individuals, which can ultimately lead to liver failure and death. Patients respond differently to standard anti-viral therapy and research is still needed to determine if IV vitamin C therapy could be useful as an adjunctive treatment option. IV vitamin C has been shown to reduce serum viral loads in a small number of hepatitis patients.

Objective: The study will evaluate the effectiveness of IV vitamin C in hepatitis patients.

Methods: A retrospective observational study will be performed reviewing a physician's office charts of patients who have hepatitis B or C and have received IV vitamin C.

Primary Outcome Measures: Baseline serum viral concentrations, baseline liver function tests and baseline patient signs and symptoms will be established prior to vitamin C therapy. These same measurements will then be evaluated after vitamin C administration.

Results: Data collection is pending.

Conclusions: The study aims to conclude if vitamin C therapy is safe and effective for hepatitis patients.

Significance: The prevalence of Hepatitis B worldwide is estimated to be 360 million, with another 170 million people estimated to be infected with hepatitis C. In the United States alone there are approximately 6,000 deaths per year from hepatitis B and 8,000 – 10,000 deaths per year from hepatitis C. If vitamin C therapy is shown to safely reduce serum viral concentrations and liver function tests, it could be useful as an adjunctive therapy option, along with standard anti-viral treatments.

09:15AM

Prevalence of Diabetic Peripheral Neuropathy and Treatment Assessment Within a VA Population. Jessica Neal. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey

Background: Approximately 50% of diabetics experience diabetic peripheral neuropathy (DPN), and about 11% of these patients have pain. This pain can lead to sleep disturbances, depression, and an overall decrease in quality of life. There are several medications that are used to treat DPN including NSAIDs, antidepressants, analgesics, and antiepileptic drugs.

Objective: The objective of this study was to determine the prevalence of DPN among VA patients and to evaluate pain level and associated sleep and mood disturbances in these patients. Patient satisfaction with current DPN treatment was also evaluated.

Methods: Approximately 500 diabetic patients within a VA population were randomly selected to complete a survey. The survey obtained the following demographic information: gender, age, type 1 or type 2 diabetes, whether or not most recent HgA1C was less than seven, and whether or not the patient experiences nerve pain. For those patients with nerve pain, the survey continued. The remaining portion of the survey asked the patient to describe the pain and other associated symptoms. It also asked if the patient was currently being treated for DPN, and if the patient was satisfied with the treatment. The person who administered the survey determined what treatment the patient was receiving by looking at the patient's chart.

Significance: The results of this study will aid in the management of patients with DPN at the VA by revealing the prevalence and characteristics of DPN in the VA population and evaluating the relief patients are receiving from their treatment.

09:30AM

Assessment of Retail Pharmacists' Attitudes Regarding Over-the-Counter (OTC) Availability of Emergency Contraceptives. Emily Peron, Jennifer Sundin, Katie McHugh. Butler University, Indianapolis, IN. Sponsor: Laurence Kennedy

Background: On August 24, 2006, the Food and Drug Administration approved the sale of Plan B®, an oral emergency contraceptive, for OTC sale to consumers 18 and older. Much media attention has been focused on this subject; however, there is a lack of studies regarding its impact on pharmacists.

Objective: The primary objective is to assess the attitudes of community pharmacists in Indianapolis, IN regarding OTC sale of oral emergency contraceptives. The secondary objective is to determine benefits of and barriers to Plan B® reclassification in a community setting.

Methods: This is a cross sectional survey based study. The survey was adapted from the survey distributed to New Mexico pharmacists entitled "Pharmacists' Knowledge, Attitudes, and Beliefs Toward Prescribing Oral Emergency Contraception." A total of 250 surveys were distributed to 50 randomly selected community pharmacies in Indianapolis, IN. Surveys were completed over a two-week period in January 2008.

Significance: Now that Plan B® has been approved for OTC sale to consumers over the age of 18, pharmacists play a critical role in expanding access to this time sensitive medication. More than a year has passed since the reclassification of Plan B®, and an updated study is needed to elicit pharmacists' attitudes regarding this change.

10:00AM

Prescription To My Younger Self: What I Learned After Pharmacy School, A Book Project. annah steckel. Butler University, Indianapolis, IN. Sponsor: Erin Albert

Background: As current P4 students at Butler University, we began a research project to ask- what happens in terms of our education after pharmacy school? And, what can we learn from our mentors? Prescription to My Younger Self: What I Learned after Pharmacy School is a collection of letters written by pharmacists in varying professional settings, who we feel have either excelled in the profession, or who have inspired us. The pharmacists provided a biography along with a letter, written in the present to their self on graduation day, sharing pearls of wisdom they learned after graduation.

Objectives: We gathered, culminated, and warehoused knowledge from current and past pharmacists about the profession not found in a textbook. This project will expose students to professionals, making the students aware of the accessibility of practicing pharmacists.

Methods: Pharmacists were contacted through email, phone calls, personal interviews, and through press and media releases (Pharmacy Times, Indianapolis Star, IBJ, and Inside Indiana Business). Once the letters were collected, each letter was evaluated and edited for content and purpose.

Results: Our manuscript was submitted to Authorhouse, a Bloomington Indiana based publisher, on December 31st, 2007 with an anticipated release date of April 12th, 2008. Prescriptions to My Younger Self, contains 4 student letters and 27 pharmacist letters.

Conclusions: Our book will be available for purchase at most major retail book stores. Johnson & Johnson awarded Butler University an unrestricted educational grant to provide one copy of the publication to each graduating pharmacy student for inspiration.

10:15AM

Assessing Patterns of Development and Treatment of Clostridium difficile in a Veterans Affairs Medical Center. Shawna Li. Butler University, Indianapolis, IN. Sponsor: Christopher Degenkolb

Background: The increasing incidence of Clostridium difficile-associated diseases (CDAD) are contributing to the rise of healthcare costs. For every 1000 hospital admissions, 3.4 to 8.4 cases have been reported, along with a doubling in CDAD hospital discharges. In addition, The Center for Disease Control (CDC) has expressed concern for a newly identified strain that has developed antibiotic resistance. There are a lack of studies evaluating C. difficile complications in a community hospital setting, specific treatment regimens, and individualized outcomes.

Objective: To improve current hospital guidelines and outcomes of patients with C. difficile.

Methods: A retrospective, case-controlled chart review will be conducted to evaluate a patient's therapeutic regimen and outcome. All patients with a positive C. difficile toxin assay during 2006 at the Veterans Affairs Medical Center (VAMC) in Indianapolis, IN will be identified through a centralized database system. The targeted population was selected on diagnosis of the following: diarrhea, an overnight stay at the VAMC within the past 3 months, and positive evidence of a C. difficile infection. Each patient will be categorized according to age, gender, admission date, and floor unit. The cases will be evaluated to assess risk factors compared to the matched controls. The control group will be randomized based on admission dates and nursing unit.

Results: Data analysis is ongoing.

Conclusion: To be determined following completion of data collection.

10:30AM

Clinical Manifestation of Duloxetine Toxicity. Dianna Proulx, James Mowry. Butler University, Indianapolis, IN. Sponsor: James Mowry

Background: Currently there is no published data or case studies on the signs and symptoms of duloxetine toxicity.

Objective: Identify the clinical signs and symptoms following a toxic ingestion of duloxetine

Methods: We plan to do a retrospective review of the available information from the American Association of Poison Control Centers database to look at the toxic effects of duloxetine in all single ingestion cases reported since January 1, 2004 to present in humans. All information provided from the database would already be de-identified of all patient specific information except for age and gender. I would like to evaluate age, gender, reason, clinical effects, duration of clinical effects, call type, caller's site, medical outcomes, management health care facility, and therapy given to all patients exposed to duloxetine and evaluate the data for any patterns possibly related to the ingestion.

Significance: Offer some guidance as to the signs and symptoms for duloxetine overdose.

10:45AM

Pharmacy Continuing Education: A Survey on Pharmacists' Perception of the Usefulness of Patients Discussion During Continuing Education Programs. Natalie Hosier. Butler University, Indianapolis, IN. Sponsor: Carriann Richey

Purpose: Continuing education (CE) programs have been found to be effective in enhancing the education of the topic and clinical practice behaviors. There have been no documented studies exploring the use of patients in CE programs. The purpose of this study is to evaluate the usefulness of using patients with Parkinson's disease and chronic pain as part of a CE program.

Methods: A survey was sent to pharmacists that attended two CE programs on May 19th and 20th, 2007. The survey consisted of questions regarding time spent counseling patients, specific questions for each program regarding the use of patients, general questions regarding the use of patients in CE programs, and demographics.

Results: Eighteen surveys were completed. 92.3% of respondents reported that their knowledge of Parkinson's disease was increased and 80% in the pain management program. 84.6% of respondents gained knowledge of Parkinson's disease they expected to use during counseling and 80% in the pain management program. Overall, 88.8% of respondents indicated that patient discussion was a useful tool, 83.3% reported that it improved their overall practice and patient outcomes, and 83.3% reported that patient discussion should be used for further CE programs.

Conclusions: The use of patients during CE programs was found to be beneficial in increasing the knowledge of the pharmacists regarding pain management and Parkinson's disease. These results recommend using patients in future CE programs.

11:00AM

Assessment of Diabetes Control at a Community Family Medicine Center. Andrea Sands, Karen LaBorn. Butler University, Indianapolis, IN. Sponsor: Emily Papineau

Background: Appropriate diabetes management to prevent diabetes-associated complications goes beyond tight blood glucose control. The American Diabetes Association (ADA) has identified goals for optimal diabetes management to decrease the occurrence of microvascular and macrovascular complications. These complications include atherosclerosis,

dyslipidemia, hypertension, nephropathy, neuropathy, and cardiac disorders. Appropriate medications, foot and eye examinations and vaccinations are important for maintaining the health of diabetic patients.

Objectives: The objective of this study is to assess current diabetes management strategies at a community family medicine center. The study will examine hemoglobin A1c (HbA1c) levels, blood pressure, cholesterol levels, foot and eye examination performance, use of diabetic medications, preventative vaccinations, angiotensin II converting enzyme inhibitors (ACEI)/angiotensin receptor blockers (ARB), and aspirin.

Methods: A retrospective chart review will be performed on 100 patients. All data will be collected using the computerized charting system at the center. Patients with diabetes between the ages of 18 and 80 years seen at the center from October 2006 to September 2007 will be included. Patients who are pregnant or have incomplete charts will be excluded. Descriptive statistics will be performed to analyze outcomes. T-tests will be used to compare patients' actual laboratory values with the goals specified by the ADA.

Significance: Results will indicate how diabetes is being managed at Community Group Family Medicine and if current strategies are optimal or could be improved. The results, including review of specific areas needing improvement in relation to current ADA guidelines, will be presented to physicians at the site.

11:15AM

Evaluating possible interventions by reconciling medications at discharge to determine the highest risk patient population: A Prospective Observational Study. Jamie Rogers, Lisa Leombruni, Stephanie Franklin, Angela Allsup. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Medication errors are an alarmingly common problem in the United States healthcare system. It is estimated that medication errors affect 1.5 million people and kill several thousand each year in the United States alone. Implementing a medication reconciliation program has been shown to decrease medication errors by approximately 70-80% and decrease adverse drug events by over 15%. However, few studies are available regarding adverse events that occur specifically at discharge.

Objective: The objective of this study is to determine errors that may occur at discharge and the potential impact that pharmacists may have in error prevention. Using this data, it will be possible to identify patients at highest risk for errors upon discharge, therefore, resources for pharmacist intervention would be best allocated towards these patients.

Methods: A prospective observational study design at Methodist Hospital, Indianapolis, Indiana will be used to meet the study objectives. Fifty charts from specific adult units (surgery north, surgery south, neurology, pulmonary, and family practice) will be reviewed. Parameters will be identified to determine "high risk" factors (multiple medications, complex medication therapies, drugs requiring monitoring). Identifying patients at higher risk for medication errors allows pharmacy resources to be utilized in a more appropriate manner.

Results: Data collection is ongoing.

Conclusion: To be determined subsequent to data collection.

Session H

Pharmacy Building, Room 212

Moderator: Dr. Iftekhhar Kalsekar

08:30AM

The Use of Acid Suppressive Therapy on ICU and Non-Critical Care General Medicine Services at a Veterans Affairs Medical Center. Rachel Ranz. Butler University, Indianapolis, IN. Sponsor: Christopher Degenkolb

Background: Current literature does not support the use of acid suppressive therapy (AST) for stress ulcer prophylaxis in the non-critical general medicine patients, yet the overuse of AST has been documented in a number of studies with one of the largest indications being stress ulcer prophylaxis. However, most of these studies were completed outside the United States, where AST indications as well as patient population may differ greatly.

Objective: To assess the adherence to guidelines and current medical literature regarding acid suppressive therapy in ICU and non-critical care general medicine inpatient services, with priority review given to general medicine inpatient services.

Methods: A retrospective chart review from a six month list, from January 1st, 2007 to June 30th, 2007, at the Roudebush Veterans Affairs Medical Center was performed. Relevant medical history, indications for acid suppressive therapy use, and inclusion of acid suppressive therapy on admission and at discharge was noted. Readmission of a subject was not incorporated into the data collection. Patients already receiving AST were included in the study in order to provide comparison to patients receiving AST upon discharge.

Significance: Analysis of the data will determine the necessity for education on the utilization of AST and support or refute the need for guidelines regarding AST specific to the Veterans Affairs Medical Center.

08:45AM

Breast Care and Cancer Awareness: A Survey to Determine and Increase Public Knowledge to Enhance Patient Care. Abby Thomas. Butler University, Indianapolis, IN. Sponsor: Nikki Wilson, Steve Sokol

Background: Breast cancer is the most common cancer diagnosis in women today. An estimated 178,480 women will be diagnosed in 2007 with an estimated 40,460 deaths. The earliest sign of breast cancer is often an abnormality found on a screening mammogram. With increased knowledge and appropriate monitoring cancer can be detected at an earlier more treatable stage.

Objective: To determine the knowledge of self breast care and breast cancer awareness in patients at a CVS pharmacy in Terre Haute, Indiana.

Methods: A random sample of patients greater than 18 years of age completed a questionnaire that consisted of demographics, individual care, and personal knowledge. Descriptive statistics were used to determine knowledge of breast care awareness.

Results: A total of 51 surveys were completed between December 1, 2007 and December 31, 2007. All surveys were completed by women with a mean age of 45 (range 40-49). Only 41% of women surveyed possessed a college degree and 76% had medical insurance. Monthly self breast exams were performed by 47% of women and 51% had had a mammogram in the past. The mean number of individuals these women knew with breast cancer was 4. Only 4 (8%) women answered all six questionnaire questions correctly.

Conclusion: Results from this study underscore the importance of increasing education related to self breast care and breast cancer awareness within the community in hopes to detect breast cancer at an earlier stage.

09:00AM

National estimates of enrollment in disease state management programs in the United States. Samantha Flasch, Karly Nesnidal. Butler University, Indianapolis, IN. Sponsor: Iftekhhar Kalsekar

Background: Disease state management (DSM) programs are recommended for patients with conditions such as diabetes, hypertension, and hyperlipidemia. However, the level of adoption of these programs is unknown.

Objective: To determine the level of utilization of DSM programs in the United States.

Methods: Data from the National Ambulatory Medical Care Survey (NAMCS), which includes a nationally representative sample of outpatient physician office visits, was used to meet the study objectives. In 2005, NAMCS included an item regarding enrollment in DSM programs. Patients with diabetes, hypertension, or hyperlipidemia were identified and estimates for enrollment in DSM programs were computed. Logistic regression analysis was used to identify predictors of enrollment. Sample weights and the complex sampling design of the NAMCS were accounted in the analyses.

Results: The final study sample included 3,884 patient visits. Patients with diabetes had the highest enrollment rate (24.6%) followed by patients with hyperlipidemia (20.4%) and hypertension (19.5%). Insurance status was an important predictor of enrollment status with patients enrolled in Medicare [Odds Ratio (OR)=1.68;p=0.021] and Medicaid (OR=2.13;p=0.008) significantly more likely to be enrolled in a DSM program compared to those without insurance. Patients of Hispanic ethnicity were 67% less likely to be enrolled in a DSM program (OR=0.33;p<0.001).

Conclusion: Although the benefits of DSM programs have been documented, their adoption rate remains extremely low. This study indicates that Hispanic ethnicity and insurance status were predictors of enrollment status. Additional studies are needed to identify other predictors and to tailor interventions to increase the adoption of such programs.

09:30AM

Assessment of Diabetes Control at a Community Family Medicine Center. Andrea Sands. Butler University, Indianapolis, IN. Sponsor: Emily Papineau

Background: Appropriate diabetes management to prevent diabetes-associated complications goes beyond tight blood glucose control. The American Diabetes Association (ADA) has identified goals for optimal diabetes management to decrease the occurrence of microvascular and macrovascular complications. These complications include atherosclerosis, dyslipidemia, hypertension, nephropathy, neuropathy, and cardiac disorders. Appropriate medications, foot and eye examinations and vaccinations are important for maintaining the health of diabetic patients.

Objectives: The objective of this study is to assess current diabetes management strategies at a community family medicine center. The study will examine hemoglobin A1c (HbA1c) levels, blood pressure, cholesterol levels, foot and eye examination performance, use of diabetic medications, preventative vaccinations, angiotensin II converting enzyme inhibitors (ACEI)/angiotensin receptor blockers (ARB), and aspirin.

Methods: A retrospective chart review will be performed on 100 patients. All data will be collected using the computerized charting system at the center. Patients with diabetes between the ages of 18 and 80 years seen at the center from October 2006 to September 2007 will be included. Patients who are pregnant or have incomplete charts will be excluded. Descriptive statistics will be performed to analyze outcomes. T-tests will be used to compare patients' actual laboratory values with the goals specified by the ADA.

Significance: Results will indicate how diabetes is being managed at Community Group Family Medicine and if current strategies are optimal or could be improved. The results, including review of specific areas needing improvement in relation to current ADA guidelines, will be presented to physicians at the site.

10:00AM

Observance of prescribing patterns and the level of adherence to the AHA stroke guidelines in patients with recurrent strokes: A retrospective chart review. Rohini Rakalla, Mollie Pletcher. Butler University, Indianapolis, IN. Sponsor: Alex Ansara

Background: Strokes are the third leading cause of death and most common cause of disability in the United States. History of an ischemic stroke or transient ischemic attack (TIA) presents the most significant risk factor for recurrent strokes. Several antiplatelet agents have been demonstrated to reduce this risk, including aspirin, clopidogrel, and dipyridamole. The American Heart Association (AHA) has established guidelines for the appropriate use of antiplatelet agents in patients with recurrent stroke. The guidelines recommend avoiding the addition of aspirin to clopidogrel due to the increased risk of bleeding. Despite these specific guidelines, clinicians continue to place patients on combination therapy with aspirin and clopidogrel.

Objective: The objective of this study is to analyze the treatment being utilized when patients fail first-line antiplatelet therapy and suffer from a recurrent stroke and to compare the chosen treatment with the recommendations outlined by the AHA in the Stroke guidelines.

Methods: A retrospective chart review will be used to meet the study objective. The patient population will include patients with a history of ischemic stroke or TIA admitted to an inpatient hospital in Indianapolis, IN from January 2005 to January 2007.

Agents to be included are aspirin, clopidogrel, and combination aspirin and dipyridamole. A chi-square test or Fischer-exact test will be used to assess univariate analyses of proportions. Logistical regression analyses can be used to examine the association of variables which may increase the risk of stroke.

Results: Data collection is ongoing.

Conclusion: To be determined subsequent to data collection.

10:15AM

The Impact of the Ethnicity of the Provider on the Utilization of Preventive Health Care Services for Minorities. Jenna Lammers, Allyson Murray. Butler University, Indianapolis, IN. Sponsor: Iftexhar Kalsekar

Background: Minority women have a greater risk of mortality from breast and cervical cancer and factors improving preventive screening in this population need to be identified.

Study Objective: To assess the impact of concordance between patient and physician ethnicity on the utilization of preventive services.

Methods: Data was collected using the 2004 Medical Expenditure Panel Survey (MEPS). The final sample included minority females 40 years and older without a prior diagnosis of breast or cervical cancer. Logistic regression was performed to examine the association between patient-physician concordance of ethnicity and the dichotomous outcomes of mammography or Papanicolaou testing within the appropriate time-frame.

Results: A total of 1,121 and 1,135 participants were identified as eligible respondents for the mammography and Papanicolaou groups, respectively. In the analysis of mammography screening, racial concordance did not significantly impact the rate of preventive screening ($p=0.169$), with 70.9%

of the concordant and 74.8% of the discordant groups receiving appropriate screening. However, racial concordance did significantly impact the rate of preventive screening among the Papanicolaou analysis ($p=0.008$) with higher rates of screening for the discordant group (83.7%) compared to the concordant group (77.3%). The results of the logistic regression after controlling for other demographic and confounding variables were consistent with these univariate results.

Conclusions: Results of this study indicate that patient-physician concordance does not affect rates of mammography screenings, but papinicolaou screening rates were higher for discordant patient-physician ethnicity groups implying that non-minority physicians may be more likely to recommend preventive services.

10:30AM

Assessment of Retail Pharmacists' Attitudes Regarding Over-the-Counter (OTC) Availability of Emergency Contraceptives. Jennifer Sundin, Katie McHugh, Emily Peron. Butler University, Indianapolis, IN. Sponsor: Laurence Kennedy

Background: On August 24, 2006, the Food and Drug Administration approved the sale of Plan B®, an oral emergency contraceptive, for OTC sale to consumers 18 and older. Much media attention has been focused on this subject; however, there is a lack of studies regarding its impact on pharmacists.

Objective: The primary objective is to assess the attitudes of community pharmacists in Indianapolis, IN regarding OTC sale of oral emergency contraceptives. The secondary objective is to determine benefits of and barriers to Plan B® reclassification in a community setting.

Methods: This is a cross sectional survey based study. The survey was adapted from the survey distributed to New Mexico pharmacists entitled "Pharmacists' Knowledge, Attitudes, and Beliefs Toward Prescribing Oral Emergency Contraception." A total of 250 surveys were distributed to 50 randomly selected community pharmacies in Indianapolis, IN. Surveys were completed over a two-week period in January 2008.

Significance: Now that Plan B® has been approved for OTC sale to consumers over the age of 18, pharmacists play a critical role in expanding access to this time sensitive medication. More than a year has passed since the reclassification of Plan B®, and an updated study is needed to elicit pharmacists' attitudes regarding this change.

10:45AM

Opioid Prescribing and Renewal for Veterans with Chronic Pain: Defining the Gaps. James Miloshoff. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey

Background: Pain management is a national priority within the Veterans Health Administration. VA opioid management guidelines recommend routine therapeutic monitoring of patients receiving chronic opioids, but adherence to this standard is difficult to attain in many primary care settings. Recent discussions with local physicians, nurses, and pharmacists suggest that major gaps in opioid prescribing, therapeutic monitoring, and patient-provider communication exist at the VAMC. These result in suboptimal quality of care, particularly the effectiveness, safety, and patient-centeredness of care for veterans with chronic pain.

Obective: The objective was to characterize the gaps in practice for therapeutic monitoring of primary care patients receiving long-term opioid analgesics for chronic pain management. Also, to determine the prevalence of gaps in opioid medication possession among primary care patients.

Methods: 300 patient charts were reviewed at the Roudebush VAMC. These patients filled at least six outpatient prescriptions for opioid analgesics between April 30, 2006 and April 30, 2007. Pharmacy and

CPRS data were used to determine opioid fill dates, quantity of pills dispensed, and dates of key steps in the opioid renewal process. Descriptive statistics were used to characterize the frequency of undersupply, oversupply, and gaps in supply.

Results: Pending.

Conclusion: The proposed project will quantify current gaps in local opioid prescribing and renewal for veterans with chronic pain as the first step in a research and implementation program to improve the effectiveness, safety, and patient-centeredness of opioid prescribing and renewal. The information obtained will be used to make any necessary quality improvements in pharmacy services.

11:00AM

Evaluation and implementation of a computerized database to manage medications for indigent patients using prescription assistance programs. Greg Ruth, Aaron Myers. Butler University, Indianapolis, IN. Sponsor: Jeanne Van Tyle

Background: Prescription assistance programs (PAPs) offer medications to low income or indigent patients for little or no cost. There are multiple barriers which may impede the application process for PAPs. There are multiple computer programs available that may be utilized in aiding the application process. There are no studies available that examine the implementation of a computerized PAP application aid.

Objective: The purpose of this study is to implement the MedData Services software at the Gennesaret Clinic in Indianapolis, Indiana and examine outcomes in the ensuing months both pre and post software implementation.

Methods: Data will be obtained from a chart review of patients at Gennesaret Clinic. Data collected will include the number of patients at Gennesaret enrolled in PAP programs and demographics of said patients. We will examine the savings to the clinic, savings to the patient, and number of medications each patient obtained through a PAP before and after implementation of MedData Services software. We will also examine the time required to fill a PAP medication enrollment form pre and post to the utilization of the MedData Services software by examining the time for the healthcare provider to complete the initial patient interview, enrollment form process and renewal application for the PAP.

Significance: New census data from 2006 showed both the number and percentage of uninsured Americans were at their highest numbers since 1999. The need for PAPs may be more than ever and it is our hope that the implementation of MedData Services software will help aid in this process.

11:15AM

Strategies for Treatment of Patients with Preserved Ejection Fraction: Negative Inotropes versus Drugs Affecting the Angiotensin System. Dusty Linn, Erin Cleary, Kenneth Frush, Alison Walton. Butler University, Indianapolis, IN. Sponsor: Julie Koehler

Background: Recent studies have suggested that the prevalence of heart failure (HF) with preserved ejection fraction (EF) may be higher than previously thought. Few clinical trials have been performed to guide the treatment of patients with preserved EF. Studies exploring the role of angiotensin-converting enzyme inhibitors (ACEIs), angiotensin receptor blockers (ARBs), beta-blockers (BBs), and calcium channel blockers (CCBs) have been inconclusive.

Objective: To determine whether a superior treatment strategy exists in preventing hospital readmission or death due to HF in patients with preserved EF.

Methods: Patients discharged from Methodist Hospital with a diagnosis of HF between January 1, 2000 and December 31, 2003 were targeted for inclusion in the study. The charts of patients classified as having HF with

preserved EF, who received a drug in one of the classes being studied (ACEI, ARB, BB, or CCB), were retrospectively reviewed over a period of three years following the date of hospital discharge. Primary outcomes included re-hospitalization or death due to HF. The percentage of patients experiencing these outcomes are being compared among each of the treatment groups. The statistical significance of any differences between the four treatment groups will be determined.

Results: To date, 407 charts have been reviewed. Of these, 105 patients met criteria for having a preserved EF. 49% received an ACEI, 17% received an ARB, 31% received a BB, and 26% received a CCB. In all, there were 137 documented occurrences of the primary outcome measure during the period being studied. Statistical analyses are pending.

Session I

Pharmacy Building, Room 015

Moderator: Dr. Tracy Sprunger

01:00PM

Evaluation of an Argatroban Protocol and Identification of Dose-Altering Patient Characteristics. Bridget Morse, Tracy Sprunger, Erin Schaff, Sarah Lackey, Michelle Elias. Butler University, Indianapolis, IN. Sponsor: Tracy Sprunger

Background: Current argatroban dosing for treatment of HIT based upon manufacturer's guidelines is weight-based with decreases indicated in those with hepatic failure. Community Health Network (CHN) is noticing many aPTT values outside of their set therapeutic range with its current protocol using these guidelines. Studies have shown that along with hepatic dysfunction, other patient characteristics may influence argatroban dosing.

Objective: The primary objective is to determine the efficacy of CHN's current protocol. The secondary objective is to identify patient characteristics and co-morbidities which affect argatroban dosing.

Methods: The study will be of retrospective design. Patients in Community Health Network who received argatroban for at least 24 hours will be included. Demographics, baseline co-morbidities, and pertinent lab values will be collected along with identification of organ dysfunctions and MODS, patient location, indication for anticoagulation, and indication for argatroban initiation. Outcome measures will include the number and timing of dosage changes required, number of aPTT levels under, at, or above target, major/minor bleeding episodes and thrombotic complications. Patient characteristics will be evaluated via logistic regression to determine predictability of appropriate initial and maintenance doses.

Significance: The results of this study will identify necessary changes to the current protocol including any change in aPTT target and show if there is a significant cost difference in using the wider aPTT target range. The study will also identify patient characteristics and co-morbidities which affect argatroban dosing, which will allow for better prediction of appropriate initial and maintenance dosing in these patient populations.

01:15PM

The Impact of Statin Therapy on Coronary Events in Diabetic Patients Regardless of Initial Cholesterol Levels. Ronnie Gandhi, Jeremy Hooker. Butler University, Indianapolis, IN. Sponsor: Tracy Sprunger

Background: Macrovascular complications (coronary artery disease, cerebrovascular disease) are the primary causes of death in patients with Type 2 Diabetes Mellitus (T2DM). Studies have shown statin use to be beneficial in reducing the risk of coronary events in T2DM patients who present with dyslipidemia. However, not all T2DM patients present with dyslipidemia.

Objective: The purpose of this study is to assess the impact of statin use on the coronary risk reduction in diabetic patients regardless of initial cholesterol levels in a community based family medicine center.

Methods: A retrospective chart review conducted at the outpatient family medicine center at Community Hospital East. The study group will consist of approximately 100 randomly selected patients ages 18 to 90 years with known diabetes randomly identified via ICD-9 codes from the family medicine electronic database. Baseline demographic data, smoking status, comorbid diseases, concomitant medications, CAD risk factors, blood pressure, A1C, and cholesterol panel will be recorded.

Significance: This study would provide evidence of any benefit on the incidence of cardiovascular events that a daily prophylactic statin would provide for diabetic patients in a clinical setting. Up to this point, all the studies showing benefit of statins have been placebo controlled trials that did not take into account other factors that could influence the overall endpoints such as additional medications (ie aspirin), or doctor prescribing tendencies. This study hopes to achieve a 'real world' representation of the benefit statin therapy can have on diabetic patients.

01:30PM

Necessity and accuracy of both blood and catheter tip cultures when determining the causative organism in patients with infection. Margaret Barry. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Central Venous Catheters (CVCs) are essential for the management of critically ill patients. However, more than 400,000 cases of catheter-related bloodstream infections are estimated annually in the US, with an attributable mortality of 4-10%. When infection is suspected in patients, both blood and catheter tip cultures are performed to determine the causative organism. Unfortunately, only 15-25% of the CVC tips turn out to be culture positive. In addition the premature removal of catheter tips results in increased hospital costs, and reinsertion of a new CVC leads to further complications.

Objective: To establish if blood cultures and catheter tip cultures are both necessary when determining the causative organism in patients with suspected infection.

Methods: This is a retrospective chart review that will include all adult patients during their stay at Methodist Hospital that concurrently had a CVC and a suspected infection.

Primary outcome is to determine whether catheter tip removal and culture is necessary to determine nosocomial blood stream infections. Secondary outcomes are to determine if a common causative organism exists for patients on TPN and to determine target of therapy in cases where patients have simultaneous CVC tip positive-cultures as well as peripheral blood positive-cultures that identify different organisms.

Results: Data collection ongoing.

Conclusion: This study aims to conclude that more conservative approaches can be used to diagnose CVC- related blood stream infections.

01:45PM

A Comparison of the Efficacy of 0.5 units/mL versus 1 unit/mL of Heparin in Neonatal TPNs. Laura Mobley, Jane Gervasio, Elaina Szeszycki PharmD, Alyson Kastner. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Many premature infants will need the assistance of total parenteral nutrition (TPN) to provide nourishment while in the neonatal intensive care unit (NICU). TPNs generally require a separate IV line for optimal safety. Preventing occlusion is important in this patient population and adding heparin to the TPN can be an effective way to preserve the patency of the line. Heparin has associated risk, therefore finding the

lowest effective dose of heparin to prevent line occlusion is vital. Neonates in the NICU at Methodist Hospital in Indianapolis on or before December 31, 2001 received 1 unit/mL of heparin in their TPN, but after January 1, 2002 received 0.5 unit/mL of heparin.

Objective: To determine if 0.5 units/mL is at least as effective as 1 unit/mL of heparin in neonatal TPNs in the NICU at Methodist Hospital in Indianapolis.

Methods: A continuing retrospective chart review will be conducted at Methodist Hospital of neonates in the NICU before December 31, 2001 and after who received TPN with heparin for at least a week. The data collection will include: age, gestational age, weight, sex, race, medical conditions, dates of TPNs received, total number of TPNs received, date line was placed, date line was removed, type of line used, number of line changes, and if TPA or urokinase was used.

Results: Further data collection is ongoing.

Conclusions: This study will strive to conclude whether 0.5 units/mL of heparin is as effective as 1 unit/mL of heparin in neonatal TPNs at preventing line occlusions.

02:15PM

Appropriate vancomycin continuation or discontinuation based on antibiotic sensitivity profile. Brandon Martin. Butler University, Indianapolis, IN. Sponsor: Alex Ansara

Background: Vancomycin is used for empiric broad spectrum antibiotic coverage however, after antibiotic sensitivity assays are obtained, it is not always necessary to continue broad spectrum coverage and a more narrow spectrum antibiotic may be selected to achieve treatment goals and minimize antibiotic resistance.

Objective: To determine the rate at which vancomycin is appropriately continued or discontinued based on antibiotic sensitivity assays.

Methods: A retrospective chart review was employed to obtain the needed information to meet the study objective. Data collected includes microbiological culture data, a microbiological sensitivity profile, a record of appropriate or inappropriate change in antibiotics, and dosing data for the new antibiotic selected. The data will be analyzed to determine if appropriate continuation or discontinuation of vancomycin was done following sensitivity assay results. Individual physicians' continuation or discontinuation rates will also be analyzed to assess their efforts to use narrow spectrum antibiotics when possible.

Significance: The study has explored the rate of compliance with antibiotic sensitivity reports in a community hospital setting. The study has also established a baseline figure for the hospital to rate its physicians on their individual prescribing patterns. This data can be used as a tool to provide further education about potential antibiotic resistance issues that may arise if judicious use of antibiotics does not become the standard of practice.

02:30PM

Utilization of Vitamin D and Calcium Supplementation in Persons Currently Receiving Bisphosphonates for Osteoporosis. Mohit Patel. Butler University, Indianapolis, IN. Sponsor: Bruce Clayton

Background: Although osteoporosis is largely preventable, it is the most common bone disease in the world. Adequate vitamin D and calcium intake is essential for the maintenance of bone health and can prevent an individual's progression to osteoporosis. Unfortunately, most Americans do not ingest appropriate amounts of vitamin D and calcium through their diet. For these patients, vitamin D and calcium supplementation is appropriate. Patients receiving bisphosphonates is likely in need of supplementation

because they have already demonstrated enough of a deficit to require osteoporotic medications.

Objective: The objective of this study is to evaluate the rate at which patients on bisphosphonates are receiving vitamin D and calcium supplementation.

Methods: The design of this study is a retrospective prescription and profile review performed at multiple sites within CVS Pharmacies and the Veterans Affairs Hospital of Fort Wayne, Indiana. The study will include patients who are currently receiving a bisphosphonate for treatment of osteoporosis. Patients that are over 50 years old and concurrently receiving a bisphosphonate for osteoporosis will be included in the study. Patients receiving bisphosphonates for indications not related to osteoporosis (metastatic bone cancer, Paget's disease, hypercalcemia), and those with contraindications towards vitamin D and calcium supplementation will be excluded.

Data collection will include patient demographics, the type of bisphosphonate, and the dosage/frequency of calcium and vitamin D supplementation.

Results: Data Collection is ongoing

Conclusions: To be determined.

02:45PM

The impact of inhaled corticosteroids on cardiovascular events in patients with COPD: A retrospective chart review. Paul Stein. Butler University, Indianapolis, IN. Sponsor: Tracy Sprunger

The impact of inhaled corticosteroids on cardiovascular events in patients with COPD: A retrospective chart review:

Several studies have shown that inhaled corticosteroids used in the treatment of COPD also exert their anti-inflammatory action on systemic inflammation, which has been shown to play an important role in the pathogenesis of atherosclerosis. This study is aimed at exploring the likelihood that inhaled corticosteroids could have a positive impact on the number of cardiovascular events suffered and even cardiovascular mortality due to systemic anti-inflammatory action.

