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<td>Philosophy &amp; Religion</td>
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<td>Political Science</td>
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<td>Index of Conference Participants</td>
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<td>Campus Map</td>
<td>Back Cover</td>
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Welcome!

Welcome to Butler University and to Indianapolis!

The 19th Annual Butler Undergraduate Research Conference brings together people from colleges and universities across the Midwest to present papers and poster sessions. The event offers students from a variety of disciplines the opportunity to present the results of their research, replicating the format and climate of professional conferences.

I encourage you to take this opportunity to share in the enthusiasm and knowledge of your fellow students at this event. Enjoy your experiences today!

Sincerely,

Bobby Fong
President, Butler University

Butler University delights in welcoming you to the 19th Annual Undergraduate Research Conference. This year’s conference brings together over 650 students, their mentors, and friends from schools across the Midwest and beyond.

The scholars participating in this year’s conference demonstrate the initiative to engage the world of ideas in a more intense manner and assume the risks of presenting ideas in public. We commend their character and congratulate them for their accomplishments. Their presence here today bodes well for the future of the academy.

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

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 your attendance and support.

Sincerely,

Robert F. Holm, Ph.D.  Richard J. McGowan, Ph.D.
Co-Director   Co-Director
Conference Personnel

**Conference Director**  
Dr. Richard McGowan

**Administrative Assistant**  
Jamie Survance

**Conference Coordinator**  
Dr. Robert Holm

**Special Events Advisor**  
Mary Azar Callahan

Area Coordinators

**Anthropology**  
Dr. Elise Edwards

**Art History**  
Dr. John Turner

**Biology**  
Dr. Michael Maloney

**Business Administration & Economics**  
Dr. Deborah Skinner

**Chemistry**  
Dr. Geoffrey Hoops

**Communication: Speech and Journalism**  
Dr. Bill Neher

**Earth and Environmental Sciences**  
Dr. Robert Holm

**Education**  
Dr. Lisa Gross

**Foreign Languages**  
Dr. Willi Schwoebel

**Gender Studies**  
Dr. Ann Savage

**History**  
Dr. Scott Swanson

**International Studies**  
Dr. Monte Broaded

**Literature**  
Dr. Lee Garver

**Math and Computer Science**  
Dr. Rebecca Wahl

**Media Arts**  
Dr. Allison Harthcock

**Performing Arts**  
Dr. James Briscoe

**Pharmacy/Health Sciences**  
Dr. Bruce Hancock

**Philosophy & Religion**  
Dr. Richard McGowan

**Physics**  
Dr. Xianming Han

**Political Science**  
Dr. Dave Mason

**Psychology**  
Dr. Robert Dale/Dr. Joel Martin

**Sociology**  
Dr. Antonio Menendez
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.  Welcome Address
          Reilly Room, Atherton Union
          Dr. Richard McGowan
          Dr. Bobby Fong, President

9:00 a.m. – 1:00 p.m.  Conference Sessions

10:00 a.m. – 3:00 p.m.  Poster Sessions
                        Holcomb Building, Student Area

10:30 a.m. – 1:30 p.m.  Graduate School Fair
                        Outside the Entrance of Jordan Hall across from Irwin Library

11:30 a.m. – 1:30 p.m.  Lunch
                        Reilly Room, Atherton Union

1:00 p.m. – 4:00 p.m.  Conference Sessions

4:00 p.m.  Conference Concludes
## Presentation Schedule

### Anthropology

**Session A Jordan Hall, Room 280**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00AM</td>
<td>The State of Ohio Hopewell Archaeology Today: Oone Archaeology Undergraduate’s Experience and Perspective.</td>
<td>Hillary Conley.</td>
</tr>
<tr>
<td>10:30AM</td>
<td>Spatial Analysis of the Ground Stone Tools from Unit A at Angel Mounds State Historic Site.</td>
<td>Christine Fik.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>&quot;I Am a Part of My Product&quot;: Who Owns a Tattoo?</td>
<td>Madelyn Boesen.</td>
</tr>
</tbody>
</table>

**Session B Jordan Hall, Room 280**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01:30PM</td>
<td>The Ideal Fraternity is Ruining Greek Life at Hanover College.</td>
<td>Isaac Weinkauf.</td>
</tr>
<tr>
<td>01:45PM</td>
<td>Concepts of Self and Community in Meditation at Hanover College.</td>
<td>Ellen Glassberg.</td>
</tr>
<tr>
<td>02:00PM</td>
<td>How Christian Science is Thriving and Declining in Membership in Madison, Indiana.</td>
<td>Cody Davis.</td>
</tr>
<tr>
<td>02:15PM</td>
<td>The Fairytale Project.</td>
<td>Erica Loveland.</td>
</tr>
<tr>
<td>02:30PM</td>
<td>The Theater of Intimacy: Cell Phone Use among a Midwestern Undergraduate Population.</td>
<td>Anna Smitherman, James M Nyce, Kevin Brauner, Tyniqua Birdsong, Stephen Crowe, Gregory Harmon, Tara Johnson, Aaron Lucas, Caleb Mercer, Rebekah Richardson, Autumn Sexton, Matthew Sharp, Kyle Stevens, Steven Viall.</td>
</tr>
</tbody>
</table>

### Art History

**Session A Fairbanks Center, Room 246**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00AM</td>
<td>Gian Lorenzo Bernini: Cardinal Scipione Borghese's Collection.</td>
<td>E. Paige Bailey.</td>
</tr>
<tr>
<td>10:30AM</td>
<td>Frank Buffalo Hyde, “Pictures from America”.</td>
<td>Brian Morfitt.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>A Taint of Eccentricity.</td>
<td>Brittany Malc输出.</td>
</tr>
</tbody>
</table>

**Session B Fairbanks Center, Room 246**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01:00PM</td>
<td>Les Noirs: The Lithographic Dark Side of Odilon Redon.</td>
<td>Kristie Crouser.</td>
</tr>
<tr>
<td>01:15PM</td>
<td>&quot;Song of the Times&quot;: Symbolism in the Work of Jan Toorop.</td>
<td>Megan Murphy.</td>
</tr>
<tr>
<td>01:30PM</td>
<td>&quot;Marilyn (Vanitas)&quot; 1977 by Audrey Flack.</td>
<td>Jillian Meyer.</td>
</tr>
<tr>
<td>01:45PM</td>
<td>Sue Coe and The Gold Mines in South Africa.</td>
<td>Raka Kingsland.</td>
</tr>
<tr>
<td>02:00PM</td>
<td>Eva Hesse's &quot;Hang-Up,&quot; 1996.</td>
<td>Lindsey Gargas.</td>
</tr>
</tbody>
</table>

### Biology

**Session A Gallahue Hall, Room 101**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30AM</td>
<td>The Insertion of the Enzyme Cyclopropane Fatty Acid Synthase into Tobacco Plastids Using a Plasmid Vector.</td>
<td>Jason Rush.</td>
</tr>
<tr>
<td>09:45AM</td>
<td>Cadmium Chloride and Sodium Arsenate, Estrogens in Cigarette Smoke, Activate the Estrogen Signaling Pathway to Induce Proliferation in a Human Lung Adenocarcinoma Cell Line.</td>
<td>Sarah Todd, Mary Huff, Allison Bieser, Krista Riggs, Susan Douggherty, Carolyn Klinge.</td>
</tr>
<tr>
<td>10:15AM</td>
<td>Does the Ligamentum Arteriosum play a role in Traumatic Aortic Rupture?</td>
<td>Colin Neumann, Jon Obert, David Porta.</td>
</tr>
<tr>
<td>10:45AM</td>
<td>Search for a Knox gene in Bryophyllum pinnatum.</td>
<td>Ryan Gleason.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>Protocol Examination of Ethanol Fermentation in a Strain of Saccharomyces cerevisiae (Brewer’s yeast) Used in the Production of Bourbon.</td>
<td>Kevin Cashman.</td>
</tr>
<tr>
<td>11:15AM</td>
<td>Protocol Optimization and Examination of ADH-4 gene in a strain of Saccharomyces cerevisiae from a Kentucky Bourbon Distillery.</td>
<td>Thomas Antony.</td>
</tr>
<tr>
<td>11:30AM</td>
<td>Dietary Flavonoids and Renal Ion Transport.</td>
<td>Laura K. Platt, Bonnie L. Blazer-Yost, Monalisa Muchatuta.</td>
</tr>
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**Session B Gallahue Hall, Room 102**

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<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
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</thead>
<tbody>
<tr>
<td>12:00PM</td>
<td>Is it True that an Orb Pattern on a Windshield Means the Occupant was Unbelted During a Collision?</td>
<td>Suraj Gathani, David Porta.</td>
</tr>
<tr>
<td>12:15PM</td>
<td>Quadriceps Ruptures: Was the Knee Flexed or Extended?</td>
<td>Mikenzie Lewis, David Porta.</td>
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</table>

**Session B Gallahue Hall, Room 102**

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<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
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<tbody>
<tr>
<td>09:30AM</td>
<td>Comparison of Species Composition in Present Day Old Growth Forests and Pre-Settlement Stands.</td>
<td>Arunima Sen, Hassan Salem, Brent Smith, Rebecca Prosser.</td>
</tr>
<tr>
<td>09:45AM</td>
<td>Resistance vs. Resilience: Alternative Mechanisms to Survive Severe Cyclones in Mabi Type 5b Rainforest Tree Species of North Queensland, Australia.</td>
<td>Lauren Gersbach.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>A Preliminary Study of the Spider Diversity of Dominica.</td>
<td>Susan Kennedy.</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
<td>Authors</td>
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<tr>
<td>10:15AM</td>
<td>Demographics of Fox (Sciurus niger) and Gray (S. carolinensis) Squirrel Populations Living Within a Suburban Landscape: A Preliminary Analysis.</td>
<td>Lynn Felts, Carmen Salisbury.</td>
</tr>
<tr>
<td>10:45AM</td>
<td>Genetic Diversity in Restoration Nursery Stock, Planted Restorations, and Natural Populations of Swamp Milkweed (Asclepias incarnata).</td>
<td>Melissa Tienes.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>Reproductive Biology of Enhydris enhydris, Enhydris subtaeniata, and Enhydris plumbea (Serpentes: Homalopsidae) in Thailand.</td>
<td>Erica Kremer.</td>
</tr>
<tr>
<td>11:15AM</td>
<td>Spider Diversity of Dominica: An Analysis of the Role of Rare Species and Habitat Comparisons.</td>
<td>Rachel Gutfreund, Yvonne Matos.</td>
</tr>
<tr>
<td>11:30AM</td>
<td>Comparison of Three Burrowing Crayfish Capture Methods and the Influence of Species, Morphology, Seasonal Activity, and Habitat Quality.</td>
<td>Justin Ridge.</td>
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**Session C Gallahue Hall, Room 105**

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<th>Time</th>
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<tr>
<td>09:30AM</td>
<td>The Effects of Sizes of Initial Populations on Gene Frequencies in Population Cages of Drosophila melanogaster.</td>
<td>Leigha Ridenour, Andrew Torrella.</td>
</tr>
<tr>
<td>09:45AM</td>
<td>Analysis of Skeletal Muscle Size and Force Generation via Grip Strength in the Dominant Forearm of Male and Female College Students.</td>
<td>James Souder.</td>
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**Business Administration & Economics**

**Session A Holcomb Building, Room 239**

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<td>09:00AM</td>
<td>A Study on the Impact of Formal Workplace Volunteer Programs on Organizational Citizenship Behavior.</td>
<td>Jessica Kruse.</td>
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<tr>
<td>09:30AM</td>
<td>Leadership Styles and Perceptions of Gender Role Stereotypes.</td>
<td>Andrew Embry.</td>
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**Session B Holcomb Building, Room 239**

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<tr>
<th>Time</th>
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<tr>
<td>10:30AM</td>
<td>The Aging Workforce of the EU: Problems and Solutions to Preempt a Fiscal and Economic Crisis.</td>
<td>Elise Connor.</td>
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**Session C Holcomb Building, Room 239**

<table>
<thead>
<tr>
<th>Time</th>
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<th>Authors</th>
</tr>
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<tr>
<td>11:15AM</td>
<td>Central Indiana Residents’ Perceptions of the Tangible and Intangible Benefits Generated by Lucas Oil Stadium. Paul Mongillo.</td>
<td></td>
</tr>
<tr>
<td>11:30AM</td>
<td>The Impact of Butler Bowl Renovations on Student Satisfaction and Attendance of Butler University Football Games.</td>
<td>Bryce Tiernan, Leanne Wiley, Anna Butterbaugh.</td>
</tr>
</tbody>
</table>

**Chemistry**

**Session A Gallahue Hall, Room 108**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
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<tbody>
<tr>
<td>09:00AM</td>
<td>Nontraditional Synthesis of Organometallic Compounds.</td>
<td>Andrew Hesse.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Colloidal Palladium as a Catalyst for Environmentally Benign Coupling of Aryl Halides and Phenylboronic Acids. Amanda Isom, Rebecca DeVasher.</td>
<td></td>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00AM</td>
<td>The Design of Greener Undergraduate Labs: Green Chlorination of Vanillin and a Greener Synthesis of Creatine.</td>
<td>Ryan Bernhardt.</td>
</tr>
<tr>
<td>10:45AM</td>
<td>A Review of Recent Literature Concerning Immune Characteristics of Individuals Exposed To, but Uninfected by, HIV. Kristin Hollister.</td>
<td></td>
</tr>
<tr>
<td>11:00AM</td>
<td>Microsatellite Markers Reveal Multiple Paternity in Two Species of Homalopsid Snake (Enhydris enhydris and Enhydris subtaeniata).</td>
<td>Megan Rinehart, Bobak Kechavarzi.</td>
</tr>
<tr>
<td>11:15AM</td>
<td>Comparison of the Efficacy of Vinca minor Eradication Techniques and Determining the Their Effects on Native Vegetation in Southern Indiana. Cynthia Koester.</td>
<td></td>
</tr>
<tr>
<td>11:30AM</td>
<td>What is the Best Feeding Environment for Flesh Eating Beetles? Noelle Lewis, Gabriel Tanner, David Porta.</td>
<td></td>
</tr>
<tr>
<td>11:45AM</td>
<td>Can a Mandibular Impact cause a Basilar Skull Fracture?</td>
<td>Stephen Fowler, David Porta.</td>
</tr>
<tr>
<td>12:00PM</td>
<td>Distinguishing Between Windshield Fractures Caused by Fire or Head Strike. Edward Szymanski, David Porta.</td>
<td></td>
</tr>
<tr>
<td>12:15PM</td>
<td>Predicting Inflation through Oil Price Changes: Evidence from Russia and the U.S. David Fish.</td>
<td></td>
</tr>
</tbody>
</table>
**Session B Gallahue Hall, Room 108**

10:45AM  Comparison of Surface Adsorption between Reduced and Oxidized Cytochrome c on a Fused Silica Surface. Casey Kraning, Todd Hopkins.

11:00AM  Ionic Strength Effect for Salt upon Surface Adsorption of Cytochrome c to a Fused Silica Surface. Kayla Bloome, Geoff Hoops.


11:30AM  Adsorption Studies of Cytochrome c on a Silica Nanoparticle Surface. Carrie Ann Hedge.

**Communication: Speech & Journalism**

**Session A Fairbanks Center, Room 146**

09:00AM  When Advertising Crosses the Line: Examining Stereotypes in Advertisements. Tyonka Perkins.

09:15AM  Hazelwood to Hosty: Censorship and Student Journalists' Rights. Marcy Wilhelm.

09:30AM  A Fresh Look at Face-ism - Biases in News Photographs. Hannah Werntz.