Objective: The objective of this study is to determine the impact of inhaled corticosteroids on cardiovascular events in patients with chronic obstructive pulmonary disease.

Methods: A retrospective chart review was performed on 200 patients with a confirmed diagnosis of COPD discharged from Community Health Network between January 2002 and December 2003. Subjects were randomized into two groups; those who received inhaled corticosteroids and those who did not receive inhaled corticosteroids. The two groups were then followed up through December of 2007 to determine the incidence of cardiovascular events, including myocardial infarction and stroke/TIA.

Significance: If inhaled corticosteroids are shown to reduce cardiovascular events, these results could lead to further investigation and prospective studies on this topic. And, in the future may aid in the development of new therapy algorithms for the prevention of cardiovascular disease in patients with COPD.

03:00PM

Continuing Education Needs Assessment Survey of Non-Community Pharmacists for the Office of Postgraduate Education at Butler University. Brent Burkett, Kyle Decker. Butler University, Indianapolis, IN. Sponsor: Carriann Richey

Background: The needs for pharmacists and pharmacy technicians are constantly changing. It necessary for Continuing Education providers such

as Butler's Office of Postgraduate Education to evaluate these needs periodically to ensure they are meeting the needs of their audience. **Objective:** To assess the demographics, format, and content needs of continuing education for pharmacists and technicians practicing in and around Indianapolis.

Methods: A survey was conducted for pharmacists and technicians and distributed through pharmacy employers via email or paper form. The survey was distributed to three retail pharmacies and four hospitals, and the participants had approximately one month to complete and return the survey. The survey was composed of three parts: demographics of pharmacists/technicians and the evaluation of desired content and format.

Results: One hundred and fifty responses were received. Eighty percent (n=119) of respondents were pharmacists and 20% were certified technicians. In the past four years 85% (n=122) of the participants had not attended a CE program provided by Butler University. Seventy five percent of respondents (n=105) completed 75% or more of their CE at no charge. The majority of respondents indicated they learned the most from online CE (46.5%, n=66) but the majority of CE completed was online text (54.9%, n=78). Content results showed that the most interest was in the area of new drug updates with secondary preference for CE on infectious disease and diabetes.

Conclusion: The results of this survey provide the Office of Postgraduate Education with the information needed to develop future continuing education programs.

Session J

Pharmacy Building, Room 103

Moderator: Dr. Carriann Richey

02:15PM

Design of a Community Pharmacy Medication Assistance Referral Service. Erin McCann. Butler University, Indianapolis, IN. Sponsor: Carriann Richey

Background: Increasing medication costs coupled with an increase in the number of uninsured people is impeding access to medications. Currently, clinics play a large role in helping those in need obtain medications at low cost or at no cost.

Objective: The objective of this study is to identify how clinics help assist patients who are uninsured and underinsured receive medications at little or no cost. The information collected may be used to design a medication assistance referral service for community pharmacists at Butler University.

Methods: Clinics present in the state of Indiana that offer medication assistance services are included in this study. A list of clinics interested in participating was compiled by the Indiana Primary Health Care Association and 14 clinics from this list were selected to be surveyed. The clinics selected are funded by various sources, including government organizations, community organizations, and religious organizations. The data collected was analyzed descriptively and assesses the various ways clinics provide medications to those in need.

Results: 14 completed surveys were analyzed for the types of medication assistance methods used. 6 surveys were from urban clinics, 4 were from suburban clinics, and 4 were from rural clinics. The most common method of medication assistance used was drug manufacturer patient assistance programs. Other methods of medication assistance identified include 340B programs, RX Assist Plus internet based system, Med Data Services program, medications dispensed from clinic formulary, and medications dispensed from local pharmacies. Helpful websites for medication assistance identified include needymeds.com, rxassist.org, rxforindiana.org, and rxoutreach.org.

02:30PM

Utilization of Statin Therapy in All Diabetic Patients According to 2006 ADA Guidelines. Lily Kleynberg, Jerry Huff. Butler University, Indianapolis, IN. Sponsor: Meghan Bodenber

Background: The Heart Protection Study demonstrated the use of Simvastatin 40mg in diabetic patients with normal LDL-c levels proved to be beneficial in lowering the risk of CVD. The study led to the ADA 2006 guidelines incorporation of statin therapy for all diabetic patients over the age of 40, regardless of LDL levels.

Objective: To analyze the incorporation of the 2006 ADA Guidelines regarding statin therapy for all diabetic patients regardless of LDL-c levels, at Methodist Hospital. Also, for patients that were placed on statin therapy, it is important that the statin is equivalent to the LDL-c lowering potential of 40 mg simvastatin.

Method: A retrospective cohort design will be used to meet the objectives of the study. Charts of diabetic patients that presented to Methodist Family Practice Center, starting January 2006 will be reviewed. Utilization patterns of adhering to 2006 ADA guidelines will be computed from the month the ADA guidelines were released. A multivariate framework will be used to estimate the impact of the 2006 ADA guidelines on diabetes patient care at Methodist Hospital.

Results: The IRB approvals have been granted but data is yet to be collected.

Conclusion: Yet to be determined based on the data collected.

02:45PM

The Relationship Between Serum Cholinergic Receptor Blockade and Constipation Frequency. Andrew Johanning, Christopher Sammon. Butler University, Indianapolis, IN. Sponsor: Laurence Kennedy

Background: Numerous drugs have anticholinergic properties and thus cause many side effects, leading to a decreased quality of life. Studies on individual drugs show a correlation between side effects and anticholinergic burden. However, when multiple medications are used, the overall burden is not well defined. The program created by Janssen Pharmaceuticals quantifies, objectively, the anticholinergic properties of specific medications. However, what a patient experiences subjectively can be more complicated to quantify.

Objective: To determine if the risk of developing constipation from medications with anticholinergic properties can be inferred and prevented using the Janssen Pharmaceutical calculator.

Method: The study is a retrospective case-control. Patients aged 65-80 years will be included. The control group consists of patients with a burden score of zero. The study group consists of patients with positive scores. Approximately 200 usable charts will be examined from nursing facilities in central Indiana, and 100 patients will be used for each group. Data collected will be: age, sex, relevant diseases, prescription medication list, PRN constipation medications and frequency each were used, and burden score. Data analysis will include descriptive statistics and determination of clinical significance.

Significance: There is little focus on minimizing anticholinergic burden since the effect on clinical outcomes cannot be readily measured. If the study shows patients with an anticholinergic score have more constipation, it may act as a foundation for other studies to look at the overall side effect profile. If it is proven that anticholinergic scores correlate with increased side effects, it may revolutionize prescribing patterns.

Results:

Conclusion:

03:00PM

Continuing Education Needs Assessment Survey of Community Pharmacists for the Office of Postgraduate Education at Butler University. Kyle Decker, Brent Burkett. Butler University, Indianapolis, IN. Sponsor: Carriann Richey

Background: The needs for pharmacists and pharmacy technicians are constantly changing. It necessary for Continuing Education providers such as Butler's Office of Postgraduate Education to evaluate these needs periodically to ensure they are meeting the needs of their audience.

Objective: To assess the demographics, format, and content needs of continuing education for pharmacists and technicians practicing in and around Indianapolis.

Methods: A survey was conducted for pharmacists and technicians and distributed through pharmacy employers via email or paper form. The survey was distributed to three retail pharmacies and four hospitals, and the participants had approximately one month to complete and return the survey. The survey was composed of three parts: demographics of pharmacists/technicians and the evaluation of desired content and format.

Results: One hundred and fifty responses were received. Eighty percent (n=119) of respondents were pharmacists and 20% were certified technicians. In the past four years 85% (n=122) of the participants had not attended a CE program provided by Butler University. Seventy five percent of respondents (n=105) completed 75% or more of their CE at no charge. The majority of respondents indicated they learned the most from online CE (46.5%, n=66) but the majority of CE completed was online text (54.9%, n=78). Content results showed that the most interest was in the area of new drug updates with secondary preference for CE on infectious disease and diabetes.

Conclusion: The results of this survey provide the Office of Postgraduate Education with the information needed to develop future continuing education programs.

03:15PM

Design of a community pharmacy medication assistance referral service. Kelli Salmon, Carriann Richey. Butler University, Indianapolis, IN. Sponsor: Carriann Richey

Background: There are several different types of medication assistance programs available for patients. These programs can be difficult to locate and complete.

Objective: The objective of these surveys was to assess the interest, knowledge, and experience of Butler pharmacy students regarding patient assistance programs and to assess the preparedness of P4 students and pharmacy graduates who have completed an underserved rotation.

Methods: Two surveys were written and administered to the following groups. The first survey went out to all current Butler students enrolled in the P1 – P3 years and the second survey went to current P4 students and 2007 graduates who have had an underserved clinic rotation.

Results: A total of 152 students completed the first survey. Of the respondents, 58.5% (n= 100) indicated they would be interested in assisting with a referral service at Butler to help patients access medication assistance programs. Ten percent (n=15) indicated they had experience in locating medication assistance programs. The second survey had 38 respondents. Of the respondents, 81.8% (n=30) indicated their rotation sites provided medications through assistance programs. In addition, 29.7% (n=11) participated in locating these programs at the clinic. Only 24.3% (n=9) of respondents indicated they had a course at Butler that provided information on where to find medication assistance programs and of these 66.7% (n=6) felt that knowledge prepared them for the rotation.

Conclusions: Students are interested in participating in a referral service. If a referral service is implemented, students may need additional training to prepare them for specific duties.

Session K
Pharmacy Building, Room 106A
Moderator: Dr. Cindy Selzer

01:00PM

An Evaluation of the use of an Argatroban Weight-based Dosing Nomogram in Obesity. Daina Wells, Michelle Winkler, Alex Ansara. Butler University, Indianapolis, IN. Sponsor: Alex Ansara

Background: Argatroban, a direct thrombin inhibitor, is approved in the United States for prevention or treatment of thrombosis in patients with immune-mediated heparin-induced thrombocytopenia (type II HIT) and has been shown to significantly improve HIT-associated outcomes. The Food and Drug Administration's approved dosing of argatroban is based on patients' body weight. For this reason, dosing in obese patients presents difficulties.

Objective: To determine the effectiveness of Clarian Health's argatroban dosing nomogram at achieving therapeutic aPTT values in obese patients.

Methods: A retrospective chart review will be conducted at Methodist Hospital. All data will be collected by reviewing clinical charts. The study will be limited to patients = 18 years of age with actual body weight = 150% their ideal body weight. Argatroban dosing was adjusted based on the Methodist Hospital Argatroban Dosing Standard Nomogram. All aPTTs within 96 hours of initiation of argatroban will be categorized into subtherapeutic, therapeutic, or supratherapeutic based on aPTT levels obtained.

Significance: It is unknown whether the current practice is providing adequate treatment for obese patients. Currently at Methodist Hospital, Argatroban is dose adjusted for obesity, even though this has not been proven through clinical trials to produce therapeutic aPTT levels. The results of this study will be useful in determining if current dosing guidelines at Methodist Hospital for Argatroban in obese patients are producing therapeutic aPTT values, with minimal adverse effects.

01:15PM

Pharmacologic Management of Chronic Obstructive Pulmonary Disease in the Long-Term Care Setting of Central Indiana. Nicole Budgake, Brenda Greenen, Sarah Clay. Butler University, Indianapolis, IN. Sponsor: Laurence Kennedy

Background: The Global Initiative for Chronic Obstructive Lung Disease (GOLD) Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Lung Disease (COPD) was updated in 2006 and provides the current evidence-based treatment guidelines that health care providers should follow. Despite the current guidelines, there is a lack of studies demonstrating adherence to GOLD guidelines in long term care facilities.

Objective: To clarify whether or not patients in the long term care setting of central Indiana are managed appropriately using the recently updated GOLD guidelines and to determine the reasons that patients may not be so managed.

Methods: A retrospective chart review was used to collect from the patient chart and from the Minimum Data Set (MDS), which is a consistent data collection tool found at all nursing homes in which Cornerstone Pharmacy Services. Most of the data will be presented as descriptive statistics related to the drug utilization review for the COPD patients studied. If enough data can be collected patients will be classified as "non-adherent" to the GOLD

guidelines, and additional statistical tests may be performed (e.g. t-tests, chi-square, logistic regression, linear regression) to determine a correlation between various demographic variables and other factors (e.g. site, physician, etc) as the reason for the patient's non-adherent status.

Study Significance: The findings of this study may affect future management of COPD patients within the long-term care setting. Perhaps more attention will be drawn to improving outcomes for patients with COPD and adherence to the GOLD guidelines may increase.

Results: Currently being analyzed

01:30PM

Drug Utilization Evaluation of Daptomycin at Indiana University Hospital. Andrea Dell, Cindy Selzer, Suellyn Sorensen, Tracy Buganski. Butler University, Indianapolis, IN. Sponsor: Cindy Selzer
Continuation Project by: Ashley Clouser, PharmD; Matthew Stockton, PharmD; Brianna Schmid, PharmD; and Adam Wischmeier, PharmD

Background: Daptomycin (Cubicin®) is an intravenous cyclic lipopeptide antibiotic with broad spectrum activity against gram positive organisms. The mechanism of action consists of binding irreversibly to the cytoplasmic membrane of bacteria causing a rapid depolarization of the membrane potential. Rapid cell death then occurs due to DNA, RNA, and protein synthesis inhibition. Mechanisms of resistance to daptomycin have not been reported to date.

Objective: The primary objective is to determine if daptomycin has been appropriately prescribed according to the Indiana University Hospital Antimicrobial Prescribing Improvement Program's (APIP) criteria for usage. The secondary objectives consist of analysis of adverse reactions, duration of therapy, types of infections in which daptomycin is prescribed, and patient outcome.

Methods: A retrospective, observational medical record review was performed at Indiana University Hospital in Indianapolis, Indiana. Male and female patients eighteen years of age and older who received daptomycin between September 21, 2004, and December 31, 2007, were included in the study. The data analysis includes descriptive statistics and determination of clinical significance of the data.

Significance: The results of this study will help Indiana University Hospital review their prescribing and monitoring trends of daptomycin. It will determine if daptomycin has been appropriately prescribed to adults according to the Indiana University Hospital APIP's criteria for usage.

01:45PM

The Relationship between Serum Cholinergic Receptor Blockade and Constipation Frequency. Christopher Sammon, Andrew Johanning. Butler University, Indianapolis, IN. Sponsor: Laurence Kennedy

Background: Numerous drugs have anticholinergic properties and thus cause many side effects, leading to a decreased quality of life. Studies on individual drugs show a correlation between side effects and anticholinergic burden. However, when multiple medications are used, the overall burden is not well defined. The program created by Janssen Pharmaceuticals quantifies, objectively, the anticholinergic properties of specific medications. However, what a patient experiences subjectively can be more complicated to quantify.

Objective: To determine if the risk of developing constipation from medications with anticholinergic properties can be inferred and prevented using the Janssen Pharmaceutical calculator.

Method: The study is a retrospective case-control. Patients aged 65-80 years will be included. The control group consists of patients with a burden score of zero. The study group consists of patients with positive scores. Approximately 200 usable charts will be examined from nursing facilities

in central Indiana, and 100 patients will be used for each group. Data collected will be: age, sex, relevant diseases, prescription medication list, PRN constipation medications and frequency each were used, and burden score. Data analysis will include descriptive statistics and determination of clinical significance.

Significance: There is little focus on minimizing anticholinergic burden since the effect on clinical outcomes cannot be readily measured. If the study shows patients with an anticholinergic score have more constipation, it may act as a foundation for other studies to look at the overall side effect profile. If it is proven that anticholinergic scores correlate with increased side effects, it may revolutionize prescribing patterns.

02:15PM

Necessity and accuracy of both blood and catheter tip cultures when determining the causative organism in patients with infection. Megan Knightly. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Central Venous Catheters (CVCs) are essential for clinical management of critically ill patients. However, more than 400,000 cases of catheter-related bloodstream infections are estimated to occur annually in the US, with an attributable mortality of 4-10%. When infection is suspected in patients at Methodist Hospital, both blood and catheter tip cultures are performed to determine the causative organism. Unfortunately, only 15-25% of the CVC tips turn out culture positive. In addition the premature removal of catheter tips results in increased hospital costs, and reinsertion of a new CVC leads to further complications.

Objective: To establish if both blood and catheter tip cultures are necessary when determining the causative organism in patients with suspected infection.

Methods: A retrospective chart review will include all adult patients during their stay at Methodist Hospital that concurrently had a CVC and a suspected infection.

Primary outcome is to determine whether catheter tip removal and culture is necessary to determine nosocomial blood stream infections.

Secondary outcomes are to determine if a common causative organism exists for patients on TPN and to determine target of therapy in cases where patients have simultaneous CVC tip positive-cultures as well as peripheral blood positive-cultures that identify different organisms.

Results: Data is ongoing.

Conclusion: This study aims to conclude that more conservative approaches can be used to diagnose CVC- related blood stream infections.

02:30PM

A Comparison of the Efficacy of 0.5 units/mL versus 1 unit/mL of Heparin in Neonatal TPNs. Alyson Kastner, Laura Mobley, Jane Gervasio. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Many premature infants will need the assistance of total parenteral nutrition (TPN) to provide nourishment while in the neonatal intensive care unit (NICU). TPNs generally require a separate IV line for optimal safety. Preventing occlusion is important in this patient population and adding heparin to the TPN can be an effective way to preserve the patency of the line. Heparin has associated risk, therefore finding the lowest effective dose of heparin to prevent line occlusion is vital. Neonates in the NICU at Methodist Hospital in Indianapolis on or before December 31, 2001 received 1 unit/mL of heparin in their TPN, but after January 1, 2002 received 0.5 units/mL of heparin.

Objective: To determine if 0.5 units/mL is at least as effective as 1 unit/mL of heparin in neonatal TPNs in the NICU at Methodist Hospital in Indianapolis.

Methods: A continuing retrospective chart review will be conducted at Methodist Hospital of neonates in the NICU before December 31, 2001 and after who received TPN with heparin for at least a week. The data collection will include: age, gestational age, weight, sex, race, medical conditions, dates of TPNs received, total number of TPNs received, date line was placed, date line was removed, type of line used, number of line changes, and if TPA or urokinase was used.

Results: Further data collection is ongoing.

Conclusions: This study will strive to conclude whether 0.5 units/mL of heparin is as effective as 1 unit/mL of heparin in neonatal TPNs at preventing line occlusions.

02:45PM

Evaluating Outcomes of Patients Receiving Oral Metronidazole or Oral Vancomycin in the Treatment of Clostridium difficile Associated Diarrhea (CDAD). Nathan Lucas. Butler University, Indianapolis, IN. Sponsor: Jarrett Amsden

Background: Historically, the recommended treatment of CDAD has been oral metronidazole or oral vancomycin. Metronidazole has been the preferred drug because of its equivalent efficacy, lack of potential to select for vancomycin-resistant Enterococcus spp., and its reduced cost. Over the past few years there has been an increasing incidence and severity of C. difficile infections across the US and the world. These infections have largely been associated with an emerging, more virulent strain of C. difficile. During these outbreaks of CDAD, there has been documented and anecdotal concern over the efficacy of metronidazole. To further this, a recent study has shown vancomycin to have superior efficacy when treating severe cases of CDAD. Thus, the purpose of our study is to retrospectively evaluate our treatment courses of CDAD and the resultant outcomes. This will help Indiana University Hospital recognize which treatment option may be the best empiric regimen for their patients.

Objective: To evaluate outcomes of patients receiving oral metronidazole or oral vancomycin in the treatment of CDAD, examining outcomes based on the severity of disease.

Methods: Retrospective chart review of C. difficile or CDAD-positive patients treated at Indiana University Hospital in Indianapolis, IN since 2004.

Significance: This study will help clinicians stratify CDAD patients and choose the appropriate empiric regimen.

03:00PM

Drug Utilization Evaluation of Daptomycin at Indiana University Hospital. Tracy Buganski, Cindy Selzer, Suelyn Sorensen, Andrea Dell. Butler University, Indianapolis, IN. Sponsor: Cindy Selzer
Continuation Project by: Ashley Clouser, PharmD; Matthew Stockton, PharmD; Brianna Schmid, PharmD; and Adam Wischmeier, PharmD

Background: Daptomycin (Cubicin®) is an intravenous cyclic lipopeptide antibiotic with broad spectrum activity against gram positive organisms. The mechanism of action consists of binding irreversibly to the cytoplasmic membrane of bacteria causing a rapid depolarization of the membrane potential. Rapid cell death then occurs due to DNA, RNA, and protein synthesis inhibition. Mechanisms of resistance to daptomycin have not been reported to date.

Objective: The primary objective is to determine if daptomycin has been appropriately prescribed according to the Indiana University Hospital Antimicrobial Prescribing Improvement Program's (APIP) criteria for

usage. The secondary objectives consist of analysis of adverse reactions, duration of therapy, types of infections in which daptomycin is prescribed, and patient outcome.

Methods: A retrospective, observational medical record review was performed at Indiana University Hospital in Indianapolis, Indiana. Male and female patients eighteen years of age and older who received daptomycin between September 21, 2004, and December 31, 2007, were

Session L

Pharmacy Building, Room 106B

Moderator: Dr. Kevin Tuohy

01:00PM

Retrospective Review & Analysis of Antibiotic Use in Patients with Acute COPD Exacerbations Admitted to Methodist Hospital in 2004.. Allison Graves. Butler University, Indianapolis, IN. Sponsor: Kevin Tuohy

Objectives: To examine the use of antibiotics during the treatment of a COPD exacerbation in the absence of signs and symptoms of infection. The secondary outcome will assess appropriate preventative measures, unnecessary costs to patient care, and the promotion of multi-drug resistant organisms.

Background: Most COPD exacerbations are treated with antibiotics even when signs and symptoms of an infection (fever, increased cough with sputum production, leukocytosis, changes in the X-ray) are not present. In fact, only one-half of COPD exacerbations are a result of bacterial or viral infections. Studies have demonstrated the beneficial use of antibiotics in patients with more severe exacerbations. Cost effective use of antibiotics could be promoted by identifying specific signs and symptoms associated with an infection.

Methods: A randomized retrospective chart review of approximately 50 patients was used to meet the objective. The patients selected for the study were admitted for a primary diagnosis of COPD exacerbation between January 1, 2004 and December 31, 2004. The exclusion criteria will be patients less than 18 years old or those older than 89 years old. Appropriate statistical analysis will be performed.

Purpose: This study will be used to gather information about the prescribing habits of practitioners during a COPD exacerbation. The information will then be used to educate practitioners on appropriate antibiotic use. The secondary outcome will look at the additional cost associated with unnecessary antibiotic use, as well as the increased risk of contacting multi-drug resistant organisms.

01:15PM

Student professional elective choices and perspective on the extent to which pharmacy topics currently included in the curriculum are discussed. Kelly Lyons. Butler University, Indianapolis, IN. Sponsor: Dr. Bonnie Brown

Background: Numerous studies have examined the inclusion of elective courses in pharmacy curriculum, however, there is little information regarding student interest in elective topics prior to initiation of a course.

Objective: The objectives were to determine second professional year (P2) student interest in pharmacy professional elective topics, rationale for choosing electives, and perspective on the extent to which topics currently included in the curriculum were discussed.

Methods: P2 students at Butler University received a link to the study survey via e-mail. A Likert response scale was utilized to assess student interest in elective courses, rationale for choosing electives, and perspective

included in the study. The data analysis includes descriptive statistics and determination of clinical significance of the data.

Significance: The results of this study will help Indiana University Hospital review their prescribing and monitoring trends of daptomycin. It will determine if daptomycin has been appropriately prescribed to adults according to the Indiana University Hospital APIP's criteria for usage

on the extent to which topics included in the curriculum were discussed. Mean values for the study variables were compared to demographic variables using t tests and ANOVA, or non-parametric tests, as appropriate.

Results: A total of 51 students completed the survey. Elective courses in which respondents expressed the most interest included women's health and pediatric pharmacotherapy. Students also suggested the initiation of courses about topics not currently offered as electives. Respondents indicated that their decision to enroll in an elective was most influenced by their interest in the topic and their perceived value of the information in their future career. Topics included in the curriculum which respondents thought were not adequately discussed included pharmacy law, biostatistics and research design, and self-care.

Conclusion: The study showed that students were interested in elective courses currently included in the curriculum as well as topics that were not previously offered.

01:30PM

Assessment of Telepharmacy Applications in Indiana. Brian LaRowe. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: Several studies have shown improved patient outcomes in remote and underserved populations with the use telepharmacy. However, without a legal or regulatory precedent there are concerns of medication access and medication safety at these facilities.

Objective: To determine the safe and effective use of remote site dispensing to expand the practice of pharmacy in rural/underserved areas in Indiana.

Method: A survey design was used to achieve the study objective. Descriptive statistics were performed on the surveys. The healthcare facilities were contacted via e-mail.

Significance: Many healthcare facilities in Indiana are currently unable to staff a pharmacy to meet the demands of medication dispensation. With the advent of telecommunications and the ability for pharmacists to verify orders via the Internet, pharmacists working at off-site locations have met this demand. This "telepharmacy" concept raises questions about medication safety and access as well as legal, regulatory, licensing, reimbursement, and expertise questions that are not clearly defined and may have a great impact of the future practice of pharmacy in Indiana and the rest of the United States.

01:45PM

Pharmacologic Management of Chronic Obstructive Pulmonary Disease in the. Sarah Clay, Nicole Budgake, Brenda Greenen, Jodi Mann. Butler University, Indianapolis, IN. Sponsor: Laurence Kennedy

Background: The Global Initiative for Chronic Obstructive Lung Disease (GOLD) Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease (COPD) was updated in 2006. It provides the current evidence-based treatment guidelines that health care providers should follow. Despite the current guidelines, there may be a lack of adherence to GOLD guidelines in long term care facilities.

Objective: To clarify whether or not patients with COPD in long term care settings of central Indiana are managed appropriately using the recently updated GOLD guidelines and to determine the reasons that patients may not be managed appropriately.

Methods: A retrospective chart review was used to collect information on patients with COPD. Most of the data will be presented as descriptive statistics related to a drug utilization review. Additional statistical tests may be performed to determine a correlation between various demographic variables and other factors as a reason for a patient's non-adherent status.

Results: Currently being analyzed

Conclusion: Results of the study to be determined

02:15PM

Impact of Medication Therapy Management and Pharmacist Counseling: A Survey Analysis of Patient Perception and Expectations from Pharmacists in a Community Setting. Eric Izynski. Butler University, Indianapolis, IN. Sponsor: Erin Albert

Background: With the advent of third party reimbursement for medication therapy management (MTM), the practice of pharmacy in the community setting is evolving to meet the healthcare needs of the patient.

With this evolution, however, it is unclear from a patient perspective as to the value of medication counseling and disease state management in a community pharmacy setting.

Currently, there is a lack of studies showing public perception and expectations of pharmacists in a community setting as it relates to medication therapy management and disease management counseling.

Objective: To assess the value of medication therapy management and pharmacist counseling through surveying patients in a community pharmacy setting

Methods: A survey will be elicited to patients, by someone other than the candidates evaluating the surveys, receiving counseling of any kind at the community pharmacy (Walgreens and CVS) pick-up areas

The survey will consist of 10 questions assessing the patient's experience and general knowledge as well as patient willingness to participate in MTM services.

Significance: This survey may provide community pharmacists with an idea of patient expectations of counseling. This survey may also provide pharmacist with an idea of the significance of MTM services in the community setting.

02:30PM

Awareness of Public Health Clinics in the College Student Population. Jennifer Ingram, Chad Naville, Agatha Zurawska, Megan Martin. Butler University, Indianapolis, IN. Sponsor: Bruce Clayton

Background: Studies in the 1990's evaluated high school and college students' understanding of what public healthcare resources are available to them to gauge their awareness of them. More recent studies provide information regarding high school students' understanding and perceptions towards health care, but information about the college student population is lacking.

Objective: To gauge an understanding of college students' awareness of public health clinics regarding their locations and services available through the local branches.

Methods: A survey will be used to meet the objectives of the study. The survey will be distributed via the internet to the students of Butler

University. Awareness of the survey will be announced via a campus-wide messaging system. The data collected from the survey will be anonymous.

Significance: Results from the survey will be used to develop educational material for the college student population of Butler University to increase public health clinic awareness.

02:45PM

The Impact of Nutrition Support on the Management of Intestinal Transplant Patients: A Retrospective Chart Review. Tamara Neff, An Phan. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Intestinal transplant is a rare procedure and there are few studies available regarding nutrition support post-transplant in these specific patients. Patients necessitating this type of transplant often have short bowel syndrome (SBS). In addition, patients experience complications from the parenteral nutrition. Since there is so little data on intestinal transplant patients, there is no overall consensus about when to initiate enteral feeding post-transplant and what formula to use.

Objective: To observe the effect of nutrition support in the postoperative period of the intestinal transplant patient.

Methods: A retrospective chart review will be conducted at Indiana University Hospital in Indianapolis, IN on intestinal transplant patients from January 2004 through December 2007. Data collection will include age, gender, height, weight, ICU length of stay, hospital length of stay, number of days on ventilator, nutrition type, number of days until enteral feeding, type and amount of enteral feeding, lab values, organ system failures, infections, glucose complications, and medications. Inclusion criteria include all patients aged 18 to 80 years old that have undergone an intestinal transplant between January 2004 and December 2007 at Indiana University Hospital. There are no exclusion criteria.

Results: Data collection is ongoing.

Conclusions: One of the goals of this study is to evaluate how early initiation of enteral nutrition impacts the intestinal transplant patient. Additionally, this study will evaluate what nutrition was started, when it was started, and the outcomes, in particular organ system failure, infection, and glucose complications.

03:00PM

Retrospective Review of Levetiracetam Use in Treating Seizure Disorders at Methodist Hospital and Comparison to FDA-Approved Indications. Jason Petty. Butler University, Indianapolis, IN. Sponsor: Kevin Tuohy

Background: The first FDA-approved indication for levetiracetam (LEV) was the adjunctive treatment of partial onset seizures in patients with epilepsy. As of March 2007, the FDA approved two new indications including adjunctive treatment of myoclonic seizures in patients with juvenile myoclonic epilepsy and adjunctive treatment of primary generalized tonic-clonic seizures in patients with idiopathic generalized epilepsy. Additionally, clinical data available supports LEV use only in combination with other anti-epileptics and involves patients with refractory seizure disorders.

Objectives: The primary objective of this study is to assess whether patients admitted to Methodist Hospital with a new order for LEV are being treated according to FDA indications. A secondary objective is to gather information on overall prescribing patterns for LEV at the hospital.

Methods: This study is a retrospective drug review that will assess 100 patients between the ages of 19-89 years, randomly selected from prescription order entry records, started on oral or intravenous LEV as a new therapy, between September 1, 2006 and April 30, 2007 at Methodist Hospital. All patients will be de-identified and data collection sheets will

be kept in a locked office when not being used for research purposes. Data that will be collected from patient charts includes age, sex, diagnosis, dose, frequency, route, anti-epileptic drug history, concurrent anti-epileptic drug therapy, length and results of therapy, any noted adverse reactions, and anti-epileptic drug(s) prescribed upon discharge.

Results: Data collection is ongoing.

Conclusion: The data collected will be used to assess the appropriateness of LEV use at Methodist Hospital.

03:15PM

Continuous Quality Improvement in Disease State Management Programs for National Committee for Quality Assurance Recertification. Meghan Luers, Kathleen Shoemaker, Tammy Cooper. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: The increased overall number of patients with chronic conditions has led to the development of disease management (DM) programs, which aim to improve the general health of such patients and reduce their healthcare costs. National Committee for Quality Assurance (NCQA) is a non-profit organization that offering certification for DM programs. Eli Lilly and Company has growing family of DM programs for "Empowering Patient Care". Three of Lilly's programs are currently up for recertification and must undergo Continuous Quality Improvement.

Objective: The market research and analysis of the DM programs will produce specific improvement recommendations, based on its assessment of the usability appropriateness and understanding of the programs. Such recommendations will then be implemented to further improve the programs.

Methods: Market research will be performed by TNS and Associates which will then be analyzed to make recommendations necessary for improvement of the programs and recertification. Specific plans for improvement and its related implementation will then be formatted and put into action.

Results/Conclusion: The changes selected for implementation were among the most frequently suggested and were deemed as having the most opportunity for impact. By making HealthInsights and Tools that Empower available in Spanish, updating HEDIS measures on Tools that Empower and Expanding Views and creating a breast cancer module for HealthInsights, each program will become a better, more improved tool for patients, providers and payers.

Session M

Pharmacy Building, Room 202

Moderator: Dr. Amy Peak

01:00PM

Evaluation of English-Language Medical References Providing Information on Medications Sold in Mexico. Bethany Anderson, Susana Henri. Butler University, Indianapolis, IN. Sponsor: Amy Peak

Background: English-language references regarding international medications are available, but rarely provide substantial information on medications from Central/South America.

Objective: To evaluate English-language medical references to determine which provides the most information when searching by Mexican drug name.

Methods: Eleven English-language references were identified as reasonable resources for foreign drug information. Fifty Mexican medications were identified, examined, and used for this study. Medications with similar US

and Mexican names were excluded. References were evaluated on their ability/inability to provide any information on the Mexican drugs and the completeness of information provided (maximum 8 points per drug.)

Results: Martindale's was the only resource able to provide some information on all 50 medications searched. On average, references provided some information on 28.5/50 medications (range 11-50). Micromedex's Drugdex and Martindale's provided the most complete information, followed by Google and Lexi-Comp, scoring 282, 273, 244, and 220 out of 400 possible points, respectively. All other references scored less than 100 points (range 40 - 91).

Conclusion: No English language resource provides comprehensive Mexican drug information. Martindale's is most likely to contain information on Mexican medications, although it may not provide all the clinical information needed. As the number of Mexican immigrants and visitors continues to grow, the US medical community would greatly benefit from more or improved resources providing Mexican drug information.

01:30PM

Comparison of Tertiary Drug Information Databases. Sabrina Hopkins, Rebecca Lambert, Amy Peak. Butler University, Indianapolis, IN. Sponsor: Amy Peak

Background: Previous studies found Clinical Pharmacology and Micromedex to be most complete drug information databases, however substantial changes have been made to multiple databases since the previous evaluations.

Study Objective: The primary objectives of this study are to determine and compare the clinical dependability, completeness, and ease-of-use of Clinical Pharmacology, Facts and Comparisons 4.0, Lexi-Comp Online, and Micromedex.

Methods: One hundred twenty drug information questions (5 questions each in 24 categories) were created, validated, and used to assess the aforementioned databases. Databases were evaluated on dependability (correct, incorrect or no information), completeness (completely correct=5 points; correct, partially complete answer=2 points; no information=0 points), and ease-of-use (number of mouse clicks needed.)

Results: Micromedex Healthcare Series and Clinical Pharmacology were the most dependable databases, followed by Lexi-Comp, Micromedex Clinical Expert, and Facts and Comparisons; correctly answering 65% 62%, 58%, 55%, and 43% of questions, respectively. However, incorrect information was rarely provided by Micromedex (2 questions), Clinical Pharmacology, and Facts and Comparisons (1 question each). Lexi-Comp did not provide any incorrect answers. Micromedex Healthcare series was the most complete database (349/600 points), closely followed by Clinical Pharmacology, then Lexi-Comp, Micromedex Clinical Expert and Facts and Comparisons (321, 293, 281, and 265 points, respectively.) Lexi-Comp earned the best ease-of-use scores.

Conclusions: No database answered more than 65% of the drug information questions posed. Micromedex Healthcare Series and Clinical Pharmacology are the most dependable and complete databases. Although not as thorough, Lexi-Comp provided no incorrect answers and was the easiest to use.

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Comparison of Tertiary Drug Information Databases. Rebecca Lambert, Sabrina Hopkins. Butler University, Indianapolis, IN. Sponsor: Amy Peak

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02:15PM

An Analysis of Sleep Habits and Stimulant Use in PharmD and Physician Assistant Students with Respect to Exams. Elizabeth Micke, Alishia Leavell. Butler University, Indianapolis, IN. Sponsor: Meghan Bodenber

Background: Pharmacy and Physician Assistant students are exposed to different exam schedules which may have an impact on sleep habits and stimulant use. Previous studies have not been conducted in this population and have not addressed the issues of sleep habits or stimulant use with respect to exam schedules.

Objective: To evaluate if there is a correlation between the type of examination schedule students are exposed to and their sleep habits and stimulant use.

Methods: An online survey using Survey Monkey will be made available at www.surveymonkey.com to professional phase PharmD (P1-P3) and PA (PA1 and PA2) students from November 26, 2007 until December 17, 2007. Analysis methods employed to explain data collected will include descriptive statistics, Mann Whitney U test and Chi-square test of independence. This study design and statistical tests will be used to meet the study objective.

Significance: The results of the study will identify if there is a difference in the sleep habits and stimulant use of students exposed to a traditional exam schedule compared to students exposed to a cluster exam schedule.

Results: Pending

Conclusion: Pending

02:30PM

Pharmacologic Management of Chronic Obstructive Pulmonary Disease in the Long-Term Care Setting of Central Indiana. Brenda Greenen, Nicole Budgake, Sarah Clay. Butler University, Indianapolis, IN. Sponsor: Laurence Kennedy

Background: The Global Initiative for Chronic Obstructive Lung Disease (GOLD) Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease (COPD) was updated in 2006. It provides the current evidence-based treatment guidelines that health care providers should follow. Despite the current guidelines, there may be a lack of adherence to GOLD guidelines in long-term care facilities.

Objective: To clarify whether or not patients with COPD in long-term care settings of central Indiana are managed appropriately using the recently updated GOLD guidelines and to determine the reasons that patients may not be managed appropriately.

Methods: A retrospective chart review was used to collect information on patients with COPD. Most of the data will be presented as descriptive statistics related to a drug utilization review. Additional statistical tests may be performed to determine a correlation between various demographic variables and other factors as a reason for a patient's non-adherent status.

Results: Currently being analyzed

Conclusion: Results of the study to be determined

02:45PM

Assessing the outcomes of liquid medications given via enteral feeding tubes in a VAMC: A retrospective chart review. Brooke Speheger, Jane Gervasio, Maria Beitel, Lydia Strole. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey

Background: Diarrhea is a major adverse event with serious consequences, which is occurring ever more frequently in hospitalized patients receiving enteral nutrition and liquid medications. There is a lack of studies addressing the question of whether the diarrhea is due to the enteral formulation or liquid medications.

Objective: To assess the incidence and causative factors of diarrhea in patients receiving enteral nutrition as well as liquid medications.

Methods: A retrospective chart review design was used to meet the study objective. VAMC patients receiving enteral nutrition and liquid medications via feeding tube, as well as those receiving only enteral nutrition, from October 2006 through September 2007 were identified from records kept by the nutrition department at the VAMC. Descriptive statistics and logistic regression analysis will be used to estimate the impact of liquid medications on patients receiving enteral nutrition after controlling for confounding variables.

Significance: Once all data is collected and analyzed, it is believed that a trend will emerge showing that the incidence of diarrhea in patients receiving enteral nutrition is attributable to the liquid medications that patients are receiving via feeding tube, not due to the enteral nutrition itself. Once this trend is identified, the healthcare team will be more likely to examine all potential causes of diarrhea and take immediate action to correct causative factors, such as eliminating or limiting the use of liquid medications which may contain inactive ingredients known to increase the risk and incidence of diarrhea. Raising awareness of this issue will result in overall better patient care, decreased hospital length of stay, and more positive patient outcomes.

03:00PM

Necessity and accuracy of both blood and catheter tip cultures when determining the causative organism in patients with infection. Rebecca Spurgeon. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Central Venous Catheters (CVCs) are essential for the management of critically ill patients. However, more than 400,000 cases of catheter-related bloodstream infections are estimated annually in the US, with an attributable mortality of 4-10%. When infection is suspected in

patients, both blood and catheter tip cultures are performed to determine the causative organism. Unfortunately, only 15-25% of the CVC tips turn out to be culture positive. In addition the premature removal of catheter tips results in increased hospital costs, and reinsertion of a new CVC leads to further complications.

Objective: To establish if blood cultures and catheter tip cultures are both necessary when determining the causative organism in patients with suspected infection.

Methods: This is a retrospective chart review that will include all adult patients during their stay at Methodist Hospital that concurrently had a CVC and a suspected infection.

Primary outcome is to determine whether catheter tip removal and culture is necessary to determine nosocomial blood stream infections.

Secondary outcomes are to determine if a common causative organism exists for patients on TPN and to determine target of therapy in cases where patients have simultaneous CVC tip positive-cultures as well as peripheral blood positive-cultures that identify different organisms.

Results: Data collection ongoing.

Conclusion: This study aims to conclude that more conservative approaches can be used to diagnose CVC- related blood stream infections.

03:15PM

The Impact of Nutrition Support on the Management of Intestinal Transplant Patients: A Retrospective Chart Review. An Phan, Tamara Neff. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio, Jeanne Chen, PharmD

Background: Intestinal transplant is an emerging therapy for adult patients with short bowel syndrome and other gastrointestinal conditions. Literature evaluating the nutritional support post-transplant in these patients is lacking. With the lack of available data, the best approach to nutritional support in this patient population remains unknown.

Objective: The objective of this observational study is to evaluate nutrition support in intestinal transplant patients and the effect on outcomes in the postoperative period.

Methods: An observational, retrospective chart review will be conducted at Indiana University Hospital in Indianapolis, Indiana evaluating intestinal transplant patients from January 2004-December 2007. Baseline data will include: age, gender, height, weight, intensive care unit length of stay (LOS), hospital LOS, number of days on ventilator, nutrition type (parenteral or enteral), time to initiation of feeds, calorie and protein intake. Outcomes to be evaluated include: organ system failure, incidence of infection, and glycemic control. Patients will be included if aged 18-80 receiving specialized nutrition support status-post intestinal transplant between January 2004-December 2007 at Indiana University Hospital. Patients will be excluded if they are receiving oral diet only status-post transplant.

Results: Data collection is ongoing.

Conclusions: The data will be used as a guide for clinicians for approaches to nutrition support in patients status-post intestinal transplant.

Session N

Pharmacy Building, Room 204

Moderator: Dr. Medhane Cumbay

01:00PM

An Assessment of a Worksite Health Promotion Program at Butler University. Jessica Pohlig, Joseph Owen. Butler University, Indianapolis, IN. Sponsor: Carrie Maffeo

Background: In April 2004, the Butler University College of Pharmacy & Health Sciences (COPHS) Health Education Center was established to ensure that Butler COPHS graduates are prepared to serve as health educators. In collaboration with Human Resources and the COPHS Health Education Center, a worksite health promotion program was developed with the aim to "create a symbiotic relationship among the Butler community with the objective of improving the health of the faculty and staff and to decrease the cost of healthcare coverage."

Objective: To compile and assess initial participant and yearly follow-up health screening data for participants in a worksite based health promotion program at Butler University. A sub-group analysis of faculty versus staff and male versus female participants will be performed.

Methods: A retrospective chart review will be performed on all participants that underwent an initial and one year follow-up health screening from March 2005 to the present. The health screening includes a fasting lipid panel, blood glucose, body mass index calculation, and blood pressure assessment. Two data sets will be analyzed: first, initial screenings from 2005 and 2007 and second, yearly follow-up screenings. Descriptive and inferential statistics will be performed to compare yearly health screening data using SPSS.

Results: Proposed results will show overall positive outcomes. Possible reasoning for proposed positive outcomes includes improved health among participants and increased health goal attainment.

01:15PM

Assessing the outcomes of liquid medications given via enteral feeding tubes in a VAMC. Maria Beitel, Brooke Speheger. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey

Background: Diarrhea is a major adverse event with serious consequences, which is occurring ever more frequently in hospitalized patients receiving enteral nutrition and liquid medications. There is a lack of studies addressing the question of whether the diarrhea is due to the enteral formulation or liquid medications.

Objective: To assess the incidence and causative factors of diarrhea in patients receiving enteral nutrition as well as liquid medications.

Methods: A retrospective chart review design was used to meet the study objective. VAMC patients receiving enteral nutrition and liquid medications via feeding tube, as well as those receiving only enteral nutrition, from October 2006 through September 2007 were identified from records kept by the nutrition department at the VAMC. Descriptive statistics and logistic regression analysis will be used to estimate the impact of liquid medications on patients receiving enteral nutrition after controlling for confounding variables.

Significance: Once all data is collected and analyzed, it is believed that a trend will emerge showing that the incidence of diarrhea in patients receiving enteral nutrition is attributable to the liquid medications that patients are receiving via feeding tube, not due to the enteral nutrition itself. Once identified, the healthcare team will be more likely to examine

all potential causes of diarrhea and take immediate action to correct causative factors, such as eliminating or limiting the use of liquid medications. Raising awareness of this issue will result in overall better patient care, decreased hospital length of stay, and more positive patient outcomes.

01:30PM

Design and Assessment of the Need for a Community Pharmacy Patient Referral Service for a Medication Assistance Program. Tiffany LaMar. Butler University, Indianapolis, IN. Sponsor: Carriann Richey

Background: Medication assistance programs are available to help people afford their medications. There may be barriers keeping community pharmacists from offering these programs to their patients and no support services are currently available specifically for pharmacists.

Objective: The objective of this survey is to determine a need for a medication assistance referral service for community pharmacists in Indiana.

Methods: The survey was distributed to 1500 pharmacists in Indiana via email. The email addresses were randomly selected from a list of IN licensed pharmacist. The survey assessed the demographics of the pharmacy area and the opinion of the pharmacist regarding the development of a medication assistance referral service.

Results: Of the respondents, fifty-nine indicated they were community practitioners. Forty-two pharmacists indicated they practiced in the chain setting and half (n=26) indicated their pharmacy currently offers assistance. All of the respondents (n=55) indicated that there was a need for medication assistance programs for their patients. Approximately half of the respondents indicated they would turn the patient over to the service. When the pharmacists were asked about their current opinions, 55% (n=30) would like to learn more about the programs, 67.3% (n= 37) thought there was a need for the programs to continue, 25.5 % (n=14) do not know where to look, and 30.9% (n=19) thought they were too complicated.

Conclusions: The overall feedback was positive, indicating there was a patient need. Additional education may also be helpful in exposing pharmacists to patient assistance programs and the application processes.

01:45PM

Patient Perceived Barriers to Hypertension Control. Jordan Nuger. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: Patients in an underserved community do not have adequate financial resources. Several patients who are close to the poverty level do not maintain the same control over their blood pressure compared to patients who have an improved financial situation. Currently, several clinics in the Indianapolis community are trying to improve healthcare delivery to impoverished patients.

There are many barriers that indigent patients face when trying to reach hypertension control. Receiving medication and health education (understanding their diets, caffeine, and alcohol intake) are just a few areas in which impoverished patients are less fortunate than patients who can receive proper access to health care.

Objective: To evaluate the barriers that clinics face when trying to deliver healthcare to an indigent hypertensive patient. Thus, the study will analyze the barriers and then recommend improvements that will help the clinics give better care to reduce the most prevalent barriers.

Method: A survey will be distributed to hypertensive patients during their visit to Good Samaritan Clinic in Indianapolis, Indiana. The survey will be voluntary and available in Spanish in order to best serve the entire patient population. All patients with hypertension will be welcome to participate.

Surveys will be handed out for approximately two months. After two months, the data will be collected and analyzed.

Significance: The results of this study should be used to help treat patients at Good Samaritan Health Clinic. By analyzing the largest therapeutic lifestyle barriers, better blood pressure treatment guidelines should be established for optimal care.

Results: Data collection is ongoing.

Conclusion: To be determined subsequent to data collection.

02:15PM

Preparing Fourth-year Pharmacy Students to Become Immunization Pharmacists. Zachary Marcum. Butler University, Indianapolis, IN. Sponsor: Carrie Maffeo

Background: Recent legislation in Indiana allows pharmacists to administer influenza vaccinations to adults per physician protocol. The Butler University Pharmacy curriculum did not previously offer immunization training.

Objective: To assess the attitudes, knowledge, and skills of the current P4 student pharmacists at Butler University relating to immunizations before and after implementation of an immunization training certificate program.

Methods: The study is a self-administered, e-mailed survey of current P4 student pharmacists enrolled at Butler University before and after the immunization training program. The training took place on Butler's campus. Practicing pharmacists and other pharmacy students were excluded from the study. The e-mailed survey includes a cover letter that describes the purpose of the survey, researcher information, anonymity, and return deadline. The survey consists of four sections: demographics, attitudes, knowledge, and skills. The demographics section includes age, gender, and prior injection experience. The second section assesses the attitudes of student pharmacists toward pharmacist-administered immunizations. The third and fourth sections evaluate the knowledge and skills of the student pharmacists related to immunizations, respectively. The responses to the statements were measured using a five-point Likert scale (strongly agree, agree, neutral, disagree, and strongly disagree). Data will be analyzed using descriptive statistics. Pre- and post data will be compared to identify changes in the knowledge, skills, and attitudes of the students toward immunizations.

Significance: This study aims to conclude that the immunization training certificate program has a positive impact on the attitudes, knowledge, and skills of the P4 student pharmacists.

02:30PM

The impact of high-dose vancomycin therapy on efficacy and toxicity: A retrospective chart review. Sarah Hollis. Butler University, Indianapolis, IN. Sponsor: Christopher Degenkolb, Jarrett Amsden.

Background: The 2005 American Thoracic Society guidelines for healthcare-associated pneumonia include a serum target trough concentration of 15 to 20 µg/ml. This change in guidelines from a target of < 15 µg/ml was influenced by pharmacokinetic modeling studies showing potentially a small percentage of serum concentration reaching the lungs. However, few clinical trials exist that support therapeutic benefit for this recent change in guidelines.

Objective: To estimate the efficacy and toxicity of high-dose vancomycin in patients with healthcare-associated pneumonia (HCAP) due to methicillin-resistant *Staphylococcus aureus* (MRSA).

Methods: This study was conducted as a retrospective chart review at the Richard L. Roudebush Veterans Affairs Medical Center. Primary objectives include an evaluation of efficacy and toxicity of vancomycin in

relation to average target trough concentrations. Patients were randomized into two groups on the basis of trough levels with one group including those patients with an average trough of < 15 µg/ml and the other consisting of patients exhibiting the more recent recommendation of = 15 µg/ml. Efficacy was measured on the basis of the following factors: fever, leukocytosis, signs of infection, culture counts, and mortality. Additionally, vancomycin toxicity was evaluated for both ototoxicity and nephrotoxicity.

Significance: The results of this study will add to the limited literature on clinical outcomes of high-dose vancomycin in patients with HCAP.

02:45PM

Leveling the playing field for basic health care: A study evaluating resources available for non-English speaking Hispanic patients in retail pharmacy settings in Indianapolis. Eberenna Egwu, Tynesha Dodd. Butler University, Indianapolis, IN. Sponsor: Kristal Williams

Background: The elimination of health disparities is a major key goal of Healthy People 2010. Currently, significant disparities between white and minorities continue to exist. As the U.S. Hispanic population increases, it is imperative that health care systems and providers adequately respond to the needs of the community, the individual, and various cultures. Pharmacists, the most accessible health care providers, are positioned to positively impact individuals through providing essential medication counseling and assisting patients achieve the best use of medications. For the growing non-English speaking Hispanic population it will be necessary to provide such information in Spanish. There are very few studies evaluating pharmacy-related services available to non-English speaking patients.

Objectives: To evaluate available resources at retail pharmacies for the non-English speaking Hispanic population; to survey Hispanic residents regarding their pharmacy experiences and perceptions, and to determine ways to potentially decrease medication errors among Hispanics.

Methods: This study was conducted utilizing multiple survey tools (phase 1) and a secret shopper (phase 2). The first survey was distributed to pharmacy managers and pharmacists of major retail pharmacies. Pharmacist and pharmacy managers were asked to complete a 14-item survey on pharmacy resources available to Hispanic patients. The second survey was randomly administered to adult, non-English speaking Hispanic patients of various study sites at their physician appointments. The 10-item survey focused on patient's experiences at the pharmacy and the desirable characteristics at their community pharmacies. Hispanic patients obtaining valid prescriptions were asked to participate in phase two.

03:00PM

Retrospective Review & Analysis of Antibiotic Use in Patients with Acute COPD Exacerbations Admitted to Methodist Hospital during 2005. Stephanie Owen. Butler University, Indianapolis, IN. Sponsor: Kevin Tuohy

Objective: To examine the use of antibiotics during the treatment of a COPD exacerbation in the absence of signs and symptoms of infection.

Background: A COPD exacerbation is characterized by three classical findings: worsening of dyspnea, increase in sputum purulence, and increase in sputum volume. Most COPD exacerbations are treated with antibiotics even when signs and symptoms of an infection are not present. Studies have demonstrated the beneficial use of antibiotics in patients with more severe exacerbations. Cost effective use of antibiotics could be promoted by identifying specific signs and symptoms associated with an infection.

Research Design and Methods: This study will be a randomized retrospective chart review of approximately 50 patients. The patients selected for the study will be admitted for a primary diagnosis of COPD exacerbation between January 1, 2005 and December 31, 2005. The

exclusion criteria will be patients less than 18 years old or those older than 89 years old.

Significance: This study will be used to gather information about the prescribing habits of practitioners during a COPD exacerbation. The information will then be used to educate practitioners on appropriate antibiotic use. The secondary outcome will look at the additional cost associated with unnecessary antibiotic use, as well as the increased risk of contacting multi-drug resistant organisms.

03:15PM

Exploring Immigrant Chronic Disease Management. Katie Carpenter. Indiana University-Bloomington, Bloomington, IN. Sponsor: Nicole Quon

Background: This research addresses the health system responses to the chronic care management of immigrants. This issue is an area of interest due to the influx of immigrants entering the United States as well as public opinion about the importance of the issue of healthcare. Some of the challenges related to immigrant health are language, culture, and documentation barriers. The difficulties associated with treating immigrants are compounded when they have chronic diseases. People with chronic disease that do not have high quality care or access to care have worse health outcomes. Chronic disease management helps the patients remain healthy.

Methods: The paper begins with an overview of immigrants, their health status, and their access to care. It then discusses how national policy and politics influence our debate on immigration and healthcare. Next, it explores current policies and policy proposals by evaluating public and private initiatives at the state and local level to address the chronic health needs of immigrants. An alternative proposal will be discussed that relies on community initiatives to facilitate access to high quality healthcare. Programs that offer chronic disease management can empower chronically ill immigrants to improve their health status.

Result: Policy proposal pending.

Session O

Pharmacy Building, Room 205

Moderator: Dr. Sarah Nordmeyer

01:00PM

Pharmacist driven education on an elderly community. Christy Reznik. Butler University, Indianapolis, IN. Sponsor: Sarah Nisly

Background: Pharmacists share knowledge with the elderly community on a daily basis in their respective practices. There is, however, a lack of data demonstrating the impact of a community education series on an elderly group's medication and disease state management.

Objective: To improve a local elderly community's knowledge of both medications and disease states.

Methods: To meet the study objective, a prospective longitudinal survey analysis was used. A four lecture educational series will be designed for a local elderly community. The series goals are to improve the overall knowledge of medications and common disease states. These lectures will be delivered by pharmacists and will include the following topics: over-the-counter medications and herbal supplements, medications that increase the risk of falls, alzheimers disease, and general medication management. To measure the impact of the educational series, we will give a brief ten question survey at the beginning and end of the series.

Significance: Improving the knowledge of medications and disease states will help this elderly community take an active role in their healthcare.

01:15PM

Additive Triglyceride Lowering Effects of Gemfibrozil and Fish Oil Combination Compared to Gemfibrozil or Fish Oil Alone in a VA Population: A Retrospective Chart Review. Victoria Lehman, Tracie Winn, Kassie Ashcraft. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey

Background: Gemfibrozil and fish oil both have been found to lower triglyceride (TG) levels, but gemfibrozil's results have been more significant. Due to the combination of two different mechanisms, an additive decrease in TG's may occur. Currently, literature is lacking in assessing these additive effects that the combination may provide.

Objective: The primary objective is to assess if using combination therapy of gemfibrozil and fish oil have an additive TG lowering effect compared to gemfibrozil or fish oil alone. Secondary endpoints include effects on high-density lipoprotein (HDL), low-density lipoprotein (LDL), and Hemoglobin A1c (HgbA1c).

Methods: This is a retrospective cohort study of patients on combination or monotherapy. Information collected will consist of two immediate and one long term lipid profile, as well as some common confounding variables. Patients on HMG-CoA reductase inhibitor (statin) therapy were excluded.

Results: Compared to baseline, fish oil alone, gemfibrozil alone, and combination groups all decreased TG at the initial follow up ($p=0.943$) and had a long term decrease ($p=0.772$). Effects on HDL and LDL were not statistically significant.

Conclusions: Based on previous data and prior analyses alone, the results found that all three treatments numerically decreased TG at both short and long term follow-ups. However, none of these conclusions reached statistical significance. It is believed that the sample sizes did not carry enough power, increasing the risk of a Type II error. Data collection will continue in order to increase the power of the study.

01:30PM

Evaluation of Smoking Cessation Success Rates within a Veterans Affairs Medical Center. Ashley Willhoite. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey

Background: Cigarette smoking is the leading cause of preventable death in the United States and accounts for approximately 1 of every 5 deaths each year. Varenicline is the newest smoking cessation product, showing a 44% quit rate compared to bupropion and placebo after twelve weeks. Veterans are among the highest smoking populations. The 2005 National Survey on Drug Use and Health reported that 18.8% of veterans had smoked daily in the past month, compared with 14.3% of nonveterans. The most successful approach to smoking cessation in this population remains unclear.

Objective: To evaluate smoking cessation rates in VA patients comparing varenicline, bupropion, and nicotine patch within one year of therapy initiation.

Method: Data collection will be completed via a telephone survey. The VA computer database will be used to identify subjects who were given a prescription for varenicline, bupropion, or nicotine patch between the dates of February 1, 2007 thru April 30, 2007. The telephone survey will consist of questions relating to successful use of the product, side effects, and motivation to quit. The survey will be conducted by VA pharmacists and pharmacy students.

Results: Data collection is ongoing and results will be presented at the URC on April 18, 2008.

Conclusion: Results from this study will help the VA determine which smoking cessation products work best in their patient population. It will

also enable them to identify barriers to quitting, which can help enhance their smoking cessation program.

01:45PM

Use of Hypoglycemic Medications in Patients with Impaired Glucose Tolerance or Type 2 Diabetes after Roux-en-Y Gastric Bypass Surgery. Mallory Pearson. Butler University, Indianapolis, IN. Sponsor: Annette McFarland

Background: It is known that glucose intolerance and type 2 diabetes improve or resolve in a significant number of patients after bariatric procedures such as Roux-en-Y gastric bypass. However, little information is available regarding the changes in hypoglycemic medication requirements in these patients.

Objective: To identify changes in oral hypoglycemic medication and insulin use in patients with impaired glucose tolerance or type 2 diabetes mellitus after Roux-en-Y gastric bypass surgery.

Methods: A retrospective chart review was used to meet the study objective. Patients diagnosed with impaired glucose tolerance or type 2 diabetes mellitus that underwent Roux-en-Y gastric bypass surgery were identified from a database at St. Vincent Bariatric Center in Carmel, Indiana. In addition to demographic information, fasting blood glucose, hemoglobin A1C and hypoglycemic medication use were recorded at baseline, date of surgery, and six follow-up visits.

Significance: Identifying changes in medication use after Roux-en-Y gastric bypass surgery may help practitioners to better manage these patients and decrease the incidence of adverse effects from hypoglycemic medications as patients dosage requirements decrease.

02:15PM

Who Am I? An Introduction to the P1 Class. Julie Williams. Butler University, Indianapolis, IN. Sponsor: Dr. Bonnie Brown

Background: The P1 class beginning fall 2007 is comprised of 123 students (81 female, 42 male) who were admitted to the professional phase of the pharmacy program based on their overall grade point average and scores on the PCAT (Pharmacy College Admission Test) examination. There are no students who transferred into the class at the P1 year.

Objective: The objective of this survey is to determine the characteristics of the P1 (first professional year of pharmacy school) as a group.

Methods: Students answered a survey of questions compiled by myself with the input of the P1 professors. The survey was posted through Blackboard to get optimum participation. This survey has been deemed exempt per Butler University IRB.

Results: A total of 81 of the 123 students in the class answered the survey. Three respondents were removed prior to analysis due to lack of completion. The majority of the respondents were female as is the majority of the class. Only 12% of respondents have never worked in a pharmacy while 69% currently work in a pharmacy. More than half of respondents (54%) report that they study 10 or more hours per week.

Conclusion: There is no conclusion to draw from the survey as a whole but the result of each question provides insight into this year's P1 class. The data from this survey can be compared to future incoming classes to see how or if the classes are changing.

02:30PM

Retrospective Review & Analysis of Antibiotic Use in Patients with Acute COPD Exacerbations Admitted to Methodist Hospital 2006. Nicole Blackwell, Stephanie Owen, Allison Graves. Butler University, Indianapolis, IN. Sponsor: Kevin Tuohy

Objectives: The primary objective of this study is to examine the use of antibiotics during treatment of a COPD exacerbation in the absence of signs and symptoms of infection. The secondary outcomes in this study will assess appropriate preventative measures, unnecessary costs to patient care, and the promotion of multi-drug resistant organisms.

Background: A COPD exacerbation is characterized by: worsening of dyspnea and increase in sputum purulence and volume. Most exacerbations are treated with antibiotics even when signs and symptoms of an infection are not present. Only one-half of COPD exacerbations are a result of bacterial or viral infections. Studies have demonstrated the beneficial use of antibiotics in patients with severe exacerbations. Cost effective use of antibiotics could be promoted by identifying specific signs and symptoms associated with an infection.

Research Design and Methods: This study will be a randomized retrospective chart review of approximately 50 patients. The selected patients will be admitted for a primary diagnosis of COPD exacerbation between January 1, 2006 and December 31, 2006. The exclusion criteria will be patients less than 18 years old or those older than 89 years old. Appropriate statistical analysis will be performed.

Purpose: This study will be used to gather information on prescribing habits of practitioners during a COPD exacerbation and to educate practitioners on appropriate antibiotic use. The secondary outcome will look at the additional cost associated with unnecessary antibiotic use, as well as the increased risk of multi-drug resistant organisms.

02:45PM

Retrospective Review of Emergency Department Medication Histories Obtained by Certified Pharmacy Technicians Versus Registered Nurses. Jessica Broadstreet, Derek Fields. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey

Background: The Joint Commission publishes National Patient Safety Goals (NPSG) annually. Beginning in 2005, NPSG 8 focused on medication reconciliation. A critical component of medication reconciliation is obtaining complete and accurate medication histories.

Objective: To retrospectively analyze medication history accuracy obtained by certified pharmacy technicians (CPhT) versus registered nurses (RN).

Methods: Any patient, aged 18 years and older, admitted to the emergency department between May 1, 2007 and September 23, 2007 were included in the sample data for analysis. All patients were randomized into one of two categories:

1. Medication histories obtained by a RN
2. Medication histories obtained by a CPhT

Two hundred charts were analyzed from each of the aforementioned categories.

Medication histories were reviewed for completeness and accuracy. Medication histories were marked and included in final result calculations if they were missing dosage strength or contained inaccurate information. Missing dosage strength was defined as listing a home medication without correlating dosage strength. Inaccurate information was defined as a recorded dosage or route that is not accurate according to the accompanying medication documentation.

Results: The incidence of missing dosage strength in medication histories occurred less in the CPhT group (89/1,314; 6.8 %) than RN group (190/1,154; 16.5 %). The percentage of charts with inaccurate information

collected by a CPhT versus a RN was (5/200; 2.5 %) versus (19/200; 9.5 %), respectively. (Statistical analysis pending)

Conclusions: Results from this study hope to demonstrate that utilizing certified pharmacy technicians in the emergency department can become an innovative pharmacy practice.

03:00PM

Impact of Method of Testing and Patient Factors on the Variability of Results Using the Cholestech L-D-X Portable Lipid Analyzer. Cory Holland. Butler University, Indianapolis, IN. Sponsor: Kristal Williams

Background: The Cholestech L-D-X system is a self-calibrating desktop point-of-care lipid panel analyzer that measures TC, TG, HDL and LDL cholesterol concentrations. Clinical studies have shown the Cholestech L-D-X device is capable of providing reasonable lipid profile measures for screening purposes; however it does not consistently meet NCEP standards for acceptable total measurement error of TC, HDL, and TG analysis. While study results are conflicting, none have looked at the impact of the methodology in obtaining blood samples on the variability of results.

Objective: The objectives of this study are to (1) compare the variability between the fasting lipoprotein results processed by the Cholestech L-D-X portable lipid analyzer and a local central laboratory, (2) determine whether the blood sample type and/or collection method used to obtain point-of-care blood samples affects the variability of fasting lipid panel results using the Cholestech L-D-X PLA, (3) determine the effect of various demographic parameters on the reported lipoprotein results of the Cholestech L-D-X PLA.

Methods: A comparative prospective study design was used to meet the objective. Consenting adults who either receive their primary health care at the Indiana University•Methodist Family Practice Center or individuals responding to the study announcement distributed within the community will be included in the study. Following a 12 hours fasting period, patients will receive two fingersticks and one venous blood sample collection for cholesterol analysis. Lipoprotein results of the fingersticks will be compared to the lipoprotein results of the venuncture (Gold Standard). Results will be analyzed using appropriate statistical equations.

Session P

Pharmacy Building, Room 212

Moderator: Dr. Alison Walton

01:00PM

The impact of inhaled corticosteroids on cardiovascular events in patients with COPD: A retrospective chart review. Shawn Zwilling. Butler University, Indianapolis, IN. Sponsor: Tracy Sprunger

Background: Several studies have shown that inhaled corticosteroids used in the treatment of COPD also exert their anti-inflammatory action on systemic inflammation, which has been shown to play an important role in the pathogenesis of atherosclerosis. This study is aimed at exploring the likelihood that inhaled corticosteroids could have a positive impact on the number of cardiovascular events suffered and even cardiovascular mortality due to systemic anti-inflammatory action.

Objective: The objective of this study is to determine the impact of inhaled corticosteroids on cardiovascular events in patients with chronic obstructive pulmonary disease.

Methods: A retrospective chart review was performed on 200 patients with a confirmed diagnosis of COPD discharged from Community Health Network between January 2002 and December 2003. Subjects were randomized into two groups; those who received inhaled corticosteroids and those who did not receive inhaled corticosteroids. The two groups were

then followed up through December of 2007 to determine the incidence of cardiovascular events, including myocardial infarction and stroke/TIA.

Significance: If inhaled corticosteroids are shown to reduce cardiovascular events, these results could lead to further investigation and prospective studies on this topic. And, in the future may aid in the development of new therapy algorithms for the prevention of cardiovascular disease in patients with COPD.

01:15PM

The effect of inhaled corticosteroids on cardiovascular hospitalizations in patients with COPD. Ashley Perkins. Butler University, Indianapolis, IN. Sponsor: Julie Koehler

Background: Studies have shown that inhaled corticosteroids reduce the frequency of exacerbations and improve overall health in patients with advanced COPD. Although bronchodilator medications are the mainstay of therapy in COPD, a recent study suggested that inhaled corticosteroids (ICS) might have an impact on cardiovascular (CV)-related mortality in such patients.

Objective: The objective of this study is to determine whether patients with COPD who were taking ICS had a decrease in morbidity and hospitalizations due to CV cause as compared to COPD patients not taking ICS.

Methods: Patients discharged from Methodist Hospital with a diagnosis of COPD exacerbation between January 1, 2000 and December 31, 2003 were targeted for inclusion in the retrospective chart review. The charts of patients identified for inclusion in the analysis were reviewed for the occurrence of the following outcomes: hospital readmission due to COPD exacerbation or CV cause; death due to COPD, CV cause, cancer, or other cause. The percentage of patients experiencing these outcomes are being compared among those patients receiving ICS versus those not receiving ICS. The statistical significance, if any, between the two treatment groups will be determined.

Results: To date, 150 patient charts have been reviewed. Among the patients, 25% were former smokers, 26% were current smokers, 7% were non-smokers and 42% of the patients had unknown smoking history due to missing social history documentation. 43% of the patients were receiving ICS at baseline. Tabulation of the outcomes and statistical analyses are pending.

01:30PM

A Survey of Pharmacy Students' Perceived Preparedness to Handle Pharmacy Fraud and Robbery. Danielle Schott. Butler University, Indianapolis, IN. Sponsor: Carriann Richey

Objective: The primary objective of the study is to determine the perceived preparedness of pharmacy students in the retail setting to handle pharmacy robbery and prescription fraud. The secondary objective is to identify any educational needs that may be met either in the workplace or through the college.

Methods: A survey document was emailed to pharmacy students at Butler University from pre-pharmacy year 2 to professional year 3. The data collected included information regarding demographics, prescription fraud, pharmacy robbery, and general security measures. Data collection was completed on October 1, 2007.

Results: 195 students took the survey. The student respondents from each year were: PP2 - 30%, P1 - 25%, P2 - 15% and P3 - 29%. 139 students had worked in the community setting in the past 6 months. 26% of students indicated their perceived preparedness as prepared or extremely prepared when asked about handling fraud in the pharmacy and 12% indicated their perceived preparedness as prepared or extremely prepared when asked

about handling robbery in the pharmacy. 88% of students indicated that they would like to receive additional instruction on handling fraud from their employer. 89% of students indicated that they would like to receive additional instruction from their employer on handling pharmacy robbery.

Conclusions: The majority of students did not perceive that they were highly prepared to handle fraud or robbery in the pharmacy. Initial results indicate that students would like to receive additional information on fraud and robbery from their employer.

01:45PM

Pharmacist driven education on an elderly community. Kristy Booziotis. Butler University, Indianapolis, IN. Sponsor: Sarah Nisly

Background: Pharmacists share knowledge with the elderly community on a daily basis in their respective practices. There is, however, a lack of data demonstrating the impact of a community education series on an elderly group's medication and disease state management.

Objective: To improve a local elderly community's knowledge of both medications and disease states.

Methods: To meet the study objective, a prospective longitudinal survey analysis was used. A four lecture educational series will be designed for a local elderly community. The series goals are to improve the overall knowledge of medications and common disease states. These lectures will be delivered by pharmacists and will include the following topics: over-the-counter medications and herbal supplements, medications that increase the risk of falls, alzheimers disease, and general medication management. To measure the impact of the educational series, we will give a brief ten question survey at the beginning and end of the series.

Significance: Improving the knowledge of medications and disease states will help this elderly community take an active role in their healthcare.

02:15PM

Assessing Patterns of Development and Treatment of Clostridium difficile in a Veterans Affairs Medical Center. Nisha Patel, Meghan Estill, Shawna Li. Butler University, Indianapolis, IN. Sponsor: Christopher Degenkolb, Jarrett R. Amsden.

Background: The increasing incidence of Clostridium difficile-associated diseases (CDAD) are contributing to the rise of healthcare costs. For every 1000 hospital admissions, 3.4 to 8.4 cases have been reported, along with a doubling in CDAD hospital discharges. In addition, The Center for Disease Control (CDC) has expressed concern for a newly identified strain that has developed antibiotic resistance. There are a lack of studies evaluating C. difficile complications in a community hospital setting, specific treatment regimens, and individualized outcomes.

Objective: To improve current hospital guidelines and outcomes of patients with C. difficile.

Methods: A retrospective, case-controlled chart review will be conducted to evaluate a patient's therapeutic regimen and outcome. All patients with a positive C. difficile toxin assay during 2006 at the Veterans Affairs Medical Center (VAMC) in Indianapolis, IN will be identified through a centralized database system. The targeted population was selected on diagnosis of the following: diarrhea, an overnight stay at the VAMC within the past 3 months, and positive evidence of a C. difficile infection. Each patient will be categorized according to age, gender, admission date, and floor unit. The cases will be evaluated to assess risk factors compared to the matched controls. The control group will be randomized based on admission dates and nursing unit.

Results: Data analysis is ongoing.

Conclusion: To be determined following completion of data collection.