01:00PM  Decoding Code-switching. Michelle Zatulovsky.

01:15PM  Testing and Teaching English Literacy Skills in Foreign Language Immersion Education. Lindsay Daniel, Anna Schmidt.

01:30PM  English Literacy Skills of Early Elementary Children Enrolled in a Foreign Language Immersion Program. Courtney Rollins, Anna Sonner.

01:45PM  Differences in English Literacy Skills of Children Enrolled in French and Spanish Foreign Language Immersion Programs. Erin Cozza, Kimmi Faris Arnold.

**Earth & Environmental Sciences**

**Session A Jordan Hall, Room 203**


10:45AM  The Importance of Giant Aerosol to Supercooled Large Drop Formation. Ashley Shackelford, Sonia Lasher-Trapp.

11:00AM  Correlations between Monthly Anomalies of Tornado Data and Monthly Anomalies of Water Vapor Transport Mechanisms. Mark Nance.

**Education**

**Session A Jordan Hall, Room 183**

09:00AM  Society, the Individual, and the Teachings of Gandhi and Einstein. Phillip Call.

09:15AM  Comparing Valparaiso University Students’ Knowledge About STDs Based Upon High School Background. Gayle Joll, Kristen Kardas, Audrey Hall.

09:30AM  150 Years of Butler: A Student-Run Honors Course. Michelle Sams, Tyler Blakley, Katie Leciejewski, Susan Surber, Anne Wilson.

09:45AM  Effectiveness of Alternative Programs in Relation to High School Graduation. Julie Harris.
### Foreign Languages

**Session A Jordan Hall, Room 301**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>Alternative Sources of Narration: The Role of Traditional Flamenco Music and Dance in Carlos Saura’s Film “El Amor Brujo”.</td>
<td>Bethany Anderson.</td>
</tr>
<tr>
<td>09:15AM</td>
<td>La Evolución de América.</td>
<td>Amy Cockrell.</td>
</tr>
<tr>
<td>09:30AM</td>
<td>El Creacionismo, Vicente Huidobro, y Altazor. Kathleen Baute.</td>
<td></td>
</tr>
<tr>
<td>09:45AM</td>
<td>Use of Musical Repetition and Variation in Carlos Saura’s Taxi. Paul Bell.</td>
<td></td>
</tr>
<tr>
<td>10:00AM</td>
<td>Vision y Valor de la Mujer Durante el Desarrollo de Hispanoamerica. Jennifer Washburn.</td>
<td></td>
</tr>
<tr>
<td>10:45AM</td>
<td>Le Système Éducatif Africain. Irene Berman.</td>
<td></td>
</tr>
<tr>
<td>11:00AM</td>
<td>The Quest for Identity. Michael Tetral.</td>
<td></td>
</tr>
</tbody>
</table>

### History

**Session A Jordan Hall, Room 207**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>War Powers and the Original Understanding. Jesse Williams.</td>
<td></td>
</tr>
<tr>
<td>09:15AM</td>
<td>Descent into Hell and Back: American Foreign Policy during the Bosnian Civil War. Daniel Barnhardt.</td>
<td></td>
</tr>
<tr>
<td>09:45AM</td>
<td>Children Killing Children: How the Lord’s Resistance Army Has Created a Childhood of Fear in Uganda.</td>
<td></td>
</tr>
<tr>
<td>10:00AM</td>
<td>The Search for China's Destiny: The Chinese Civil War and the Communist Revolution. Carl Boschert.</td>
<td></td>
</tr>
<tr>
<td>10:30AM</td>
<td>Removing Closet Doors: Exposing why the Renaissance was Homosexual not Italian. Jordan Carroll.</td>
<td></td>
</tr>
<tr>
<td>11:00AM</td>
<td>From Hooliganism to Racism: The Socioeconomic Struggles of European Soccer. Daniel Hamer.</td>
<td></td>
</tr>
</tbody>
</table>

### International Studies

**Session A Jordan Hall, Room 207**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>Pakistan: Regional and Global Security Concerns. Chris Schumerth.</td>
<td></td>
</tr>
<tr>
<td>09:15AM</td>
<td>From Guestworkers to Citizens: The Creation of a Turkish-German Political Identity. Kelsey Davenport.</td>
<td></td>
</tr>
</tbody>
</table>

### Literature

**Session A Jordan Hall, Room 303**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>09:00AM</td>
<td>Curse and Characterization: Aeschylus’s Clytemnestra and Virgil’s Dido. Amanda Clark.</td>
<td></td>
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<tr>
<td>09:15AM</td>
<td>The Invigorating Experience of Ekstasis in Donne, Herbert, and Milton and its Relation to the Coleridgean Secondary Imagination. Catherine Doubler.</td>
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<tr>
<td>09:45AM</td>
<td>Snow, Smoke and Mirrors: Perception as Allegory in Kawabata’s Snow Country. Chad Andrews.</td>
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<td>09:00AM</td>
<td>Love’s Obstacles Overcome in Much Ado About Nothing. Tracy Bowling.</td>
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<tr>
<td>09:15AM</td>
<td>“And By the Way Let Us Recount Our Dreams”: Seeing Shakespeare’s Hidden Dream in Bottom’s Soliloquy. Nichole Pena.</td>
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<tr>
<td>09:30AM</td>
<td>Shakespeare's Tragic Villains. Natalie Todd.</td>
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</tbody>
</table>
Session C Jordan Hall, Room 387

09:00AM Penelope, Dido, and the Epic Heroine. Mike Graczyk.
09:15AM Adam and Eve as Different, Yet Equal, Partners in "Paradise Lost". Sara Fliehman.
09:30AM Made in the Likeness of God: Two Voices in the Quest for Human Spirituality. Donna Hamilton.
09:45AM Satisfaction in Equality. Christina Lear.

Session D Jordan Hall, Room 205

09:00AM The Nature of Comedy: Recreating the Principles of Aristotle’s Lost Poetics II. Ashley Caveda.

Session E Jordan Hall, Room 303

10:30AM How I Learned to Write Comics and Everything Else; Also I Improved as a Person. Mike Meginnis.
10:45AM Controlling the Uncontrollable and Finding Purpose in Post-Colonial India. Elizabeth Gross.
11:00AM Sally Morgan’s My Place: Reviving the Stolen Generation Through Narrative. Kevin Hankinson.

Session F Jordan Hall, Room 348

10:30AM The Destiny of Heroic Actions: Moses, Odysseus, and Aeneas. Lyndsey Adams.
10:45AM “The Bell and the Light”: Historical Accounts of the Underground Railroad Through the Medium of Drama. Tracy Bowling.
11:00AM She Saved the World A Lot: Buffy the Vampire Slayer and Joseph Campbell’s Heroic Pattern. Catherine Ippolito.

Session G Jordan Hall, Room 387

10:30AM Job, Odysseus, and the Pain and Promise of Suffering. Wesley Scott.
11:00AM Art and Technologies: Questions of Human Boundaries in Literature and Film. Lucy Houchin.

Session H Jordan Hall, Room 205

10:30AM Absolute Evil or Relative Expediency: Homer's Odysseus and Aeschylus's Clytemnestra. Ashley Czuba.

Session I Jordan Hall, Room 303

01:00PM Holden Caulfield and Tommy Wilhelm vs. The Organization Man of the 1950s. Carling Jennings.
01:30PM The Insights Fictional Representations of Sexuality Provide on the Reality of Sexuality in the 1950s. Sara Fliehman.

Session J Jordan Hall, Room 348

01:00PM Lewis and Pullman: Creation and The Fall. Jeremy Ghazaleh.
01:30PM The Music and Poetry of The Fellowship of the Ring. Michelle Wafford.

Session K Jordan Hall, Room 387

01:00PM Paradise Lost: False Premises and Confusion in Satan's Reasoning. Amy Milton.
01:30PM Imparting Religious Principles in Children's Literature: From Didacticism to Fantasy. Diana Klueh.

Session L Jordan Hall, Room 205

01:00PM An Intimate Study in Contemporary American Poetry: Telling a Life Story through Poems. Josh Kaminski.
01:30PM "Imagination All Compact": How a Graphic Novelist Converses with the Bard. Candace Jones.

Math and Computer Science

Session A Jordan Hall, Room 242

09:00AM Asymptotic Analysis of Diophantine Inequalities. Keenan Hecht.
09:15AM Modeling Plant Growth with String Rewriting. Florian Loretan.
09:30AM A Virtual Campus: Multi-user Online Social Space. Joshua Elwood.
### Media Arts

**Session A Fairbanks Center, Room 146**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>10:00AM</td>
<td>V for Vendetta and Its Place in the Gothic.</td>
<td>Tarah Cantrell, Charity Scott.</td>
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<tr>
<td>10:15AM</td>
<td>Opening Dr. Caligari's Cabinet.</td>
<td>Patrick Mullins.</td>
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<tr>
<td>10:45AM</td>
<td>Hybridity and the FCC.</td>
<td>Michael Vogel.</td>
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### Performing Arts

**Session A Lilly Hall, Room 110**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>09:00AM</td>
<td>Death Most Russian: Dmitri Shostakovich's Meditations on his own Mortality.</td>
<td>Daisy Chew.</td>
</tr>
<tr>
<td>09:30AM</td>
<td>J.S. Bach's &quot;O Mensch, bewein' dein’ sünde Gross&quot;: Treatments, Speculations, and Conclusions.</td>
<td>John Allegar.</td>
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<tr>
<td>09:45AM</td>
<td>Amy Beach and the art of the American Song.</td>
<td>Taylor Yandell.</td>
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<tr>
<td>10:00AM</td>
<td>The Most Immediate Medium.</td>
<td>Aaron Krerowicz.</td>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>10:30AM</td>
<td>Discovering Dramaturgy.</td>
<td>Katelyn Coyne.</td>
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### Pharmacy/Health Sciences

**Session A Pharmacy Building, Room 103**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>08:30AM</td>
<td>Do Other Neuroaffective Drugs Affect the Ability of Dopamine Agonists to Induce Obsessive Behaviors Such as Gambling?</td>
<td>Christopher Riegel, Bruce Clayton, William Brookfield.</td>
</tr>
<tr>
<td>08:45AM</td>
<td>Assessing Healthcare Utilization in the Amish Population.</td>
<td>Amy Spears, Sarah Withers.</td>
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<tr>
<td>09:15AM</td>
<td>The Effects of Direct to Consumer Advertising (DTCA) on Patient’s Involvement in their Own Drug Therapy and on Physician Prescribing.</td>
<td>Julia Simpson.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>An Evaluation of the Effects of Over-the-Counter Triglyceride-Lowering Agents on LDL-C.</td>
<td>Dawn Harris.</td>
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<tr>
<td>10:15AM</td>
<td>Physicians' Habits Pertaining to Late Life Depression Assessment.</td>
<td>Sheena Sanders.</td>
</tr>
<tr>
<td>10:30AM</td>
<td>Assessment of Post-Surgical Infections as an Indicator of Adherence to Surgical Care Improvement Project (SCIP) Guidelines at Major Hospital.</td>
<td>Erin Angle.</td>
</tr>
<tr>
<td>10:45AM</td>
<td>Frequency of INR Monitoring in the Nursing Home When Warfarin and an Antimicrobial are Used Concurrently.</td>
<td>Melissa Nguyen, Bruce Clayton, Cathy Ramey.</td>
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</tbody>
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**Session B Pharmacy Building, Room 106A**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>08:45AM</td>
<td>Low-Dose Vitamin K Supplementation Along with Coumadin® to Help Stabilize Fluctuating INR's.</td>
<td>Landon Heyerly, Brook Sipe.</td>
</tr>
<tr>
<td>09:00AM</td>
<td>Physician Compliance with Baseline and Annual Laboratory Monitoring of Serum Creatinine in Patients Prescribed Metformin at an Ambulatory Care Site.</td>
<td>Holly Staker.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Assessing Patterns of Development and Treatment of Clostridioides difficile in a Community Hospital Setting.</td>
<td>Jeremy Bryson, Jarrett Amsden.</td>
</tr>
<tr>
<td>10:15AM</td>
<td>Association of Antidepressants with Gastrointestinal Bleeds in Depressed Patients Over the Age Of 50: A Retrospective Cohort Study.</td>
<td>Shaun Kink, Tracy Bottorff.</td>
</tr>
<tr>
<td>10:30AM</td>
<td>Evaluation of Adverse Effects of Aprotinin in Pediatric Cardiac Surgery.</td>
<td>Emma Tillman.</td>
</tr>
<tr>
<td>10:45AM</td>
<td>Evaluation of Warfarin Therapy at the Heart Center of Indiana.</td>
<td>Kristen Smit, Kenneth Mesner.</td>
</tr>
</tbody>
</table>
Session C Pharmacy Building, Room 106B

08:30AM Dysglycemic Events in Patients with Type 2 Diabetes Mellitus Following the Administration of Gatifloxacin, Levofloxacin, Moxifloxacin, or Ceftriaxone: A Retrospective Chart Review. Chad Gustin.


09:00AM The Impact of Ethnic Concordance between Hispanic Patients and Physicians on the Utilization of Preventive Health Screening. Amanda Ketterer.


09:30AM The Effects of Pharmacy Rotations on the Career Plans of Pharm-D Students. Keith Kalvaitis.

10:00AM Adherence to Federal Mandate on Medication Guides by Community Pharmacy Rotations. Brad Whitten.

10:15AM Evaluation of the Adherence of Retail Pharmacy Customers to Antibiotic Regimens. Abbie Mendenhall.


10:45AM An Experimental Comparison of Bacterial Contamination Rates Using a Sterile, Non-Anti-Drug Resistant Environment. Crystal Schnitker.

11:00AM An Overview of Apolipoprotein E and Its Impact on Alzheimer's Disease. Susan Surber.

Session D Pharmacy Building, Room 204

08:30AM Retrospective Chart Review of the Treatment of Fractures in Long-Term Care Facilities and a Prospective Follow-Up of Consultant Pharmacist Interventions. Allison Nourie, Jarrett Amsden, Cathy Ramey.

08:45AM Assessment of the Utilization of Broad-Spectrum Beta-lactams at a University Medical Center. Shaili Shah, Christopher Crank.

09:00AM Incidence of Infection after Initiation of Parenteral Nutrition: A Retrospective Chart Review. Kayla Durrett.

09:15AM Medication-Use Evaluation of IV Anti-fungals at Methodist Hospital. Lorah Ehrhardt.

09:30AM A Survey of Butler University College of Pharmacy and Health Sciences Students on the Usefulness of PX200: Introduction to Professional Practice. Jodi Mann.

10:00AM The Effects of a Fluoroquinolone Formulary Switch on Overall Utilization, Expenditures, and Appropriate Use in the Community Health Network. Kerri Champion, Jarrett Amsden.


10:30AM Preparation for Precepting: A Pharmacy College Survey. Bailee Wienke.

10:45AM The Effects of Medication Management on Patients Taking Six or More Medications. Nicole Johnson, Julie Borgmann, PharmD.

Session E Pharmacy Building, Room 212

08:30AM A Survey of P4 Students about their Experiences with Community Pharmacy Rotations. Brad Whitten.

08:45AM Adherence to Stress Ulcer Prophylaxis Guidelines in a Community Hospital. Nicole Brader, Tracy Bottorff.

09:00AM Bridges to Health: Assessing the Impact of Pharmaceutical Care on the Clinical, Economical, and Quality of Life Outcomes of a Diabetes Management Program. Natalie Buening, Kathleen Haynes, Steve Zetzl.


09:30AM An Evaluation of the Adherence of Retail Pharmacy Customers to Antibiotic Regimens. Abbie Mendenhall.