02:30PM

Assessment of Osteoporosis Therapy at Community Family Medicine Clinic. Neil Creasey. Butler University, Indianapolis, IN. Sponsor: Emily Papineau Pharm D.

Background: Fractures are associated with complications and can greatly reduce the quality of life. Patients who have developed osteoporosis are at a greater risk for a fracture. The addition of bisphosphonates with calcium and vitamin-D has been shown to reduce bone turnover and slow the progression of osteoporosis.

Objective: The objective of this study will be to assess the level of therapy being provided to patients diagnosed with osteoporosis at the Family Medicine Clinic.

Methods: A retrospective, case-control chart review was used to meet the study objective. Eighty patients between the ages of 18-89 who had a documented fracture and diagnosis of osteoporosis between November 1, 2006 and October 31, 2007 were randomly selected for review. The patients were assessed for osteoporosis therapy, and if therapy correlates to the current guidelines for the treatment of osteoporosis as defined by the AACE and NAMS. We monitored for the most recent DEXA-scan and the T-scores to identify the degree of bone loss for each patient. Secondly, we evaluated the use of osteoporosis medications. Because acid suppressive therapy has been associated with decreased calcium absorption, the presence of a proton pump inhibitor or H2-antagonist will be noted, along with the salt form of calcium that is being used

Data will be evaluated using The Statistical Package for Social Sciences version 14.0 (SPSS Inc., Chicago)

Significance: The results of this study and its implications will be presented at the Butler Undergraduate Research Conference and will be presented to physicians at the Family Medicine Clinic.

02:45PM

Additive Triglyceride Lowering Effects of Gemfibrozil and Fish Oil Combination Compared to Gemfibrozil or Fish Oil Alone in a VA Population: A Retrospective Chart Review. Tracie Winn. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey

Background: Gemfibrozil and fish oil both have been found to lower triglyceride (TG) levels, but gemfibrozil's results have been more significant. Due to the combination of two different mechanisms, an additive decrease in TG's may occur. Currently, literature is lacking in assessing these additive effects that the combination may provide.

Objective: The primary objective is to assess if using combination therapy of gemfibrozil and fish oil have an additive TG lowering effect compared to gemfibrozil or fish oil alone. Secondary endpoints include effects on high-density lipoprotein (HDL), low-density lipoprotein (LDL), and Hemoglobin A1c (HgbA1c).

Methods: This is a retrospective cohort study of patients on combination or monotherapy. Information collected will consist of two immediate and one long term lipid profile, as well as some common confounding variables. Patients on HMG-CoA reductase inhibitor (statin) therapy were excluded. **Results:** Compared to baseline, fish oil alone, gemfibrozil alone, and combination groups all decreased TG at the initial follow up ($p=0.943$) and had a long term decrease ($p=0.772$). Effects on HDL and LDL were not statistically significant.

Conclusions: Based on previous data and prior analyses alone, the results found that all three treatments numerically decreased TG at both short and long term follow-ups. However, none of these conclusions reached statistical significance. It is believed that the sample sizes did not carry enough power, increasing the risk of a Type II error. Data collection will continue in order to increase the power of the study.

03:00PM

Sweet Success of Lost in Translation? A Comparison of branded and private - labeled glucometers. Alisson Keillor. Butler University, Indianapolis, IN. Sponsor: Kristal Williams

Background: Self monitoring of blood glucose (SMBG) is an important part of diabetic care. Recently glucometer marketing trends focus on creating quick, painless meters that require a minimal amount of blood. With the rising cost of branded devices, generic meters have become a popular alternative. But are they as accurate?

Objective: The objective of this study is to determine if generic (subject) meters are as accurate as the brand name (control) meters, and if a significant (>3%) variation exists among the following meters: Ascensia Contour® and FreeStyle Flash® (controls), and TrueTrack Smart System® and BD Logic® (subject meters).

Methods: English speaking COPHS volunteers (>18 years) who sign the informed consent will be subject to fingersticks to obtain readings from each of the meters. Subject meter data will be compared to control meter data via statistical analysis. Variation greater than 3% will indicate an inaccurate reading. Readings within 3% of the controls will be considered accurate. The outcome is to determine if a significant (>3%) variation exists among these meters.

Significance: The ADA recommends that home glucometers not deviate from a laboratory value by more than $\pm 5\%$. Studies have evaluated deviations of branded meters, but no studies exist to evaluate generic meters. The results of this study will determine if the readings from the subject meters differ significantly from the controls, thereby determining whether generic meters are as accurate as brand name meters. The results will be useful when making recommendations to patients and practitioners for optimal management of diabetes mellitus.

Philosophy & Religion

Session A: Philosophy

Jordan Hall, Room 201

Moderator: Dr. Tiberiu Popa

10:00AM

Mind-Body Supervenience through Mechanism. John Schneider. University of Wisconsin - Milwaukee, WI. Sponsor: Robert Schwartz

Terrence Horgan argues in "From Supervenience to Superdupervenience" that any supervenience, or dependence relationship must be understood as what he calls superdupervenience – it must be "robustly explainable" in order to be respectable in a materialist metaphysical framework. What he means when he says this is relatively foggy. What does explanation mean – what can it mean specifically in terms of mind-body supervenience?

Somehow, mental phenomena – thoughts, emotions, beliefs, desires – are connected in a dependence relationship with the neural structures and their corresponding activities in our central nervous system. In accordance with physicalism, the brain is the best place to look: the best empirical observations show that mental states are generally correlative with brain states. I will examine Horgan's demands in relation to the explanation of the mind-body problem, but in order to take the first step down the path toward understanding, one must begin with a workable conception of what constitutes a good explanation. Obviously we have a very long way to go before we understand exactly how thoughts arise from neurons firing – and who knows if it is even within our cognitive and epistemic capabilities to do so. However, what is possible is to lay a conceptual framework for how mind-body supervenience might be explained in the fullest possible way, so that any explanation arrived at can be regarded as genuinely "robust". I will advocate a mechanistic model for explanation of functional mental phenomena as the most "materialistically acceptable", and draw out some implications for the notion of mind-body supervenience.

10:15AM

The War on AIDS in sub-Saharan Africa. Michael Hole. Butler University, Indianapolis, IN. Sponsor: Richard McGowan

Some suggest that only prevention or only treatment for the infected is how to respond to the HIV/AIDS crisis. I argue that both prevention and treatment of HIV/AIDS are necessary to control and eventually conquer the current epidemic in sub-Saharan Africa. I first examine the articles of Anthony S. Fauci, and Dorothy E. Logie and Solomon Benatar, outlining the most significant causes of the epidemic and its continual growth. Subsequently, I recount the devastating effects of the epidemic, as noted by the Joint United Nations Programme on HIV/AIDS and World Health Organization (UNAIDS) and again, Anthony S. Fauci. Third, I present the reasoning of Peter R. Lamptey, and again, Anthony S. Fauci, to identify the most effective measures for prevention of further infection. Fourth, by investigating the articles of UNAIDS, Logie and Benatar, Gavin Yamey and William W. Rankin, Malegapuru William Makgoba, and others, I explore the prospects for finding a cure and treating the disease. Finally, I suggest parties who should bear the responsibility for funding such initiatives.

10:30AM

The Way Forward: Womanist Theology and South Africa in Discussion with Mercy Oduyoye. Shelley Sellwood. Hanover College, Hanover, IN. Sponsor: Chad Quaintance

This article examines how the work of theologians has helped a community move toward solidarity after experiencing extreme devastation, especially among women. The paper describes briefly the devastation of apartheid in South Africa, while acknowledging such other factors as AIDS. Using Mercy Oduyoye's writings (along with a personal interview of her), I attempt to differentiate between what she is saying and what Americans

tend to say to one another in the wake of injustice. Though Reverend Oduyoye is not South African, her message has been influential in that nation. The focus is on Reverend Oduyoye, yet other African theologians, Desmond Tutu and Denise Ackermann, complement her and bring in details concerning South Africa. In essence, I find that South Africans have grasped how to wrestle with the past and move forward, while understanding the importance of dialogue with all. Women are being asked to speak, yet they are asking men to as well. The people of South Africa have risen to build a solid community based on love for all, including women. With this, I spend the last portion of the paper, discussing how this message has affected my theology. The theme of truth and reconciliation allowed me to realize the importance of focusing on similarities of all, rather than differences. Ultimately, the South Africans taught me to understand my past but live for the present; in each moment I should consume myself with loving others, just as the South African community has done.

Session B: Religion

Jordan Hall, Room 201

Moderator: Dr. Tiberiu Popa

11:00AM

J.S. Bach and Catholicism: BWV 18, 126 and the B minor Mass. Nicole Koehler. Valparaiso University, Valparaiso, IN. Sponsor: Linda Ferguson

Johann Sebastian Bach's last works sought to establish a legacy for posterity, to impart the apex of his musical knowledge and thought. The great Mass in B Minor imparts a message of ecumenism that prophesizes to the church today and suggests how a musician might significantly influence future directions of the church.

Scholars have raised many questions concerning the original intentions of Johann Sebastian Bach's Mass. Why did this Lutheran composer write what seems to be Roman Catholic in nature? And for what occasion and place did he expect it to be used? Further complicating the matter, we note that Bach had previously composed two cantatas BWV 18 and 126, which can be considered anti-Catholic in message.

By considering these cantatas and by examining visual depictions of Roman Catholics circulating in Bach's time, a vision of triumphant Lutheranism seems to emerge. This paper examines these seeming contradictions. In particular, Bach's connection to and fondness for the unique city of Dresden, a Lutheran city governed by Roman Catholics, is explored. I seek to reveal Bach's eventual disenchantment with Leipzig and the triumphant Lutheranism he himself propagated earlier in the cantatas. In considering the Mass as a response to anti-Catholic attitudes of his time and place, we find in Bach many issues of compositional process that parallel the Reformation in a new spirit.

11:15AM

Exploring Religion Through Experience. Diane Hardin. Butler University, Indianapolis, IN. Sponsor: Chad Bauman, Susan Neville

Over the course of almost two years, I was a Catholic, a Muslim, a Jew, and a Hindu. In my thesis, I attempted to explore religion through experiencing it for myself. For a three month period of time, I examined the way a typical member of a certain religion experiences his or her religion on a daily basis. Then for a month, I became a practicing member of that religion based on my research. The project is based on the journals I wrote throughout the project as the result of my experiences. In them, I discuss various religious ideas, reflect on religious ritual, describe failures and successes of my journey, and investigate my own relationship with religion and spirituality.

11:30AM

The Lament Psalms: A Resource for Faith-Based Counseling? Stephanie Slemp. Butler University, Indianapolis, IN. Sponsor: Paul Valliere

Scholars have shown that Christian interest in human nature exploded during the last forty years of the twentieth century. One specific area, the field of Christian counseling, also experienced a sudden increase of new approaches. Some approaches combine psychology and Christianity, while others adhere to the claim that the Bible can provide answers to clients' problems. The two main and most popular types of Christian counseling that I focus on are pastoral and biblical counseling. While both types of

counseling use the Bible to some extent as a resource for counseling, I specifically examine the use of a certain type of Biblical scripture, the lament psalms. The lament psalms, expressing the deepest human emotions of anger, fear, doubt, vengeance, and despair, are therefore relevant to the problems addressed by faith-based counselors. However, there is a lack of reference to the lament psalms in faith-based counseling literature. As I address this deficiency, I examine why the lament psalms are relevant to faith-based counseling. Furthermore, I analyze several interviews with faith-based counselors and I argue that the lament psalms should be more widely recognized in the faith-based counseling world as a possible resource.

Physics

Session A

Gallahue Hall, Room 348

Moderator: Dr. Xianming Han

09:30AM

Measurement and Analysis of ECH Power Injected Into DIII-D. Phillip Johnson. Butler University, Indianapolis, IN. Sponsor: John Lohr (General Atomics)

The 6 ECH waveguides at DIII-D are on the order of 100 meters in length with up to 16 miter bends. Accurate measurement of the ratio of generated-to-transmitted power gives the transmission line efficiency directly and is essential for analysis of experiments. The power generated by the gyrotrons is measured calorimetrically for each pulse. But direct measurements of the injected power have relied on analysis of modulated plasma heating, which can overlook significant power where plasma volumes are large and ECH driven temperature fluctuations are small. High power tests of efficiencies of individual components have been difficult due to mutual interaction of components, sensitivity of power monitors to polarization, and the generally high efficiency of the components. We report a direct measurement of the efficiencies of complete transmission lines, using a high power dummy load placed at the end of each DIII-D waveguide. Experimental results will be compared to previous measurements and to theoretical calculations of the performance of the components and waveguide lines.

09:45AM

Optogalvanic Effect of Carbon Monoxide and Neon. Kyle Obergfell. Butler University, Indianapolis, IN. Sponsor: Xianming Han

Optogalvanic Effect (OGE) is an intriguing characteristic of gases, that has been studied predominately in simple gases such as Neon and Argon. The OGE is characterized by a time dependant change in the gases' electrical conductivity: a shift that is directly related to the average excitation level of the gas. This effect can be produced through the use of a laser which emits pulsed light, of a specific wavelength, into a glass bulb containing the gas being studied. Before the OGE can occur, the gas must first be excited by forcing an electrical current through the gas. Once in the initial excited state, the gas is further excited when the discrete amount of energy in the laser's light photons identically match the energy needed by the gas to reach a higher electron-level. While the actual laser excitation and de-excitation is nearly instantaneous, on the order of tens of nanoseconds, the electron populations for each energy level changes as a result of this process, since many electrons do not return to the energy level from which they were excited. The electron population ratio's return to steady state conditions is the development known as the Optogalvanic Effect, averaging around 150 ms. This process changes the electrical conductivity of the gas, which modifies the current flow. This change in current, during the return to steady state conditions, reveals valuable information about how the electrons undergo energy-level transitions. Dr. Han has also developed a

simplified mathematical model that accurately describes this real world phenomenon.

10:00AM

Long period grating based transducer for sensing hydrocarbon species. Matthew Hein, Christopher Kennedy. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Granieri Sergio

In this presentation we discuss the fabrication of long period gratings in single-mode optical fibers using the amplitude mask technique. An application of these gratings to refractive index sensing is also presented. The proposed transducer aims to identify different hydrocarbon fluids and sense the relative concentration of hydrocarbon mixtures. Long period gratings are written in a single-mode photosensitive optical fiber using an excimer laser beam. The center wavelength of the attenuation band in long period gratings is sensitive to changes in the refractive index of the environment. This effect allows its use as a sensing device. Four gratings are fabricated and characterized with attenuation bands in the spectral window of 1480-1625 nm. We present results showing the spectral behavior of the attenuation bands in different environments such as methanol, acetone, toluene, turpentine, and commercial gasoline among others. An average grating sensitivity of 122.6 nm per refractive index units for external refractive indexes ranging from 1.32 to 1.448 is obtained. Changes in the attenuation band as a function of the concentration of hydrocarbon mixtures are also investigated. Results include experiments with toluene-ethanol and acetone-methanol mixtures.

10:15AM

Modeling the Line Strength of the Optical Jet Lines in SS 433. Erin Lueck, Todd Hillwig, Doug Gies, Herman Marshall, Amy Mioduszewski. Valparaiso University, Valparaiso, IN. Sponsor: Todd Hillwig

We present a study of the H-alpha jet emission lines in the spectrum of SS 433. SS 433 is a microquasar which uniquely shows optical emission from the relativistic jets in the system. We use time series optical spectroscopy to study the line strength of individual "bullets" in the jets and model the rate at which the equivalent width decreases. A good understanding of this behavior can lead to more direct comparison of observations to the jet kinematic model, as well as other important system characteristics.

10:30AM

Searching for Transiting Exoplanets. Bob Daugherty. Butler University, Indianapolis, IN. Sponsor: Brian Murphy

Using the Holcomb Observatory 38-inch Cassegrain telescope at Butler University we are searching exoplanets that may transit (pass in front of) their parent stars. A Jupiter-like planet transiting a star would result in only a 1% decrease in the total brightness of the star. Smaller planets would require even have even less decrease, thus the need for photometry accurate to 0.5%. Last Fall we tested our system and its ability to detect transiting planets and were able to detect two recently discovered planets, Tres-1 and

Wasp-1. The data was accurate better than $\pm 0.3\%$. We are now observing suspected target stars to determine whether or not they have planets that transit them. From this transit data it is possible to determine the diameter of the planet and by precisely timing the transits whether or not other planets exist in the system.

10:45AM

A Visualization System for N-body Models of Star Clusters. Dayna Thompson. Purdue University Calumet, IN. Sponsor: Shawn Slavin

We have developed a software pipeline for visualization of simulated models of dense star cluster evolution. Using the StarSplatter package from the Pittsburgh Supercomputing Center as a frame rendering engine, we have produced a set of software routines in Python and C++ to generate movies of N-body models over the course of a cluster's evolution. The temporal resolution of these movies is dynamic, based on physical timescales for events we are interested in studying. An example is a "binary exchange" event, where a third party star interacts strongly with a binary star, typically in the heart of the dense cluster core, and is exchanged for one of the binary star members. The result is the ejection of the removed star, typically the lightest of the three stars in question, from the cluster. This type of event is strongly connected to the evolution of cluster structure during and after core collapse and one we wish to study through visualization, as well as by traditional means. The software pipeline runs in parallel on a PC cluster at Purdue University Calumet (PUC), allowing us to produce movies with large numbers of frames efficiently, shortening the turn-around time for inspection, analysis and modification of visualization parameters. This work supports astrophysical research by team members at PUC and Indiana University Bloomington.

11:00AM

Nanomedicine. Daniel Baker. Ball State University, Muncie, IN. Sponsor: Eric Hedin

Nanomedicine is fundamentally interdisciplinary and complex. Therefore, it requires utmost expertise in chemistry, biology, physics, and engineering. With rapid strides being made in nanotechnology, the field of nanomedicine is coming into being. As it is very new, it is a revolutionary time in the field of science. However, complications arise. First, because the field is so complex, methods, approaches, and goals vary immensely and it becomes enormously difficult to make sense of it.

The purpose of this project is to provide a course outline for a survey course which could be taught at the undergraduate or graduate level to explain what the field is, what is being done, and how it is being done, as well as supplying some interdisciplinary training which was most likely not included in their previous training.

Political Science

Session A: China and the World

Jordan Hall, Room 203

Moderator: Dr. David Mason

11:00AM

The Transition of Macau. Sydney Archibald, Kenneth Martin, David Eccard. Earlham College, Richmond, IN. Sponsor: Chuck Yates

The Transition of Macau traces China's actions and inactions from the signing of the Sino-Portuguese declaration to the final transfer of Macau's sovereignty in 1999. It examines the specific cases of the international airport and China's military intervention in Macau as well as Macau's economy and legislature, finally concluding that China should have been more involved with Macau during the transition period, and that when China has acted its intervention was misguided.

11:15AM

Nanoparticle Response in Biological Media: An Exploration of Dual-Temperature Modeling Constraints. Brett Bollinger, Renat Letfullin. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Renat Letfullin

The absorption of ultrashort laser pulse energy by metallic nanoparticles pertains to the field of nanomedicine through its viability in the treatment of cancerous cells. The introduction of nanoparticles to the target cells creates a concentration of thermal energy, denaturing proteins within the cell and rendering the cell inert. While methods of modeling the reaction of biological media to nanoparticle heat stimulation exist for uniform heating approximations, future research may benefit from the analysis of dual-temperature models. Extremely short laser pulse energy transfers, specifically those in the femtosecond and picosecond classes, have been modeled using the two-temperature approach, but without a surrounding medium of considerable heat capacity. We intend to explore the heating of biomaterial using a modern two-temperature model, with the expectation of encountering intrinsic limitations dependent upon laser pulse length and the cooling and heating rates of the nanoparticle electron and lattice temperatures.

11:30AM

Nanoclusters and Methods of Their Aggregation. Andrew Brush. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Renat Letfullin

Some methods currently exist to create nanoclusters but most of them haven't been designed for use in biological systems. As a result, further research and likely new methods are needed to develop a concrete method of aggregating nanoparticles into clusters. However, using calculated concentrations of nanoparticles has had some success at creating clusters. Other methods, such as the use of toluene solution, have created organized nanoclusters but fail to be applicable in a living body since toluene is a toxic substance.

11:15AM

China, Taiwan and the Chaos in Between. David Eccard. Earlham College, Richmond, IN. Sponsor: Chuck Yates

The island is known by many names: Formosa, Republic of China, Taiwan. From 1946 to 1971 the Republic of China on Taiwan held the Chinese seat in the United Nations Security Council. But is the island an independent state as some claim or is it instead merely a province of mainland China or is it something else entirely? To understand the current situation and anticipate where it may be heading it is crucial to dissect two recent events: The Taiwan Strait Crisis of 1995-1996 and the 2000 Presidential Election in Taiwan. These two events are paramount because they showcase the evolving relationship between Taiwan and the People's Republic of China. In both cases the PRC engaged in what scholars have called "coercive diplomacy" that is attempting to use force (generally military) to achieve a desired end. This paper argues that although the

PRC's use of coercive diplomacy did not achieve the desired result of reunification it was not a complete failure as Taiwan has remained in the peculiar limbo where it is neither an independent state nor part of the PRC.

11:30AM

The Lack of Influence of Sea Power upon Chinese History. Kenneth Martin. Earlham College, Richmond, IN. Sponsor: Chuck Yates

The People's Republic of China is a rapidly growing power, and to what degree and with what means it intends to project its influence abroad is often discussed in Western circles. This article examines the People's Liberation Army Navy and the late Qing-era navy in their physical structure, historical context, and organizational capabilities with regards to the navy's role in Chinese foreign policy making. It tentatively concludes that the navy, in both eras, is constructed by its government as entirely different as we understand the term 'navy' in the West, and examines the implications of this difference.

Session B: Political Issues at Home and Abroad

Jordan Hall, Room 203

Moderator: Dr. David Mason

12:00PM

Pakistan's Deobandi Madrasas: Breeding grounds for international terror or misunderstood religious organizations? Amy Watkins. Taylor University, Upland, IN. Sponsor: Joseph Ricke

This paper examines the madrasa system in Pakistan, especially those madrasas that adhere to Deobandi ideology. The Darul Uloom madrasa in Deoband, India laid the foundation for what has become a wide global network of Islamic institutions, all adhering to a similar hard-line view of Islam. Deobandi madrasas in Pakistan are often the only educational option for children in poor, rural areas. This is largely due to the failure of the public, Urdu-language school system. Many leading members of the Taliban regime were trained in these madrasas, and they are considered by many to be centers for the expansion of terrorist ideals. When combined with the poverty and frustration that many of these children already face, these ideas become particularly powerful. How have these schools impacted the political situation in Pakistan and how do they affect the United States' war against terrorism?

12:15PM

An Analysis of the Structural and Proximate Causes of Hunger and Food Insecurity in the Occupied Palestinian Territories. Syed Obaid Quadri. University of Washington, WA. Sponsor: Lucy Jarosz

This paper argues that the political and economic relations of dependency between Israel and the Occupied Palestinian Territories are the primary causes of hunger and food insecurity among the Palestinian population. In the wake of the second Intifada (uprising) in September 2000, the question of Palestinian hunger and its root causes had become quite urgent as food insecurity increased from 20% in 1999 to roughly 80% in 2002. Needless to say, the violence of the Intifada played a significant role in bringing about such dire levels of food insecurity, but it would be a gross oversimplification to identify the violence as the primary or the sole cause

of hunger among Palestinians. The violence in 2000 was only a proximate cause, i.e. a tipping point which led to hunger at unprecedented levels in an already very food insecure Palestinian population. Before 2000, however, the extreme asymmetry of power between Israel and the Occupied Palestinian Territories had given rise to a set of structural constraints, i.e. political, economic, and other institutional arrangements, increasing Palestinian vulnerability to hunger and food insecurity. Sadly, these structural constraints have been legitimated and further entrenched by the various economic and peace accords that have consistently favored Israeli interests at the expense of the Palestinians. At its core, the problem of hunger in Palestine is fundamentally one of political and economic dependency; hence, an adequate solution to it must address the dependencies that predispose the Palestinians to experience hunger.

12:30PM

The Audacity of the North American Free Trade Agreement. Malachi Cowells. Marian College, Indianapolis, IN. Sponsor: Robert Geroux

Immigration to the United States has been a hot topic in the past several years because so many immigrants (legal or otherwise) are coming to the United States. It has been debated in the political spectrum about how the U.S. could solve this issue, but perhaps they should analyze what caused this issue instead. The U.S. faces this issue with immigration because out own policies. The North American Free Trade Agreement (NAFTA) is the policy that is responsible for not only severely weakening the Mexican economy and its infrastructure, but is also the primary cause of immigration (both legal and illegal) from Mexico to the United States. NAFTA established a free-trade zone in North America and immediately lifted tariffs on the majority of goods produced by the signatory nations (U.S., Mexico, and Canada). It also calls for the gradual elimination, over a period of 15 years, of most remaining barriers to cross-border investment and to the movement of goods and services among the three countries. This policy has harmed the economy of Mexico so severely that the people of Mexico believe they have no choice but to come to the United States where they hope to find a better life.

12:45PM

A Right to Healthcare in the United States. Andrew Perryman. Indiana University-Southeast, IN. Sponsor: Tom Kotulak

All of the major candidates running in the 2008 presidential primaries have emphasized the importance of providing healthcare to those in need. The one question which all of the candidates have thus far failed to answer adequately is, "Why should the government ensure that people receive affordable healthcare?" My research examines the philosophical and theoretical justifications for the creation of a legal right to affordable healthcare. I employ both utilitarian and deontological justifications to argue in favor of the creation of a right to healthcare. I also examine libertarian objections to the creation of a right to healthcare. I feel that my research has provided me with ample material to argue in favor of the creation of a legal right to affordable healthcare. The first portion of my presentation would examine both reasons for and against the creation of a legal right to affordable healthcare in the United States. The second portion of my presentation would more closely examine how we as a people could legally instantiate such a right. The final portion of my presentation would examine the various specific plans that may be employed to insure that Americans have access to affordable healthcare.

Psychology

Session A: Developmental and Sport Psychology

Jordan Hall, Room 216

Moderator: Dr. Robert Padgett

09:00AM

A Closer Look at Indiana's Adoption Agencies: The Accessibility to Resources Promoting a Positive Transracial Adoption. Nicole Rambeau. Ball State University, Muncie, IN. Sponsor: Heather Adams

Transracial adoption has created much concern in our society today in concluding whether or not it could be detrimental to the adopted child's development. Current research supports that transracial adoption is not harmful to the adjustment of a child but will include unique situations and circumstances. The study is specifically reviewing all major adoption agencies in Indiana and is examining the resources that adoption agencies provide for potential transracial adopters. The study is working with data that is obtained from each agency's website and printed agency material for transracial adoption. The given information will be compared with a resource checklist that includes all major resources an agency could provide to potential transracial adopters. The accessibility of the resources will also be taken into account by such measures as length of time spent on each website and number of links to find certain criteria. The discussion will center around the actual resources Indiana's agencies use and the ease of finding these resources. Results that could lead to multiple implications and change the way agencies interact with potential transracial adopters will also be discussed.

09:15AM

Effects of Gender on Parental Attitudes Toward Punishment of Children. Amanda Nocton, Lindsay Ludwig. Hanover College, Hanover, IN. Sponsor: Dr. Bill Altermatt

This study was designed to examine the effect of gender on parental attitudes toward child punishment. Participants were recruited via a popular website of online psychological studies, Hanover College's psychology website, and through mass e-mails to students. Researchers also solicited participants from various parental discussion group websites found on Yahoo Groups online. Participants read one of two scenarios about his or her hypothetical child engaging in nine various misbehaviors, each classified into one of the following categories: general disrespect, harm to self, and harm to others. Participants then indicated their likelihood of using three punishments – verbal reprimand, removal of privileges, and spanking. The two scenarios differed only by gender of the child (male or female). Results will focus on how punishment varies by both the gender of the parent and the gender of the child.

09:30AM

Examining the Roles of Fear and Prior Knowledge in Attitude Change: An Experimental Study. Charla Chailland, Brianna Raatz. Hanover College, Hanover, IN. Sponsor: Ellen Altermatt

There are many studies suggesting a link between high consumption of soft drinks and negative outcomes for children and adolescents. The purpose of the present study is to examine the efficacy of high-fear versus low-fear persuasive messages in changing parents' attitudes towards their children's soft drink consumption. Participants will consist of adult males and females who are actively parenting at least one child below the age of 18. Participants will complete an online survey assessing their knowledge and attitudes toward soft drink consumption, read one of two randomly assigned informative articles (high or low fear), and complete the survey a second time. We predict that parents will hold more negative attitudes toward their children's soft drink consumption after reading an article on the negative effects of soft drink consumption. For more knowledgeable participants, low fear messages will be more persuasive than high fear

messages. In contrast, for less knowledgeable participants, high fear messages will be more persuasive than low fear messages. Data will be analyzed via a series of 2 (time: pretest, posttest) x 2 (fear: high, low) x 2 (prior-knowledge: high, low) mixed model analyses of variance (ANOVAs).

09:45AM

The Effects of Children's Books on First Grader's Perceptions of Availability of Careers to Each Gender. Jennifer Cotton, Amanda Ernstberger. Hanover College, Hanover, IN. Sponsor: Ellen Altermatt

Children's views of the world are shaped by what they see in movies, television, and books. This study examined the effects of hearing a story featuring protagonists who had either gender-typical careers or gender-atypical careers on children's perceptions of career options. First grade participants (N = 84) listened to either gender-typical or gender atypical versions of the story and completed questionnaires assessing whether they believed certain careers were appropriate for each gender, as well as their own career goals. We anticipate that children who listened to the gender-typical version of the story will be more likely to agree with current gender stereotypes than those who listened to the gender-atypical version.

10:15AM

Influence of Soap Operas upon Nepalese Women's Identity: A Qualitative study. Pragati Shah. Hanover College, Hanover, IN. Sponsor: Michelle Mamborg

The purpose of this paper is to report on qualitative research into the role of television soap opera as a resource employed by Nepalese women in identity work. Currently, Nepalese women live in a cultural context where traditional values often conflict with Western values regarding gender-appropriate behavior. The women identify themselves as traditional even while they attempt to integrate non-traditional beliefs. This research project examines stay-at-home mothers' representations of themselves, as they discuss female television characters. Self-narratives of women from Kathmandu (N = 20) were obtained through open-ended, in-depth interviews about their favorite Bollywood soap operas. It was expected that as they discussed this widely-viewed cultural tool, they would incorporate characteristics of both heroines and villains to constitute their own selves, drawing upon values from both traditional and Western cultures. Analyses reveal that participants do, indeed, use soap opera characters as a resource for constituting a meaningful self in the face of shifting social identities. It was observed that women turn towards the Soap Operas for guidance in formulating their own gender-appropriate perspective. This analysis demonstrates how some women are adapting gender roles in today's confusing, post-modern world.

10:30AM

First versus Non-First Generation Students: Determining Variables of Academic Success. Heather Osterman, Michelle Coffman. Hanover College, Hanover, IN. Sponsor: Stephen Dine Young

This study examines factors that may be related to college success, and the degree to which these factors differentiate first generation college students (i.e., neither parents completed college) from non-first generation students. Factors that have been shown to be related to college success include emotional support from parents, financial support from parents, and having models of success in family and friends. It is likely that all three of these factors are less available to first generation students than non-first generation students. Participants will be college students at a small liberal arts college who will complete an online questionnaire asking questions about parental education and the support the students receive from parents, siblings and friends. College success will be measured by GPA, and emotional and social adjustment (based on subscales from the Student Adjustment to College scale). Researchers predict that students whose

parents have not obtained a college degree will score lower on measures of college success, but that these results will be mediated by the factors of emotional and financial support. The results of this study may contribute to the creation of intervention programs for first generation students, thereby decreasing the drop out rate of first generation college students.

10:45AM

The Effects of Perceived Team Cohesion on Aggression, Cheating and Alcohol Consumption. Lauren Drew, Jennifer Braun. Hanover College, Hanover, IN. Sponsor: John Krantz

Team cohesion plays a vital role in the success of a team, and has consequences that go far beyond the athletic realm. This study is designed to examine the effects of perceived team cohesion on alcohol consumption, aggression and cheating in athletes. Athletes from several regional colleges have been sought to complete an online questionnaire. Separate measures of team cohesion, aggression, cheating and alcohol consumption will be made. It is hypothesized that teams perceived to be highly cohesive will have similar views and attitudes towards aggression and cheating. It is also expected that teams which are perceived to be highly cohesive will have higher rates of drinking. The intention of this study is to determine whether perceived team cohesion has an impact on these variables, thus suggesting team cohesion can have negative effects on individuals and the team.

11:00AM

Hypercompetitive Attitudes and Narcissistic Symptoms: Who Illustrates More, Athletes or Non-Athletes? Kylie Swisher. Saint Joseph's College, Rensselaer, IN. Sponsor: Chau-Ming Wong

This study focused on the correlation of hypercompetitive characteristics and narcissistic symptoms in regards to athletics and gender. Fifty-four students from a private mid-western college completed three forced choice surveys: a demographic survey, the Narcissistic Personality Inventory (NPI), and the Hypercompetitive Attitude Scale (HCA). From this information, four hypotheses were tested: athletes show more narcissistic symptoms and hypercompetitive characteristics than do non-athletes; males show more narcissistic symptoms and hypercompetitive characteristics than do females; the four subscales of the NPI highly correlates with the HCA; and the NPI highly correlates with the HCA. The results showed athletes illustrated more hypercompetitive characteristics, the four subscales of the NPI are highly correlated with the HCA, and the NPI is highly correlated with the HCA.

11:15AM

The Imposter Phenomenon among College Students. Giselle Salina. Saint Joseph's College, Rensselaer, IN. Sponsor: Chau-Ming Wong

Imposter phenomenon involves a strong sense of deceiving others when a person is facing success. It has not been thoroughly researched because it is difficult to determine if imposters are lying on the questionnaires. The majority of studies on the imposter phenomenon have been on academic performance. There has been little research on how self-esteem and social desirability are related to the imposter phenomenon. In this study, 38 students from a small mid-western liberal arts Catholic college took the Harvey Imposter Phenomenon Scale (HIPS), the Clance Imposter Phenomenon Scale (CIPS), the Rosenberg Self-Esteem Scale (RCES), and the Marlowe-Crowne Social Desirability Scale (MSCDS). Three hypotheses were tested in this study: 1) there would be a negative correlation between self-esteem and imposterism scores; 2) there would be a positive correlation between social desirability and imposterism scores, and 3) females or males with low self-esteem scores would have higher scores on the Marlowe-Crowne Social Desirability Scale than others with higher self-esteem scores. Results supported the first but not the second and the third hypotheses. Additional analyses showed that male participants scored higher on the social desirability scale than did the female

participants. This pattern of results shows that low self-esteem, but not social desirability, may be used to help explain the imposter phenomenon.

Session B: Applied Social Psychology

Jordan Hall, Room 236

Moderator: Dr. Brian Giesler

09:00AM

Predictors of relationship disenchantment. Kristen Kaminski. Marian College, Indianapolis, IN. Sponsor: Douglas Uselding

This study examined internal and dyad characteristics that might be most predictive of relationship disenchantment. Two hundred fifty-one participants were recruited and completed a 50-item survey, rating attitudes, behaviors, emotions, expectations, and communication. Data will be analyzed using exploratory factor analysis to identify factors that best predict disenchantment. The findings will be compared with Sternberg's Triangular Theory of Love factors- intimacy, passion and commitment.

09:15AM

College Students' Expectations for Hook-Ups. Amanda Smitley. Hanover College, Hanover, IN. Sponsor: Stephen Dine Young

This study was designed to examine college students' expectations for engaging in sexual "hook-ups" (i.e., brief sexual encounters between two people who have not had a previous sexual relationship). In particular, expectations before and after a hook-up will be considered, and a comparison will be made between the expectations of college men versus college women. College students will complete a questionnaire (including both open-ended and closed ended questions) on their own hook-up history (e.g., "Approximately, how many hook-ups have you been involved in since beginning college?"); their hook-up expectations (e.g., "What do you expect to get from an ideal hook-up?"); and their expectations after the hook-up (e.g., "In what ways have your expectations ever changed after a hook-up?"). It is predicted to find that women will expect a relationship to form after the hook-up significantly more often than men will. In contrast, it is thought that men will expect sexual intercourse during a hook-up significantly more than females. It is also predicted that expectations will frequently change after a hook-up. This study may provide some insights that that will be helpful in facilitating college students' reflections on their sexual behavior.

09:30AM

Examining the Interaction of Weight and Ethnicity on Perceived Compatibility of Couples. Schweinhart April, Sarah Blanton. Hanover College, Hanover, IN. Sponsor: Dr. Bill Altermatt

Previous research has shown that Blacks are more accepting of overweight individuals and see fewer negative traits associated with being overweight (L. Jackson & O. McGill, 1996). However, research is unclear as to whether or not Black culture is more accepting of overweight individuals, particularly women, in relationships (D. Singh, 1993). The current study seeks to examine the effect of the race and weight of individuals within a couple on the perceived compatibility of that couple. Participants viewed 16 heterosexual couples consisting of either overweight or average-weight and either Black or White individuals. Participants then rated the compatibility of the couples based on three questions about the likelihood of mutual attraction between the individuals. We expect that couples consisting of an average-weight Black male with either race overweight females will be rated as more compatible than White average-weight males and overweight females. Additionally, we expect that overweight Black females will be rated as more compatible in relationships than overweight White females. These results would indicate a double standard for the

weight of females exists such that overweight White females are viewed as less compatible than overweight Black females.

09:45AM

Identifying Women's "Sexual Agency" in their Reports of First Sexual Encounters: A Qualitative Study. Rachel Pittard, Rachel Robertson. Hanover College, Hanover, IN. Sponsor: Michelle Mamberg

"Sexual agency" is the ability to make sexual choices according to one's will, free from coercion and pressure from others. Experiencing oneself as a sexual agent means feeling in control of one's sexual decisions and experiences. However, little psychological research has focused on this new construct. Further description of sexual agency will help researchers to recommend improvements to sex education programs and therapeutic interventions. Feminist perspectives advocate equality in gender relations and sexual relationships. Positive Psychology encourages an examination of normative subjective experience. Drawing upon these perspectives, it was assumed that American women struggle to represent themselves as sexual agents due to cultural scripts emphasizing passivity. To explore these variations in agency, we chose a qualitative method to examine how women portray their internal experience of agency in their first sexual encounter. Participants (n = 20) were asked four open-ended questions to elicit reflections on their first sexual encounter (e.g., "Following your first sexual encounter, what were your initial thoughts and feelings about the experience?"). Participants' narrative responses were coded as to the level of sexual agency depicted (e.g., agentic, somewhat agentic, nonagentic) based on three dimensions: connection/disconnection, activity/passivity, and interaction/isolation. Responses were also coded for the specific feelings described. An interpretive analysis explored the language women used to represent their agency. Results yielded an elaborated concept of sexual agency which can be used to improve intervention programs by empowering women to be sexual agents.

10:00AM

The effects of body image on frequency of sexual behavior. Holly Heindselman, Rachel Yates. Hanover College, Hanover, IN. Sponsor: Dr. Bill Altermatt

Previous research has found that body-esteem is related to depression, social isolation, and low self-esteem. This study was designed to measure the relation between body-esteem and sexual behavior. Participants completed questionnaires measuring body-esteem, sexual self-consciousness, frequency of sexual activity, and sociosexual orientation. We expect that body-esteem, and especially sexual self-consciousness, will be positively correlated with frequency of sex. Furthermore, we expect that they will be more closely related to sexual behaviors involving an absence of clothing than behaviors where clothing is present. These findings would suggest that the way one feels about his or her body may impact the frequency with which they engage in sexual behaviors. For this reason, future research may focus on the effects of body-esteem on relationship satisfaction.

10:30AM

The Effects of Viewing Magazine Advertisements on Body Self-Image in Males. Heather Powell. Anderson University, Anderson, IN. Sponsor: Curtis Leech

The purpose of this study was to determine if viewing a physically fit male or a thin female from a magazine advertisement lowers body self-image in males. The study used 87 college-aged males from a small, private Midwestern university, whom were selected from three General Psychology classes. Each participant viewed an advertisement (of a female model, male model, or neutral stimulus) for approximately one minute and then took the Magazine Advertisement Questionnaire. After the advertisements were viewed, each participant took a body image survey. A t-test was used to find the results. When comparing the body self-image of

the participants viewing the male model against the participants viewing the neutral stimulus, no significant difference was found ($t = 1.027$, $p = 0.155$). However, when the body self-image of the males who viewed the female model was compared to those who viewed the neutral stimulus, a significant difference was found ($t = 2.361$, $p = 0.011$). The results of this study conclude that when males view a thin female in a magazine advertisement, their body self-image lowers, but is not affected when viewing a physically fit male.

10:45AM

Assessing communication in popular American movies: Does training increase the ability to distinguish good and bad communication? Candace Hall. Anderson University, Anderson, IN. Sponsor: Curtis Leech

The purpose of this study was to test the expectation that those who have taken Psychology 2100 (Interpersonal Relationships) will more accurately rate communication in movie clips than those who have not taken Psychology 2100 (Interpersonal Relationships). Participants from a private Midwestern university watched 10 short movie clips on a screen in a lecture hall. On paper, each participant then responded to, on a scale of 1 to 8, the statement, "The communication in this clip was good" for each clip. Two experts also rated the clips, and their scores were compiled and averaged. The difference between each participant's scores and the experts' scores were found. An independent t-test test is being run to determine significance.

11:00AM

The effect of personality trait on communication: regarding extroverts and introverts, which can more accurately assess communication between others? Megan Coffman. Anderson University, Anderson, IN. Sponsor: Curtis Leech

The primary purpose of this study was to determine if the introversion or extraversion of a person determines how accurately one can evaluate interpersonal communication. The procedure involved showing 10 video clips to participants of a small, private Midwestern university. Each clip was rated by two experts for validity prior to administration. Following the viewing of each clip, each participant was asked to rate the communication in the clip on a scale of 1 to 8. Following this, each participant was administered a Jungian Types Test. Additional typing was collected for possible further analysis. A correlation test and t-test are being run to compare these results.

11:15AM

Does More Self-Affirmation Lead to Happiness? Catherine Matteson. University of Dayton, OH. Sponsor: Susan Davis

In the relatively new field of positive psychology, the research reported here builds on preceding research that has examined happiness. Seligman, Steen, Park, and Peterson (2005) found that two types of tasks promoted happiness and reduced depressive symptoms when used over a period of time. The present research used one of these two successful means of promoting happiness, asking participants to record three things that went well in a day along with what caused them to go well, and looked at how the frequency of doing this task functioned in promoting happiness. Specifically I examined the question, "Is happiness greater when we focus on positive events we experience and when we do that more rather than less often?"

Session C: Clinical and Applied Psychology
Jordan Hall, Room 238
Moderator: Dr. Joel Martin

09:00AM

Grumpy Old Men and Golden Girls: Using Stereotypes to Alter Memory Self-Perceptions in Older Adults. Coty Nicoson, Ashley Dick, Tara Lineweaver. Butler University, Indianapolis, IN. Sponsor: Tara Lineweaver

This experimental study evaluated a model in which general beliefs about memory influence personal beliefs about memory, which then influence actual memory performance. We determined whether reminding older adults that they fit a positive stereotype of aging enhances their memory self-efficacy and improves memory performance. 154 adults rated themselves on trait sets representing three positive and two negative aging stereotypes (Hummert, et al., 1995). Some rated themselves on stereotypes relevant to memory functioning, while others rated themselves on stereotypes irrelevant to memory. The stereotype rating occurred either before or after a measure of memory self-perceptions and a 40-item memory test. Only those who rated themselves high on positive and low on negative stereotypes were included in the final sample ($n = 125$; young: ages 18-39, $n = 53$; older: ages 60-98, $n = 72$). Data were analyzed with a 2 (age group) X 2 (test order: stereotypes first versus last) X 2 (relevancy of stereotypes) between subjects ANOVA with self-reports and memory test scores as dependent variables. As expected, stereotype priming had a positive effect on the memory self-ratings of older, but not younger adults. In addition, participants of all ages who were primed with relevant stereotypes rated their memory better than those primed with irrelevant stereotypes. However, contrary to expectations, there were no significant effects of priming on actual memory performance. Together, these results suggest that drawing adults' attention to positive stereotypes that apply to them influences their self-perceptions, but has little effect on their cognitive abilities.

09:15AM

Does Stereotype Threat Affect Intelligence Test Performance in Students with ADHD? Laura Cobb. Butler University, Indianapolis, IN. Sponsor: Joel Martin

Research on stereotype threat suggests that negative stereotypes about group differences in performance can impair the performance of individual members of those stereotyped groups. The present study examines whether stereotype threat can decrease test performance in individuals with ADHD. Although the deficits seen in ADHD populations are well established discrepancies, it is possible that individuals with ADHD may believe that the severity of their deficits are greater than they are in reality based on stereotypes about ADHD. Therefore, I hypothesized that individuals with ADHD would perform worse on a standardized measure of working memory when made aware of stereotypical deficits in working memory than when they were not made aware of those deficits. Data collection for this project is currently ongoing.

09:30AM

Does Stereotype Threat require stereotypes? Sarah LeSturgeon, David Phelps. Hanover College, Hanover, IN. Sponsor: Dr. Bill Altermatt

Consistent with previous research on stereotype threat, men who are reminded of the widely-held stereotype that women outperform men on verbal tasks are expected to do worse than women on those tasks. Would they do worse if the same task was framed as a test of 'analogical reasoning,' which does not elicit pre-existing stereotypes, and they were told that their gender tended to do more poorly? What if they were given expectations for poor performance based not on their group membership but rather some individual-level predictor? Comparing performance across these three conditions will enable us to determine whether stereotype threat

requires a widely-held expectation about a group, an expectation about a group, or just an expectation. To explore this question, participants completed 30 analogies after being given expectations for their performance. They were randomly assigned to either a pre-existing stereotype threat condition, a spontaneous stereotype threat condition (in which the analogies were framed as a test of analogical reasoning and they were shown a graph in which their gender performed poorly), or an expectancy threat condition. If spontaneous stereotypes have a greater effect than simple expectations, this would provide evidence that stereotype threat depends on expectations derived from one's membership in a group. However, if stereotype threat depends less on group membership than on general expectations for poor performance, this may explain why efforts to identify mediating factors in stereotype threat have been unproductive: stereotype threat may simply be expectancy effects informed by group membership.

09:45AM

Can You Repeat That?: College Students with ADHD Struggle with Verbal Working Memory. Eric Massey, Kathleen O'Brien, Tara Lineweaver, Suneeta Kercood. Butler University, Indianapolis, IN. Sponsor: Tara Lineweaver

Attention deficit hyperactivity disorder (ADHD) is associated with working memory deficits (i.e., problems with concentration) that can interfere with paying attention in class, taking notes, organizing materials, and managing assignments. The current study was designed to investigate what types of working memory tasks pose the greatest difficulty for college students with attentional deficits. Eighteen participants, ten with ADHD and eight controls, completed the Digit Span (DS) and the Spatial Span (SS) subtests of the Wechsler Memory Scale-Third Edition. DS requires participants to recall a series of digits read aloud to them, either in the same (DS forward) or reverse (DS backward) order. The number of digits presented increases across trials. SS is a visual analog of the DS test that requires participants to watch the examiner tap increasingly longer sequences of blocks and then to tap the blocks in the same (SS forward) or reverse (SS backward) order. Data were analyzed with a 2 (type: DS vs SS) X 2 (direction of recall: forward vs backward) X 2 (group: ADHD vs control) mixed model ANOVA. A significant three way interaction emerged ($F(1, 16) = 5.30, p < .05$). Follow up analyses indicated that the two groups performed equivalently on the SS measures. In contrast, ADHD participants were more negatively impacted than controls by the increased working memory demands of reporting digits backwards versus forwards. These results suggest that college students with ADHD may particularly struggle in classes that require them to rely on verbal working memory for success.

10:15AM

Preference for Touch and Empathy. Michael Draper, Annamarie Elmer. Hanover College, Hanover, IN. Sponsor: John Krantz

Previous studies have shown the benefits of touch on physical and emotional development, but there has been little research performed on the relationship in adults between personal non-erotic touch and desirable emotional personality characteristics, such as empathy. In this study, the researchers generated a scale to identify one's preference for touch and correlated those results to an empathy and Big 5 Personality scale. The researchers expect there will be a correlation between those that report they enjoy touch and empathy. The scales were administered to the participants in the form of an online questionnaire in which they answered how comfortable they were with various situations that involved personal touch. An empathy scale was also presented to identify a relative level of empathy for the participant. A Big 5 Personality Inventory was provided in the questionnaire so that a link could potentially be identified between empathy, preference for touch, and various personality traits. The data is expected to suggest that there is indeed a link between one's desire for personal touch and their relative amount of empathy. This study is expected to show that physical factors, such as preference for physical touch, can indirectly relate to personality characteristics, such as empathy. Future

research could identify other traits as well, which could lead us to discover more about how one's personality relates to other aspects of day to day life.

10:30AM

Decreasing Homophobic Attitudes: An Intervention Study. Steven Minett. Hanover College, Hanover, IN. Sponsor: Michelle Mamberg

Despite general improvements over the last several decades, homophobia remains pervasive in our culture. It is therefore important to investigate the most effective ways in which the psychological community can effect positive change through homophobia-reducing interventions. A study was performed to assess interventions aimed at reducing homophobic attitudes among college students. Specifically, stigmatizing attitudes resulting from lack of knowledge of, and lack of empathy towards, the GLBT (Gay Lesbian Bisexual Transgendered) community were addressed. Two interventions were examined: one to provide information and the other to both provide information and elicit empathy for the GLBT community. Video interventions either contained information-only (Intellectual Group) or information coupled with empathy-elicitation (Affective Group) and were compared to a video about non-GLBT relationships (Control Group). Participants (n = 30) were randomly assigned to one of the three video interventions. All participants completed the Attitudes Towards Lesbian and Gay Men (ATLG) Scale, and the Empathy Towards Gays and Lesbians Scale, both pre- and post-intervention. A 2 x 3 mixed ANOVA was expected to show significantly more reduction in homophobic attitudes and an increase in empathy towards the GLBT community versus the other two groups. This study yields new information regarding effective methods of decreasing homophobia in our society and fostering more empathy in our communities.

10:45AM

Does Your View of God Affect How You View Your Life? Cody Davis, David Phelps, Brianna Raatz, Kristine Schuster, Charla Chailland, Seyram Kekessi. Hanover College, Hanover, IN. Sponsor: Ellen Altermatt

In this study, the researchers analyzed the internalized life stories of twenty-three adult acquaintances (61% female) with similar demographic profiles to discern if the way individuals view God on characteristics of anger and engagement impacts the way they tell their life stories. When treated as a continuous construct, anger was a marginal predictor of the ways in which people narrated their life stories. Specifically, people who believed in an angry god tended to tell stories that included less evidence of concern for others, $r = -.38$, $p < .10$, and more evidence of moral steadfastness, $r = .37$, $p < .10$, than did those who believed in a less angry, or cheerful God. Age and gender moderated participants' views of God, such that older individuals were more likely than younger participants to view God as angry. Females were more likely than males to tell their life story in a humble manner and with more sequences of redemption. The findings contribute to a growing interdisciplinary literature on narrative and human lives and suggest a new research agenda that analyzes whether there is a relationship between the way individuals view God and the way they tell their life stories.

11:00AM

The Relationship between Religiosity and Drinking Behaviors in College Students. Lani Allbright. Anderson University, Anderson, IN. Sponsor: Curtis Leech

The purpose of this study was to determine if there is a correlation between religiosity and drinking behaviors. A negative correlation was expected. Participants from a small, private, Midwestern University participated in the Santa Clara Strength of Religious Faith Questionnaire to measure each individual's level of religiosity. Drinking behaviors were measured using a drinking frequency survey. The data are being analyzed using a product-moment correlation.

11:15AM

A Study of the Relationship between Eating Disorders and Emotional Intelligence. Alyssa McLean. Anderson University, Anderson, IN. Sponsor: Curtis Leech

The purpose of the present study was to investigate the relationship between eating disorders and emotional intelligence. The expectation was that emotional intelligence and disordered eating are negatively correlated. Female participants from two General Psychology courses at a private Midwestern university were given two self-report questionnaires: the Eating Attitudes Test (EAT-26) and the General Emotional Intelligence Scale (GEIS). The scores from the two surveys are being analyzed using a correlation.

Session D: Cognitive and Clinical Psychology

Jordan Hall, Room 216

Moderator: Dr. Tara Lineweaver

01:00PM

Effects of finger pinprick sensation and anticipation on emotion and autonomic response. Nicholas Del Grosso, Josephine Wilson, Berhane Messay, Tiegan Brick. Wittenberg University, Springfield, OH. Sponsor: Josephine Wilson

This controlled study studied the effects of pain anticipation on physiological and emotional responses to determine whether conscious beliefs can determine unconscious reflexes to a pinprick. After approving the study through the Institutional Review Board, we gave three brief standardized pinpricks to the dominant index finger of 51 college-aged non-diabetic Caucasian females. These participants were divided into three groups: one receiving both pain anticipation and pain sensation, one receiving only pain anticipation, and one (the control group) receiving neither pain anticipation nor pain sensation. We used the Positive Affect Negative Affect Scale (PANAS), Beck Depression Inventory (BDI), and Beck Anxiety Inventory (BAI) before and after each stimulus to measure emotional responses, a polygraph measuring electromyography (EMG), electrodermal activity (EDA), and electrocardiography (EKG) for physiological autonomic responses, and oral questioning to self-evaluate the level of pain experienced and whether or not the participant had a fear of needles. Emotions played the largest part in pain anticipation and perception. Anxiety levels positively correlated with pain sensitivity levels, and fatigue negatively correlated with pain sensitivity. Autonomic reactions, like changes in heart rate and direction of flexion reflex, were affected by the actual perception of pain, instead of cognitive anticipation: defensive muscle and heart responses co-occurred with pain sensation, while pain anticipation produced only orienting responses. These results support previous research showing that anxiety plays a strong role in the pain experience and that our bodies favor sensation over prediction in physiological pain response.

01:15PM

Embodiment and Mental Rotation. Tyler Thrash. University of Dayton, OH. Sponsor: Susan Davis

Cognitive processes adapt with perceptual and motor channels in order to facilitate the body's interaction with the world and become especially "tuned in" to the body's spatial layout and capability for movement (Wilson 2002). The present study investigated the perception of three-dimensional objects by evaluating the relationship between covert imitation of an object's movement by the sensorimotor system (motoric embodiment) and knowledge of the body's spatial relations (spatial embodiment; Amorim, Isableu, & Jarraya 2006). There were 56 undergraduates whose RT in a mental rotation task was employed to determine interaction between the effects of spatial and motoric cues on the

rate of mental rotation. Two three-dimensional figures with human heads and arms were presented simultaneously on a computer screen, and participants decided whether the two figures represented the same or different pose (based on the position of their arms). A completely within-subjects factorial ANOVA found a three-way interaction between angle disparity (difference in orientation between the figures), presence of the spatial cue, and presence of the motoric cue, $p < .05$, in which the spatial cue's facilitation of mental rotation depended on whether the figures were representative of the capabilities of the human body and easy to covertly imitate. Applications of this research include training systems for spatial or motoric tasks and the remote control of vehicles, robots, etc.

References:

Amorim, M., Isableu, B., & Jarraya, M. (2006). Embodied spatial transformations. *Journal of Experimental Psychology: General*, 135, 327-347.
Wilson, M. (2002). Six Views of Embodied Cognition. *Psychonomic Bulletin & Review*, 9, 625-636.

01:30PM

Video Game Experience and Psychomotor Performance. Michael Starling. Anderson University, Anderson, IN. Sponsor: Curtis Leech

The purpose of this study is to continue exploration of the benefits, dangers, and potential applications of commercial video game use. While studies linking video game use with aggression and spatial orientation skills have been common, little has been done to ascertain whether or not advanced psychomotor skills are associated with video game use. In the present study, participants from a small, Midwestern university complete 4 tasks on 3 apparatuses in order to measure reaction time, hand-eye coordination, and manual dexterity. Individual performance is being compared to the quantity of individual experience in video games using a set of correlated transformations, among other analyses. For comparison, data regarding time spent playing sports, reading, and completing homework, along with a number of demographic variables, are being collected and analyzed.

01:45PM

Using Regional Accents to Form First Impressions of a Speaker. Michaelia Gilbert, Ben Paciorkowski. Hanover College, Hanover, IN. Sponsor: Ellen Altermatt

Previous research indicates that accents can have a powerful influence on first impression formation. The current study builds on previous work by examining how general stereotypes interact with geographic proximity to influence attitudes toward a speaker with a marked regional U.S. accent. Participants in this study listened to one of five randomly assigned accents (Midwestern, New York, Southern, Minnesotan and Californian) and completed a survey in which they evaluated the degree to which the speaker is likely to display various demographic and personal characteristics (e.g., intelligence). Participants were also asked to list their hometown and current zip codes. The researchers hypothesize that some accents will receive more positive ratings than others (reflecting overall stereotypes). In addition, the researchers hypothesize that accent will interact with proximity such that participants will evaluate speakers living in close proximity to their hometown or current geographic region more favorably (reflecting in-group preferences).

02:00PM

Confessions and Convictions. James Gentry, Jared Smith. Hanover College, Hanover, IN. Sponsor: John Krantz

In our court system, confession evidence is known to be especially persuasive. This study attempts to distinguish between the levels of persuasiveness of four different types of confession evidence. Four

different types of sample confessions of a battery crime were randomly presented to participants. Conviction rates were assessed for each of the four types of confessions (voluntary, retracted, coerced-compliant, and coerced-internalized) and the severity of the sentence delivered by those who found the defendant guilty. Participants' results on the four confession types were compared against one another in the determination of which type of confession seemed to be the most influential in convicting the accused. Expected results for the study include a significant main effect between rates of confession on confession type. Furthermore, it is expected that the self confession condition will yield the highest rate of conviction, whereas the coerced-internalized condition will yield the lowest rate of conviction. Lastly, it is expected that the self confession will also yield harsher sentences than the other confession types.

02:30PM

Female Impersonation: Social and Psychological Aspects. Nathan Smith, Christian Driver. Ball State University, Muncie, IN. Sponsor: Heather Adams

In this presentation, the marginalized world of female gender illusionists, also known as drag queens, is explored. Through literature review and interviews, gender illusion is investigated through the eyes of the performers themselves. Five men, who self-identified as female impersonators, participated in an e-mail interview questionnaire. Topics extracted from current literature, such as identity issues, and the dynamics of the drag performance arena itself, were used to organize the thematic analysis. The resulting detailed knowledge of these topics is explored through both quotes from the interviews and video clips of gender illusion performances. The discussion will explore connections with identity formation and philanthropic components.

02:45PM

Drug Use in College Student Correlated to Sensitivity to Reward and Sensitivity to Punishment. Rachel Lowman. Bellarmine University, Louisville, KY. Sponsor: Tom Wilson

Addiction and its relationship to one's sensitivity to reward and sensitivity to punishment (Carver & White, 1994) were investigated. Participants were thirty students at a small private university in Kentucky who completed BAS, sensitivity to reward, and BIS, sensitivity to punishment, measures. Participants were given a follow-up questionnaire, created from a preliminary survey on campus of commonly used drugs, to assess the consequences and benefits related to drug use. Based on previous studies that show a correlation between alcohol use and sensitivity to reward e.g., (Kambouropoulos & Staiger, 2001), this study sought to find a positive correlation between addiction and BAS scores and a negative correlation between addiction and BIS scores.

Session E: I/O and Social Psychology

Jordan Hall, Room 236

Moderator: Dr. Jennifer Spoor

01:00PM

Affective Influences on Episodic Performance at Work. Kerry Spalding. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Dennis Devine

Researchers have been investigating the connection between affect and performance at work for over 70 years. However, until the emergence of new methodologies in the 1990s, researchers defined affect primarily in terms of static job satisfaction and compared it to static measures of performance. In recent years, new methodologies that allow researchers to investigate within-person variability in mood and its correlates have

emerged (Beal & Weiss, 2003). However, we still do not have a good understanding of when and why particular moods impact attitudes and behaviors. The purpose of the present research is to test aspects of the Episodic Process Model of Affective Influences on Performance (Beal, Weiss, Barros, & MacDermid, 2005), a recent theory that has been offered to explain how mood and cognitive resources interact to influence performance at work. The model suggests that intense moods draw attention away from the task at hand, requiring self-regulation to sustain focus on the task. Over time, this self-regulation depletes regulatory resources, thereby reducing attentional focus and hindering performance on the task. The present study will examine the relationships between mood, self-regulation, attention, and performance at work. Participants will complete a brief measure assessing mood, task type, attentional focus, and regulatory resources several times a day over the course of three work days. We expect to find a negative correlation between the intensity of moods and performance and that attentional focus mediates the relationship between mood intensity and performance.

01:15PM

University Faculty Members' Roles: Satisfaction and Stressors. Jade Avelis, Ashley Davison. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Dr. Tim Steenbergh

While the quandary of the working woman has undoubtedly improved in recent history, through more egalitarian roles and decreasing prejudice toward women working outside the home, research shows that women who are employed continue to face the challenges of time management and role balancing (Kimball, Watson, Canning, & Brady, 2001; Sellers, Thomas, Batts, & Ostman, 2005). Several studies have examined the tangible outcomes of this dilemma, such as how women's time is divided between personal and professional responsibilities, but few have addressed the internal states and attitudes associated with these life choices. This study examines how factors such as sex, religiosity, and time investment relate to faculty perceptions of satisfaction and fulfillment. Using the member schools of Valparaiso's Lilly Fellows program, 320 randomly-selected male and female faculty members were studied using an electronic survey. Data from this survey were examined to determine disparities between the experiences of male and female faculty members in terms of time investment in various roles and professional fulfillment.

01:30PM

Creative Artistic Expression and its Effect on Mood. Erin Suplinskas, Bethany Platt, Brittany Ellis, Micah Hoffman. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Dr. Tim Steenbergh

Numerous studies have demonstrated the positive effects of expressive writing on mood. Based on these findings one might hypothesize that other forms of creative expression may have mood effects as well. This study examined creative artistic expression and its relationship with mood. We hypothesized that creative artistic expression would produce mood effects similar to those produced by expressive writing. We tested this hypothesis among college students using an experimental design. Participants were randomly assigned to one of two groups and then asked to focus on their thoughts and feelings regarding both current and past emotional turmoil. The writing group participants were given a blank sheet of paper and a writing utensil and instructed to express their emotions in a freeform style through writing. The artistic group was given a blank sheet of paper and colored pencils and directed to creatively express their emotions using art. Upon completion of the writing or creative expression tasks, all participants completed the Brunel Mood Scale. The two groups' scores on the mood scale were then compared using independent sample t-tests.

02:00PM

An investigation into the effects of age and media focus on candidate credibility. Jessica Berryhill. Anderson University, Anderson, IN. Sponsor: Linda Swindell

With the emergence of social networking sites, such as Facebook and YouTube, presidential candidates have started using them as a media outlet to show both their political and personal sides. In this study, the participants were divided into two groups based on age. One group consisted of college students (18-24) from a private Midwestern university and the other group consisted of adults from the community (25 and up). A candidate's personal credibility was evaluated by participants using McCroskey and Levin's Personal Credibility Scale (1999) after watching either a politically-oriented video or a personal video dealing with no political issues. The participants also evaluated the credibility of YouTube, which was the source of the videos, using Gaziano and McGrath Media Credibility Scale (1986). We predict that if students view a politically oriented video, the personal credibility will be rated higher when compared to the personal video. The same hypothesis is predicted for the adults of the community. In addition, we predict that the students will rate YouTube as a credible source for information, whereas adults will not rate it as credible. The data will be examined using an analysis of variance.

02:15PM

A comparison of male and female conflict tactics and aggression intensity in dating relationships. Christin Fleming. Anderson University, Anderson, IN. Sponsor: Curtis Leech

Conflict in interpersonal romantic relationships occurs in one of three ways: 1) rationally, 2) with oral/passive aggression, or 3) with physical aggression. The first experiment addressed the question: Does gender affect the way conflict is handled in dating relationships? Using a revision of The Revised Conflict Tactics Scale (CTS2, 1996), students from introductory psychology courses at a small, private, Midwestern university were asked to identify techniques they have used to handle conflict within the last year of their current relationship or a recent previous relationship. The second experiment focused on the question: When handling conflict, does being male or female affect the rating of intensity of aggression? Using a series of fictional scenarios, each participant rated each scenario for intensity based on a Likert scale. Together, the two experiments evaluated the differences between male and female aggression and how that aggression was perceived by others. The results are being analyzed using independent t-tests.

02:30PM

The Contact Hypothesis Applied: Evaluating the Efficacy of a Peace Camp. Ashlee Kirk. Hanover College, Hanover, IN. Sponsor: John Krantz

This study examined the validity of the contact hypothesis by evaluating the efficacy of the Creativity for Peace summer camp. Creativity for Peace applies the principles of the contact hypothesis in order to reduce the prejudicial attitudes between Israeli, Palestinian, and Israeli Arab young women. To determine the camp's ability to reduce explicit prejudice, a within subjects design was executed. Surveys were given to each camper (N=15) at the beginning and end of camp. Camper age, place of residence, previous camp experience, parental support, nationalism, religiosity, and amount of hurt from the "other" side were recorded in order to check for moderating variables. A social distance scale, feeling thermometer, and twenty-three five-point Likert scale statements were used to gauge prejudicial attitudes. It is expected that campers will be significantly less prejudiced at the end of the camp than at the beginning. To determine the camp's ability to reduce implicit prejudice, an IAT was used. Campers and one of their friends took the IAT seven months after the camp ended. Friends were used in order to eliminate possible selection effects. It is expected that the campers will be significantly less implicitly prejudiced than their friends. Confirming these expectations is vital because

confirmation (a) supports the contact hypothesis' ability to lesson prejudice within extremely violent situations, and (b) shows the power of organizations such as Creativity for Peace, which should increase their funding and spawn similar such organizations.

02:45PM

Creating Positive Attitudes toward People with Disabilities through Social Inclusion. Christina Banks. Hanover College, Hanover, IN. Sponsor: Ellen Altermatt

Despite many social changes, negative attitudes toward people with disabilities persist. This study used implicit and explicit attitude measures to investigate whether policies of inclusion at the college level predict attitudes toward people with disabilities. Participants were college students attending either St. Andrews Presbyterian College or Hanover College. St. Andrews College has a history of actively recruiting and accommodating disabled students and counts among its student population a relatively large number of students with physical disabilities. Hanover College is welcoming of students with disabilities, but has a less active program to accommodate their needs. It is expected that students at St. Andrews will hold more positive attitudes toward people with disabilities.

03:00PM

The Effects of Positive and Negative Self-Presentation on Female Self-Esteem and Relationship Choices. Robyn Hooker, Stephanie Gunderson. Hanover College, Hanover, IN. Sponsor: Stephen Dine Young

This study examines the relationship between female self-presentation, self-esteem and perception by peers. Past research has found that women are more likely to present themselves negatively in public situations than men. The present study examines whether these negative self-presentations are related to favorable responses in others. We will also consider whether there are any differences in the self-esteem levels of women who respond favorably to negative self-presentations in other women. College-age females will participate in this study. Participants will listen to an audio recording of four female confederates having a conversation; after one confederate makes a negative self comment, each of the remaining confederates will respond in one of three different ways: 1) self-degrading, 2) self-accepting, and 3) neutrally. The participants will then rate the likeability of each of the three reacting confederates. All participants will also fill out the Rosenberg Self-Esteem Scale. We expect that participants will more likely want to be friends with those individuals who display more negative self-presentations rather than those who display positive self-presentations. We also predict that those with a higher self-esteem will prefer a person who has a positive self-presentation and those with a lower self-esteem will prefer a person who has a negative self-presentation. The results of this study will contribute to our understanding of the way women present themselves in public and what factors are related to their self-presentation.

03:15PM

Impact of Openness and Implicit Associations on Hispanics. Jennifer Milks. Ball State University, Muncie, IN. Sponsor: Heather Adams

The U.S. Census Bureau provides substantial evidence demonstrating that Hispanics are being denied equal access to resources such as education and financial aid in comparison to the rest of the population. Further research indicates that an individual's minority group membership provides sufficient justification for denying specific civil rights and equal access to resources from a prejudiced perceiver's perspective.

This two-part study is an exploration of the sources of stereotypes and prejudicial attitudes toward the Hispanic population. The first component of this study controls for personal predispositions, previous knowledge of and experience with the Hispanic population, and implicit prejudices toward Hispanics using a personality test, a questionnaire, and a Hispanic

Implicit Association Test (IAT) respectively. Specifically, the aim of this component is to test whether the Openness to Experience scale from the Five Factor ("Big Five") personality trait test is a predictor of prejudiced attitudes towards Hispanics.

Follow-up interviews are being conducted with participants who exhibit a high degree of prejudice and others who exhibit a low degree of prejudice as assessed by a Hispanic version of the IAT. These interviews seek to identify various sources; both personal and societal, that may contribute to racially prejudiced attitudes and stereotypes of the Hispanic population. The presentation will conclude with a consideration of the possible predispositions and sources of stereotypes and prejudicial attitudes toward Hispanics with the ultimate goal of decreasing discrimination towards the Hispanic population within the U.S.

Session F: Stereotypes and Prejudice

Jordan Hall, Room 238

Moderator: Dr. Kathryn Morris

01:00PM

Examining the Effects of Self-Affirmation on Evaluations of Heterosexism. Delphia Flenar. Butler University, Indianapolis, IN. Sponsor: Kathryn Morris

Past research has shown a connection between self-affirmation and prejudice. Self-affirmation involves boosting one's own self-image by identifying an important value and emphasizing why that value is important. When participants complete this type of procedure, they are less likely to make derogatory judgments about stereotyped groups (Fein & Spencer, 1997). In the current study, the connection between self-affirmation and humorous forms of prejudice is examined. In Ford and Ferguson's (2004) prejudice norm theory, humorous forms of prejudice are seen as more acceptable than non-humorous forms of prejudice. The purpose of the current study is to see if self-affirmation influences evaluations of humorous forms of heterosexism (bias against homosexuals). Participants were randomly assigned to a self-affirmation versus a no self-affirmation condition. After completing the self-affirmation manipulation, participants evaluated a heterosexist writing sample with either humorous elements or non-humorous elements. The participants evaluated the author, the content, as well as their personal reactions to the writing sample. The author predicts that in the no self-affirmation condition, participants will evaluate the non-humor condition more critically than the humor condition because in a standard situation, people are more accepting of humor. On the other hand, the author predicts that in the self-affirmation condition, evaluations of both humorous and non-humorous forms of heterosexism will be equally negative because the self-affirmation may allow participants to notice that even humorous prejudice is prejudice nonetheless. Results will be discussed.

01:15PM

Evaluations of men in cross-gender majors: The role of masculinity. Whitney Brockus. Butler University, Indianapolis, IN. Sponsor: Kathryn Morris

Past research indicates that people dislike others who cross gender norms. For example, in comparison to women in female-dominated domains and men in male-dominated domains, people tend to dislike women in male-dominated domains and men in female-dominated domains. Despite such negative evaluations, women in male-dominated domains continue to be evaluated positively if they maintain their femininity. The intent of this study is to determine whether men in female-dominated majors can similarly overcome the negative evaluations they receive from others when they are high (as opposed to low) in masculinity. This study will incorporate a 2 x 3 design. The first independent variable is masculinity of the target, and has two levels: high and low. The second independent

variable is the target's major and has three levels: male-dominated, female-dominated, and gender-neutral. The dependent variables will be the participants' perceptions of the target, including: expected competence in the field of study, gender-related attributes, gender-unrelated attributes, general likeability, and estimated success in the future. I predict that overall; participants will rate the targets more positively when they are high in masculinity or if they are in a male-dominated major. I also predict an interaction between levels of masculinity and major. If the target is in a female-dominated major, I predict he will be rated more positively if he is high in masculinity. Results and their implications will be discussed.