10:00AM The Development of an Educational Website on Nutrition in Diabetes for Pharmacists at Meijer Pharmacy. Adrienne Seherer.


10:30AM Adherence to Federal Mandate on Medication Guides by Major Chain Pharmacies via Online Meams. Vinny Polito.


10:00AM Adherence to Clostridium difficile protocol in a VA setting. John Suzo, Joseph Jordan, Von Moore.


10:45AM An Experimental Comparison of Bacterial Contamination in Enteral Tubing when Feeding Tubes are Changed Every 8 Hours Compared to Every 24 Hours. Alison Piechocki.

Session G Pharmacy Building, Room 205

08:30AM Retrospective Review and Analysis of Venous Thromboembolism (VTE) Prophylaxis and Incidence at Methodist Hospital after the Initiation of a Hospital Wide VTE Prophylaxis Protocol. Beth Brown, Kevin Tuohy.

08:45AM Retrospective Review & Analysis of Antibiotic Use in Patients with Acute Chronic Obstructive Pulmonary Disease (COPD) Exacerbations Admitted to Methodist Hospital During 2005. Lynn Pudlo.

09:00AM Practitioner Knowledge of Nutrition Needs in the Critically Ill Patient. Shaunte Pohl.

09:15AM Delivery of Enteral Nutrition in an Adult Trauma ICU. Carlton Racette.

Session H Pharmacy Building, Room 015

01:00PM Evaluation of Readability of Patient Information Materials In a Community Pharmacy. Amber Semro.

01:15PM Retrospective Review of the Incidence Of Radiocontrast Induced Nephropathy in a VA Medical Center Following Cardiac Catheterization. Amanda Briva, Darin Ramsey, Pharm.D., BCPS, Karen Messmer, Pharm.D., BCPS.


01:45PM Adherence to JNC VII Guidelines in Ambulatory Patients in the United States: A Retrospective Database Review. Rebecca Harmon.

Session I Pharmacy Building, Room 106A

01:00PM Recombinant Human Erythropoietin (RhuEpo) Use In Pediatric Bone Marrow Transplant Patients. Elizabeth Beckman.

01:15PM The Effectiveness of Metoclopramide for Gastroesophageal Reflux in Neonates. Amanda Bemiss.

01:30PM Evaluation of Intensive Insulin Therapy in a Pediatric Intensive Care Unit. Kayla Alexander, Maria Whitmore.

01:45PM A Comparison of the Efficacy of 0.5 unit/mL versus 1 unit/mL of Heparin in Neonatal PN. Amber Davis, Elaina Szeszycki.

02:15PM Effect of Megestrol Acetate on Appetite and Quality of Life in Cancer Patients. Kelly Shrode.

02:30PM Retrospective Chart Review to Identify Potential Factors Contributing to Fall Risk During Hospitalization. Kate Schaafzma.

02:45PM Blood Glucose Control of Patients with Diabetes Mellitus Receiving Insulin Glargine versus other Hypoglycemic Treatments in a Long Term Care Population. Allison Chosen, Dr. Carrie Maffeio, Lisa O'Hara, Jodi Mann.

03:00PM Assessing Patterns of Development of Clostridium difficile in a Community Hospital Setting. Emily Schese, Jarrett Amsden, Tracy Bottorff.

03:15PM Does an Increase in Patient Counseling Mean an Increase in Workload Balancing? A Database Analysis. Laura Strohman.

Session J Pharmacy Building, Room 106B

01:00PM Evaluation of Smoking Cessation Success Rates within a Veterans Affairs Medical Hospital. Ijeamaka Udeozo.

01:15PM Drug Utilization Evaluation of Daptomycin (Cubicin®). Ashley Clouser.

01:30PM Evaluating the Usefulness and Experiences of Pharmacy Rotations Abroad: Survey of Pharmacy Schools Across the United States. Hannah Kinnett.
Session M Pharmacy Building, Room 202

01:00PM A Retrospective Chart Review of The Incidence of Diabetes Mellitus in Elderly Schizophrenic Patients Receiving Atypical Antipsychotic Therapy in a Long-Term Care Facility. Sarah Beuligmann.


01:45PM Survey Investigating Physician and Nursing Unit Satisfaction of Pharmacy Services at a VA Hospital. Christina Record, Darin Ramsey, Pharm.D., BCPS, Marshall Jones.


02:30PM The Use of N-acetylcysteine + Sodium Bicarbonate vs. Sodium Bicarbonate Alone for the Prevention of Radio-Contrast Induced Nephropathy. Samuel Culli.

02:45PM Physician Adherence to Guidelines on the Use of Aspirin/clopidogrel Combination Therapy in Non-ST Elevation Post-Myocardial Infarction Patients. Molli Pietras.

03:00PM An Analysis of the Use of Aldosterone Antagonists Among Post-myocardial Infarction Patients Complicated with Heart Failure—Reviewing the Impact of EPHESUS. Lori Hunteman.

03:15PM The Role of the Pharmacist in the Education of Patients with Diabetes at Shalom Healthcare Center. Sarah Duncan, Dr. Marilyn Dargis.

Session N Pharmacy Building, Room 205

01:00PM Possible Effects of Tight Glucose Control in Cardiopulmonary Resuscitated Patients. Bethany Vasquez.


01:30PM Retrospective Chart Review of the Use of Antibiotics in COPD Exacerbations. Jennifer Tharp.

01:45PM Retrospective Review and Analysis of Venous Thromboembolism (VTE) Prophylaxis and Incidence at Methodist Hospital Prior to the Initiation of a Hospital Wide VTE Prophylaxis Protocol. Nicole Smith.

02:15PM Evaluating Perceptions of Graded versus Pass/Fail Advanced Pharmacy Practice Experiences Among Pharmacy Students in Indiana. Lindsay Whisenant, Amy Peak.

02:30PM Evaluation of Student Use of Technology. Kelli Lukomska, Amy Peak.

02:45PM Evaluation of the Perceptions Of Preceptor Practitioners on the Use of Graded Versus Pass/Fail Advanced Pharmacy Practice Experiences. Sarah Oldaker.

03:00PM Evaluation of Student and Faculty Perceptions of Academic Dishonesty at Butler University. Ayesha Kheiri, Amy Peak.

03:15PM Insulin Stability at Room Temperature: A Six Month Assessment. Amber Cook, Amy Peak, Nandita Das.

Philosophy & Religion

Session A Jordan Hall, Room 201

09:00AM Enlightenment Ideas during the French and Russian Revolutions. Tom McLaughlin.

09:15AM Theories of Nonconsequentialism. Janell Callahan.

09:30AM The Deviation of 'New' Natural Law Theory from Thomist Natural Law Theory. Michael Meiser.

Session B Jordan Hall, Room 201

10:00AM Where Have all the Good Men Gone? Evolving Ministerial Roles and Identities in the Catholic Church. Ryan Gross.

10:15AM Removing the Tainted Image. Trevor Smith.


10:45AM Jesus in the Bible and Chalcedon: Are They the Same? Jessica Fox.

Session C Jordan Hall, Room 201


11:30AM The Zen of Nietzsche. Chad Andrews.

11:45AM Huxley’s Psychedelic Visionary State and the Zen Mind. Samuel Thompson.

Physics

Session A Gallahue Hall, Room 348


09:45AM Surface Plasmon Resonance in Gold and Silver Films. Andrew Geiger, Maaraj Syed.

10:00AM Effects of Magnetic Measurement Uncertainty on Tokamak Equilibrium Reconstruction. Andrea Montgomery, Lang Lao (General Atomics), Edward Strait (General Atomics).


10:45AM Assessment of Three Color Photometric Techniques.
   Justin Mason.
11:00AM Formation of Blue Stragglers in Globular Star Clusters.
   Sara Hanlin.
11:15AM Mapping the Asymmetry of the Milky Way. Laura
   Broaded.

Political Science

Session A Jordan Hall, Room 203

09:15AM Are Smart, Religious People Trusting of Government? An
   Empirical Analysis of the Relationship between Political
   Sophistication, Prayer, and Political Trust. Thomas
   Cameron.
09:30AM Perceived Impediments to Indiana Women in Politics.
   Adrienne Romary.
09:45AM Policy Analysis: Advocating Female Financial Literacy
   Programs. Ami Kane.

Session B Jordan Hall, Room 203

01:30PM Turkey: An Islamic EU Candidate Threatening to
   Dismantle the “Clash of Civilizations” Theory. Carling
   Jennings.
01:45PM A History of Non-violence: A Comparative Analysis of
   the Nonviolent Actions of Nonviolent, Student Democratic
   Movements in Eastern Europe. Sheanna Davis.

Psychology

Session A Jordan Hall, Room 236C

09:00AM A Study of the Relationship between Religious Faith and
   Shame and Self-esteem. Tiffany Leisure.
09:15AM A Study of the Relationship between the Onset of Sexual
   Activity and Personality. Jennifer Dowdy.
09:30AM The Relationships between Residence Status, Involvement,
   Adjustment. Holly Estill.
09:45AM Career Identity Development and the Five Factor Model.
   Stephen Polivka.
10:00AM Feliz o Triste? (Happy or Sad?): Cross-Language Effects
   of Mood on Cognition. Megan Mull, Tara Lineweaver.
10:30AM Minnesota Multiphasic Personality Inventory – 2
   Correlates and Predictors of Machiavellianism. Megan
   Gourley, Johnathan Forbey, Tayla Lee, Nicole Blazek.
11:00AM Labeling Practices of U.S. Instant Lotteries. Pamela
   Runsey, Alicia Crue, Clarissa Bailey, Lauren Steinnman,
   Ashley Ruffer.
11:15AM Differences in Primary Drug of Choice and Levels of
   Depression. Jacquelyn Jacobs.
11:30AM Effect of Day and Night Landings on General Aviation
   Landing Flares. Shalagh Allison Frantz.
11:45AM Reducing Stigma toward the Mentally Ill: An Intervention
   to Increase Empathy. Stephanie Turner.

Session B Jordan Hall, Room 238

09:00AM Measures of Flashbulb Memories: Are Elaborate
   Memories Consistently Accurate? Megan Julian.
09:15AM Oral Presentation. Jenessa Price, JN Bohannon III, Sara
   Minor, Derek Thornberry.
09:30AM Examining the Father-Child Relationship: Intact vs. Not

Session C Jordan Hall, Room 216

09:00AM Personality and Relational Style. Abby Rosswurm, Brandy
   Pierson, Lucinda Woodward.
09:15AM Methodological Implications for Gender Effects on Sexual
   Vocabulary. Brittany Stiles.
09:30AM Hope Among First-Semester College Freshmen. Jenna
   Williams, Megan Schnell, Rebecca Hauser, Megan
   Stirzinger.
09:45AM The Effects of Adventure Education on Self-Efficacy. Lisa
   Sharp, Stephen Jagdharry, Stephanie Trauschke, Lynette
   Bowsher.
10:00AM Nice Guys Finishing First: Correlating Desired Traits and
   College Experience. Jenna Mullins.
10:30AM Exploring Gender Differences in Deprecatory Humor Use:
   Discriminatory Utterances in Two American Sitcoms. Sara
   Shake, Lindsey Hummel.
10:45AM Attitudes Toward Interracial Dating. Karla Roberts, Michela Jones.
11:00AM Gender Differences in Stereotypes: Comparing Stereotypes to Self-Reports. Sarah Jane Hickman, Elizabeth Broady.
11:30AM The Sexual Attitudes and Behaviors of College Students. Kellen Clark.
11:45AM Faculty Perceptions of Service-Learning. Lindsey Bryant.

Session D Jordan Hall, Room 236C

01:00PM The Implementation of an All-Male Sexual Assault Prevention Program and the Identification of Dangerous Sexual Beliefs? Ashley Ubelhor, Jacquelyn Wesseler.
01:15PM Experiential Accounts of the Challenges of Mentally Retarded Parents. Alexis Palfreyman, Rachel Weisenbach.
02:00PM Interpreting Ambiguous Behavior: Impact of Mentally III and Racial Stereotypes. Jade Presnell.
02:15PM Predictors and Consequences of Involvement in Age-Discrepant Romantic Relationships. Amy Bender.
02:30PM Symptoms of Psychopathy, Machiavellianism, and the Ability to Deceive. Sarah Vogt.

Session E Jordan Hall, Room 238

01:00PM The Interaction Between Accuracy for Visual Memory and Group Size. Allison Hock, Natasha Engle.

Sociology

Session A Jordan Hall, Room 170

09:00AM HIV/AIDS and Culture. Tumaini Malenga.
09:15AM Matriculation to Graduation: Student Attitudes toward Homosexuality and HIV/AIDS. Erin McElwee, Pamela Saylor, Carolyn Styptka.
09:30AM The Effect of First Generation Student Status on Collegiate Student Formation of Identity and Interaction Abilities. Charli Lehman.
10:00AM Does Playing Video Games Directly Affect a Bellarmine Student’s Performance in School? Jeremy Schultz.
10:15AM The Culture of a Rave. Amanda Harris.
10:30AM The Influence of the Media on Body Image and Disordered Eating: A Gender Comparison Study. Lauren Schnabl.
11:00AM The Development of Student’s Thoughts on Homosexuality on a Lutheran Campus. Judy Velasco, Amie Stefanich, Sean McGinnis.
11:30AM The Effects of Child-Directed Commercials on the Development of Children's Gender Roles. Lindsay Toth.
12:00PM Deviant Behavior and Social Strain in Higher Education. Jemma Melton.

Session B Jordan Hall, Room 174

09:00AM Badge Bunnies. Audrey Hochgesang.
09:30AM Effect of Illegitimate Resources and Limited Job Opportunities. Elliot Payne.
09:45AM College Seniors Perceptions of Bellarmine University. Tiffany Whitt.
10:00AM  A Sociological View of Baseball: Racial Segregation through Stacking. Michael Hornsberger.
10:15AM  Views of Interracial Relationships on a Primarily White Campus. Sarah Wong, Steven Humphris.
10:30AM  Formal Civic Engagement as Measured by a Systematic Social Observation (SSO) of the Butler Tarkington Neighborhood. Brooklyn Rogers.
10:45AM  Depictions of Minorities and Women In Prime Time Television. Femi Oni.

10:00PM  What Deters Young Adults from Smoking Cigarettes? Rachel Kirkwood, Kendre Israel, Kendra Wicks.
10:30PM  A Study of Fairness in the Criminal Justice System. Melissa Sauer.
02:00PM  Genuine or Counterfeit: Are You Current With Currency? Elizabeth Roy.
02:15PM  Exposure and Aversive Racism: Exploring the Level of Aversive Racism at Butler University. Dana King.