01:30PM

Determining Who Is Responsible for Confronting Prejudice. Laura Wojcik, Katy Kaesebier, Laura Spice, Alishia Lane. Butler University, Indianapolis, IN. Sponsor: Kathryn Morris

Even though people may believe prejudice has been reduced over the years, it still presents itself as a problem in society today. Confrontation of prejudice rarely happens, yet it has been shown to be an effective way to reduce prejudice (Czopp, Monteith, & Mark, 2006). The Confronting Prejudice Responses model (Goodwin, Ashburn-Nardo, & Morris, 2007) describes the steps leading up to the decision to confront prejudice. The five steps are:

interpreting an event as prejudice, interpreting the prejudice event as an emergency, taking responsibility to confront, deciding how to confront, and weighing the costs and benefits of confronting. Our study focuses on the third step, taking responsibility to confront prejudice. Participants will read about a situation (a student conversation in a dormitory lounge) in which prejudice occurs. The independent variables include type of prejudice (racism versus sexism), presence of an authority figure (present versus absent), and presence of a target group member (present versus absent). They will then report the extent to which each of the bystanders is responsible for confronting the prejudice. We predict that, in general, people will believe racism should be confronted more than sexism. We also predict that in conditions where an authority figure or target group member is present, responsibility to confront will be diffused to those individuals. Results will be discussed.

01:45PM

Stigma Controllability & Confronting Anti-gay Prejudice. Cheyenne Dunbar, Sisi Yu. Purdue University, West Lafayette, IN. Sponsor: Stephanie Goodwin

Although people often want to confront prejudice, they do so less frequently than they say they would like to do so. Perceiving prejudice to be justified may explain why people fail to confront some kinds of prejudice. The present research examines whether perceiving stigma to be controllable undermines the perception that prejudice is harmful and/or unjust and, in turn, reduces perceptions that confrontation is warranted and motivation to confront. Participants will read an alleged science news article regarding the origins of homosexuality. Half of the participants will read that homosexuality is largely a lifestyle choice, while half will read that homosexuality is largely biological and therefore not controllable. Under the guise of a separate study, participants will then read a transcript of an online interaction that will serve to manipulate an anti-gay statement. In the baseline condition, participants will see a statement irrelevant to homosexuality. In the experimental conditions, participants will read either a benevolent (e.g., "Gay guys are really great at fashion design and gourmet cooking!") or hostile stereotype (e.g., "Gay guys are all pedophiles!") stereotype about gay men. Participants will then rate the comment (harm, injustice) and indicate how much they would want to confront the person who made the statement. We predict that participants who read that homosexuality is controllable (as compared to those who read it is not) will view hostile anti-gay prejudice as more justified and less harmful and report feeling less motivated to confront it. Implications for reducing prejudice will be discussed.

02:15PM

CPR for the Kind, Rude, and Prejudiced: An Investigation of Confrontations Using the Confronting Prejudiced Responses (CPR) Model. Katherine Figueroa, Melissa Paschke, Maraysa Raffensparger. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Leslie Ashburn-Nardo

Previous research demonstrates that prejudice events happen frequently and result in negative emotional, mental, and physical consequences. Studies reveal that confrontation is effective in reducing social biases yet individuals often fail to take action. Current literature on confronting prejudice reasons that the decision to confront is complex, with many obstacles. The Confronting Prejudiced Responses (CPR) Model attempts to predict when confrontation will occur by identifying key variables in the decision process. Similar to the Bystander Intervention Model, the CPR model is composed of five steps in which non-targets must view the event as prejudiced, interpret prejudice as an emergency, take responsibility, choose a confrontation reaction, and decide that there are overall benefits of confronting (Goodwin, Ashburn-Nardo, & Morris, 2007). Completion of all five steps will increase the likelihood of an individual confronting prejudice. In the present study, the CPR Model was tested by asking 288 participants to respond to questions revolving around each of the five steps as they relate to a self-reported prejudiced, rude, or kind event. Analysis of the data will reveal whether individuals interpret negative incidents (the prejudice and rude conditions) differently from positive incidents (the kind condition). Furthermore, results will demonstrate whether individuals view prejudice events as more of an emergency than rude events.

02:30PM

Examining Characteristics and Differences between Target and Non-target Witnesses' Perceptions of and Reactions to Prejudice Incidents. John Blanchar, Georgia Waddups, Leslie Ashburn-Nardo. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Leslie Ashburn-Nardo

Traditionally, researchers have focused on daily prejudice from the perspectives of targets, while overlooking the role and responses of non-targets. In an attempt to help mend this historical omission, we will examine differences in the perceptions of and reactions to prejudice events in a diverse sample of targets and non-targets. We know from daily diary studies of target groups the frequency and types of events and responses that individuals report, but will these results be comparable in non-targets? In the present study, 124 primarily White (n = 83) participants (31 males, 93 females) described prejudice incidents that they experienced or witnessed. Specifically, participants were asked to describe a prejudiced event they observed as well as if and how they responded to the event. Responses will be coded for the following four categories of information: type of behavior (verbal or non-verbal, overt or subtle), type of prejudice (e.g., racism, sexism), the location of the incident (private or public situation), and the affective response of the participant. Consistent with daily diary studies assessing African Americans' responses to racism, we expect to find more instances of subtle prejudice than overt prejudice that takes place in private locations rather than public (Swim, Hyers, Cohen, Fitzgerald, & Bylsma, 2003). Furthermore, we expect to find more salient types of prejudice such as racism. Finally, we anticipate non-target witnesses' affective reactions to be less negative than targets'.

02:45PM

Tales of Confrontations: Exploring Individuals' Naturalistic Responses to Prejudice. Maraysa Raffensparger, Melissa Paschke, Katherine Figueroa. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Leslie Ashburn-Nardo

Previous literature suggests that people often hesitate to confront prejudice despite being offended by prejudice. The Confronting Prejudiced Responses (CPR) Model (Goodwin, Ashburn-Nardo, & Morris, 2007)

inspired by the Bystander Intervention Model, approaches social bias emergencies like physical emergencies that result in harm of targets and non-targets with the exceptions that these harms often are psychological and not physical. In the CPR Model, people are more likely to confront prejudice if they perceive an event as prejudice, perceive that the prejudiced incident is an emergency and requires action, assume responsibility for confronting, identify a confrontation response, and evaluate the benefits of confronting as outweighing the costs. In this study, 418 participants were asked to describe a witnessed prejudice event and discuss their reactions to the event. Responses were coded independently by three raters to determine whether people spontaneously report going through the steps of the CPR Model when they witness prejudice and face the decision to confront. Understanding whether people go through the decision making process of the CPR Model will help us understand why people are reluctant to confront prejudice.

03:00PM

African Americans' Implicit Racial Biases as Predictors of Healthcare Provider Ratings. Winnie Manicl, Edy Bledsoe. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Leslie Ashburn-Nardo

African Americans' Implicit Racial Biases as Predictors of Healthcare Provider Rating

In an effort to address healthcare disparities among minorities in the United States, researchers have proposed matching patient with provider based on race. However, patient- provider race congruence may have little effect towards diminishing these disparities if minorities' ingroup attitudes are not positive. A widely accepted measure of associations outside of our consciousness, the Implicit Association Test (IAT), has shown that over 60% of African Americans favor Whites relative to Blacks (Ashburn-Nardo, Knowles, and Monteith, 2003). Moreover, to the extent that African Americans favor Whites on the IAT, they more strongly prefer a White partner on tasks that are stereotypically associated with Whites' success

(Ashburn-Nardo & Johnson, 2006; Ashburn-Nardo et al., 2003). There has also been research showing that individuals will more readily access stereotypic evaluations when there is a perceived threat (Schimmel et al., 1999). In the present study, 92 African American college students completed two measures of the IAT, evaluative and stereotypic, and rated (fictitious) Black vs. White physicians on perceived competence and likeability in a low- vs. high-threat context. We expect to find a relationship between Blacks' IAT scores, healthcare providers' race, and health threat salience such that the more Blacks implicitly favor Whites, the more favorable their ratings of a White vs. Black provider, especially when threat salience is high.

03:15PM

Is There a Relationship between Implicit Stereotypes and Implicit Attitudes among African Americans? Edy Bledsoe, Arrenwa Mancil. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Leslie Ashburn-Nardo

The Implicit Association Test (IAT) is a computerized task designed to measure non-conscious biases based on automatic responses and reaction times. To evaluate racial biases, two different adaptations of the IAT were administered. The first test is the Stereotype IAT, which measures the extent to which people implicitly associate intellectual ability and athleticism with Blacks versus Whites. The second test is the Evaluative IAT, which measures the extent to which people implicitly associate pleasant versus unpleasant stimuli with Black versus White. Amodio and Devine (2006) administered both IATs to European American participants, and found that participants more strongly associated Black (versus White) with athleticism and negativity than with intellectual ability and positivity. However, IATs were not significantly correlated, indicating that they are independent of each other. In the present study, stereotypic and evaluative IATs were administered to 110 African American college students (34 men, 73 women, 3 data missing) to see whether this relationship (or lack thereof) would replicate.

Sociology

Session A

Jordan Hall, Room 348

Moderator: Dr. Kate Novak

09:00AM

A Study of Depression and Social Connectedness. Rebecca Lohrmann, Kelly Erikson, Colette Doerschuk, Amanda Littell. Valparaiso University, Valparaiso, IN. Sponsor: Matthew Ringenberg

The aim of our research is to explore the relationship between self-reported levels of social connectedness and self-reported levels of depression. The research hypothesis is that individuals with a higher level of self-reported social connectedness will report lower levels of depression. This research study is based on a theory published by Williams and Galliher (2006) in the Journal of Clinical and Social Psychology which suggests that social support, social competence, and social connectedness predict self-reported levels of depression and self-esteem for male and female college students.

The sample for this study will be comprised of approximately 150 participants, both male and female students between the ages of eighteen and twenty-three at Valparaiso University. The constructs being measured are as follows:

Social connectedness- a way of describing the relationships people have with others and the benefits those relationships bring to the individual, and Depression- a state of mind marked especially by sadness, inactivity, difficulty in thinking, a significant increase or decrease in appetite and time spent sleeping, feelings of hopelessness, and suicidal tendencies.

Once all the data has been collected, we will compile and analyze it using a Pearson or Spearman correlation effect. Several important implications could result from this research and could influence how campus communities address issues of depression. If the data gathered supports the research hypothesis, college campuses could be more intentional about educating students on the importance of making meaningful connections. Students who are experiencing depression could be linked with potential social connections to help alleviate their symptoms.

09:15AM

College Students: Cultural Background in Correlation to Diffusion of Responsibility. Thomas Kaelin. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

This study is being conducted to test correlations between various cultural variables and determine their effect on diffusion of responsibility. Individual's cultural background constitutes one of the major determinates of social patterns and this study will test whether cultural background has an affect on reactions to situations. This study will focus on college students and will correlate these cultural background variables with reactions to situations in order to prove that diffusion of responsibility is affected by cultural upbringing. The primary purpose of this study is to link variables to the diffusion of responsibility to help explain the phenomenon. The study focused on college students from Bellarmine University using a survey which asks for reactions to situations. The reactions are compared to aspects of their individual cultural background to determine if there is a correlation.

09:30AM

Attitudes and Beliefs about Homosexuality: A Comparative Study of Male vs. Female Athletes. Jessica Butler. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

Is there a difference between male and female athletes attitudes about homosexuality? I propose that male athletes will have more negative views than women athletes. I also compared and contrasted the views of the athletes in different sports in hopes of finding a correlation between the sport in which one played and their views on homosexuality. I analyzed the responses in a survey given to a randomly sampled group of athletes at Butler University, given during the fall of 2007. It was found that while both of my hypothesized variables played a role in one's attitudes and beliefs, many other factors were found to be involved as well.

09:45AM

Community Involvement of the Deaf. Josh Muller. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

This study investigates the Deaf world by measuring the level of community involvement within the Indianapolis Deaf Community. The Deaf community is a portion of the population that is largely misunderstood by those of the hearing world; therefore, it is important to understand the culture and values of this very unique group. This study was carried out using survey research conducted at several Deaf community events and in-depth interviews with prominent members of the Deaf community.

10:00AM

Investigation of Poverty Opinions on Valparaiso University's Campus. Karen Meuzelaar, Shariliz Martinez, Shannon Speaker. Valparaiso University, Valparaiso, IN. Sponsor: Matthew Ringenberg

Poverty is an integral part of our society. It is important to learn all we can about this issue so that there can be empathetic understanding and a move toward lifting these people out of poverty. It is hypothesized that those students who have had more courses in social sciences and cultural diversity will have a more sympathetic view towards impoverished people than students who are not required to take as many of these classes. This study tests Valparaiso University students' opinions of poverty based on Bradshaw's (2007) five theories of poverty (individual, cultural, political-economic structure, geographic, cumulative and cyclical). Data will be collected from beginning (freshman/sophomore) classes and advanced (junior/senior) classes from the Colleges of Nursing, Arts and Sciences, Business, and Engineering. This is to see whether students' opinions vary due to their academic program. It will also indicate whether each college exposes its students to enough diversity classes. Two classes from each major area of study including Nursing, Mechanical Engineering, Information and Decision Sciences, Social Work, Music, and Sociology will be surveyed about their opinions of poverty. It is estimated that those students who have had more courses in social sciences will have a more sympathetic view towards impoverished people. If the results show that students from the College of Arts and Sciences are more sympathetic toward impoverished people than students in the Colleges of Engineering, Nursing and Business, then curriculum changes may be necessary for Valparaiso University.

10:15AM

Shelters for Battered Women and Children: A Case study on a mid-western Women's shelter. Jennifer Del Valle. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

Domestic violence and its devastation effects have gone unnoticed, and have failed to receive the level of concern it deserves. The researcher will be conducting an intensive case study on the medium size mid-western

women's center/shelter. The researcher will be doing unstructured/non-participant research on the legal advocate services offered to battered persons that appear in court. Researcher will also be using secondary data on what services offered in the Center. Structure research will be done of staff to obtain what needs that victims still might need to be met (Funding, educate community, more programs, volunteers).

10:30AM

Advancing the Hyperreal through Heavily Mediated Sports. Jeffrey Barber. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

Abstract:

Jean Baudrillard's theory of hyperreality has been analyzed and interpreted by numerous postmodern sociologists. Baudrillard in particular suggests that the world we live in has been replaced by a copy world, where we seek simulated stimuli and nothing more. There has also been a great deal of research concerning the representation of ideas and events through the media. Sports participation, be it active or passive, has been one of the most popular forms of recreation since the beginning of mankind. However, the media's portrayal of sporting events have begun to focus more and on spectacle and less on the event itself, thus making it a hyperreal experience. This theory guided paper uses a survey and participant observation to study the differences between sports viewed live and sports viewed via the media. The findings shows that people most often view sports through the media and in many cases prefer it to live action participation. The participant observation part of the study focuses on the experiences and feelings that not be simulated by the media no matter how meticulously one tries.

11:00AM

Prison Gang Member Recidivism. Chad Undercoffer. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

There has been a lot of research done on why people join gangs and the reasons behind the group mentality that causes people to act in ways they normally would not. Instead of looking at gangs as a whole, this research will focus on prison gangs, primarily on the gang members once they have been released from prison. My hypothesis is that members of prison gangs will be more likely to keep their ties with the gang after being released than those who did not belong to a prison gang, making them more likely to violate their parole. This positive correlation between gang members and recidivism will show that prison gang membership has an impact on the rest of the prisoner's life, especially once released from prison. With recidivism rates averaging around 60% (Fleisher and Decker: 2001), it is important to distinguish what factors may play a role in determining which prisoners are more likely to continue involvement in illegal activities once they have been released. Hopefully, this research will not only identify a factor in determining who is most likely to recidivate, but also provide a clearer understanding of both prison gangs and the prison gang members.

11:15AM

Consumerist Tendencies: Teaching Teens to Solve Their Problems Through Purchasing. Anna Smitherman. Ball State University, Muncie, IN. Sponsor: Mellisa Holtzman

Previous research has indicated that brand and product placements are becoming more prevalent in television and film. Little research has been done on brand and product placement within text media. This study was conducted to determine how prevalent brand and product placements are within magazines geared towards teenage girls. The study looks at two popular teen lifestyle magazines, Seventeen and Cosmo Girl. Continuing research indicates that the number of brand and product placements far outweigh the number of behavioral suggestions with a heavy emphasis on appearance. Solutions to problems are addressed more with product solutions rather than behavioral solutions. The influence of the media on teenagers is omnipresent and brand and product placements can aid in

cultivating a more materialistic teenage population in which the first solution to a problem is usually to buy something.

11:30AM

The Law Reciprocity: a Study on Human Interaction. Jamie Floris. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

In previous studies, subjects were found to participate in doing a favor for someone more often after receiving a gift from the person asking the favor. This study will further examine this law of reciprocation to help explain tactics of manipulation used in certain human interactions. For several weeks random individuals on the streets of a large Midwestern American city were asked to fill out a short survey. Some were given a small gift first and some were not to determine whether receiving the gift increased their sense of obligation to participate.

Session B

Jordan Hall, Room 387

Moderator: Dr. Tamara Leech

09:30AM

Children in Self Care. Tara Dial. Indiana University-South Bend, IN. Sponsor: Gail McGuire

What are the factors that affect latchkey children? What do the media portray latchkey children to be like? These questions are only the beginning. I am interested to see how the term "latchkey children" has evolved over time. How were latchkey children described in the 1950's, 1980's, and today? Is this a new phenomenon that we are experiencing, or is the stigmatization of latchkey children now being uncovered? I am also interested to see what the media tells us about children being left at home alone and how does that compare to what is really happening.

It is important to understand the child's perspective, as well as the parent's perspective on leaving children at home alone. What does this tell us about our culture today versus what our culture was like years ago?

With the rising likelihood of latchkey children, due to the need for all parents to be in the workforce, what are the consequences of children being left home alone? Ultimately, it is up to the parents to decipher when their child is old enough to stay at home alone. But there may be some consequences that are worth exploring when children are left at home to care for themselves.

09:45AM

Effects of Public Housing Residency and Subsidy Receipt on Adolescent Substance Use. Lani Warner. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

The research addresses the effects of neighborhood factors, specifically, living in public housing and receiving housing subsidies, on adolescent substance use. The key question of this research is: In 2004, after the implementation of the Quality Housing and Work Responsibility Act of 1998, are there any differences in substance use between adolescent public housing residents and adolescents whose families receive housing subsidies? The hypothesis is that there will be higher rates of adolescent substance use among the public housing residents than among adolescents whose families received housing subsidies. Also, it is expected that differences between public housing and subsidized housing will be found to support the separation of these two groups in research. This research addresses the fact that past research has consolidated public housing residents with subsidy recipients into one large group in terms of substance use rates and results. Data was collected from the National Longitudinal Survey of Youth and quantitatively analyzed for correlations between the variables. The results of this study will better explain the relationships between structure and adolescent substance use.

10:00AM

Youth's Perceptions of the Effectiveness of the Teen R.A.P. Program. Brittany Newman. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

According to Lipton and Pearson (1996) and Andrews et. al. (1990), effective treatment/education programs follow five basic principles. Programs must target specific characteristics of offenders, treatment must be provided by appropriately educated staff, deliver sufficient dosage (length of program), give programs to the people at highest risk, and use methods that emphasize positive reinforcement. A questionnaire study of participants enrolled in a 10 week responsibility awareness program was conducted to examine the participant's perceptions of the effectiveness of the Teen R.A.P. program. The Teen R.A.P. program is an adolescent responsibility program provided for juvenile offenders on probation. A total of 20 people responded to 15 questions regarding their views on whether or not the program could help them make healthier and safer decisions in the future. The results of the questionnaire revealed that juvenile offenders perceived the program as useful and were given information that is expected will help them to make safer and healthier decisions and perhaps, reduce recidivism rates.

10:15AM

Economic Mobility according to Ethnicity, Class, and Educational Opportunity. Adam Butler. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

This research will analyze the correlations between ethnicity, class, and educational opportunity and their effects on economic mobility in a particular setting. Education is cited as a key component in social mobility, and the public, intermediate education system in the United States is often cited as not failing to do what it is intended to do.

10:30AM

Maltreated Children and Juvenile Delinquency. Patricia Bennett. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

Children can be maltreated in a variety of ways including physical, sexual, emotional/psychological abuse, or neglect. Maltreated children are at a higher risk than other children for engaging in delinquent activity. These children are much more likely to be delinquent if their maltreatment has been very severe or chronic or happened many times. In this study, the researcher will conduct a survey to determine if this assessment is valid or not.

10:45AM

Corporate Ties. Rachel Magrdichian. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

Many of today's major corporations not only have an impact on society's culture but also on the government and policy. This study briefly examined the history of the corporations, tracing back its major power move to the 1886 Santa Clara County vs. Southern Pacific Railroad case. Using the power elite theory as a basis, this study also looked into the role corporations play in the government – focusing on Monsanto Corporation. Monsanto is a leading company in the genetically modified organisms industry.

In order better to gain understanding of the history and shape of the corporation, secondary research was conducted. Information on Monsanto was also gathered through the utilization of secondary sources. The study done exemplified the influences major corporations hold within the government. Monsanto was found to have a multitude of implications with various sectors in the U.S. government. In order to hold these influences the proper resources, money, were imperative to their climb to the top. These findings help strengthen the case of the power elite theory.

11:00AM

The Effects of War on Children in Post-Colonial, Sub-Saharan Africa. Jarod Wilson. Butler University, Indianapolis, IN. Sponsor: Tamara Leech

This presentation will discuss the historical context of the wars of the Democratic Republic of the Congo, Liberia, Sierra Leone, Sudan, and Uganda since independence from colonial rulers. The presentation will discuss the effects of war on children, but more-so, the responses by the Western world and by Africa to these child outcomes.

11:15AM

Adoption, Identity Formation, and Definitions of Family. Tracey Randolph. Ball State University, Muncie, IN. Sponsor: Mellisa Holtzman

Heritage or culture camps are intended to provide transnationally adopted children an opportunity to meet other adoptees, learn about their ethnic heritage, and participate in cultural activities. This exploratory study examines why adoptive parents of foreign-born children utilize heritage camps and how those experiences affect an adult adoptee's identity and concept of family. Data is based on open-ended, semi-structured interviews with adoptees and their parents. Utilizing the theory of relational dialectics, preliminary analyses suggest that parental explanations for sending children to heritage camp are often contradictory. In the same manner, adoptees struggle with the intersection that race and culture play in constructing and normalizing two vastly different cultures.

11:30AM

Religion's Effect on Capital Punishment. Michael DeAngelis. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

Capital punishment is a controversial topic currently throughout the United States. Every country is influenced by a certain religion that affects each part of the individual life. The United States unlike most countries is considered to be a melting pot of race, culture, ethnicity's, and religion. Religion is a guide for us as human beings on this earth. With each step and every decision religion plays a vital role in how and why we make that choice whether you follow a certain religion or not. The primary purpose of the proposed study is to survey a sample of practicing and non-practicing religious followers to estimate the extent to how religion and a person's faith intervenes with their attitude toward capital punishment.

Session C**Jordan Hall, Room 348**

Moderator: Dr. Ken Colburn

12:30PM

Late Night Values: Content Analysis of Social Issues Addressed in Late Night Television Monologues. Elisa Liszewski. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

Television has clearly become a vital medium in which societies gain knowledge about their surroundings. Because of this, determining how social issues are presented on television is important. In this research project, a content analysis of social issues represented in late night television monologues was undertaken. The key question tackled in this content analysis was how the social issues were addressed. Comparison of the late night television time slot against the late-late night television time slot was studied. The hypothesis formulated was that late-late night television monologues would present more social issues compared to the late night monologues. This result could be in part due to the later time slot receiving less restraint over what their hosts were allowed to talk about. Data from this study revealed that the time slot of a show did not influence the material that was discussed in the opening monologue. Furthermore, the

time slot did not manipulate the way in which jokes concerning social issues were delivered.

12:45PM

The Language of Hip-Hop. Christopher Flood. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

This research is a content analysis of rap/ hip-hop music that has been popular in America since 1995. In our culture, this genre of music has a very negative stigma tied to it. Rap music is characterized as containing liberal amounts of profanity, misogyny, and drug references. This research takes a look the rap music that has been popularized by listeners according to the Billboard Charts. A random sample is selected by using every top ranking rap song from the Billboard "Hot 100" from every fourth month since January of 1995. Every song will be examined carefully for content to see just how justified rap's negative stigma is.

01:00PM

Between the Sheets: A Peek at Russian Sexual Culture. Rebecca Wilson. Wittenberg University, Springfield, OH. Sponsor: Jerry Pankhurst

The sexual culture of Russia can be divided into four distinct periods; early and developing identity through control of the Church (ca. 900), political control of sexual relations by the State (1917-1991), Westernization and the release of sexual tensions (1987-1996), and finally the exploratory stage of contemporary society. These categories can be examined by looking at several different forces acting on the constraints of sexual culture, whether by church and/or state, as well as the social products of their permeating influences. When discovering the intensity in repressed sexuality, there seems to be a concurrent developing tendency toward exaggerated Russian emotionality. The social complications in sexual behaviors results in a mixed expression of the taboo with the swelling of Russian identity and nationality. The psychological regression caused by the implementation of socio-political control of sexual activity may explain the lack of ability to cope with sexuality in a healthy manner.

01:15PM

Slasher Films and their Morality. Stephen Curley. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

A content analysis of popular slasher films was used to determine the moral messages they contain. Ten slasher films from the most popular slasher film series were analyzed. Behaviors traditionally judged immoral by middle class standards of morality (i.e. promiscuous sex, drug use, etc.) were examined to see if characters who died or had other negative outcomes at the end of the film were more likely to engage in these behaviors.

01:30PM

Violence in Media: A Study on Cartoons and Violence over the Years. Marianne Barnett. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

The purpose of the purposed research is to examine child media and the changes in violence over the years; more specifically violence in cartoons. The research question at hand is, have cartoons become more violent over the years? It is hypothesized that cartoon violence has increased over the years. Other research has looked at the effects of media violence on children, but has failed to examine if violence has increased over the years. This research will focus on the severity and vastness of violence in cartoons. A content analysis of Tom and Jerry cartoons from the last 60 years will be conducted using the George Gerbner coding system and a combination definition of what constitutes a violent act. Data will be collected based on prevalence, rate, role, and type and will then be compounded for further analysis. The results of this study will have

implications for those who create violent cartoons and those who study the effects of cartoon violence on children.

01:45PM

Case Study of the Jeffersontown Police Department's Use of Tasers. Brendan Mills. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

The researcher conducted a case study of the Jeffersontown Police Department's use of Tasers. The case study was conducted to determine the "culture" of Tasers in the department. That is, how are the officers in the department going to use Tasers. The researcher determined this by exploring the department's history of Tasers, training related to Tasers, operating procedures relating to the use of Tasers, and interviews with officers about their use of Tasers.

02:00PM

Post 9/11 News Coverage Of Muslims And Islam. Colin Joyce. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

A content analysis of Fox news examined if certain "news frames" were applied to and directed at the coverage of Muslims and Islam, and if so, what did they portray. This research hypothesizes that since 9/11, Fox news coverage of Muslims and Islam has utilized violent and terrorist news frames which result in a negative portrayal. The research found that the results from the analysis of Fox news support the hypothesis. Overall, the analysis found that a majority of Fox news coverage was negative in its portrayal of Muslims and Islam. The most dominant news frame used in news coverage of Muslims and Islam was violent frames, followed by terrorist. Combined, Fox used violent and terrorist frames 65 % of the time in its coverage of Muslims and Islam. Analysis also found that when violent and terrorist frames were used, specific terminology was applied to news coverage that reinforced the idea that violence and terrorism is associated with Muslims and Islam as a whole.

02:15PM

How Newspapers Represent the Female Criminal. Jennifer Lux. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

A content analysis tested the chivalry hypothesis in 3 months of crime reporting in a local U.S. newspaper. The chivalry hypothesis posits that female criminals receive more lenient treatment in the criminal justice system and in news coverage of their crimes than male criminals. The study found support for the chivalry hypothesis. It produced evidence that women who violate gender expectations by committing violent crimes receive more negative coverage than female criminals who do not violate gender expectations in committing crimes. It also found evidence that women who commit nonviolent crimes that conform to the standards of womanhood receive more lenient treatment and less negative coverage by the media than male criminals who commit similar crimes.

02:30PM

Secondary Data Analysis: Correlation Between View's on Abortion and Capital Punishment. Kimberly Roberts. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

The purpose of this research was to find if there was a correlation between people's views on abortion and capital punishment. Would their view's be the same, or would they differ from each other on one topic than the other? The researcher used the General Social Survey to conduct a secondary data analysis and show the research in a multiple regression. The variables used are age, sex, education, total income, race, household type, the belief in the existence of God, if homosexual sex is wrong, the person's political views,

and the person's party identification, to see if a correlation exists between the two topics.

Session D

Jordan Hall, Room 387

Moderator: Dr. Marvin Scott

01:00PM

The Meaning Attached to Automobiles. Brandon Berry. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

In my research I examine the meanings we attach to automobiles and the different roles and meanings we attach to the social phenomenon of automobile buying in our American culture. What do automobiles mean to people? Are they merely transportation? Are they merely material objects? Do the meanings attached to automobiles vary by class and individuals? I believe that automobiles represent several different things. In my research these questions will be answered and a range of meanings attached to the automobile will be revealed from: a source of freedom, a status symbol, a representation of personality, practicality, also impractical roles like maybe a companion or a pet, also as a right of passage, a source of pride, and a culturally constructed necessity for modern living.

01:15PM

Extraversion versus Introversion and Classroom Performance. Timothy Hessel. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

This study will attempt to discover a correlation between introversion and extraversion and its effect on classroom performance. The research will show if a traditional classroom is more beneficial to introverts or extraverts. The Kiersey Bates questionnaire will be used to determine introversion and extroversion. Classroom performance will be determined by high school and college grade point average.

01:30PM

Images of the Female Body in the Media and Body Satisfaction. Alexandria Brzozowski. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

This research examines the relationship between the image of the ideal female body in the media and the affects it has on body satisfaction for women. These images increase overall physical awareness for women and cause them to perceive these media driven images as the "standard for beauty" which leads to body dissatisfaction. Analyzing secondary research journal articles that have been done in previous studies is the used to show how the media has negative affect on body satisfaction on women. Surveys were given to analyze body satisfaction after the women were exposed to the media images of women. The women did show higher levels of body dissatisfaction after being exposed to the images. Thus, women who are exposed to the ideal female body image in the media show body dissatisfaction.

01:45PM

No Fault Divorce or Covenant Marriage. William Herman. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

The issue that was addressed in this research project is to identify which alternative Bellarmine students think is better for marriage, no fault divorce or covenant marriage, and which one should be the law in Kentucky. It is important to get the opinions of college students because they are getting to the age where they will be getting married and each generation may have different feelings on any given issue. For the research several classrooms

were presented with a fifteen question survey that took about five minutes to complete.

02:00PM

Measuring the Effectiveness of a Youth Program. Mike Green. Butler University, Indianapolis, IN. Sponsor: Dr. Antonio Menéndez

My research analyzes the effectiveness of Hunting Park Youth Development program. Hunting Park Youth Development is a community based organization, which serves in Philadelphia for at-risk male youths. The program was organized in 1994, started by Gregory Wright (the current mentor and head coach) and Rasheed A. Wallace (former Hunting Park Warrior, current NBA player, and sponsor) with the aim of using sports as a tool to keep the youth away from unlawful activities. The program currently consists of ninety-seven participants. There are seven different age groups, which varies between the ages 12-18. According to ERIC Development Team, ultimately, youth programs need to improve the lives of the participating youth, whether by reducing their risky behavior, improving their academic achievement and progress, or helping them obtain and retain career jobs in growth industries (Flaxman, Orr, 1996). The objective of this study is to investigate the effectiveness of a youth program based on the ERIC Development Team's criteria. In-depth interviews and comparisons were the methodology used to measure the effectiveness of the program. The findings from this study suggest that HPYD is an effective program that improves the lives of at-risk youth by developing character, building life long relationships, and producing self-sufficient responsible and productive citizens in the Philadelphia community.

02:15PM

A Secondary Data Analysis: Looking at the correlation between race (African-American and White-American) and their views on homophobia. Anthony Montero. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

Abstract: A Secondary Data Analysis using the General Social Survey was conducted on the relationship between race (African-American and White-American) and homophobia. The researcher used as the dependent variable "is homosexuality wrong?" and five other independent variables to find out how race, education, sex roles stereotyping, income, and religiosity are related to homophobia. In many studies, research found that both male and female African Americans are more homophobic than White Americans (Pitt and Nagy, 2007). Other researchers found that this relationship may be affected by other factors (Lewis and Brown, 2007). Hopefully this research will give further insight into this relationship.

02:30PM

Working to Death in Juarez: Social and Economic Conflicts Between Genders in the Border City. Dalila Huerta. Marian College, Indianapolis, IN. Sponsor: Pierre Atlas

For over 10 years, the women of Ciudad Juarez (Mexico) have been targeted and assaulted by men: on the street, on their way to work, or within the "safety" of their homes. Amnesty International reports that since 1993, almost 400 women and girls have been murdered in Ciudad Juarez- a city with a deep-rooted sense of machismo and poor economic conditions that are only encouraged by its Maquiladora industry. In my analysis of these murders, I explore the historical crises that fueled (and continue to fuel) the mass rape and murders of the women of Juarez, focusing on cognitive and conflict sociological theory to provide some insight into the development of the gender battles within the city. Furthermore, I examine the consequences of the Maquiladora system and Free Trade, offering my own vision of a Fair Trade model that could potentially ease the tension and competition between the genders.

02:45PM

To Be Thin: The Impossible American Dream vs. The American Reality. Katherine Hegarty. Butler University, Indianapolis, IN. Sponsor: Antonio Menéndez

In the current American society, there is an obsession to be just like the models and celebrities of our time. People strive to be thin and beautiful, just as the individuals on television. However, America is the most obese developed nation and the numbers are growing. Do people give up on their dreams to look like a model or are there other factors involved in this change? This paper specially looks at the media, the American lifestyle, and socioeconomic status as factors in the growing epidemic. The beauty ideals internalized by our society are compared with the different factors to see which influence overweight and obesity. Specifically this paper argues that the American lifestyle has been the largest contribution in the weight gain of America.

03:00PM

Fear of Failure. Ray Finnegan. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

Athletes are forced to deal with pressure and can breakdown while participating in athletic events. Even those who are not athletes deal with pressure, whether that in the classroom or the business world and can fail at whatever goals they pursue. Conroy (2004, pg. 2) states "Fear of failure energizes individuals to avoid failure because of the learned aversive consequences of failing (e.g., Shame)." In saying this, fear of failure is to avoid failure because of the learned aversive consequences of failing. With the fear of failing and letting peers down, these factors can contribute to negatively affecting the males/females whether its through sports, school or jobs and relationships. It is one's strength in their beliefs about the likelihood of aversive consequences of failing which represents a metric for individual differences in fears of failing. The researcher wants to investigate the fear of failure among college students. This will give the researcher an idea of how college students perceive failure when they do in fact fail.

Poster Presentations

Group A 10:00am - 10:50am

1

Preliminary examination of a fish population in a small, artificial pond. Caesarea Nash, Carlos Garza, Jr. Purdue University North Central, Westville, IN. Sponsor: Kenneth Holford

Purdue North Central (PNC) is a regional campus of Purdue, located in LaPorte County, Indiana. The campus is approximately 380-acres and contains a small, artificial pond. The predominant fish species in this pond is the bluegill (*Lepomis macrochirus*). Over the past year the population of bluegill in this pond has undergone a rapid expansion, although no data actually exists that documents this event. In order to better understand the population of fish in the pond, and ultimately to manage the ecology of the pond, we have started collecting demographic information about these fish. Fish were captured from two distinct locations in the pond using a small minnow seine. Average fish length was 78.2 mm (SD=10.5mm, n=50), average height was 22.4mm (SD=3.8mm, n=50), and average mass as determined to be 5.13g (SD=2.8g, n=48). Although there was no difference in mass of height of fish between collected at the locations, there was a difference in length ($t=2.03$, $df=48$, $P=0.05$). It is unclear if these fish represent different age groups, or if this is an artifact of small sample sizes. In the future, we plan to collect data on size-age structure, sex ratio, and tag individuals to monitor longer-term changes in growth.