Poster Presentations

Group A 10:00am - 10:50am

1  Novel Biodegradation of Alendronate Sodium and Ritalinic Acid. William Patch.
2  Combinatorial Solid-Phase Synthesis of Unnatural a-Amino Acid Derivatives. Christopher Audu.
3  Microwave Reactions of Carbenes and Acetylenes. Gordon Meyer.
4  Synthesis of Dihydroprirans. Punit Shah.
5  Characterization of Methotrexate Dendritic Nanodevices. Samreen Khatri.
6  Platinum Catalyzed Reactions in a Microwave Reactor. Felicia Fullilove.
7  The Influence of Drug Court on Rates of Recidivism Among Substance Abusers. Andrew Leitzel, Kyle Iser, Laura Blayne.
8  Generational Comparisons of Attitudes Toward and Perceptions of Mental Health Professionals. Brittany Tenbarge.
11  Predictors of Distress and Appraisals of Risk of Breast Cancer in First Degree Female Relatives (FDFRs) of Breast Cancer Patients. Rachel Steffens, Silvia Bigatti, Jennifer Lydon.
14  The Environmental Estrogens, Cadmium Chloride and Sodium Arsenate, Induce Phosphorylation of Extracellular Signal-Regulated Kinases (Erk1/2) in Lung Adenocarcinoma. Jason Ford, Mary Huff.
15  Raising Awareness of Botany Through Forensic Analysis in the Laboratory. Bobak Kechavarzi.
19  Validity and Reliability of Treadmill Heart Rate Grip-Monitors. Daniel Love, Dr. Barbara Wahl.
21  Is There a Relationship Between Undeveloped Parameters of Balance and Below Average Reading Ability. JoAnna Biehle, Candace Meyer.
22  Histological Evidence of Bimodal Spermatogenesis within the Testis of the Cottonmouth Snake, Agkistrodon piscivorus. Dustin Rubehart.
24  Exercise Programs in Nursing Homes and Assisted Living Facilities. Jeremy Kemper.
25  Assessing the Need for and Feasibility of a Student Run Wellness Program. Kira Olson, Jessica Hyne, Eric Hayes.
27  The Computational Study of Propane Oxidative Dehydrogenation by VO3H4 and V2O7H4 Molecules in the Gas Phase and Supported on TiO2. Jared Friedhoff, Stan Zygmunt.

Group B 11:00am - 11:50am

1  Acute Physiologic and Perceptual Responses to Static, PNF and CRAC Stretching. Emma Bean, Dr. Barbara Wahl, Dr. Greg LeBre.
2  The Effect of Environmental Estrogens on the Expression of Estrogen Receptors in Lung Adenocarcinoma Cells. Mary Bystrek, Mary Huff.
3  The Environmental Estrogens, Cadmium Chloride and Sodium Arsenate, Induce Phosphorylation of Extracellular Signal-Regulated Kinases (Erk1/2) in Lung Adenocarcinoma. Jason Ford, Mary Huff.
4  Raising Awareness of Botany Through Forensic Analysis in the Laboratory. Bobak Kechavarzi.
7  Cockroaches as Sources of Allergenic Molds: Comparative Observations on the Mycoflora of Three Frequently Encountered Cockroaches and their Excreta. Brian Glenn, John Mayo.
8  Validity and Reliability of Treadmill Heart Rate Grip-Monitors. Daniel Love, Dr. Barbara Wahl.
10  Is There a Relationship Between Undeveloped Parameters of Balance and Below Average Reading Ability. JoAnna Biehle, Candace Meyer.
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13  Exercise Programs in Nursing Homes and Assisted Living Facilities. Jeremy Kemper.
14  Assessing the Need for and Feasibility of a Student Run Wellness Program. Kira Olson, Jessica Hyne, Eric Hayes.
16  The Computational Study of Propane Oxidative Dehydrogenation by VO3H4 and V2O7H4 Molecules in the Gas Phase and Supported on TiO2. Jared Friedhoff, Stan Zygmunt.
Group C 12:00pm - 12:50pm

1 Marijuana Use Among College Students. Kimberly Frederick.
2 Attitudes Toward, and Use of, Alcohol and Cigarettes Among College Students. Christine Torrence.
3 Student Satisfaction with College. Megan Holsten.
4 "Keeping it Human: Maintaining the Human Essence When Exploring the Human Condition in Performance". Kaitlyn Lamansky.
6 Critical Thinking Project. Terra Bailey, Emily Hart, Sarah Stebbe.
7 Online Communities. Miranda Gilliland.
8 A Criminal Justice Degree versus a Criminal Justice Concentration: Does it affect obtaining a job and earnings? Sherry Voyles.
9 Effects of media type on reading speed and comprehension. Jason Pitt, Alex Bies, Penny Stewart.
10 Female Athletes and their Struggle with Eating Disorders, Body Dissatisfaction, and Perfectionism. Krystal Hendrix.
12 Defining Rape and Rape Myths on a College Campus: An Exploratory Look into Students' Perceptions of Rape and Rape Myths. Heidi Hansard.
13 Exploring the Relationships between Psychological Types and Personality Disorders. Brandy Pierson, Abby Rossowurm.

Group D 1:00pm - 1:50pm

1 Climbing the Tree of Life: Surveying the Microbial Diversity of Imperial Geyser, Yellowstone National Park. Shaden Khalaf, Whitney England.
2 Adaptations by branchiobdellids (Annelida), a leech-like associate of freshwater crayfish, for underwater survival. Justin Tank.
3 Activity of the Rocky Mountain wood tick depends upon dry rather than moist conditions and its epidemiological significance. Daniel Buchan, Nicholas Ferrari.
4 The Effects of Exercise-Induced Plasma Norepinephrine Elevations on Galvanic Skin Response (Lie-Detector) Tests. Whitney McBurrows, Victoria Flournoy, John Darden, Manuel Myers, Jessica Whitaker.
6 Reproduction, habitat preference, and year class strength of smallmouth bass (Micropterus dolomieui) in the Eel River near North Manchester, Indiana. Jared Mobley.
7 Whole Cell Lysis and PCR Protocol for Lactobacillus acidophilus an Essential Ingredient in Alcohol Fermentation. Whitney Theis, Joanne Dobbins.
8 Transformations of Kalanchoe pinnatum leaf embryos. Laura White.
9 Synthesis and Analysis of a cDNA Library from Giant Ragweed Pollen. Chad Manning.
10 Cloning and Sequence Analysis of CAG-Repeat Regions in Animals. Kaitlin Keaveny, Ashley Beck.
11 Initial studies of endocytosis in the budding yeast Pichia pastoris. Steven Rowland.
Conference Abstracts

Anthropology

Session A
Jordan Hall, Room 280
Moderator: Dr. Elise Edwards

10:00AM

The history of Hopewell archaeology in Ohio began over 100 years ago when local farmers and treasure hunters started to collect surface artifacts and dig into many observable large dirt mounds of varying size and shape. Since that time, with the emergence of the scientific field of archaeology and the research being conducted today by professionals in the field of Hopewell archaeology, one would believe that these practices have undergone many changes. This is not the case, though, as local farmers and relic collectors continue to collect and sell artifacts and the large mounds, mainly burial mounds, draw the most attention, research, and publications. The field school at Brown’s Bottom #1 hosted by the State University of New York Geneseo, however, is providing unique contributions to the archaeology of the Hopewell. It is doing this by not excavating mounds but excavating settlement areas instead and by utilizing undergraduate anthropology and archaeology students to not only help them gain experience and knowledge of archaeology but also to cultivate many different interpretations of the site, leading to a more thorough interpretation of the Hopewell culture. Thirty-five students participated in a four-week intensive archaeological excavation in Chillicothe, Ohio in 2006 and had the opportunity to gain hands on experience not only excavating and learning archaeological field methods and techniques, but also witnessing the continuing contribution of local farmers and collectors and the continuing destruction by the same people of the Hopewell archaeological record by interacting with these individuals.

10:15AM

The goal of this research was to investigate the community plan of the Late Prehistoric occupation of the Strawtown Enclosure (12-H-883) by mapping the distribution of large storage pits and possible domestic structures. A portion of the site was surveyed using resistivity survey and ground penetrating radar. A rectilinear anomaly near the edge of the raised enclosure was interpreted as a possible house structure and investigated with a 2x2 meter unit. The resistivity data also suggested that the center of the site was relatively clear of anomalies. This research suggests that a circular plan, typical to that of other Fort Ancient enclosures, within the site was relatively clear of anomalies. This research suggests that a circular plan, typical to that of other Fort Ancient enclosures, within the site is likely.

10:30AM
Spatial Analysis of the Ground Stone Tools from Unit A at Angel Mounds State Historic Site. Christine Fik. Indiana University-Bloomington, Bloomington, IN. Sponsor: Staffan Peterson

An entire Mississippian house (ca. 12th A.D.) at Angel Mounds State Historic Site in southern Indiana was excavated during the 2005 and 2006 by Indiana University and the Glenn Black Laboratory of Archaeology. An unusually high number of ground stone tools were found scattered about the floor of the house. Ground stone tools are an artifact category present in prehistoric cultures that comprise tools used to do many daily and specialized tasks such as flintknapping, bone and wood utensil and tool manufacturing, food production and processing, and craft specialties such as pottery. The context of the tools from this excavation could represent a kind of specialized manufacturing activity area at the house during its occupation. The tools have been analyzed and catalogued according to what their main use purpose was based on the tool type and wear patterns on the tool surface. The tools are also analyzed spatially using a Geographic Information System in conjunction with other features such as the tool type, or raw material type to recognize patterns across the house. Patterns in the tool distribution across the house may also indicate what activities occurred in different areas of the house. Such patterns can also indicate the kind of context the tools were deposited in, whether placed there by the final occupants or as a result of post-occupation disturbance.

10:45AM
Aloalo: A Study of Funerary Tradition in Southern Madagascar. Tiffany Black. Hanover College, Hanover, IN. Sponsor: David Buchman

This research was conducted during the Fall semester of 2006 when I studied abroad in the African country of Madagascar. The focus of this program was Culture and Society, requiring an extensive four-week independent study project to be conducted in any region of the island, on any aspect of Malagasy culture. I chose to study the aloalo, tall wooden carvings used in the funerary practices of a tribe called the Mahafaly, found in the southern tip of Madagascar. To do this, I hired a Malagasy university student as my guide and translator, which gave me the ability to travel to remote areas and interview a variety of people with extensive knowledge of this tradition. I conducted six formal interviews: one with a woodcarver who makes aloalo, and five with Mahafaly chiefs who act as elders in their communities. All interviews were translated from Malagasy to French by my interpreter, and I then translated the information from French to English. My findings include the origin of the aloalo tradition, the signification of the symbols portrayed on the carvings, the fabrication process, rules and taboos associated with this custom, and the evolution over time of the aloalo. Each aspect of this age-old practice is significantly intertwined with the unique culture of Madagascar, including its spiritual beliefs, political history, cultural norms, and the current condition of its environment. I argue that there is a struggle occurring over the production and use of these cultural objects due to various forms of westernization and modernization in Madagascar.

11:00AM
“I Am a Part of My Product”: Who Owns a Tattoo? Madelyn Boesen. Ball State University, Muncie, IN. Sponsor: Paul Wohlt

In this paper, I explore how tattoo artists and collectors of tattoos construct concepts of tattoo ownership. A tattoo is seemingly simultaneously owned by a collector, artistically associated with the artist who created it, and in some cases also associated with a third artist who designed the image. This paper compares and contrasts how artists, collectors, and other sub-groups describe and classify the levels on which different individuals may claim ownership of a tattoo. Also, through participant observation at a major tattoo convention, I examine how public and private expressions of these cultural constructs manifest in the context of competition.
The subject of my research is the unmistakable disparity between the ideal fraternity and the actual state of those organizations at Hanover College. The focus of this paper, then, is how that contradiction is evident in the relationships between the fraternal and administrative organizations on campus. I collected data on the conditions of the fraternity/administration relationship by interviewing staff members from the offices of Greek and Student Life, members of the Inter Fraternal Council, and from my own experiences as a fraternity President working with administration. Additionally, I accompanied a staff member of the office of Student Life on a round of ‘walk-throughs’ through each of the fraternity houses as well as passing out surveys to members of each fraternity’s executive board. I then formulated these conditions in terms of a theory of organizational power relations from Nicholas C. Burbules. I find that a certain ‘culture of ignorance’ is facilitated by a lopsided emphasis on the ideal conditions of fraternities. This emphasis is expressed as an unspoken prohibition against mentioning or critiquing the actual conditions of the fraternity system, to which even the administration adheres.

01:45PM
Concepts of Self and Community in Meditation at Hanover College. Ellen Glassberg. Hanover College, Hanover, IN. Sponsor: David Buchman

I think, therefore I am. Descartes’ statement implies a definition of the self as dependant on the most conscious of inner processes: thoughts. Western culture perpetuates this marriage of the self with the ego, thoughts, and behaviors. My study of meditation in diverse individuals and groups at Hanover College campus has countered this notion of the self embedded in conscious thought, instead fostering a transformation of the self towards a higher level of community. This paper examines the meditation experience itself, specifically the progression of the concept of self that is cultivated during meditation. Half a dozen semi-structured interviews with practicing individuals and participant observation at Buddhist and Christian meditation groups at Hanover College and other local religious settings, yielded surprising results: individuals experience a loss of the autonomous self and a redefinition of the self as a part of a community as consciousness expands. I draw from William James’ theory on the self regarding the disengagement of the ego and identification with the “Universal Soul.” In this paper I assert that meditation fosters heightened awareness of unconscious processes, which allows for disidentification with the ego, ultimately leading to the experience of the self as pure awareness.

02:00PM
How Christian Science is Thriving and Declining in Membership in Madison, Indiana. Cody Davis. Hanover College, Hanover, IN. Sponsor: David Buchman

My research was conducted to explore the religion of Christian Science as well as the religion’s place and purpose in Madison, Indiana. Specifically, my focus was to find a possible explanation for the decline of Christian Science specifically in Madison and more generally in the USA through my informant’s views of the religion in society. I analyzed the data collected from literature found about Christian Science, a half dozen interviews with Christian Scientists from the local Church of Christ Scientist, including a former Christian Scientist that lives in Hanover, Indiana. Additionally, I attended approximately ten Christian Science services over the course of a semester, conducting participant observation research. From the methods I employed, I was able to analyze the data collected to find that Christian Science theology, principles, and religious doctrine have remained unchanged since its religious founding in 1887. However, the American society surrounding the institution has changed since 1887. As a result, the change of the American society has altered the structural functions of the religious institution known as Christian Science. Therefore, I have used Alfred Reginald Radcliffe-Brown and Emile Durkheim’s theories of structural-functionalism to explain the state of the American Christian Science church. In conclusion, I find that the American society has chosen “more satisfactory” institutions to fulfill the social needs that Christian Science once fulfilled. Thus, Christian Science institutions are declining in membership and number in America.
The working relationship established between Gian Lorenzo Bernini and Cardinal Scipione Borghese was the foundational beginning of the young sculptor’s career. This union powerful helped propel Bernini into the realm of world renown. Cardinal Borghese’s passion for antiquities and works done in the all’antica is of interest to connect his patronage to the substantial sculptural collection of works by Bernini. An understanding of the cardinal’s education and the breadth of his collecting are helpful to realize the meaning behind his selection of Bernini as a chief sculptor for the Palazzo Borghese. An investigation of the cardinal’s life reveals his attraction to the young Bernini and his assistance in the sculptor’s development. Bernini’s career with Cardinal Borghese lasted many years and produced a brilliant collection of the early works of the sculptor. The cardinal commissioned Bernini to create sculpture for the Palazzo Borghese that displayed his affinity for mythological subject matter and works rendered all’antica. Bernini’s career was during the Counter-Reformation, and subject matter for the arts was strictly prescribed to religious purposes. However, Cardinal Borghese and Bernini deviated from the rule with subjects of The Flight from Troy, Pluto and Proserpina, Apollo and Daphne, among others. Bernini’s David was the only religious subject of these sculptures for the Palazzo Borghese, yet was rendered in Classical detail. These works redeveloped subject matter in the Baroque arts and henceforth while setting an aesthetic standard in sculpture.