2

Dendroarchaeological Analysis of a Nineteenth Century Building. Cassie Morris. Hanover College, Hanover, IN. Sponsor: Darrin Rubino

Tree-ring analysis was used to determine the construction date for a house built in Southern Indiana (Howard Township; Washington County). The goals of this project were to obtain a construction date for the building and to create a tulip poplar (*Liriodendron tulipifera*) chronology (series of accurately dated and measured tree rings). Interestingly, all of the lumber in the house was sawn and of uniform dimension, as opposed to hewn logs (which are most often found in historically constructed buildings). A high percentage of the samples taken from the house were datable. A 241 year chronology (1642–1882) was created using tulip poplar. A white oak chronology spanning 67 years (1796–1862) and a 36 year red oak chronology (1847–1882) were also created from the house's timbers. Beech and maple samples were also analyzed, but were not datable. Based on the distribution of tree-rings in the outermost portion of the samples, the structure was built in 1883. The tulip poplar chronology from this structure has been used to successfully date other historic buildings. Future work in the region will be conducted to elongate and add sample depth to the various chronologies.

3

The Effect of di-n-butyl phthalate on the Embryological Development of *Xenopus laevis* by way of FETAX. Brittney Kunce. Hanover College, Hanover, IN. Sponsor: Michael Worrell

The objective of this study was to assess, via the FETAX protocol, if there was a developmental effect on the frog embryo when di-n-butyl phthalate was present at small concentrations within the embryo's environment. After the induction of amplexus between adult *Xenopus laevis*, embryos between stages 8 and 11 of development were broken up into one of three categories: negative control, with only FETAX solution present; positive control, with a small concentration of 6-aminonicotinamine dissolved in FETAX solution present; and experimental, of which the embryos were exposed to one of three levels of the toxicant of interest, di-n-butyl phthalate, or DBP, dissolved in FETAX solution. The three toxicant levels were determined by the guidelines outlined within a document by the Ohio River Valley Sanitation Commission, or ORSANCO. According to ORSANCO, DBP is considered harmful to human health when present at concentrations of 2000 mg/ liter or lower. Therefore, the three

concentration utilized in this study were 3000, 2000, and 1000 mg/ liter respectively. Upon 96 hours of development, exposure was terminated and mortality was later tallied for each group. It was hypothesized that the embryos exposed to DBP would realized a greater significant of abnormality as compared to the negative and positive control groups and that this significance became more prominent as the concentration of the toxicant increased, thus signifying that the level proposed by ORSANCO permits concentrations that prove detrimental to the livelihood of small, aquatic organisms despite its lack of influence on human health.

4

Salivary testosterone and dehydroepiandrosterone (DHEA) as predictors of vocal register in adolescent male singers. Wesley Thomas. Bellarmine University, Louisville, KY. Sponsor: Thomas Bennett

During puberty, hormones direct the growth and development of the larynx causing the characteristic 'voice drop' in males. The deepness of the voice and lower pitch frequencies directly correlate to the increased size of the larynx. As the vocal chords elongate, range descends and registers redevelop. The final size of the larynx after maturation reflects the hormonal environment and target organ sensitivity during puberty. A previous study (Harries, et al. 1997) failed to show a correlation between salivary testosterone level and fundamental frequency in vocally untrained 13-15 year old boys. The goal of this study is to assess the relationships among androgenic hormones, morphologic parameters, and the vocal register in late adolescent males with formal vocal training.

Sixteen males (age 16-19) attending a summer vocal program participated in this study. Salivary samples, collected at the beginning, middle, and end of a one hour testing session, were pooled and analyzed for testosterone and DHEA with commercial enzyme immunoassay kits (Salimetrics, LLC). Height, weight, neck length, and neck circumference (2 locations) were taken and a health assessment questionnaire completed. Each subject's singing voice was digitally recorded and vocal register was determined following a series of vocal warm-up exercises. Vocal range and fundamental frequency were determined using computer software (Sound Forge). Preliminary analysis of the data suggest several relationships among the measured variables. Additional subjects are being tested and will be included in the final data analysis. (This study was approved by the IRB of Bellarmine University.)

5

Comparison of the activity of beta glucosidase and poly-phenol oxidase in woody and grassy soils in La Copita, Texas. Valerie Dooling, Timothy Filley, Diane Stott. Purdue University, West Lafayette, IN. Sponsor: Timothy Filley

Thorn woodland encroachment into grasslands is a major global ecosystem shift due primarily to fire suppression and livestock grazing techniques. It is speculated that these shifts in plant type impact soil carbon storage such that soil organic matter accrues providing a means to sequester carbon and contribute to mitigation of rising atmospheric CO₂ levels. The primary purpose of this study is to analyze the activity of enzymes responsible for the degradation of a majority of the plant carbon input into such soils, poly-phenol oxidase and beta glucosidase. We compared the activity of these enzymes in a woody encroachment site in the Rio Grande plains of South Texas. We found that the woody plant clusters had on average higher phenol oxidase activity compared to grasslands which we interpret as a response of decomposer microbes to increased plant input. We also discuss a comparison of soil sample storage techniques on enzyme activity.

6

The effects of gonadal hormones on cortical reorganization following infraorbital nerve transection in rats. Kevin Elliott. Indiana University-Bloomington, Bloomington, IN. Sponsor: Preston Garraghty

Recent findings suggest that gonadal hormones, particularly estrogen, exhibit various neuroprotective effects. In this experiment, the effects of gonadal hormones on cortical reorganization following nerve injury in rats were investigated. To determine these effects, four groups of rats were used: intact males, intact females, gonadectomized males, and ovariectomized females. The latter two of the aforementioned groups were representative of males with decreased testosterone levels and females with decreased estrogen levels, respectively. In all four groups the infraorbital nerve, which connects the whiskers to the whisker barrel cortex, was transected. Then, following a 60-day survival period, animals were sacrificed, and their brains were removed and stained with cytochrome oxidase, a chemical agent which measures the average lifetime activity of cells. Finally, stained tissue sections containing the whisker barrel cortex were analyzed under a microscope. The results of this experiment suggested that gonadal hormones are neuroprotective. That is, staining revealed that, when gonadal hormones were absent, activity levels were much lower than when gonadal hormones were present. While testosterone and estrogen were both shown to exhibit neuroprotective properties, estrogen was found to be the more neuroprotective of the two. This finding aligns with recent clinical studies which suggest that hormone replacement therapy of estrogen may be a viable treatment to protect against such disorders as Alzheimer's disease, stroke, and traumatic brain injury.

7

Cloning and Characterization of Plant Oxalate Transporters. Carrie Anderson, Aaron Wyman, Mary Alice Webb. Purdue University, West Lafayette, IN. Sponsor: Aaron Wyman

The Slc26a gene family encodes for ion transporters responsible for exchanging monovalent and divalent anions. In mammals, the Slc26a6 transporter exchanges chloride for formate, sulfate, and the toxic antinutrient oxalate. Elimination of Slc26a6 transporters in rats leads to oxalate accumulation and kidney stone formation in renal tissues. While many anion transporters are known in plants, none responsible for oxalate transport have been identified. A better understanding of how plants mobilize oxalate in vivo may aid in developing more nutritious food crops. Using a bioinformatics approach, we identified plant proteins homologous to mammalian Slc26a6 transporters, including several polypeptides in the model plant *Arabidopsis thaliana* and grape (*Vitis*) species. Interestingly, some of these Slc26a6-like transporters in *Arabidopsis thaliana* are responsible for sulfate transport in vivo. Mutant *Arabidopsis* lines carrying T-DNA insertions in the genes encoding for these sulfate transporters have been obtained and are being characterized for differences in growth and development and oxalate transport. *Vitis* species contain high concentrations of calcium oxalate crystals throughout their tissues. From a *Vitis* leaf cDNA library, we have cloned a putative *Vitis* Slc26a6 predicted to encode a polypeptide having strong homology to mammalian Slc26a6 transporters. This *Vitis* sequence was expressed in yeast to generate recombinant protein, which is being used to raise antibodies for Slc26a6 immunochemical studies.

8

Isolation of Arbuscular Mycorrhizal Fungi from Successional Dune Soil. Kelli Martin. Purdue University North Central, Westville, IN. Sponsor: Nancy Marthakis

Arbuscular Mycorrhizae is a soil fungus that is believed to play an intimate role in enhancing nutrient uptake between plant root and soil. In infertile soils, nutrients taken up by the mycorrhizal fungi can lead to improved plant growth and reproduction. The ability of several sand dune inhabiting plant species to successfully colonize dune sites appears to depend on the presence in the soil of Arbuscular Mycorrhizal Fungi (AMF) that form mutualistic relationships with roots. It is also known that dune sites along

the eastern coast barren of vegetation lack these fungi. This interaction between dune plants and the Arbuscular soil fungi have been shown to promote better ecosystem restoration outcomes. The focus of this study is to collect soil samples along the plant-root-soil interface, known as the rhizosphere. Soil was collected from an experimental block in each of the three habitats along the Indiana Dunes to include fore dune, secondary dune and oak dominated communities. The root pieces in the soil samples were processed, stained and evaluated microscopically for the presence of AMF. Preliminary results of our slide analysis show an overall low rate of infectivity by AMF.

9

2-Dimensional Analysis: Proteins Possibly Involved in Host Cell Invasion. Charles Siddall. Ball State University, Muncie, IN. Sponsor: Susan McDowell

Statins, a class of drugs usually prescribed to help lower cholesterol levels in patients, have also been shown to lower the risk of death due to sepsis. This protective effect has been shown to be independent of cholesterol lowering. Specifically, we believe that simvastatin inhibits host cell invasion by *S. aureus*. Simvastatin has been shown to block the depolymerization and the rearrangement of actin stress fibers involved in endocytosis. *S. aureus* takes advantage of this rearrangement of actin stress fibers to invade the host cell. A membrane preparation was performed to gauge which proteins interact at the membrane allowing *S. aureus* to invade the host cell. Membrane fractions were isolated and 2-dimensional (2D) gel electrophoresis was performed. 2D-gel electrophoresis assesses proteins by their isoelectric point and molecular weight. Quantitative analysis was performed using PDQuest, a computer software program. PDQuest was also used to compare proteins between gel images. By assessing proteins that show a significant difference between the control group and the treatment group, we hypothesize that these proteins may contribute to the invasiveness of *S. aureus*. The information from these analyses leads to a better understanding of how *S. aureus* invasion is inhibited.

10

Optical Losses or Neural Losses? A Comparison of the Effect of Age on Conventional Automated Perimetry and Contrast Sensitivity Perimetry. Dawn Meyer. Hanover College, Hanover, IN. Sponsor: Michael Worrell

Purpose: To compare the effect of age on conventional automated perimetry (CAP) versus a new form of perimetry, contrast sensitivity perimetry (CSP).

Methods: Twenty three (23) younger control subjects ages 21-30 years and twenty three (23) older control subjects ages 45-75 years were recruited, and one eye tested both on CAP and CSP during two visits approximately one week apart. The CSP test used a Gabor stimulus with a peak spatial frequency of 0.4 cycles per degree (cpd), presented at 26 test locations in the central 23-degree field.

An analysis of variance (ANOVA) was used to compare age effects for the two tests. As a secondary means of comparing, linear regression was performed and the slopes compared using Z-scores.

Results: An ANOVA found the main effects of age and test on sensitivity were statistically significant ($p < 0.0005$), but there was no interaction between age and test ($p = 0.485$).

Slopes obtained by linear regression for the CAP test (mean \pm SEM = 0.07 ± 0.01 log unit per decade) and the CSP test (-0.06 ± 0.01) were not statistically different ($z = -0.6473$, $p = 0.7413$).

Conclusion:

While age had an influence on both CAP and CSP, the effect was not significantly smaller for the CSP test. We concluded the age effect was due to neural, not optical factors. Our study took measures to control for optical factors, but in a clinical setting age may have a greater effect on CAP because CSP is less influenced by optical factors.

11

The effect of altering pappus length on germination of North American dandelion (*Taraxacum officinale*) seeds. Jessica Mobley. Wittenberg University, Springfield, OH. Sponsor: Matthew Collier

Seed ultrastructure was examined in relation to germination (appearance of the radicle) of North American dandelion (*Taraxacum officinale*) seeds. Based on previous dandelion rearing studies, a correlation between how intact the dandelion seed is and its ability to germinate was observed. With the pappus (an awn-like modification of the calyx) completely removed there was a significant decrease in the total number of seeds that germinated and an increase in the time it took for seeds to germinate. Seeds possessing a partial pappus were observed in this study to see if similar germination trends were detected. Seeds from thirty-three different dandelion plants were germinated under six treatment conditions (N = 10 seeds from each plant per treatment): pappus completely intact (control), pappus minus the awn, 75% of the pappus intact, 50% of the pappus intact, 25% of the pappus intact, and the pappus completely removed. Results indicated no difference in mean number of germinated seeds across the treatments ($P = 0.117$), but did show a significant difference in the mean time to germination across treatments ($P = 0.001$). It is hoped that this study will provide insight into the process of germination in plants with morphologically complex seeds, and perhaps allow for the development of a more environmentally friendly form of dandelion control.

12

Do CD46, beta-1 integrin and discs large play a functional role in retinal pigment epithelium detachment? Kacy Vaughn. Bellarmine University, Louisville, KY. Sponsor: Dr. Steven Wilt

Age related macular degeneration (ARMD) is one of the leading causes of blindness of aged individuals in developed countries. In this disease, the retinal pigment epithelium (RPE) detaches from the underlying basement membrane, Bruch's membrane. Three proteins thought to play an important, yet unknown role in the detachment of the RPE from Bruch's membrane: CD46, beta-1 integrin, and discs large. CD46 is a member of the complement system, which is found in almost all polarized epithelium and is a crucial component of the inflammatory response. Beta-1 integrin is an adhesion molecule that has been shown in previous studies to interact with CD46 in the RPE (McLaughlin, et al., 2003). Discs large is another molecule that has previously been shown to interact with CD46, but its function is unknown. Reverse transcription PCR (RT-PCR) was used to confirm that transcripts for each gene was present. Immunoblot analysis was used to demonstrate expression of each protein in the tissue, and co-immunoprecipitation was used to determine if the proteins interacted with each other. RT-PCR showed that the genes for all three proteins were indeed present. Western blot analysis proved beta-1 integrin and discs large to be present, but was inconclusive for the expression of CD46. To date, co-immunoprecipitation has been unsuccessful. Based on these preliminary data and data from other researchers, it was concluded that the genes for all three proteins are present in the RPE, and that all three proteins are expressed. Further investigation is needed to prove the interaction of these proteins and to shed light on their role in cell adhesion.

13

The importance of different regions of the face, temperature, and gender in eliciting the human diving reflex. Sam Weigel. Bellarmine University, Louisville, KY. Sponsor: Thomas Bennett

The diving response is characterized by bradycardia, decreased cardiac output, increased arterial blood pressure, redistribution of regional blood flow, and perhaps an active contraction of the spleen. Holding ones breath alone is enough to trigger the diving response, but several other factors, when stimulated simultaneously with apnea causes the response to be much more pronounced. A previous study (Shuitema and Holm 1988) showed that the forehead and eyes are key in eliciting the diving reflex; however they failed to take into account varying temperatures, gender, and apnea.

This study includes these factors as well as monitoring O₂ saturation (during the diving reflex). Ten males (age 20-24) and ten females (19-21) participated in this study. Six areas of the face were tested (forehead, eyes, ears, cheek, nose, and mouth) using wet towels at three temperatures (0-3, 20-23, and 35-38°C) either with or without apnea. A digital physiograph system was used to record heart and respiration rates and a pulse oximeter was used for O₂ saturation. A disk thermometer was placed in the wet cloth to monitor stimulus temperature.

Data shows that there are significant differences between gender at the cold temperature with and without apnea. In addition significant changes within males were found regarding temperature response and face location. Surprisingly, the difference between apnea and no apnea was only found to be significant in males but not in females. (This study was approved by the IRB of Bellarmine University).

14

Validating the use of salivary alpha-amylase as a biomarker for autonomic nervous system activation in response to a startle stimulus. Jason Lally. Bellarmine University, Louisville, KY. Sponsor: Thomas Bennett

Salivary alpha-amylase can be used as a biomarker of the sympathetic-adrenal-medullary stress response due to the fact that the salivary glands are activated by the autonomic nervous system. In previous studies, stress-related changes in salivary alpha-amylase were elicited by either physical exercise or by giving a public speech. In the present study, 15 male participants (age 18-24) were introduced to two stressful stimuli during an experimental protocol that included: 1) viewing a 5 minute non-stressful video; 2) playing the video game Tetris for 5 minutes (a mild stressor); 3) watching another 5 minutes of the video; 4) performing a 30-second screen-clearing video task that was interrupted by a sudden auditory and visual startle stimulus; and 5) watching the video for 15 minutes post-startle. Saliva samples were collected before and after each 5-minute condition, immediately after the startle, and at 5-, 10-, and 15- minutes post-startle. Heart rate and galvanic skin resistance were continuously monitored throughout the experiment with a Biopac physiograph system. Saliva samples were assayed for alpha-amylase with Salimetrics ELISA kits.

Preliminary results on the first 10 subjects show that salivary alpha-amylase levels significantly decreased during the first video viewing and then remained steady while heart rate increased significantly immediately post-startle. Further data analysis is underway on the remaining 5 subjects so no final conclusions can be made in this abstract. (This study was approved by the IRB of Bellarmine University).

15

Impact of Two ASR Fungicides on Aquatic Organisms. Dusty Kime. DePauw University, Greencastle, IN. Sponsor: Bruce Serlin

Asian Soybean Rust, *Phakopsora pachyrhizi*, is an invasive species of fungus that attacks members of the legume family and is spread via airborne spores. Since its introduction into the U.S. in 2004, the disease has continued to spread and poses a significant threat to crop yield, specifically to soybeans. To combat this potential economic loss, the Environmental Protection Agency (EPA) has authorized, through special exception, the use of several types of fungicides. As the key defense against soybean rust, we can expect the widespread use of such fungicides to be continued, if not increased, in response to advances made by the fungus. Given the possibility of unanticipated harm to the environment through large-scale fungicide application, research on their environmental impact is duly warranted.

The purpose of this study was to research the environmental impacts of two of these fungicides, Quilt and Folicur. Test studies were conducted with two aquatic species, the Fathead Minnow and *Daphnia Magna*. These organisms were chosen due to their widespread distribution, importance in aquatic ecosystems, and their use as model aquatic organisms for environmental impact monitoring.

Group B 11:00am - 11:50am

1

Species and Concentration of Actaea in Dietary Supplements Marketed as Containing Black Cohosh. Samantha Kohlman. Hanover College, Hanover, IN. Sponsor: Jennifer Osterhage

Alternative treatments for the symptoms of menopause have been explored vigorously, since the Women's Health Initiative Study which showed a significant, increased risk of breast cancer from hormone replacement therapy. Dietary supplements claiming to contain black cohosh, scientifically known as *Actaea racemosa* and recently reclassified as *Cimicifuga racemosa*, have been the primary focus of many of these studies. These supplements are currently available to consumers and are marketed as treating the vasomotor symptoms of menopause. However, because they are categorized as dietary supplements, these products do not have to be tested by the Food and Drug Administration. The lax regulation of these supplements allows considerable variation in the concentration of *C. racemosa* present in the supplements. In addition, due to morphologically similar *Actaea* species, supplements may also contain different species. In an effort to determine the species of *Actaea* and the concentration of its constituents in five black cohosh dietary supplements, genetic testing using Amplified Fragment Length Polymorphism (AFLP) and concentration testing using High Performance Liquid Chromatography (HPLC) were performed. Research is still ongoing and results are pending.

2

Exercise During Chemotherapy Treatment for Breast Cancer. Samantha Carpenter. Hanover College, Hanover, IN. Sponsor: Bryant Stamford

Introduction: During chemotherapy treatment, the body experiences many physiological and psychological challenges, including fatigue, decreased physical functioning, and low self-efficacy. The few studies of the effects of exercise during chemotherapy treatment suggest multiple potential benefits. The purpose of this study was to determine the risk and benefits of exercise during chemotherapy treatment for breast cancer, and to preference for the relative intensity of exercise (if beneficial).

Methods: Five women who had previously experienced breast cancer and were treated with chemotherapy, or who are currently being treated were interviewed. Prior exercise habits and exercise habits during chemotherapy were determined. The perceived benefits of exercise versus any detrimental impact of exercise, and preference (if any) for exercise intensity was the core substance of the interview process. Also five exercise and/or cancer experts were interviewed.

Results: Based on the pilot data and ongoing data collections, the results obtained from patients appear to support the "benefits" hypothesis. Low to moderate intensities of exercise were favored and provide less risk and detrimental outcomes. The interviewed experts also are in support of exercise during chemotherapy treatment for breast cancer, and they favor low to moderate intensities.

Conclusions: The results thus far suggest that the benefits of low to moderate intensity exercise outweigh any detrimental effects during chemotherapy treatment for breast cancer.

3

The Effect of Vibration Testing on the Wrist Extensor Muscles at Maximal Effort. Daniel Siepler. Hanover College, Hanover, IN. Sponsor: Michael Worrell

The purpose of this study is to determine the impact of vibration on a test of strength and endurance in the wrist extensor muscles of the dominant and non-dominant arm.

Methodology: Subjects underwent two administered tests on separate days with two days rest in between each test. The two tests were administered in

randomized order between different subjects to eliminate the learning/training effect. The two administered tests went as follows: Dominant arm prior to non-dominant arm with no vibration, dominant arm with vibration prior to non-dominant arm with vibration. Subjects underwent all testing on a stationary vibration platform. Subjects performed wrist extensions with 15, 10, and 8lb. dumbbells. The subjects were tested for maximal number of repetitions at each of the three dumbbell weights.

Results of Pilot Data: The results include the data of the comparison from test 1 (with no vibration to dominant and non-dominant arms) and test 2 (with vibration to the dominant and non-dominant arms). There was a 1 repetition increase in the dominant arm with vibration during the 8lb. set and a 4 repetition increase in the non-dominant arm with vibration during the 8lb.set.

Conclusion of Pilot Data: From the Pilot Data, it is thought the Tonic Vibration Reflex and postactivation potentiation are the key components to the strength increases elicited during this testing.

4

Cross Education As A Result Of Unilateral Post Activation Potentiation In The Wrist Extensor Muscles. Michael Clay. Hanover College, Hanover, IN. Sponsor: Michael Worrell

The purpose of this study is to determine the efficacy of inducing cross education in the forearm extensor muscles from dominant arm to non-dominant arm utilizing post activation potentiation. Also, to determine whether training on a vibrating platform will increase the magnitude of the response in the untrained arm.

Method: Ten untrained, male subjects will be chosen from Hanover College. Subjects will undergo four separate tests in a randomized order.

- Dominant arm prior to non dominant arm
- Non dominant arm only
- Dominant arm with vibration prior to non dominant arm with vibration
- Non dominant arm with vibration only

The tests will be administered on the Power Plate vibration platform. The number of wrist extensions performed with 15, 10, and 8 pound dumbbells will be recorded.

Results: Data collection is in progress. Pilot data indicates that there was greater force production in the non dominant wrist extensors in the trial that had prior activity in the dominant wrist extensors. Also, vibration was shown to increase the degree of the improved force production.

Conclusion: This data may indicate a transfer of the neurological effect of the postactivation potentiation from the dominant arm to the non dominant arm. Thus, exercising the dominant arm wrist extensors could prime the non dominant wrist extensors to be more physiologically prepared to lift the weight.

5

Oh, Make Me Over The Transformative Power of Makeup. Alison Chemers. Butler University, Indianapolis, IN. Sponsor: Wendy Meaden

Oh, Make Me Over is my honors thesis exploring the transformative power of makeup. Oh, Make Me Over explored the possibility of a character developing out of physical appearance, then costume, then a dramatic text. 6 actors were cast based on their understanding of their own identities. Certain identity traits were the catalyst to creating a character each actor did not know he had. The actors were worked with on an individual basis and makeup was applied to each, that they were not aware of. The revealing of the makeup prompted certain feelings and emotions that inspired a dramatic text to define the character. The research I will be presenting are the before and after pictures of the actors' makeovers.

6

Lifestyle Characteristics and Amenorrhea. Kristen Blood. Hanover College, Hanover, IN. Sponsor: Bryant Stamford

Several factors can contribute to varying degrees of menstrual dysfunction in college-age women. The purpose of this investigation was to determine the most significant contributing factor in amenorrhea cited by females who experience this condition.

Methods: Twenty four female subjects who have experienced menstrual dysfunction were interviewed in depth. Interviews were crafted to attempt to determine the knowledge, experiences, and opinions of each subject with regard to amenorrhea. A major component was the ranking of four specific lifestyle factors in terms of their perceived degree of influence in causing amenorrhea.

Results and Discussion: The 24 subjects ranked emotional stress as the most influential factor (44%), an increase in excessive exercise was ranked second (36%), a loss of body fat due to excessive exercise was ranked as the third most influential factor (12%), and a decrease in energy intake was ranked the least influential (8%). Of the 24 subjects, 10 were college athletes who regularly performed vigorous exercise, but only 30% of those athletes cited excessive exercise as the major factor contributing to their menstrual dysfunction, while 40% cited emotional stress as the reason.

Conclusion: This study concluded that emotional stress was perceived to be the most influential factor causing amenorrhea and other menstrual dysfunctions in young women currently attending college.

7

Impact of self-determination on exercise adherence. Megan Clifton. Hanover College, Hanover, IN. Sponsor: Bryant Stamford

The Self-Determination Theory (SDT) suggests that the more self-determined or autonomous a person is, the more motivated he or she will be to engage in a given behavior. Furthermore, it appears that certain psychological needs—namely autonomy, relatedness, and competence, are essential in the enhancement of self-determination. The purpose of this study was to identify the relationship between the degree to which Hanover College students are self-determined, and their exercise behavior.

Methods: The Behavioral Regulation for Exercise Questionnaire (BREQ-2) will be distributed to the Hanover College student body. This questionnaire will be used to assess students' levels of self-determination related to exercise by measuring the extent to which one feels autonomous about exercise. Attitudes concerning exercise, and exercise habits also will be noted.

It is hypothesized that findings will support SDT as an important mechanism with regard to exercise adherence.

8

Pilates and Rotator Cuff Rehabilitation: A Theoretical Investigation. Taulbi Schnetzer. Hanover College, Hanover, IN. Sponsor: Bryant Stamford

Abstract:

The purpose of this investigation was to determine the potential value of Pilates core principles in the treatment of non-surgical rotator cuff injuries. There are 5 core Pilates principles - relaxation, concentration alignment, breathing, and centering. Each core principle has a number of supporting components that also were investigated.

Methods: In Stage 1 professional resources (PRs – i.e. physical therapists) were interviewed regarding their knowledge of Pilates principles/components and their potential for incorporation in a traditional rehabilitation program for a patient with a non-surgical rotator cuff injury. In Stage 2 the Pilates principles/components were explained and the PR was asked to rate the effectiveness of each for a patient with a non-surgical rotator cuff injury on a scale of 1-5. Finally, Stage 3 recorded feedback about the interview process.

Results and Discussion: All of the Pilates principles were viewed as more than “sometimes” effective. This suggests that Pilates principles can be considered an effective adjunct for patients with non-surgical rotator cuff injuries. The Pilates core principles were ranked according to perceived effectiveness as follows: alignment (4.9), finding your core (4.7), focus (4.65), correct movement patterns (4.4), lengthening (4.4), coordination and flowing of movements (4.4), relaxation (4.2), proprioception (4.1), sequencing (3.75), and breathing (3.56). It was concluded that the Pilates principles may be a valuable addition to traditional approaches.

9

Ordered versus randomized ratings of perceived exertion. Kristina Thomas. Hanover College, Hanover, IN. Sponsor: Bryant Stamford

Ratings of perceived exertion (RPE) have been used as a means of subjectively evaluating exercise intensity, and can be described as the act of detecting and interpreting sensations arising within the body. There is some question as to the impact of external cues, however, and the possibility that external cues might disrupt or override internal cues. The purpose of this study was to determine the impact of ordered versus randomized cues on RPE obtained from the Borg scale at the same level of physical exertion (exercise heart rate).

Methods: College-aged male and female participants (N=10) will be exposed to walking exercise on a treadmill in two separate sessions: (1) a control in which RPE will be solicited at predictable and regular intervals for the duration of the treadmill task. (2) RPE will be solicited randomly and without a predictable pattern.

Results and Discussion: Results from pilot data indicated that at identical heart rates, RPE differed between the two sessions. This suggests that subjects were influenced by external cues, such as the predictability and regularity of responses, resulting in one response potentially impacting the next, and so on in a step wise fashion. When RPE was solicited at random, no such external cues were available. This suggests that external cues peculiar to the testing environment can override internally generated cues arising from physiologic responses.

10

Helen Bosart Morgan: Representing the Female Nude in Mid-Twentieth Century Sculpture. Kara Blakley. Wittenberg University, Springfield, OH. Sponsor: Alejandra Gimenez-Berger

Helen Bosart Morgan (1902-1986) was an American sculptor and a 1923 graduate of Wittenberg University, located in her native Springfield, Ohio. Though she worked in a variety of styles throughout her career, the focus of my research was to assign a date to her bronze piece “Gift to the World.” I looked at her dated works, one similar to “Gift to the World” and one dissimilar. I also researched contemporary sculptors' work to find similarities in style and the depiction of the human figure, and when these works were created. Additionally, I examined the influence that contemporary archaeological excavations in the Cyclades islands could have had over Morgan's piece. I found that her 1948 nude female “War! Again?” of 1948 is similar in medium, style and subject matter, and that her 1973 abstract piece, “Interaction” shares very few, if any, characters with “Gift.” Morgan's figures resembled those of Albert Giacometti, who worked in the 1940s and 1950s. Both artists' works also reflect the idea of post-World War II “miserabilisme.” Henry Moore's artistic trends from the 1950s to 1970s follow parallel patterns as Morgan. Lastly, I concluded that because of the evident resemblance between “Gift to the World” and the Cycladic figures excavated in the early 1950s that “Gift” must have been created during these figures' peak of popularity. Therefore, taking into account “War! Again?,” Morgan's contemporaries, and the resurgence of Cycladic fervor, my research indicated that “Gift to the World” must have been created between the years 1949 and 1953.

11

Acute Effects of Massage on Hamstring Flexibility and Strength. Danielle Hazelbaker, Professor Bill Tereshko, Dr. Barbara Wahl, Bryant Stamford. Hanover College, Hanover, IN. Sponsor: Professor Bill Tereshko

The purpose is to investigate the acute effects of massage on hamstring flexibility and strength. It is hypothesized that an 8-minute massage applied to the dominant leg hamstring muscle group will increase flexibility and strength.

Methods: Twelve college-age female subjects will participate in two randomly assigned sessions. (1) 5-min cycling warm-up, then flexibility and strength tests of the dominant leg hamstring muscles with no prior massage. (2) 5-min cycling warm-up, 8-min massage, then flexibility and strength tests of the dominant leg hamstring muscles. A goniometer will measure hamstring flexibility via passive hip flexion. A Lido machine will be employed for hamstring strength testing via maximal isokinetic contractions through a full range of motion for knee flexion, with the subject lying in a prone position. The massage will entail short and fast stroking motions along the length of the muscle group to stimulate blood flow to the hamstrings.

Results and Discussion: Pilot data obtained on one subject resulted in increases in flexibility (+41.4%) and strength (+16.7%) for the massage treatment when compared with the control (non-massage) treatment. This finding supports the hypothesis and suggests the value of massage as a means of promoting acute flexibility and strength.

12

With the First Pick in the NBA Draft: A Statistical Analysis of the 1997-2001 NBA Drafts. Matt Poisel. Franklin College, IN. Sponsor: Dan Callon

Is the NBA draft an effective way for professional basketball teams to build a championship? This presentation analyzes five different draft classes and follows the players' performances across five years. Among the questions that will be answered are: Is there a correlation between draft order and success? Are first round draftees more successful than second round picks? Does it matter whether a player is drafted by a playoff team or a non-playoff team? Using principals from probability and statistics, these questions will be investigated to draw conclusions that could help predict the career of the next NBA superstar.

13

Impact of vibration on acute hamstring muscle flexibility. Megan Smith. Hanover College, Hanover, IN. Sponsor: Bryant Stamford

There are a variety of ways to increase flexibility acutely, including well established methods such as static stretching (SS), and proprioceptive neuromuscular facilitation (PNF) stretching. Use of vibration to increase flexibility acutely is a relatively new concept and its effectiveness is uncertain.

Static stretching lessens the sensitivity of tension receptors by overcoming (fatiguing) input from the protective stretch reflex. PNF stretching combines passive (static) stretching and active isometric contractions, and has been shown to be superior to SS. Vibration relies on the inborn reflexive response to disrupt stimulation that causes muscles to contract when stretched. This can include either Whole-Body Vibration (WBV) or Localized Vibration (LV).

Methods: Ten female subjects completed three randomly assigned treatments. A five minute whole body warm-up preceded each treatment. A pre-treatment stretch was done to determine a baseline which was followed by one of three treatments (PNF, WBV, or LV). Each stretch treatment was sustained for a total of thirty seconds. A post-treatment stretch was then performed to determine the amount of change imposed by each treatment.

Results and Discussion: Both the PNF and WBV treatments demonstrated significant (t-test $p < .05$) acute increases in flexibility, but there was no difference between the two statistically. The LV treatment proved to increase the subject's flexibility but was not statistically significant. It was concluded that WBV is as effective in increasing flexibility acutely as PNF stretching. Localized vibration (LV) in which the vibration stimulus was restricted to the hamstring muscles was not as effective.

Group C 12:00pm - 12:50pm

1

Removal of the thiol from coenzyme A using Raney Nickel to produce desulfo-coenzyme A. Alexandria Henning. Bellarmine University, Louisville, KY. Sponsor: Erica Lyon

The cysteamine group of coenzyme A contains the thiol group that is primarily responsible for coenzyme A function as an acetyl carrier in metabolic processes. The removal of the thiol from the coenzyme was performed using Raney Nickel. The catalyst was first washed with deionized water and then coenzyme A was added. The quantification of free thiols during the reaction was measured at 412nm with Ellman's Reagent over the course of two hours. When thiols could no longer be detected, the product was filtered and purified by FPLC. The combined fractions which contained the product were dialyzed to remove the salt. After lyophilization for two days desulfo-coenzyme A was obtained as a pure white powder.

2

The Effects of Electron Donating Groups on the Solvatochromism of the Benzo[a]fluorenone and Benzo[b]fluorenone Chromophores. Lisa Meyers, Jeffrey Wilson. Ohio Northern University, Ada, OH. Sponsor: Tevye Celius

The absorption and emission spectra of the fluorenone and benzofluorenone chromophores are known to be strongly solvatochromic. In this study, the effects of introducing an electron donating methoxy group into the 1, 2, 3, and 4 positions of the benzo[a]fluorenone and benzo[b]fluorenone systems are investigated spectroscopically in several pure solvents. DFT and TDDFT calculations were carried out to help gain insight into the relative energetics of the excited states of the various analogues.

3

A Computationally Efficient Potential for Metallic Nanoparticles in an Aqueous Environment. Patrick Holvey, Dan Gezelter, Charles Vardeman. University of Notre Dame, IN. Sponsor: Dan Gezelter

The physical and chemical events that take place at the interfaces between bulk or polycrystalline metals and aqueous environments often involve highly directional interactions between water molecules and the metal surface. However, computer simulations of water and metallic systems at extreme temperatures are not possible with the current generation of metallic potentials. We are seeking to develop a simple classical potential for water-metal interactions to study the phase behavior of alloys in supercritical water environments. The soft-sticky-dipole (SSD) model was used to simplify the water-water interactions, and the Spohr potential (a common metal-water force field) must be recast for use with this water model. The potential requires four parameters to model each element's interaction with water. The parameters are fit by collecting a large number of density functional theory (DFT) energies while a metal atom is swept around the water molecule in concentric spheres with the origin set at the center of mass of the water.