Lady Liberty in WWI: Sex Symbol, or Symbol of Freedom. Matt Whistler. Hanover College, Hanover, IN. Sponsor: John Martin

As an artist, Charles Moore’s art work is a direct reflection of how he looks upon life. He is happy and not afraid to show it through his style and creations. In my research I found just the man with the perfect structure. Piazza d’Italia was created in 1976-1979 in New Orleans, Louisiana. Moore’s work is known for its feelings of happiness, warmth, joy and love. This man has a driving force to satisfy his delightful pleasures and dreams through his work. Not only is he creative but bold, as he takes chances that were not necessarily accepted by the critics of his time. He not only created a magnificent structure but dedicated it to The Italians so that they would have a monument to call their own. In many ways, the Piazza d’Italia looks like a Disneyland structure with its whimsical eccentric free flowing forms, which keep you wanting to see more of Moore.

Frank Buffalo Hyde, “Pictures from America”. Brian Morfitt. Valparaiso University, Valparaiso, IN. Sponsor: Nina Corazzo

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01:15PM
"Song of the Times": Symbolism in the Work of Jan Toorop. Megan Murphy. Valparaiso University, Valparaiso, IN. Sponsor: Nina Corazzo

As a leading Symbolist, Jan Toorop (1858-1928) made a substantial contribution to Dutch art. His drawing "Song of the Times" from 1893 reflects perceptions of society and religion as seen by an artist who did not fit into the realm of traditional art. This image also reveals important explorations in the use of line, color, and frame, and it demonstrates the varied influences that worked on Toorop. He was greatly influenced by his childhood and his interactions with his contemporaries. Toorop's varied art establishes his place among the great Dutch artists.

01:30PM
"Marilyn (Vanitas)" 1977 by Audrey Flack. Jillian Meyer. Valparaiso University, Valparaiso, IN. Sponsor: Nina Corazzo

I will be presenting a piece by the contemporary artist Audrey Flack entitled "Marilyn (Vanitas)" done in 1977 with oil over acrylic on canvas. I will discuss briefly some background information about Flack to allow the viewers to become acquainted with the artist and obtain a better understanding of her work; for example, her struggles being a women artist in her time and the influence Abstract Expressionism had on her work. I will then explain Flack's work and techniques as a Photorealist, and how she was labeled as a rebel. The amount of detail, careful play of light, and the bold colors used in her work will be explored along with her personal connection to the subject matter, the objects in "Marilyn (Vanitas)," the unique positioning of her piece, and its size. The importance of the genre Vanitas will also be mentioned along with abundant symbolism Flack has incorporated into her work.

01:45PM
Sue Cae and The Gold Mines in South Africa. raka kingsland. Valparaiso University, Valparaiso, IN. Sponsor: Nina Corazzo

My presentation is based off of one of Sue Cae's books, "How to Commit Suicide in South Africa." I start out about talking about her life and what made her who she is today. Then I go through and talk about her book and the topic of the gold mines that she concentrates on. I talk about one piece of art she did that is in the book. I could not find a title but it has to do with the gold mines in Johannesburg and the cruel things that had happened to the workers there. I concentrate on certain images in the art work and how they relate to the history of the topic. I include statistics and quotes from her about her life and the piece itself. There are also pictures of her in the powerpoint. This topic really interested me and she is one of my favorite artists of all.

02:00PM
Eva Hesse's "Hang-Up," 1996. Lindsey Gargas. Valparaiso University, Valparaiso, IN. Sponsor: Nina Corazzo

During her career, Eva Hesse, a Minimalist, created sculptures that have a very compelling presence. It was Hesse who did the most to humanize Minimalism. She broke away from using traditional materials and embraced "anti-artistic" materials such as rope, plastic, and latex. Although simple in form, Hess’s Hang-Up, speaks out about her past as a Jewish person in Germany during World War II. Hang-Up, made from acrylic paint on cloth strips over a wood frame, and steel wire, looks like a simple picture frame. However, due to Hesse’s extraordinary experiences as a young child, Hang-Up becomes more than just a frame. In the presentation, I will examine her choice of materials and their possible symbolism. I will also relate Hang-Up to other works by Minimalists.

02:15PM
A New Way to Be Human: How Andrea Zittel's work affects her life. Heather Kroschel. Valparaiso University, Valparaiso, IN. Sponsor: Nina Corazzo

Andrea Zittel has caused a stir in art museums in America and abroad and can be readily found in contemporary art magazines. Her varied artwork cannot be listed in one genre as she creates furniture, clothing, paintings, sculptures, islands, and much more. All of these forms seek to simplify a specific area of her life to the most basic elements. Has she succeeded in discovering a new way to intermingle art with one's entire life?

Biology
Session A
Gallahue Hall, Room 101
Moderator: Dr. Philip Villani

09:30AM
The Insertion of the Enzyme Cyclopropane Fatty Acid Synthase into Tobacco Plastids Using a Plasmid Vector. Jason Rush. Butler University, Indianapolis, IN. Sponsor: Katherine Schmid

The fatty acid dihydrosterolcerate is a molecule that can be manipulated into a high temperature lubricant and is found in small amounts in plants. I have worked to genetically modify tobacco plants to increase this production. I will discuss the work that has been completed up to the time of the presentation and my results.

09:45AM
Cadmium Chloride and Sodium Arsenate, Estrogens in Cigarette Smoke, Activate the Estrogen Signaling Pathway to Induce Proliferation in a Human Lung Adenocarcinoma Cell Line. Sarah Todd, Mary Huff, Allison Bleser, Krista Riggs, Susan Dougherty, Carolyn Klinge. Bellarmine University, Louisville, KY. Sponsor: Mary Huff

Of the 63 carcinogens in cigarette smoke, cadmium chloride and sodium arsenate are considered environmental estrogens because they mimic the effect of estradiol in living systems. Since recent studies support a role for estrogen in the etiology and progression of lung cancer, we wanted to determine if these environmental estrogens could stimulate cellular proliferation in a similar manner. Treatment of a female-derived adenocarcinoma line, H1793, for 4 days with nanomolar concentrations of cadmium chloride or sodium arsenate induced cellular proliferation similar to that seen for estradiol. Furthermore, inhibition of the estrogen signaling pathway using an estrogen receptor antagonist ICI 180,780 partially reduced the observed proliferation, supporting the involvement of the estrogen receptor signaling pathway. To determine if these environmental estrogens can directly activate transcription of estrogen responsive genes, cells were transfected with an estrogen response element driven luciferase reporter gene and treated for 30 hr with estradiol, cadmium chloride or sodium arsenate. The results indicate that, like estradiol, cadmium chloride and sodium arsenate activate transcription. To determine the endogenous gene responses induced by these environmental estrogens, RNA is being isolated after treatment and the expression of a battery of estrogen-responsive genes will be analyzed.
10:15AM
Does the Ligamentum Arteriosum play a role in Traumatic Aortic Rupture?
Colin Neumann, Jon Obert, David Porta. Bellarmine University, Louisville, KY. Sponsor: David Porta

One in six individuals in serious head-on automobile accidents sustains a traumatic aortic rupture (TAR). One hypothesis is that the ligamentum arteriosum (an embryological remnant of a vessel that shunted blood between the pulmonary trunk and the aorta) plays a role in causing TAR. Differential inertia between the mobile pulmonary trunk and the relatively sessile aorta during rapid deceleration causes strain on the ligamentum arteriosum. In order to test this hypothesis, 4 male and 4 female embaled human cadavers were utilized. They ranged in age from 49 to 97 yrs. The chests were dissected so the heart, aorta, pulmonary trunk, and ligamentum arteriosum were visible. For each test, the aorta was re-pressureized to approximate physiologic blood pressure (120 mmHg). Each chest was connected to an apparatus and dropped from a height of 8 ft. The sudden deceleration was captured at 1,000 frames/sec on a Photron 1024 FastUltima high-speed video system. Video analysis indicated the drop speed varied between 15 and 19 mph. In 3 cases the ligament failed without TAR. One case of TAR was produced (believed to be the first such lab-created TAR), when the ligament failed and the heart swung forward to such an extent that the aorta tore. It should be noted that this particular specimen had signs of advanced atherosclerosis. Four of the test subjects failed to show any damage. From this small study, it was concluded that the ligamentum arteriosum may not have enough strength to pull on the aorta and cause a TAR.

10:45AM
Search for a Knox gene in Bryophyllum pinnatum. Ryan Gleason. Butler University, Indianapolis, IN. Sponsor: Philip Villani

Knox genes are known to control aspects of plant development. They encode special proteins with homeodomains that are DNA binding regions and control the expression of other genes. Homologs of Knox genes have been found in nearly all Eukaryotic organisms. In plants Knox genes have been found in Bryophyllum. Knox genes are involved in meristem formation and maintenance. Bryophyllum pinnatum is unusual because they produce foliar embryos with meristems on their leaves. Since Knox genes are involved in meristem formation in other plants, I did research over the past year to determine if Knox genes are present in Bryophyllum. I grew Bryophyllum in Butler’s greenhouse to accumulate enough plant material to begin work. I then extracted the RNA from the plant and converted it into a more stable form, DNA, using a procedure called RT-PCR. I designed Knox–specific primers to PCR-amplify, putative Knox genes from Bryophyllum. Three PCR products resulted. PCR products were cloned and sent for sequencing. Two of the three products showed sequence similarity to other known Knox genes. As a result of this work, two putative Knox genes were found in B. pinnatum. This work provides for further comparison of Knox gene sequences between species.

11:00AM
Protocol Examination of Ethanol Fermentation in a Strain of Saccharomyces cerevisiae (Brewer’s yeast) Used in the Production of Bourbon. Kevin Cashman. Bellarmine University, Louisville, KY. Sponsor: Joanne Dobbins

Saccharomyces cerevisiae is a type of yeast involved in the production of ethanol in many common alcoholic beverages, including bourbon. Although the fungi may be ubiquitous across brewing facilities, the strain used is not and can produce higher yields and/or quality of ethanol through a strain’s metabolic processes of acetalddehyde. In this study, the testing of protocols that are species specific for a strain of S. cerevisiae of a popular Kentucky bourbon producer were established for non-culturable methods. It was found through partial sequence comparison that the isozymes of two genes known to play a role in the ethanol production pathway from pyruvate, are highly conserved on the nucleotide and amino acid sequence levels. The sequenced pyruvate decarboxylase (PDC-1) isozyme for the partial coding sequence contained approximately 1% variation from the published GenBank sequence. Preliminary data of another partial gene sequence, alcohol dehydrogenase (ADH-1), shows similar conservation of the published genomic sequence. This suggests that any alterations to the ethanol produced, is most likely due to some other process, perhaps enhanced transcription levels.

11:15AM
Protocol Optimization and Examination of ADH-4 gene in a strain of Saccharomyces cerevisiae from a Kentucky Bourbon Distillery. Thomas Antony. Bellarmine University, Louisville, KY. Sponsor: Joanne Dobbins

Saccharomyces cerevisiae is a type of yeast that has been widely used in almost all types of alcohol production. While many distilleries use the same strain of yeast to achieve alcohol production many times the yeast will adapt or equilibrate to their environment, and over time become proprietary strains of that distillery. This can be due to the exact practices of the distillery, since all distilleries use different methods when producing their products. In some cases the yeast gain significant genetic differences from the wild type S. cerevisiae. The purpose of this study was to optimize protocol for obtaining DNA using a whole cell PCR technique so that one could obtain DNA directly from a ferment sample. The alcohol dehydrogenase gene codes for several different isozymes involved in ethanol production. I chose to work with the ADH-4 gene which is believed to play a major role in ethanol fermentation when compared to the other isozymes that the alcohol dehydrogenase gene codes for. Preliminary research showed that the primers used in PCR and to sequence the ADH-4 gene in this study are specific. To verify this, primers for this strain when compared to Candida albicans, using PRC amplification and gel electrophoresis. A blast search will be run to compare our strains sequence to that of wild type S. cerevisiae.

11:30AM
Dietary Flavanoids and Renal Ion Transport. Laura K. Platt, Bonnie L. Blazer-Yost, Monalisa Muchatuta. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Bonnie L. Blazer-Yost

Flavonoids are a class of compounds naturally occurring in plants (e.g. parsley, cocoa, soybeans, tea), whose ingestion may be associated with lowered blood pressure by an unknown anti-hypertensive mechanism. We examined the effects of three flavonoids, apigenin, genistein and quercetin, on renal electrolyte transport. The principal cells lining the distal nephron and cortical collecting duct are responsible for regulated ion transport. The principal cells lining the distal nephron and cortical collecting duct are responsible for regulated ion transport. The mouse kidney cell line of the cortical collecting duct clone 4 (mpkCCD c14) mimics the in vivo characteristics of the principal cell type, including high transepithelial resistance and hormonally responsive vectorial ion transport. Electrophysiological techniques can be used to screen for potential effects of nutritional elements such as flavonoids on electrolyte transport. In mpkCCD c14 cells, a 30 minute treatment with genistein, apigenin, or quercetin has an inhibitory effect on transepithelial sodium transport. This ion transport is in an absorptive direction indicating that the agents may be inhibiting sodium reabsorption in vivo. Studies such as these have implications for understanding dietary influences on the parameters responsible for the maintenance of normal blood pressure, as well as providing novel targets for treatment of high blood pressure.
11:45AM
Lower Extremity Position and its Relation to Fracture/Dislocation Sites in Frontal Car Crashes. Derrick Yeagle, Selena McGee, David Porta. Bellarmine University, Louisville, KY. Sponsor: David Porta

In frontal car crashes, the knees of occupants, particularly unrestrained occupants, will slide into the dashboard with great force. This often results in hip dislocation, fractures to the femur, or fractures to the acetabulum. Some literature has tied the site of injury to the angle of the lower extremity at the time of impact. In order to investigate this, we utilized the femurs and hips from 6 embalmed geriatric cadavers that were previously studied in a physical therapy gross anatomy course. The specimens were dissected and the hip area was cleared of nearly all soft tissue. Several of the test subjects had artificial hip components. These specimens were included in the study in order to see if the presence of such devices changes the injury pattern when compared to unaltered hips. The pelvis of each specimen was attached to an 8-ft drop tower arm. A metal pot was affixed to the distal end of the femur to provide an impact surface. The femur was set at either a neutral or an abducted angle prior to dropping. The angle of abduction was determined after measuring 20 volunteers relaxing in a passenger seat. A 3-axis accelerometer (Vernier Software and Technology, Corp.) was attached to the drop arm in an effort to measure g-forces at impact. The tests were recorded by standard 30 fps video. Post-test analyses included a thorough dissection and documentation of injuries. Differences in the damage sites for each leg position will be presented.

12:00PM
Is it True that an Orb Pattern on a Windshield Means the Occupant was Unbelted During a Collision? Suraj Gathani, David Porta. Bellarmine University, Louisville, KY. Sponsor: David Porta

Safety devices, such as HPR (High Penetration Resistant) windshields, airbags and seatbelts, have been put in place to prevent injuries and fatalities in car crashes. In some states seatbelt usage is mandated by law. Failure to utilize a seatbelt, regardless of fault during a collision, can provide grounds for legal disputes. In an effort to decrease liability, a person might falsely claim to have been belted during a crash even after their head struck the windshield. Our main goal was to see if we could document evidence of windshield strike when an occupant was belted. 40 cars with signs of frontal impact were inspected at a salvage yard in Louisville, KY. On site, exterior data such as crush levels and windshield strikes (classic orb fracture pattern) were recorded. Interior inspection documented seatbelt usage, airbag deployment, and intrusion levels. Our results showed there were windshield head strikes found in 45% of the cars. Only 29% of the vehicles showed evidence of seatbelt usage- far below the already pitiful usage rates for KY (67%). 80% of the cars had airbags deploy. 88% of the vehicles had some level of hood crumpling. When the data were examined in relation to each other, some trends were noted. Airbags deployed after 17" of average crush or 25" of maximum crush. Also, there were no windshield strikes in vehicles with less than 10" of crush. Finally, there was no evidence of seatbelt usage in any of the 18 vehicles with windshield head strikes.