These DFT results are then fit using both a genetic algorithm and a more traditional non-linear least squares fit. The fit parameters have given

reasonable potentials, so it is now possible to produce a working classical simulation for systems containing both water and metallic surfaces. It will be possible to confirm the validity of the new potential by comparing results computed using molecular dynamics with previously published MP2 calculations of water-copper cluster interactions. This confirmation will prove our potentials to be valid and thus valuable and computationally cost efficient for the theoretical chemistry community.

4

Effects of Alcohols and Ligands on the Estrogen Receptor Half-Life. Michele Mumaw, Mark Brandt. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Mark Brandt

The estrogen receptor is a conformationally flexible protein, which exhibits cooperativity and functional alterations in response to ligand binding. During characterization of the estrogen receptor ligand-binding domain (LBD), we recently discovered that low concentrations of organic solvents also perturb LBD functional properties in a solvent composition-dependent fashion. Ligand binding is known to decrease the rate of LBD dimer exchange, while the presence of low concentrations of short-chain monofunctional alcohols increases the rate. To further characterize these phenomena, we tested the effects of simultaneous addition of alcohols and ligands such as estradiol on the dimer exchange process. The results suggest that the alcohol counteracted the effect of ligands on the dimer exchange rate in a concentration dependent fashion. This suggests that in spite of the much lower binding affinity of the alcohols to the LBD, physiologically achievable alcohol concentrations may exhibit biological effects on the estrogen receptor.

5

Particle size analysis of catalytically active palladium. Cecilia Latta. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Rebecca DeVasher

Methods of improving experiments in a way that is friendly to the environment continue to be an issue among scientists that work with potentially environmentally unfavorable products. Heterogeneous reaction mixtures provide one method of separating the organic product stream from the heavy metal catalysts employed to increase the efficiency of certain organic reactions. In an aqueous-organic system that involves a palladium(0) catalyst, specific resins were chosen based on their ability to separate out materials for a cleaner product. In order to determine if the palladium particles would be able to adsorb onto the surface of the resins, the size of the particles making up the resin and the size of the palladium particles were measured. Palladium(II) acetate was reduced using sodium formate as a reducing agent, and the resulting particle sizes were measured as the reduction proceeded for a solution containing approximately 5% palladium. The palladium(0) particles were found to have significant populations around 1 μm and 100 μm in at least one dimension. It appears that the palladium(0) particles formed after treatment with sodium formate are smaller than the palladium(II) acetate aggregates.

6

Exploring Alternates to Alkyltin Hydrides in Enantioselective Radical Reactions. Joshua Judkins. Ohio Northern University, Ada, OH. Sponsor: Jake Zimmerman

Free radical methods give synthetic organic chemists a range of bond construction strategies that are often unavailable through traditional ionic reactions. In the last two decades, the use of radical chemistry in organic synthesis has greatly increased. More recently, the study of enantioselective radical reactions has received much attention. Although there have been significant advances in the field of asymmetric radical processes, there are still many shortcomings. For instance, most of the literature reports require high catalytic loading, toxic reagents (organotin) and are limited in substrate scope. Arguably, the biggest drawback to many of these radical processes is the need for multiple equivalents of alkyltin reagents. This is

due to both the toxicity and difficulty in purification (i.e. removal) of the organotins. This poster describes the use of alternate hydrogen atom sources that can be utilized in low temperature enantioselective free radical reactions.

7

Synthesis of Genetically Engineered, Multi-Domain Proteins. Nicholas Zehner, Nicolas Vilelli. Anderson University, Anderson, IN. Sponsor: Scott Kennedy

Genetically engineered, multi-domain proteins containing two leucine zipper domains flanking a water soluble domain form physical hydrogels at concentrations of 5% (w/v) or greater. The leucine zipper domains form tetrameric bundles that act as crosslinks in the network structure. We seek to test the hypothesis that the rate of strand exchange between tetrameric bundles dictates the macroscopic properties of the gel. Recent efforts focused on synthesizing two engineered proteins using recombinant strains of E-coli. Cells were cultured, induced, harvested, and proteins were extracted and purified using affinity chromatography and dialysis. Finally, dialyzed samples were freeze dried yielding 25 mg of ACA-cys and 16 mg of ACA-trp. Next, N-(1-pyrene) maleimide, a thiol-reactive probe, was reacted with the ACA-cys to form a thioether bond between the fluorophore and the cysteine residue. By mixing the fluorescently labeled ACA-cys with the unlabeled ACA-trp, we will obtain strand exchange rates between the tetrameric bundles. By varying physical conditions such as concentration, temperature, and pH of solutions the different associative and dissociative rates may be determined. Upon further investigation, these rates will be used to correlate the molecular dynamics of the hydrogel with its macroscopic physical properties.

8

Synthesis of Fluorescent Chemosensors for Metallic Ions. Rachel Koontz, Travis Rider. Anderson University, Anderson, IN. Sponsor: Chad Wallace

Fluorescent chemosensors allow for the visualization of and quantification of metallic ions in solution due to changes in fluorescence upon substrate binding. Coordination between metallic ions and oxygen on ether-linked pyrenes may allow, by proximity and orientation, fluorescence proportional to the concentration of metallic ions in solution. The progress of these syntheses will be reported.

9

Platination of water-soluble cationic porphyrins. Chris Gianopoulos. Purdue University, West Lafayette, IN. Sponsor: David McMillin

Platinum(II) porphyrins are luminescent, and this luminescence is known to be quenched by oxygen. Because platinum(II) porphyrins have long triplet lifetimes, of the order of 100 μs , and high phosphorescence quantum yields (~90%) they have been used for oxygen sensing in pressure sensitive coatings[1]. Since these porphyrins are so sensitive to the presence of molecular oxygen, we intend to synthesize cationic water soluble Pt(II) porphyrins in order to study their binding with DNA. Efficiently incorporating platinum(II) into the porphyrin macrocycle is difficult. Platinum(II) tends to be reduced in the reaction solution, causing the precipitation of Pt(0) as platinum black or a platinum mirror[2]. Multiple reaction schemes have been investigated in order to identify a method for platinum insertion that produces practicable yields while minimizing the reduction. In order to assist the insertion, new labile cationic Pt(II) precursors are being developed. In addition, the catalytic effects of Hg(II) are being investigated as described by Tabata et al[3].

- [1] M. Gouterman, G. Khalil, E. Green, Rev. Sci. Instrum. 61, 11, (1990).
- [2] R. F. Pasternack, M.J. Abrams, E.J. Gibbs, Inorg. Chem. 29, (1990).
- [3] M. Tabata, W. Miyata, N. Nahar, Inorg. Chem. 34, (1995).

10

Quality of Oil Extracted from Fast Food French Fries. Barbara Higgins. Purdue University North Central, Westville, IN. Sponsor: Barbara Higgins, Sharron Jenkins

Although many fast food restaurants claim to deep fry in vegetable oil to increase food quality, studies have shown that improper monitoring of oil-discard times, repeated oil use, and other manageable factors compromise not only the quality of the oil, but also the quality the food consumed by the public. In order, to better understand the stability and quality of oil absorbed by food during deep frying, we have study the quality of oil extracted from French fries from several fast food restaurants namely, Arby's, Wendy's, Burger King, McDonald's, Culver's, Steak and Shake, Buffalo Wild Wings, Kentucky Fried Chicken (KFC), and Rally's. French fries were obtained from each restaurant relatively at the same time of day. Oil was extracted from the fries using petroleum ether. The extracted oil quality was determined using chemical and physical tests such as acid value, iodine number, melting point, density, color, and odor. According to the preliminary data, the oil extracted from Arby's and Wendy's fries showed much less deterioration than the oil samples from all other restaurants which may suggest a higher standard of oil quality or frying procedures maintained by these franchises.

11

Determination of Ideal Conditions for the Production of an Epoxy-Cyanate Ester Resin Blend. Hannah Ryan. Butler University, Indianapolis, IN. Sponsor: John Esteb

An epoxy-cyanate ester resin blend was studied to optimize the thermal properties of the system for use as an adhesive. Many samples were prepared, systematically changing certain variables, and the resulting polymers were analyzed via differential scanning calorimetry. Factors that had to be considered were the ratio of epoxy resin to cyanate-ester resin, type of catalyst, amount of solublizer, concentration of catalyst, cure temperature, and polymerization time. Ideal target ranges for each variable were determined and will be presented at the poster session. The results will be compared to an adhesive blend that is currently in use.

12

Progress Towards the Synthesis of a Phosphorus Ylide to be used in the Production of an Aporpinone Compound via a Pseudo-Wittig Reaction. Kayla Harmeyer. Butler University, Indianapolis, IN. Sponsor: John Esteb

Progress towards the synthetic production of the aporpinone compound 5-(4,5-dihydroxy-1-hydroxymethyl-4-methyl-pent-2-ynylidene)-5H-furan-2-one will be described. This presentation will discuss the history behind aporpinone compounds, the previous research that has been completed, and the future work needed to be done to complete the synthesis. A pathway is proposed for the total synthesis of the aporpinone compound via a phosphorus ylide intermediate. The first three intermediates in this pathway, 1-chloro-2-methyl-but-3-yn-2-ol, 1,2-epoxy-2-methyl-but-3-yne, and 2-methyl-but-3-yne-1,2-diol, have been produced, isolated, and characterized via hydrogen NMR. The methods used to produce these compounds will be described, and the NMR spectra used to identify the three compounds will also be presented.

Group D 1:00pm - 1:50pm

1

Optical and Thermal Modeling for Selective Laser Treatment of Cancer Cells. Emily Walker. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Renat Letfullin

Selective laser heating can be used to destroy cancer cells. This can be done by heating the cell or organelles directly, or through the heating of a nanoparticle delivered to the cells. The temperature of the absorber can be modeled as a function of distance from its center, or as a function of time. In this paper, we will present results for modeling of the time profile and space distribution of the temperature of healthy and cancerous mitochondria. The heat source in our model operates in a multiple pulse mode of an 8 nanosecond laser, and a single pulse mode, also of duration 8 nanoseconds. First, we found the absorption efficiency of healthy and cancerous mitochondria in different biological media by using Mie Plot software. Then we calculated space-time distributions of the temperature of the mitochondria by using Maple software. It is shown that the cancerous mitochondria reaches a much higher temperature at a similar laser pulse than do the healthy mitochondria, which suggests that the laser heating will not harm the healthy cells as much as the cancer cells. This suggests that this method is a possible treatment of cancer cells. This work has been supported by the Lilly Foundation grant AA0000010.

2

Asteroid Lightcurve Analysis at the Oakley Observatory. Heath Shipley, Richard Ditteon, Jason Sauppe, Thomas Kleeman, Alexander Dillard, Jordan Kendall, Matthew Reichert, Nelson Shaffer. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Richard Ditteon

CCD images taken during the month of September 2007 at Rose-Hulman Institute of Technology's Oakley Observatory were used to produce lightcurves for 14 asteroids. These asteroids include: 256 Walpurga with a period of 16.64 ± 0.02 h and amplitude of 0.38mag; 1411 Brauna with a period of 4.90 ± 0.01 h and amplitude of 0.15mag; 3722 Urata with a period of 5.565 ± 0.005 h and amplitude of 0.58mag; 3915 Fukushima with a period of 9.41 ± 0.01 h and amplitude of 0.52mag; 5615 Iskander with a period of 5.415 ± 0.01 h and amplitude of 1.05mag; and (9120) 1998 DR8 with a period of 14.76 ± 0.09 h and amplitude of 0.16mag. Each of the three telescopes was a 14-inch Celestron optical tube assembly mounted on a Paramount ME. The telescopes were equipped with CCD cameras from Santa Barbara Instrument Group (STL-1001E). These results have been submitted to the Minor Planet Bulletin.

3

Hematocrit and Sonographic Heart Size in Aerobic and Anaerobic Athletes. Juan Hernandez. Earlham College, Richmond, IN. Sponsor: David Matlack

Aerobic exercise and anaerobic exercise have been shown to increase heart size and red blood cell count. These aspects are believed to be an adaptation and result of heavy workouts of athletes in order to carry and transport oxygen more efficiently, thus enabling one to perform better during exercise. The specific effects of each type of exercise on these aspects is not well known but we hypothesize that aerobic athletes will have effects of higher magnitude than anaerobic athletes because of their utilization of oxygen during exercise. Therefore we examined groups of athletes, both aerobic and anaerobic, to obtain a red blood cell count and an approximate heart size for comparison to test our hypothesis.

4

Effect of the Phytoestrogen Genistein on NCI-H1793 Adenocarcinoma Cells. Ryan Lederman. Bellarmine University, Louisville, KY. Sponsor: Mary Huff

Recent studies have shown that genistein, a phenolic estrogen found in soy beans, decreased the viability of A549 adenocarcinoma cells at micromolar concentrations suggesting that it might serve as an effective anticancer treatment. Similarly, we have observed that micromolar concentrations of estrogen and two environmental estrogens, cadmium chloride and sodium arsenate, also decreased viability of a female-derived adenocarcinoma lung cell line NCI-H1793. When these same cells were treated with nanomolar concentrations of estrogen and environmental estrogens, however, an increase in cellular growth was observed suggesting that these compounds can stimulate cell growth at very low concentrations but have cytotoxic effects at higher concentrations. To determine if low concentrations of genistein induced a proliferative response in NCI-H1793 cell lines, cells were treated for 2 or 4 days with varying concentrations of genistein, and growth was determined using a proliferation assay. The results showed that 100 μ M concentrations of genistein decreased proliferation at both 2 and 4 days while nanomolar concentrations resulted in an increase in proliferation after 2 days of treatment. These results support that genistein, like estrogen and some environmental estrogens, has proliferative and cytotoxic effects and that these effects are concentration-dependent.

5

Cover Object Preference in Forest Dwelling Salamanders
Rebecca Hughes. Purdue University North Central, Westville, IN. Sponsor: Vanessa Quinn

We were interested in examining the factors that determine choice of cover objects in forest dwelling salamanders. We provided salamanders with four different types of cover objects dispersed randomly in a wooded area. There were three treatment groups (painted, altered edges, and cover objects inserted in 9-10 cm depressions) and one control group used for this test. There were 10 cover objects for each group. Each board was checked for salamanders at least once a week and in many cases two times a week. At the end of the 2 month experiment, more salamanders were counted beneath the painted cover object group and the control group in comparison to the altered edge group and the bare soil group. It was interesting that the salamanders did not distinguish between the control group and the painted group suggesting that they could not detect possible toxic chemicals in the paint.

6

A preliminary morphological investigation of the oogenic cycle in a parthenogenic species of cave cricket, *Hadenococcus cumberlandicus*. Danielle Carey. Wittenberg University, Springfield, OH. Sponsor: Kevin Gribbins

Hadenococcus cumberlandicus is a parthenogenic cricket that can be found within the cave systems of Carter Cave State Park in northeastern Kentucky. Currently, no histological information exists on the reproductive cycle of *H. cumberlandicus* and to understand better the life history of *H. cumberlandicus* within Carter Caves, a study on egg development was started in 2007. Five to six crickets have been collected for the months of May 2007 through January 2008 from Coon in the Crack. Crickets were anesthetized with chloroform and gross dissections were performed to locate ovaries. Ovaries were then removed, fixed in Trump's fixative, dehydrated, embedded in plastic, sectioned, and viewed under a compound microscope. Mature ovarioles are histologically similar to that of other crickets. Their centrolecithal eggs have peripheral groups of follicular cells with centrally located germinal vesicles. Ovaries are located anteriodorsal to the cloaca and from month to month contain ovarioles at different stages of development. Ovipositors of August/September crickets appear to be splayed, which is suggestive of oviposition events. Histological evidence

also revealed mature ovarioles present in July/August, which supports the field observations that deposition is occurring heavily in late summer. This investigation coupled with ongoing tagging studies may provide data that will allow a better understanding of the life history of *H. cumberlandicus* and may offer clues to how these crickets utilize different regions of the cave. For example, knowing that mature eggs are laid in July/August, provides a timeline for biologists to concentrate on finding suitable oviposition sites within this cave.

7

A Histological Analysis of Spermatogenesis within the Southeastern House Gecko, *Hemidactylus turcicus*. Erik Poldemann. Wittenberg University, Springfield, OH. Sponsor: Kevin Gribbins

Adult male house geckos, *Hemidactylus turcicus*, were collected from Southeastern Louisiana University during the months of January through December 2007. The testes were removed, fixed in glutaraldehyde, dehydrated with a graded series of ethanol, embedded in Epon 812, sectioned with an ultramicrotome, stained with toluidine blue, and analyzed under a light microscope to determine testis structure and germ cell development strategy employed during spermatogenesis. Spermatogenesis occurs within a seminiferous epithelium in a single wave starting with the proliferation of spermatogonia in November, meiosis and early spermiogenesis are first visualized in December/January, and sperm development climaxes in July with spermiation. The testis enters a quiescent period during the months of August through October. This period of degeneration is characterized by the presence of a thinner, more vacuolated seminiferous epithelium. This temporal type of germ cell development strategy has been hypothesized by Gribbins et al. (2003) to be an evolutionary intermediate between anurans and birds/mammals. Mammalian testes are composed of seminiferous epithelia where germ cells maintain spatial relationships called cellular associations and germ cells move towards the lumen as they mature. The more primitive germ cell development strategy within anurans is characterized by sperm cells developing as a single cohort within cysts and being released during a single spermiation event. Data from this study, as well as past and future studies on germ cell development within the primitive amniotic reptilian clade, will help to clarify the differences among the amniotes as far as testicular structure and developmental strategy employed during spermatogenesis.

8

Reptilia: An evolutionary intermediate based on testicular organization and germ cell development strategy. Justin Rheubert. Wittenberg University, Springfield, OH. Sponsor: Kevin Gribbins

The primitive temperate anuran testicular organization and germ cell development strategy, which occurs in cysts or lobules of the testis, involves a single temporal spermatogenic event that leads to a single wave of spermiation at the end of spermatogenesis. This differs greatly from the derived germ cell strategy of temperate birds and mammals. Birds/mammals have testes composed of seminiferous tubules lined with germinal epithelia. Germ cells are layered in consistent spatial arrangements within these epithelia. The Germ cell development of reptiles was assumed for many years to be similar to that of birds and mammals. However, several species of reptiles have been more closely examined over the last 6 years to determine if this spatial germ cell development occurs within their seminiferous epithelia. Six species representing different orders within Reptilia were collected monthly and testes were removed through dissection, dehydrated with ethanol, embedded in Spurr's plastic, sectioned with an ultramicrotome, and analyzed using a compound light microscope. Testes of reptiles analyzed during this study consist of germinal epithelia in which germ cells develop spermatogenically. However, 4 or more spermatids can be visualized within a single cross section of tubule, which suggests there are no spatial relationships among the developing germ cells. This indicates that temperate reptiles have a derived testicular structure with a conserved germ cell development similar to amphibians. Thus the basally placed reptiles within the amniotic clade might represent an

evolutionary intermediate as far as testicular structure and germ cell development strategy suggests.

9

Target Thickness Determination for Neutrinoless Double Beta Decay. Rosabelle Conover. University of Notre Dame, IN. Sponsor: James Kolata

Long baseline experiments have determined mass differences between types of neutrinos—yet their absolute masses remain unknown. However, a current project taking place at Notre Dame is a ^{76}Ge (^3He , n) reaction, which is relevant in determining the absolute mass of neutrinos in neutrinoless beta decay. This experiment necessitates a good calibration of our large acceptance neutron detector. To produce neutrons for this calibration, a deuteron beam accelerated to 9 MeV interacts with a Carbon Dideuteride (CD₂) foil of known thickness. Here, the thickness and uniformity of the CD₂ target contribute to error in the energy of the calibrating neutrons. To ascertain the uniformity of the CD₂ target, we used alpha particles in a vacuum sealed chamber to collect data related to the energy loss due to the foil. Then, we wrote a Mathematica program to analyze this data and convert it to the actual energy loss, which consequently provides the target thickness at that specific point. By repeating this method at five different positions in eight different foils, we determined the most uniform foil which we later successfully used in the neutron calibration experiment.

10

Measuring the Thermal Neutron Cross Section of Tc-99 as a Study on the Feasibility of Thermal Neutron Waste Processing. Lawrence Selvy. Valparaiso University, Valparaiso, IN. Sponsor: Shirvel Stanislaus

The treatment and storage of Long Lived Isotopes (LLIs) found in nuclear waste has recently created research opportunities to transmute these LLIs into isotopes with shorter half lives (SLIs). Several different methods have been proposed, but most require expensive particle accelerators or nuclear reactors. Using a PuBe thermal neutron source we propose that LLIs can be transmuted to SLIs which can then be disposed of with less risk to the environment and to society as a whole. To do this we will irradiate a sample of molybdenum with thermal neutrons from a PuBe neutron source. The molybdenum will then absorb thermal neutrons producing a small amount of Tc-99, one of the six LLI's found in nuclear waste. This sample of Tc-99 will then be irradiated with thermal neutrons, and from this we will measure the thermal neutron cross section of Tc-99. This will then be used to calculate the feasibility of treating nuclear waste with thermal neutrons.

11

Abundance Correlation between Codon Usage and tRNA Expression in *Caulobacter crescentus*. Rachel Applefield. Earlham College, Richmond, IN. Sponsor: Peter Blair

A study of synonymous codon usage and tRNA expression was conducted using the gram-negative bacterium, *Caulobacter crescentus*, as a model system. A positive correlation between codon bias in highly expressed genes and tRNA abundance has been reported in several species. However, specialized codon usage bias within functional clusters of genes as it relates to tRNA expression has not been extensively studied. After subjecting *C. crescentus* to various growth conditions, the 20 most highly regulated genes for each condition, as measured by DNA microarray analysis, were selected for codon usage analysis. Of the DNA sequences for these highly regulated genes, codon bias was most striking in the sequences of those cells from log (exponential growth) and stationary (minimal/no-growth) phases. We hypothesize that expression of the gene clusters exhibiting elevated levels of rare codons, compared to genome-wide usages, will be positively correlated with the expression of those corresponding rare tRNAs. A microarray developed for the use of detecting *C. crescentus* tRNA was used to examine relative tRNA expression. RNA for the tRNA array was extracted from *C. crescentus* cells growing in log and stationary

phases. Codon bias is evident in our study; however, due to the inherent noise in microarray analysis, further tRNA array experiments must be completed to yield reliable results detailing tRNA expression levels.

12

Large Scale Eutherian Phylogeny from Full Mitochondrial Genomes. Tyler Fromm. Indiana State University, Terre Haute, IN. Sponsor: Gary Stuart

Historically, phylogenetic trees have been constructed by comparing the similar physical characteristics of different organisms to determine the relatedness of those respective organisms. Advances in genomic technology have made it possible for the analysis of evolutionary lineage to be accomplished by comparing entire known genomes. Our study used this idea to analyze the fully sequenced mitochondrial genomes of Eutherians and create a phylogenetic tree for them. We used a computational analysis that represented the protein coding regions of the entire mitochondrial genomes of 181 different eutherians using tetrapeptide frequencies so that we could interpret, through Single Value Decomposition (SVD), conserved motifs between different species. After SVD, each of the proteins from each genome was represented as a motif frequency vector (a vector with each polypeptide combination represented in a different dimension). Species are then produced by doing a simple addition of the vectors. The angles between the vectors of different species were used to measure the relatedness of the species. Using a Neighbor-Joining Algorithm, we used the measured relatedness to create a species tree. The tree that we created showed a reasonably effective clustering of organisms within standard taxonomic families and families within the following major orders: Xenarthra, Afrotheria, Euarchontoglires and Laurasiatheria. The output tree from our evaluation showed a great deal of similarity with a tree representing generally accepted opinions about the relatedness of these organisms.

13

Effect and Comparison of Different Mechanisms in Cancer Treatment by Laser Activated Nanoheaters. Christopher Dapkus, Alex Mulvihill, Renat Letfullin. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Renat Letfullin

Abstract

Cancer is the second leading cause of death in the US. With no universally effective method of prevention or ability to stop its growth, cancer can only be treated by killing the cells. Current methods of chemotherapy and radiation has many unwanted side effects and not the greatest success rate. New developments of nanoparticles shows promise in effectively killing cancer without major side effects. Although nanoparticles have around for centuries, it is only in the last few decades that the fields of optics and biology have studied its uses on the human body. Initially effective in cancer detection, nanoparticles can be designed such that, when combined with laser heating, can kill cancer cells by various mechanisms: heating damage, explosive forces, and chemical reactions.

This work has been supported by the Lilly Foundation grant AA0000010.

Group E 2:00pm - 2:50pm

1

Father and Mother Absence and their Effects on Self-Esteem and Aggression. Asher Weaver. Wabash College, Crawfordsville, IN. Sponsor: Neil Schmitzer-Torbert

The effect of parental absence on later personality and behavior is an important problem in today's society. The purpose of this study was to determine if Father Absence and Mother Absence had a significant affect on a child's aggression later in life. Two hundred and seventeen male and female college students from both Wabash College and Ball State

University completed a set of surveys measuring self-esteem, aggression, and parental absence. Our results suggested that self-esteem, gender, levels of father absence, and levels of mother absence are all correlated with the levels of aggression shown by the participants. However, while looking at the multiple regression we found that in a multiple regression analysis the only variables that significantly predicted levels of aggression were self-esteem and gender, showing that although father absence and mother absence were correlated with aggression they did not help to predict future levels of aggression. A follow up study which looks at more variables including, Socio Economic Status, different levels of education obtained by the participants as well as testing younger children is recommended.

2

Stress and College Students. Jennifer Schmedes, Thomas Bever, Megan Fleming. University of Evansville, Evansville, IN. Sponsor: Elizabeth Hennon

Stress is a wide-spread feeling among undergraduate college students. In this study, it was hypothesized that students would indicate academics as the greatest stressor in their lives. It was also hypothesized that females would report more overall and academic stress than males. Undergraduate college students (42 male, 61 female) from a small Midwestern university were surveyed on sources and amount of stress using a modified Cohen's Perceived Stress Scale. The survey assessed perceived stress as well as specific stressors including academics, social obligations, outside pressures, adjustment to college life and family relationships, and living situations. Academics was the most frequently reported stressor for both males and females. Females reported more stress than males as indicated by the perceived stress scores. There were significant correlations between the perceived stress scores and each of the five main stressors, the highest of which was between academics and the perceived stress score. Continued research should address better coping mechanisms and resources for college students to decrease and manage their stress.

3

The Role of Sexual Orientation of the Defendant in Jury Decision Making. Randi Irwin. Indiana University-Kokomo, Kokomo, IN. Sponsor: Kathryn Holcomb

We investigated the effects of perceived sexual orientation on participants' sentencing decisions in a fictional court case. Previous research has examined defendant characteristics such as political orientation, gender, race/ethnicity, physical attractiveness, level of remorse, and status; however, no published study has looked into the possible effects of sexual orientation. Participants read a fictional court case about a defendant who was portrayed as homosexual or heterosexual, and then were asked to make a sentencing decision in this case. Participants' attitudes towards sexual orientation and their political/religious orientation were also measured. Implications for the legal system in terms of discrimination against homosexuals will also be explored.

4

Standardized Testing Fitted for the Visual, Auditory, and Kinesthetic Learner. Erica Enochs. Bellarmine University, Louisville, KY. Sponsor: Wilson Tom

The differences among learning styles of elementary aged students and how these styles relate to scores on standardized achievement tests were investigated. The study was done at a public elementary school in Indiana. Learning styles of approximately 30 students were determined by observing students perform a simple task and upon teacher opinion. Students were scored on two tests, a typical standardized test and a remodeled standardized test to fit with each student's learning style. Test scores were compared and the results indicated that the remodeled tests that fit the learning styles produced higher test scores.

5

College Wesleyan Church Spiritual Transformation Study. Jonathan Steele, Ashley Goodwin, Pamela Rumsey, Whitney Butterfield, Amy Matthews, Rachel Ogorek, Dr. Tim Steenbergh. Indiana Wesleyan University, Marion, IN. Sponsor: Dr. Tim Steenbergh

Spiritual transformation has recently become a major area of interest. Several measures have been developed to describe the level of transformation that individuals experience. These measures can be very beneficial in promoting an understanding of spiritual transformation and in applied settings, such as churches, where they can be used to develop services that better meet the needs of their attendees. The purpose of this study was to assess the spiritual transformation of attendees of College Wesleyan Church (CWC) with regard to levels of specific spiritual disciplines. All attendees of CWC over the age of 17 were eligible to participate in the study. A 36-item survey examining demographics, church involvement, religious behaviors, and personal values was developed for the study. Participants were solicited through email, announcements at church functions, and mailings. Those who agreed to participate completed the survey in a paper and pencil format or electronically. Data were examined to determine how one's spiritual relationship, measured by factors such as meditation and solitude, affected one's personal relationships, measured by factors such as evangelism and service. The data gathered will then be used by CWC to better facilitate spiritual growth and spiritual and personal relationships within the church body.

6

Can Social Bonds Predict Civic Engagement? Melissa Moore. Valparaiso University, Valparaiso, IN. Sponsor: Lissa Yogan

Since the early 1990s, research has shown the vital role that civic engagement plays in the preservation of strong communities. These findings have prompted other researchers to focus on specific variables in an effort to obtain a comprehensive understanding of what civic engagement is all about. Unfortunately, given their minimal scope, these theories are inadequate at what they set out to do. The purpose of this project is to present an alternative, more comprehensive approach that not only encompasses nearly all existing theory, but also offers a more complete understanding of civic engagement. This study will attempt to show how the four aspects of Travis Hirschi's social bond theory—attachment, commitment, involvement, and belief—can explain and possibly predict levels of engagement. This was done by analyzing the results of a survey distributed to a stratified random sample of Valparaiso University students, faculty, and staff. The questions on the survey were designed to measure each of the four aspects of social bonds as well as each respondent's level of civic engagement. Specifically, the study attempts to show that people with strong social bonds are more likely to become civically engaged than people with weak social bonds.

7

An examination of the relationship between emotional intelligence and career indecision. Elisabeth Beam, Ben Yoder, Angelo Soto, Hannah Smith, Crystal Glover. Indiana Wesleyan University, Marion, IN. Sponsor: Keith Puffer

This study focused on examining the relationship between emotional intelligence (EI) and career indecision. Much research has demonstrated the need for emotional regulation in coping with the anxiety often associated with decision-making. This investigation expands the sparse literature on EI's relationship with collegians' career developmental journey. Participants were given the Mayer, Caruso, and Salovey Emotional Intelligence Test (MSCEIT; Mayer, Salovey, & Caruso, 2002) and the Career Factor Inventory (CFI; Chartrand & Robbins, 1997). The MSCEIT examines four branches of EI; the two examined in the present study were "facilitating thoughts" and "managing emotions." The CFI examines four barriers to career indecision, and the researchers investigated the correlational relationship of two of these barriers, "need for self-

knowledge” and “career choice anxiety,” with “facilitating thoughts” and “managing emotions.” Some implications for future research are discussed.

8

The Effect of Reminders of 9/11 on the Relative Value of Security and Civil Liberty. Isaac Weinkauf, Jacob Cooper, Karin Schubert. Hanover College, Hanover, IN. Sponsor: Dr. Bill Altermatt

This study examines the effects of media reminders of the 9/11 terrorist attacks on participants' value of security. Participants (N = 28, 79% female) were randomly assigned to watch either a video containing reminders of 9/11 or a control video. Participants then completed a questionnaire measuring their expectancy of a terrorist attack and their willingness to relinquish personal liberties in exchange for government security measures. Participants who watched the reminder of 9/11 video placed a significantly higher value on security ($p = .05$) but no significant increase in attack expectancy ($p = .562$), when compared with the control stimulus. These results are discussed in the context of Terror Management Theory.

9

Optimization of Colors for Visual Map Searches. Keri Bias. Purdue University, West Lafayette, IN. Sponsor: Gregory Francis

In this experiment, we are seeking to optimize visual search tasks by way of perfecting the Four Color Theorem first postulated by Francis Guthrie for the sake of improving current methods of cartography. The said theorem states that stipulated maps can be separated by adjacent borders with solely 4 colors. We observe search times of one varied produced map that is consistent with the Four Color Theorem by way of a Java program. We will observe search times of random college undergraduates enrolled in Purdue's introduction to psychology: Psych 120. This experiment is still in progress. Yet, we hypothesize that optimized locations of color of specified targets in regards to one another can give way to decreased search times. However, the location of the target on the screen is given weight as well. Using this optimized model for search times for common uses of maps can increase ease of use as well as decrease difficulty and time spent looking for particular targets such as stores, public facilities, or even countries.

10

Does Training (or modifiers) Enhance Specific Aspects of Cognition? Ashlee Lochbaum, Ruben David, Jon Treece. Indiana State University, Terre Haute, IN. Sponsor: Brad Brubaker

Cognitive training techniques such as Nintendo's Brain Age, Brain Fitness programs, and dietary supplements such as Focus Factor and Ginkgo Biloba have been popularized by the media as effective in increasing cognitive abilities. While these programs may enhance cognitive functioning, it is unclear as to which aspects of cognitive performance respond best. The present research examines three types of potential cognitive modifiers: 1) Lumosity Brain Training-an online cognitive performance training program 2) Progressive Muscle Relaxation (PMR) -a meditative technique used to reduce arousal and 3) caffeine-a substance known to heighten arousal. A cognitive battery that is sensitive to changes in spatial performance, short-term and long-term memory, problem solving, reaction time, and planning was given to subjects in all three conditions and compared to a control group that was not administered any type of cognitive modification. Results indicate that Lumosity may improve both STM and LTM for auditory stimuli while caffeine appears to improve performance in both STM and LTM for auditory stimuli. Subjects in the PMR group utilized time better in timed cognitive tasks; however, they also tended to make more errors than the other groups. Overall results indicate that these cognitive tools (i.e. increasing arousal, decreasing arousal, sustaining attentional focus) have different effects on the separate aspects of cognition. Results support the idea that the use of some cognitive performance modifiers must be tailored specifically or used in conjunctions with other modifiers to truly enhance optimum cognitive improvement.

11

The Value of Product Differentiation. Brian Biggs, Robert Scott. Bradley University, IL. Sponsor: Robert Scott

Abstract

This paper seeks to address value-added in duopolies that become monopolistically competitive markets due to product differentiation. The generally accepted analysis of this phenomenon derives from Joseph Chamberlin's Theory of Monopolistic Competition (1933) and Joan Robinson's The Economics of Imperfect Competition (1933). Both works critique monopolistically competitive markets on the basis that product differentiation leads to higher prices and is thus inefficient. Building on a seminal article by Avinash Dixit and Joseph Stiglitz (1977), my research rejects this latter assertion and shows that, though there may be higher prices associated with product differentiation, nevertheless profits, consumer surplus, and, resultantly, social surplus all possibly increase under product differentiation. The goal of this research is to detail the gains associated with product differentiation as well as provide a graphical representation that could be used in undergraduate Microeconomics textbooks.

12

The Motivation to Seek Help: The Role of Gender in the Decision About Therapy. Amber Bennington, Chelsea Parker. Indiana University-Kokomo, Kokomo, IN. Sponsor: Kathryn Holcomb

When faced with personal difficulties, individuals may choose to attend therapy or not for a variety of different reasons. We explored individual differences in motivation to attend therapy. Participants completed a survey about their attitudes regarding therapy, the types of problems they might attend therapy for, and several personality characteristics (the Big Five, Monitoring and Blunting, and Need for Cognition). We found gender differences in the types of problems about which people would seek therapy. Personality characteristics did not predict differences in motivations to seek therapy. Implications for reducing the reluctance of people to seek help are discussed.

13

Attitudes toward Smoking Survey: The Perceived Dangers of Secondhand Smoke. Kelly Atkinson. Indiana University-Kokomo, Kokomo, IN. Sponsor: Kathryn Holcomb

Research has conclusively demonstrated the dangers of both smoking and second-hand smoke. Given these dangers, why do people smoke, especially around children? Do they think it is not dangerous? Do they think the likelihood that it will cause health problems is low? Now, smoking is more of a public issue than ever after it was banned at universities, restaurants and even bars. This study investigates people's attitudes towards smoking and second-hand tobacco smoke. We administered a survey to psychology classes at Indiana University Kokomo to examine what both smokers and non-smokers believed about the dangers of smoking and second-hand smoke. The use of these findings in policies to teach people about the dangers of smoking and to protect from the danger of second-hand smoke will be explored.

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