12:15PM
Quadriceps Ruptures: Was the Knee Flexed or Extended? Mikkenzie Lewis, David Porta. Bellarmine University, Louisville, KY. Sponsor: David Porta

The knee is the lower extremity joint connecting the femur and tibia. It permits the following movements: flexion, extension, as well as slight medial and lateral rotation. Since in humans the knee supports nearly the entire weight of the body, it is vulnerable to acute injuries such as the rare yet highly debilitating quadriceps rupture. When the rupture occurs at the patellar ligament, the patella moves towards the hip when the quadriceps muscle contracts. This rupture hinders the ability of the leg to extend and the knee will no longer be able to hold the weight of the body during movement. The mechanism of injury is attributed to a flexion moment coupled with a contraction of the quadriceps muscle in nearly all reported cases, especially during athletic activities that require twisting or explosive movements. This experiment will attempt to determine the amount of force required to rupture the quadriceps tendon in an extended knee versus a flexed knee. The tests will be performed on two matched pairs of cadaver knees in order to run a self controlled experiment. Six unpaired knees will also be tested. A force transducer (Omega DLC-5K Transducer and Instrunet Software) will be clamped in line with the quadriceps tendon and a connecting cable which will apply the desired tension. It is hypothesized that a smaller amount of force will be required to rupture a flexed knee as compared to an extended knee because the tendon and ligament of a flexed knee are already stretched before testing.

12:30PM
Chemopreventative Ability of Various Fruit Juices on Human Lung Cancer Cells. Jonathan Kapp. Bellarmine University, Louisville, KY. Sponsor: Joann Lau

Recent studies have shown that plant-derived phytochemicals may reduce the risk of certain types of cancers. The effects of eight different plant extracts on cell proliferation in a female lung cancer cell line H-1793 were investigated. Fruit juices examined were soy, orange, apple, black cherry, wild blueberry, red grape and noni juice. An extract made from smokeless tobacco dip was also studied. Light-dependent, pH-dependent, and density-dependent variables of each fruit juice were investigated. Several of the fruit juices (orange, apple, black cherry, wild blueberry, and noni) showed significant decreases in cancer cell proliferation in vitro, indicating that these fruit juices may have chemopreventative properties. Of the juices examined, apple and orange juice showed the greatest chemopreventative abilities, whereas soy milk and red grape juice showed the least chemopreventative properties. These results warrant further investigation into the mechanism of cancer cell apoptosis.

Session B
Gallahue Hall, Room 102
Moderator: Dr. Carmen Salsbury
09:30AM
Comparison of species composition in present day old growth forests and pre-settlement stands. Arumee Sen, Hassan Salem, Brent Smith, Rebecca Prosser. Earlham College, Richmond, IN. Sponsor: Brent Smith

Twenty-three stands of trees from the General Land Office survey records (1800-1819) were compared to twenty-three present day old-growth stands in the White Water River Valley of east-central Indiana. The pre-settlement stands were characterized by geographic and topographic criteria, and current stands were classified as old-growth forests based on presence of climax species, lack of recent human disturbance and the occurrence of large fallen logs. One-hundred fifty trees in present day stands were sampled by random pairs, analogous to how surveyors located and recorded bearing trees. Using basal area and tree density, importance values were calculated for species in both pre-settlement and present day stands. Data were analyzed with non-metric multidimensional scaling (NMS). Pre-settlement upland stands were dominated by Fagus grandifolia and Acer saccharum. Most present-day uplands have reduced F. grandifolia, increased A. saccharum importance, and overall higher species diversity in comparison to pre-settlement uplands. The White Water River floodplain data from both pre-settlement and present-day had high species diversity in strong contrast to uplands. The comparison of current old-growth forests to pre-settlement stands could further reveal the human impact on forests and could be useful for forest management and conservation initiatives.
09:45AM

Resistance vs. Resilience: Alternative Mechanisms to Survive Severe Cyclones in Mabi Type 5b Rainforest Tree Species of North Queensland, Australia. Lauren Gersbach. Butler University, Indianapolis, IN. Sponsor: Dr. Travis Ryan

The theoretical trade-off between safety (resistance) and growth rate (resilience) was investigated among Mabi Type 5b tree species in Tropical North Queensland, Australia following the destruction wrought by cyclone Larry. While this trade-off has been commonly suggested in the past, little empirical data has been provided to support this idea in direct relation to a specific disturbance event. This study assessed cyclone damage across six species in three Mabi Type 5b rainforest fragments on the Atherton Tablelands. Each species differed in damage patterns sustained by the cyclone, assessed across four damage categories (no damage, severe branch damage, snapped, uprooted). Wood density and growth rate, represented by three variables of biomass accumulation (average total biomass accumulated, average biomass per unit size (diameter at breast height), average rate of biomass accumulation since the cyclone) were measured to quantify both resistance and resilience traits. There was a negative correlation between the percentage of damage sustained by each species and wood density. Moreover, a negative relationship was found between wood density and each of the three biomass accumulation variables indicative of growth rate, suggesting that wood density influences the amount of biomass a tree is able to accumulate post-disturbance. Collectively, these findings support the existence of a trade-off between resistance and resilience and confirm that a species' mean wood density can predict a species' position along this response to disturbance spectrum.

10:00AM

A Preliminary Study of the Spider Diversity of Dominica. Susan Kennedy. 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 habitats. 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. Following a standard sampling protocol, we collected spiders with the following four methods: “beat” (beating the surrounding vegetation and catching the falling spiders on a 1-meter square sheet, 25 times), “look up” (one solid hour of searching for spiders above knee level), “look down” (the same, but below knee level), and “sweep” (using a sweep net 25 times to collect spiders from low vegetation), each of which took approximately equal effort and time. In the spring of 2006, we began processing these samples, organizing them into morphospecies based on their physical characteristics. We then analyzed species in three Mabi Type 5b rainforest fragments on the Atherton Tablelands. Each species differed in damage patterns sustained by the cyclone, assessed across four damage categories (no damage, severe branch damage, snapped, uprooted). Wood density and growth rate, represented by three variables of biomass accumulation (average total biomass accumulated, average biomass per unit size (diameter at breast height), average rate of biomass accumulation since the cyclone) were measured to quantify both resistance and resilience traits. There was a negative correlation between the percentage of damage sustained by each species and wood density. Moreover, a negative relationship was found between wood density and each of the three biomass accumulation variables indicative of growth rate, suggesting that wood density influences the amount of biomass a tree is able to accumulate post-disturbance. Collectively, these findings support the existence of a trade-off between resistance and resilience and confirm that a species' mean wood density can predict a species' position along this response to disturbance spectrum.

10:15AM

Demographics of Fox (Sciurus niger) and Gray (S. carolinensis) Squirrel Populations Living Within a Suburban Landscape: A Preliminary Analysis. Lynn Felts, Carmen Salsbury. Butler University, Indianapolis, IN. Sponsor: Carmen Salsbury

Long-term monitoring of natural populations is the cornerstone of demographic studies in ecology. Population parameters such as birth rates, death rates, immigration and emigration rates are often revealed through routine observation of individuals that comprise a population. We have routinely live-trapped fox and gray squirrel populations living on the suburban campus of Butler University since 2003. Through trapping, we have collected data on growth and reproductive rates, population densities, and recapture rates. Preliminary analysis of these data indicate that population densities and recapture rates are at the low end of the ranges previously reported for both species. Individuals of the smaller gray squirrel population appear to have longer residency times than fox squirrels in the same area. Further, reproductive rates do not correlate well with fluctuations in population density for either species. These preliminary results indicate that the demographics of fox and gray squirrels within suburban habitats differ and that factors other than reproductive rates, such as mortality of young and immigration rates, may more directly influence population densities. Additional years of data collection are necessary to clearly elucidate the demographic patterns of tree squirrels living within the disturbed suburban/urban landscape.

10:45AM

Genetic diversity in restoration nursery stock, planted restorations, and natural populations of Swamp milkweed (Asclepias incarnata). Melissa Tienes. Butler University, Indianapolis, IN. Sponsor: Rebecca Dolan

Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. This study was a survey of genetic diversity found in different populations of Swamp milkweed (Asclepias incarnata) around Indiana. Samples were collected from naturally occurring populations as well as nursery stock populations commonly used for restoration projects. Starch gel electrophoresis was used to look for variation among a number of different plant allozymes as a measure of genetic diversity. While little variation was found, statistical analysis tests were run to determine any genetic differences between populations. The findings of this study can be generalized to give some insight into potential problems facing future restoration projects.

11:00AM

Reproductive Biology of Enhydris enhydris, Enhydris subtaeniata, and Enhydris plumbea (Serpentes: Homalopsidae) in Thailand. Erica Kremer. Hanover College, Hanover, IN. Sponsor: Daryl Kams

The Homalopsidae are a family of aquatic snakes distributed from India, across Southern China and Southeast Asia, to northern Australia. Homalopsids are found in Thailand and, in northeastern Thailand, the Khorat Basin has been shown to influence species distribution patterns of these snakes. The mountainous rim of the basin causes a weakening effect of the monsoon rains. Because of the rim, the Khorat Basin region is the hottest, driest, and most seasonal region of Thailand. The climate and greater seasonality of the Khorat Basin may influence the reproductive cycles of homalopsid populations in and outside of the basin. I dissected and examined the reproductive organs of 140 female homalopsid snakes (30 Enhydris subtaeniata, 28 Enhydris plumbea, and 82 Enhydris enhydris). Snakes were collected from locations inside, outside, and on the rim of the Khorat Basin over two field seasons (2003-2004). Preliminary analysis indicates a significant difference in the snout-vent length and mass among the populations studied. I will report on differences in number and size of ovarian follicles, number and size of oviducal eggs, clutch mass, relative clutch mass, and differences in the mass of fat bodies. I will also discuss the possible ecological and evolutionary significance of the Khorat Basin in determining the observed patterns.

11:15AM


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 habitats. 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. Following a standard sampling protocol, we collected spiders with the following four methods: “beat” (beating the surrounding vegetation and catching the falling spiders on a 1-meter square sheet, 25 times), “look up” (one solid hour of searching for spiders above knee level), “look down” (the same, but below knee level), and “sweep” (using a sweep net 25 times to collect spiders from low vegetation), each of which took approximately equal effort and time. In the spring of 2006, we began processing these samples, organizing them into morphospecies based on their physical characteristics. We then analyzed species in three Mabi Type 5b rainforest fragments on the Atherton Tablelands. Each species differed in damage patterns sustained by the cyclone, assessed across four damage categories (no damage, severe branch damage, snapped, uprooted). Wood density and growth rate, represented by three variables of biomass accumulation (average total biomass accumulated, average biomass per unit size (diameter at breast height), average rate of biomass accumulation since the cyclone) were measured to quantify both resistance and resilience traits. There was a negative correlation between the percentage of damage sustained by each species and wood density. Moreover, a negative relationship was found between wood density and each of the three biomass accumulation variables indicative of growth rate, suggesting that wood density influences the amount of biomass a tree is able to accumulate post-disturbance. Collectively, these findings support the existence of a trade-off between resistance and resilience and confirm that a species' mean wood density can predict a species' position along this response to disturbance spectrum.
samples into families and morphospecies, and then analyzed the data for patterns of diversity. Altogether we found at least 152 morphospecies belonging to 20 different families. Of these, a remarkably high percentage of rare species (having only one individual in one or more habitats) were present. In dry forest, this proportion was 36%; in two rainforest sites, 27% and 18%, respectively; and in montane forest, 39%. Additionally, we analyzed complementarity across four different rainforest sites. Percent complementarity ranged between 55% and 85%, indicating a distinctive species assemblage at each site.

**11:30AM**
Comparison of Three Burrowing Crayfish Capture Methods and the Influence of Species, Morphology, Seasonal Activity, and Habitat Quality. Justin Ridge. Hanover College, Hanover, IN. Sponsor: Daryl Karns

I compared three methods of capturing terrestrial burrowing crayfish. The methods included burrow excavation, the Norroky burrowing crayfish trap, and the burrowing crayfish net. I sampled thirty stream banks within and around Big Oaks National Wildlife Refuge, in southeastern Indiana, from mid-August to mid-October. At each site, each method was equally replicated, ranging from five to ten replicates depending on burrow availability. I determined a measurement of trap efficacy by excavating the burrows after trap collection. I used species, habitat quality, and morphometrics to assess alternative factors that may influence capture success and crayfish distribution. Burrow excavation caught significantly more crayfish than the other two methods; the Norroky burrowing crayfish trap was not significantly different from the burrowing crayfish net in trap efficacy. I found positive correlations between habitat quality and Norroky burrowing crayfish trap and burrowing crayfish net success. The two species, Cambarus (Tubercambarus) polychromatus and Cambarus (Lacunicambarus) species ‘A’, were significantly different in size, and I found there was a positive correlation between C. polychromatus size and habitat quality.

**Session C**
Gallahue Hall, Room 105
Moderator: Dr. Travis Ryan

**09:30AM**
The Effects of Sizes of Initial Populations on Gene Frequencies in Population Cages of Drosophila melanogaster. Leigha Ridenour, Andrew Torrella. Marian College, Indianapolis, IN. Sponsor:

Population cages were initiated by either twenty or forty pairs of Bar and wild type flies. After the populations were established, weekly samples of the flies were trapped, counted, and classified by sex and eye type. Gene frequencies were calculated and the cages compared for closeness to equilibrium.

**09:45AM**
Analysis of skeletal muscle size and force generation via grip strength in the dominant forearm of male and female college students. James Souder. Hanover College, Hanover, IN. Sponsor: Michael Worrell

This study analyzed muscle strength in relation to maximal forearm circumference, forearm length (measured as the distance from the olecranon to the ulnar styloid process), and percent body fat. The data was collected from the dominant forearm in 17 females and 22 males, all healthy, uninjured college students between 18 and 22 years old. Muscle strength of the digit flexors was recorded as the mean of three trials using a Jamar® grip dynamometer, and body fat was measured using an Omron® body fat analyzer. The most efficient predictive combined factors were percent body fat and the logarithm of maximal forearm circumference. This held true for females alone as a subject group (R = 0.810, p < 0.001) and males alone (R = 0.671, p < 0.005). Forearm length, height, weight, and body mass index were not found to significantly increase the R value. There is a significant correlation of dominant hand grip strength to percent body fat and the logarithm of maximal forearm circumference when taken together. The predictive ability, that is, the R 2 value, of these models exceeded those found by numerous more technologically and logistically complex studies.

**10:00AM**
The Dampening Effects of Punching Gloves. Jeff Lindo, David Porta. Bellarmine University, Louisville, KY. Sponsor: David Porta

The dampening effects of punching gloves were quantified in this study. A uniquely designed swing arm mechanism with bare metal fist was used to examine the various forces of different punching gloves as they struck 10” long wooden furring strips (1.5”x0.75”). The various fracture patterns were noted. The forces were measured by an in-line DLC-5k force transducer-part of the iNet data acquisition system manufactured by Omega Engineering, Inc. The software, Omega Instrunet World, provided graphs of force (kN) over time. The peak punching force was examined for the bare metal fist, then the fist covered by a prosthetic plastic hand, a UFC style fighting glove, or a 14 oz. Everlast boxing glove. There was no significant difference (p=0.71) between the peak forces of the bare metal fist (1.49 kN, s.d. 0.32, n=20) and the fist with prosthetic hand (1.44 kN, s.d. 0.12, n=15). The results were so close that they were combined as one control group and then compared against the two gloves. The UFC glove peak forces (1.06 kN, s.d. 0.20, n=15) were significantly dampened (p=0.0003) compared to the controls. However, the Everlast punching glove had the highest of all punching forces (1.65 kN, s.d. 0.37, n=15). This contradicted our initial hypothesis. It is believed that the species higher force values are related to the higher mass of the glove combined with the fact that it was more prone to sliding over the top of the furring strips. The rest of the data supported the hypothesis.

**10:15AM**

The purpose of this study was to examine the influence of explosive contractions on energy expenditure in trained versus untrained men before, during, and after resistance exercise. Eight men (19.9±1.2yrs) performed two different protocols including squat, dumbbell-row, deadlift, bench-press, lat-pulldown, military-press, and biceps curls/dips. Subjects used either explosive (EXPL) or 2sec (SLOW) concentric muscle contractions that were performed in a randomized, counterbalanced order. Subjects performed 3 sets for all exercises and 4sets/set for squat, bench-press, lat-pulldown, and military-press; 4 reps for dumbbell-row and biceps curls; 4reps for deadlift; and 2-5reps for dips. Loads, eccentric rep speed (2s), range-of-motion, and rest-intervals (60-90sec) were identical between protocols. Subjects consumed identical meals for breakfast and lunch on the day of each protocol.Expired air was collected continuously for 15min before, during, and 2hrs following each protocol. Rates of energy expenditure were significantly greater (p<0.05) during all exercises and 5, 10, and 15min after EXPL compared with SLOW in trained men only. The increases in energy expenditure with explosive contractions were 11.5±4.2% during and 7.1±6.9% after exercise. For untrained men, rates of energy expenditure were significantly greater (p<0.05) during only EXPL squats, military-press, and biceps curls/dips. In summary, resistance exercise performed with explosive concentric contractions induced greater rates of energy expenditure during and after exercise compared with slow. Consequently, the effect of explosive contractions to increase energy expenditure was more pronounced in men who had greater than 2yrs of resistance training experience. Supported by Indiana Academy of Science and Dept. of Kinesiology, Anderson University
A review of recent literature concerning immune characteristics of individuals exposed to, but uninfected by, HIV. Kristin Hollister. Hanover College, Hanover, IN. Sponsor: Daryl Kams

During the early 1990s, doctors and scientists began to realize that there was a small population of individuals who, despite being frequently and sometimes excessively exposed to HIV, remained uninfected by the virus. One of the first discoveries made when analyzing the immune characteristics of these individuals was a thirty-two base pair deletion in the human genome that affected necessary coreceptor expression. Since that time, research into the immune characteristics of these individuals has increased significantly. Scientists are hoping that one day, they will uncover a mechanism of resistance that can be applied toward the development of a vaccine. Unfortunately, the immune defense mechanisms found in exposed, uninfected individuals are highly varied, with different individuals invoking unique combinations of different immune responses. I will review some of the most promising findings in recent literature concerning immune characteristics of individuals exposed to, but uninfected by, HIV.

Microsatellite Markers Reveal Multiple Paternity in Two Species of Homalopsid Snake (Enhydris enhydris and Enhydris subtaeniata). Megan Rinehart, Bobak Kechnavarzi. Hanover College, Hanover, IN. Sponsor: Daryl Kams

Molecular genetic studies are demonstrating that multiple paternity is a widespread feature of natural populations in diverse animal taxa. These studies are revealing the need to differentiate between genetic and behavioral descriptions of mating systems and reproductive success. Molecular studies are documenting that polyandry (multiple matings by males) and polygynandry (both sexes engage in multiple matings) are common genetic systems in squamates (lizards and snakes), even in taxa that overtly appear to be socially polygynous or monogamous. We used microsatellite DNA analysis to detect multiple paternity in two species of homalopsid snakes (Asian water snakes), Enhydris enhydris and Enhydris subtaeniata. Data were collected from nine loci for E. subtaeniata, and four for E. enhydris. All litters showed multiple paternity (four litters were studied for E. subtaeniata and one for E. enhydris) and four to five fathers were typically detected. We discuss the significance of the results in the context of mating systems, sexual selection, squamate phylogeny, and multiple paternity in reptiles. This is the first report of multiple paternity in a tropical water snake.

Comparison of the Efficacy of Vinca minor Eradication Techniques and Determining the Their Effects on Native Vegetation in Southern Indiana. Cynthia Koester. Hanover College, Hanover, IN. Sponsor: Darrin Rubino

Periwinkle (Vinca minor) is an invasive plant species that covers forest floors and suppresses native vegetation. The first objective of this long-term study is to determine which removal technique is the most effective for eradicating periwinkle. After one growing season, mean (±SE) periwinkle cover varied significantly (ANOVA; P<0.05) among techniques: 56.3±4% for weed whacking, 35.2±9% raking, 5.3±2% pulling, 2.6±0.4% tarp, 0.9±0.2% herbicide, and 0.8±0.3% herbicide + raking. Secondly, re-colonization after treatment was assessed. Species richness (species/m2) varied significantly (ANOVA; P<0.05) among the various techniques. After one growing season, mean richness was 13.0±1.2, 10.1±0.9, 9.4±1.0, 6.9±0.5, 5.1±0.4, 3.6±0.4, and 1.3±0.1, for pulling, non-periwinkle invaded, raking, herbicide + raking, herbicide, control, and tarp, respectively. Thirdly, we wanted to determine the types of plants re-colonizing after treatment; the percent native species and the percent woody plants were analyzed. Fourthly, we wanted to determine which removal techniques are practical by quantifying the amount of time needed to perform each eradication method. The time taken to apply each treatment varied significantly (ANOVA; P<0.05). Considering the time taken to perform each technique, the reduction in periwinkle cover, and non-periwinkle species re-colonization, herbicide application appears to be the most effective technique after one growing season. Future tracking of periwinkle and non-periwinkle species re-colonization will help elucidate the best long-term eradication method.

What is the Best Feeding Environment for Flesh Eating Beetles? Noelle Lewis, Gabriel Tanner, David Porta. Bellarmine University, Louisville, KY. Sponsor: David Porta

For many institutions, a highly affective way of cleaning anatomical specimens is with the help of Dermestid maculate-carnivorous beetles. A colony was set up in order to determine the most effective environment in which the beetles eat. Dermestid beetles are aerobic creatures. Since CO2 is the waste product of respiration, it is assumed that the CO2 generated by the colony will be directly proportional to the rate at which the beetles eat. 1,000 beetles (Dermestid Inc.) were housed in an aquarium. A pump circulated air to a series of probes and back to the aquarium. In order to study the signs of changing metabolism, a Vernier Logger Pro data collection system was set up to measure CO2, O2, relative humidity, soil moisture, the temperature in the nesting material and of the air above. By measuring the CO2 levels, we can test different environments and determine which improve or hinder the rate of feeding. Our assumption is that the CO2 levels will rise when the beetles are most actively eating. It is the goal of this experiment to find the environment best suited for the optimal feeding performance of the beetle colony. Groups of 50 adults and 50 larvae were separated from the colony in order to determine which stage was the more voracious eater. The environmental studies were repeated with the separated groups.
12:00PM
Distinguishing Between Windshield Fractures Caused by Fire or Head Strike. Edward Szymanski, David Porta. Bellarmine University, Louisville, KY. Sponsor: David Porta

Although rare, some cars will catch on fire after an accident. Unfortunately, such accidents are usually fatal due to the nature of the collision. In some cases, the fatality has been attributed to the victim’s head striking the windshield, although the only evidence cited is cracked glass. It has been questioned, however, that high levels of heat from a fire could also cause the glass to fracture. Therefore, we have designed an experiment to determine if fire is capable of producing fracture patterns in windshield glass similar to fractures caused by a human head striking a windshield in a frontal collision. In order to simulate a human head striking a windshield, an 8 pound bowling ball was attached to steel cable with a wireless force gauge (Wireless Dynamic Sensor System, Vernier Technologies). The ball was released and allowed to strike the windshield from increasing heights until a glass fracture was obtained. Fire damage was simulated by placing windshields on cinderblocks above a propane-fueled heat source. Heat was constantly applied until fractures emerged in the glass. Temperatures were monitored for various periods using a thermocouple rated to 1400° C (Vernier Technologies). In the final experiment, the windshields used to simulate head strikes were subjected to the flame test as well in order to determine if a fire can mask the fracture patterns of a head strike. Photos of each windshield test will be taken and used to analyze the fracture patterns for similarities. Results will be discussed.

12:15PM
Do BMC and Edentulism Influence Mandibular Fracture? Charles Shepherd, David Porta, Stephen Fowler. Bellarmine University, Louisville, KY. Sponsor: David Porta

Bone is a very dynamic tissue and is continually being altered in the body. The mandible is a region of the body where the changes in bone structure can be easily seen especially in people with tooth loss or edentulism. Seven embalmed human cadaver mandibles (3 female ages 60-91 and 4 male ages 68-90) were impacted in a separate study. This study investigated the possible influence of bone mineral content (BMC) and edentulism on mandibular fracture patterns. The mandibles were dissected, cleaned, and examined to determine the extent of edentulism as well as the number and location of any fractures. In ashing, bones are cleaned, dried, weighed, and burned at temperatures at or above 900 °C for 12 hours to incinerate all organic material. The result is pure white mineral. BMC is the mass of the ashed bone over the initial mass (%). BMC was determined for the central body of the mandible as well as the left and right condyles, rami, and bodies. The condyles appear to have the lowest BMC. The average mandibular BMC (for all regions) ranged from 56-66% for females and 62-79% for males. In this small study, no statistical correlation could be found among BMC, age, sex, fracture site and edentulism. It does however appear that mandibles struck on the chin with forces at or exceeding 2.0 kN will tend to fracture at the condylar neck as well as at the site of impact. Fracture lines at the site of impact tend to be radiating.
Session B International
Holcomb Building, Room 239
Moderator: Dr. Terry Friel

10:00AM

Land is the most important form of property in rural Nepal. However, throughout Nepal’s history, property ownership has been very insecure. This paper investigates how individuals behave when they are denied secure property rights. The paper combines an examination of property rights literature with an overview of the land use history in Nepal’s agricultural sector. Subsequent analysis indicates that individuals use the land resources available to them in an unproductive and unsustainable fashion when they are denied secure land rights. This analysis shows secure property rights are a necessary condition for the success of poverty relief programs in Nepal.

10:15AM

Abstract: This paper creates a theoretical model to bridge the divide between the empirical literature on aid effort, which is the total volume of foreign aid given, and aid distribution, which is the process of dividing that budget among the potential recipients. Previous studies have found that aid effort only responds to the geopolitical interests of the donor while aid distribution responds to both geopolitical and development interests. To explain the inefficiency of aid effort relative to aid distribution, I argue that aid effort is determined by the legislature while aid distribution is delegated to the bureaucracy. In a multi-dimensional policy environment with positive costs to legislative effort, legislators maximize their utility by focusing on a few “big ticket” issues, which do not include foreign aid. As such, aid volumes are set inefficiently with regard to development variables. However, bureaucrats live in an essentially one-dimensional policy environment. The incentives that result from this setting encourage bureaucrats to set aid distribution much more efficiently.

10:30AM
The Aging Workforce of the EU: Problems and Solutions to Preempt a Fiscal and Economic Crisis. Elise Connor. Butler University, Indianapolis, IN. Sponsor: Terri Friel

This paper addresses the threat the aging baby boomer population poses to the future of the workforce in the European Union. It presents the imminent problems the EU faces in terms of its workforce as well as the causes of these problems. To illustrate the problems the case of Germany will be used as a specific example of the fiscal, economic, and social issues EU countries face as a result of a demographic shift. Next, the paper will examine what is already being done to preempt the problems by the governmental bodies of the EU. Finally, the paper will present possible solutions to the problems caused by an aging workforce. The solutions will be discussed in depth on the basis of their long-term success and execution. The aging European workforce is a demographic reality that without attention presents a looming nightmare to policy makers who must act quickly and boldly to continue EU countries’ high standard of living and high productivity.

Session C MIS/Marketing
Holcomb Building, Room 239
Moderator: Dr. Patrick Rondeau

11:00AM

This is a study of the factors that predict domestic violence convictions between the months of July and September 2003 in Marion County, Indiana. A sample of one hundred offenders during this time frame is randomly gathered and evaluated. Fifty of those offenders are domestic violence offenders and fifty are randomly selected from individuals who have not committed any crime related to domestic violence. With this data set, a model is constructed to estimate the impact of changes in demographic characteristics, and other variables, on the likelihood of a domestic violence conviction. Because the model incorporates a dummy dependent variable, the empirical model is estimated with a binomial logit technique.

11:15AM
Central Indiana residents' perceptions of the tangible and intangible benefits generated by Lucas Oil Stadium. Paul Mongillo. Butler University, Indianapolis, IN. Sponsor: Bob Mackoy

Since the early 1990’s cities across the country have torn down their multipurpose stadiums and replaced them with new single sport facilities. With the influx of new stadiums, some have questioned whether cities are actually better off after building these sports arenas. Indianapolis is facing this issue through the construction of Lucas Oil Stadium. Many local residents and officials expressed reservations about the use of public funds to finance such an expansive project. This study measured Central Indiana residents’ perceptions of two separate types of potential benefits: tangible and intangible. These perceptions were derived from a survey given to a group of Butler University Alumni. Statistical tests were used to determine 1) whether perceptions changed over time, and 2) if the participants felt the benefits generated by the stadium justified the public subsidies. In addition, the study examined the effect of county of residence on perceptions of the stadium. Overall, the study found that perceptions changed in specific intangible and tangible categories. Individuals living in Marion county were less supportive of the overall project. Central Indiana Residents were split on whether the benefits justified the cost of Lucas Oil Stadium.

11:30AM
The Impact of Butler Bowl Renovations on Student Satisfaction and Attendance of Butler University Football Games. Bryce Tiernan, Leanne Wiley, Anna Butterbaugh. Butler University, Indianapolis, IN. Sponsor: Patrick Rondeau

Many colleges and universities invest in campus renovations without conducting subsequent reviews of the impact of these investments. Such reviews may be financial in nature (e.g., result in increased revenues) or non-financial in nature (e.g., result in improved student/alumni perceptions of the university). This study explores the impact of recent Butler University football stadium (i.e., Butler Bowl) renovations on student satisfaction and attendance of Butler Bowl football games. For this purpose, a survey was developed to measure student satisfaction and attendance. Two approaches were used to evaluate the resulting data. First, before and after renovation comparisons were conducted using paired sample t-tests to assess general changes in student satisfaction and attendance related to the Butler Bowl football games. Second, ANOVA was used to assess the relationship between student gender and Dawg Pound membership to students’ satisfaction regarding the new Butler Bowl renovations. The Dawg Pound is a student fan organization at Butler
University. This study is important because it should demonstrate whether or not the renovations increased Butler Bowl student satisfaction and attendance of football games. Our before and after renovation paired sample t-test results were very highly significant, demonstrating improvements in both student satisfaction and attendance of games. Our ANOVA results provided mixed findings with gender and Dawg Pound membership demonstrating limited relationships to student satisfaction and attendance of games.

**Session D Economics**
**Holcomb Building, Room 239**
**Moderator: Dr. Deborah Skinner**

**12:00PM**

Over the past approximately 30 years, microfinance has become a growing strategy for pursuing both domestic and international economic development. Broadly defined, microfinance provides small loans to poor individuals who do not qualify for commercial loans; the loans are used to start small businesses with the intention of providing the borrowing individual (or group) with a sustainable form of income that will lift him or her (or them) from poverty. The lender usually forms a partnership with the borrower(s) in which business-development consulting, in addition to the funds, is provided. This idea of providing micro-credit originated in Bangladesh in which Muhammad Yunus, winner of the 2006 Nobel Peace Prize, founded the Grameen Bank; the mission of the Grameen Bank is to provide credit to the poorest individuals in rural Bangladesh.

The model developed by Yunus has been applied and practiced in hundreds of countries around the world. In the fall of 2006, I led a team of students in starting a micro-loan facility in an impoverished town in Northern Mexico. The present paper draws from this experience and develops an economic model defining the determinants of supply and demand for micro-funds in a developing country. It begins with an overview of the Grameen Bank and microfinance in general; it then presents the challenges and economic limitations of microfinance. It explains the economic model developed and concludes with an analysis of microfinance’s affect on economic growth in a developing region.

**12:15PM**
Predicting inflation through oil price changes: Evidence from Russia and the U.S. David Fish. Indiana University/Purdue University at Fort Wayne, Fort Wayne, IN. Sponsor: Nodir Adilov

The purpose of this paper is to examine the effect of oil prices on inflation. To accomplish this goal I will compare data from an oil exporting country to that data from an oil importing country. Specifically I will examine world oil prices and individual inflation data for Russia, a net exporter of oil, and the U.S., a net importer of oil. I will also further this analysis using a macroeconomic lens; specifically through computing exchange rates between Russia and the U.S. using the world oil prices and individual inflation rates covering the years starting just after the fall of the old Soviet Union up until the most recent available data. Using these macroeconomic tools I will be able to examine real and nominal changes in the data for both markets providing some insight as to what correlation there is between world oil prices, exchange rates, and inflation for both Russia and the U.S. I hypothesize that increases in the net export of oil from Russia into the world market will increase the world exchange rate and increase levels of inflation in both Russia and the U.S.

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**Chemistry**
**Session A**
**Gallahue Hall, Room 108**
**Moderator: Dr. LuAnne McNulty**

**09:00AM**
Nontraditional Synthesis of Organometallic Compounds. Andrew Hesse. Butler University, Indianapolis, IN. Sponsor: Anne Wilson

Organometallics synthesis traditionally requires high temperatures and long reaction times. The goal for this project to to find alternative ways to synthesize these compounds in shorter periods of time and using mild conditions by using microwave radiation and other nontraditional methods. Results will be discussed.

**09:15AM**
Progress Towards Hydrophobic Polymers for Electronic Adhesive Applications. Aubrey Smith. Butler University, Indianapolis, IN. Sponsor: John Esteb

The goal of the project was to synthesize a bisepoxide with a highly fluorinated substituent which would subsequently be used in a copolymerization with a commercially available epoxy resin. Initially, the starting diol (a,a,a’-tetramethyl-1,4-benzene dimethanol) had to be protected prior to doing a Friedel-Crafts acylation to add the perfluoroacyl moiety to the benzene ring. Several protecting group reactions were attempted successfully using tert-butylimethyisilyl (TBDMSCI) and trimethylsilyl chloride (TMSCl); however, the subsequent Friedel-Crafts acylation reactions using perfluorooctanoyl chloride did not yield satisfactory results. A new starting diol (4,4-dihydroxybiphenyl) was employed in place of tetramethyl-1,4-benzene dimethanol. Although the TMS protection did not work as well as with the original diol, protection by converting the 1,4-benzene dimethanol to an ester derivative by refluxing in acetic anhydride was successful, as shown by NMR. Unfortunately, further acylation using the perfluorooctanoyl chloride was again unsuccessful with this system. A switch to resorcinol as the starting diol was made because there were known methods of acylation without the need for protecting groups. Microwave irradiation of resorcinol, perfluorooctanoyl chloride, and zinc powder was eventually found to form some of the necessary acylated product in varying yields. Optimization of the reaction conditions by varying time, power, and temperature was performed. Future work will involve the subsequent reaction with epichlorohydrin to make the compound into the bisepoxide for copolymerization studies.

**09:30AM**

Iodinated aromatics are attractive substrates for industrially important cross-coupling reactions such as the Suzuki-Miyaura coupling reaction. Our lab focuses on designing environmentally friendly methodologies for cross-coupling reactions in addition to establishing pedagogical relevance for green chemistry in the undergraduate curriculum. Electrophilic iodine species can be generated in situ from sodium iodide and an appropriate oxidizing agent. 5-iodovanillin can be produced in good yield with sodium hypochlorite as an oxidant. However, the use of halogenated materials as oxidizing agents is undesirable for green chemistry. In our lab, we have designed a new method for the electrophilic iodination of aromatic amines and phenols using hydrogen peroxide and the substrate as oxidizing agents.

I hypothesize that increases in the net export of oil from Russia into the world market will increase the world exchange rate and increase levels of inflation in both Russia and the U.S.
Green chemistry is a useful tool to increase awareness and teach sophisticated problem solving skills in a chemistry context, and provides unique opportunities for innovation in the organic chemistry curriculum. However, there is an ongoing need for educational laboratory materials that teach the tools and strategies of green chemistry in parallel with other fundamental chemical concepts and techniques. To meet this need, Marian College is developing green experiments for the organic chemistry laboratory curriculum. This presentation will highlight research leading to the implementation of two experiments, a green chlorination of vanillin and a greener synthesis of creatine. These labs emphasize lower waste production and the use of alternative, more environmentally benign reagents which can be safely utilized by sophomore organic chemistry students on open benches.

**10:00AM**

Colloidal Palladium as a Catalyst for Environmentally Benign Coupling of Aryl Halides and Phenylboronic Acids. Amanda Ison, Rebecca DeVasher. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Rebecca DeVasher

Suzuki coupling reactions are used in organic chemistry, but are most noted for their role in pharmaceutical production of nonsteroidal anti-inflammatory drugs (NSAIDs). However, the production of NSAIDs results in harmful byproducts. A methodology for Suzuki coupling has been developed; it converts 4-iodoanisole to 4-methoxybiphenyl with no side products and occurs at a 0.75mol% palladium catalyst loading in air. The aryl halide was varied to determine the halide that would provide the best yields. Using 4-bromoanisole to couple with phenylboronic acid resulted in unwanted production of phenylboronic acid derivatives. Sodium formate was used to aid the product formation. Sodium formate is thought to reduce palladium from the +2 oxidation state to the elemental form of palladium (Pd 0). Cyclic voltammetry (CV) data supported the original hypothesis that the palladium reduction occurs in situ as a result of the sodium formate addition. Amberlyst® A-26 (OH) Ion Exchange Resin (Amberlyst) was employed to increase the pH of the reaction (pH10) and stabilize the colloidal Pd 0 catalyst. Polyethylene glycol Typical M n 4600 (PEG) was used in the reactions to provide additional stabilization of the Pd 0. Catalyst loading was also tested in a range from 0.10-2.00 mole percent to determine optimal conditions. Temperature and solvent conditions were varied; using a 1:1 ration of ethyl acetate to water produced no more product than deionized water alone. Reactions run at conditions were varied; using a 1:1 ratio of ethyl acetate to water percent to determine optimal conditions. Temperature and solvent conditions were varied; using a 1:1 ratio of ethyl acetate to water produced no more product than deionized water alone. Reactions run at room temperature (25°C) required longer reaction times than those run at 40°C and 80°C. The reaction reached completion in 4 hours at 80°C in atmospheric conditions.

**10:15AM**


The titanium-carbon bond has been utilized in the formation of a wide range of synthetic products. Hydroxycyclopentenones are examples of such products and can be synthesized through a titanacyclobutene intermediate via a one-pot procedure. The process involves the incorporation of carbon monoxide into the titanacyclobutene ring with a concomitant addition of an alkyl halide in the presence of samarium diiodide. The synthetic utility of this reaction was explored by varying the alkyl halide. The results of such explorations show a variable tolerance for particular alkyl groups. The details of our studies will be discussed.
were used to study the surface adsorption and folding/unfolding characteristics of cytochrome c electrostatically adsorbed to silica nanoparticle surfaces. With the Soret band absorption of the heme as an optical probe, conformational changes of the surface-bound protein molecules were studied by varying both pH and alcohol content. Studies were done when the cytochrome c was adsorbed onto silica nanoparticle surface before denaturant was added, as well as when denaturant was added to the protein before being adsorbed to nanoparticles. Spectroscopic results from the studies were compared in order to better understand interactions between cytochrome c and silica nanoparticles.

Communication: Speech & Journalism

Session A Communication I: Journalism
Fairbanks Center, Room 146
Moderator: Dr. William Neher

09:00AM
When Advertising Crosses the Line: Examining Stereotypes in Advertisements. Tyonka Perkins. Butler University, Indianapolis, IN. Sponsor: Rose Campbell

The phrase “celebration of diversity” is more than a slogan; it describes the supposed efforts of a whole nation to celebrate its multicultural identity. Contemporary initiatives are designed to create cross-cultural understanding and acceptance. Despite these initiatives, however, racism still persists in our society. Americans see countless examples almost every time they glimpse an advertisement with African American models. Such advertisements are not only offensive to the stereotyped audiences, but they can have a negative impact on people’s perceptions. Several theoretical models reveal that heavy media consumers tend to adopt the world view presented by the media. Due to this potential for audience effects, it is imperative to study media portrayals of race and make advertisers accountable for creating or reinforcing stereotypes. This study employs a content analysis of two popular women’s magazines, Ebony and Cosmopolitan, to determine the prevalence and nature of racial stereotypes portrayed in print advertisements. Some of the key findings are in regard to sexuality and social roles portrayed by African American models. Only 25% of Caucasian women, yet 42% of African American women, are depicted in provocative clothing in Cosmopolitan, thus reinforcing the hyper-sexualized image of African American women. Over 95% of African Americans in Ebony exhibit significant social roles within advertisements, yet fewer than 90% of African Americans in Cosmopolitan are portrayed as significant. Further results support the notion that racial stereotyping is still prevalent in mainstream media, both in overt and subtle forms.

09:15AM
Hazelwood to Hosty: Censorship and Student Journalists’ Rights. Marcy Wilhelm. Butler University, Indianapolis, IN. Sponsor: Nancy Whitmore

In the late 1980s, the Supreme Court handed down a verdict that would forever change the status of student journalists compared to professional journalists in the working world. The Hazelwood v. Kuhlmeier decision established a precedent of stripping high school student journalists of some of the rights offered to professional journalists. However, buried in a footnote, the Court made it clear that it would not at that time establish whether or not the same rights were stripped of the high school students’ collegiate counterparts. In the quarter of a century that has followed since, this vague statement to avoid establishing legal rights for college journalists has left those students in a precarious legal situation. This paper will look at the rights that the Hazelwood decision did grant to student journalists on the high school level and the standards used to determine when they can be censored, and will then consider the standards applied to college journalists, both preceding and following the Hazelwood decision. It will look specifically at the standards in two recent cases – Gibson v. Kincaid and Hosty v. Carter – dealing with journalists’ rights at the collegiate level in which neighboring circuit courts came to two different conclusions. Finally, it will look at whether college students’ rights have been threatened by the vague footnote in Hazelwood and what rights student journalists should be granted.

09:30AM
A Fresh Look at Face-ism - Biases in News Photographs. Hannah Werntz. Butler University, Indianapolis, IN. Sponsor: Rose Campbell

Biases in the media should be of concern to both journalists and the general public. Current media theories state that the news media have an impact on audience’s beliefs about various aspects of society. Face-ism, one form of bias, stems from a theory developed by Archer, Iritani, Kimes and Barrios (1983), who state that women are repeatedly shown with less facial prominence than men in print media photographs. In experimental studies, face-ism biases have been shown to affect media consumers’ perceptions of photo subjects; those shown with lower facial prominence were perceived as less competent, likable and attractive than their higher facial prominence counterparts. The present study is a content analysis to determine if this face-ism bias is still present today. A random sample of photographs from The New York Times, Ft. Wayne Sentinel, and TIME for Kids (2005) was content analyzed; key findings include no significant difference in facial prominence indices from the entire sample, but the sample from Ft. Wayne Sentinel did show significant differences in the amount of facial prominence for both gender and race. Implications of this study are that this type of biases are on the decline in national news sources, those in smaller markets continue to exhibit racial and gender biases in their photo-editing process.

09:45AM

The purpose of the proposed thesis is to apply the Contour Drawing Rating Scale developed by Thompson and Gray (1995) to determine overall body size of the models that appear on the cover of Seventeen and Teen magazines from 2001-2005. This will determine the most recent body image presented to adolescents as ideal. There have been many studies linking female body image and fashion magazines; however, there is considerably less attention given to magazines that are geared toward girls before they reach the prescribed readership age of deeply studied titles such as Cosmopolitan and Vogue. My study attempts to intertwine this media-projected body image with the wide-spread eating disorder epidemic that plagues out nation’s young women, since this onset of such diseases are yet unexplained. The study is a comparative content analysis of 200 magazine covers, and addresses model’s body size, sex of models, model quantity, percentage of body presented and whether it is done so in an objectified manner. Conclusions drawn from this study draw upon past research, and also add to it. Social trends among teens with relation to the media is a topic that is often discussed in society, but rarely researched formally. I conduct this study with the view point of someone who still struggles with the effects of an eating disorder and hopes to contribute to finding the cause.
Olga N. Sichyova “recalls a popular metaphor in linguistics that language is a living organism which is born, grows and dies. ‘However language is a human faculty; it co-evolves with us, Homo sapiens; and it is we who give language its life, change it and if so desired, abandon it’” (488). The notion that languages are rigid is a fallacy; people throughout time have stretched linguistic barriers forming new languages or codes. Through viewing language as fluid and evolving, it becomes more manipulatable, gaining the ability not only to cross cultural boundaries, but linguistic boundaries as well. When engaging in discourse either through speech or writing, one has the option of intermingling “two or more languages, dialects, or language registers” (“Code-switching”). The “command of only a single variety of language, whether it is a dialect, style, or register” is “an extremely rare occurrence”. Most speakers command several varieties of any language they speak” which “is the norm of many people throughout the world” (Sichyova 488). This blending of various codes through discourse, according to Arja Nurmi and Päivi Pahta has “received increasing interest” (Sichyova 488). This blending of various codes through discourse, according to Arja Nurmi and Päivi Pahta has “received increasing interest among linguists during the past 30 years or so” (418). It provides one with countless modes of expression to achieve complete thoughts, not necessarily expressible through one code. This is the phenomenon known as code-switching (CS). This paper examines various definitions of CS, structural and functional analysis, along with the implications CS has on writing, and ultimately in Butler University’s Writers’ Studio.

Session A
Jordan Hall, Room 203
Moderator: Dr. Robert Holm

10:15AM
White River Water Quality Testing at the Imel Road site in Anderson, Indiana. Janelle Good. Anderson University, Anderson, IN. Sponsor: Dr. Dan Ippolito

The combined sewer overflow system in Anderson, IN operates effectively in dry weather to carry wastewater from the city to the wastewater treatment plant. However, during periods of rainfall or snowmelt, excess wastewater may overwhelm the system and is discharged into the White River. The purpose of this study was to determine the water quality of the White River at the Imel Road site in downtown Anderson, which is located downstream of a combined sewer overflow discharge site. Samples were taken on three occasions in the fall of 2006 and included a variety of chemical tests as well as macro-invertebrate collections for biological monitoring. Water quality index ratings were calculated from the test results using methods developed by Hoosier Riverwatch. Chemical monitoring yielded a “good” rating while biological monitoring indicated that the water quality was “excellent.” A brief comparison was made between the present data and data collected by other students in recent years.

10:30AM

Supercells are a class of thunderstorms that produce some of the most intense and severe weather across the world. Normally lasting less than three hours on average there have been cases when supercells last much longer than expected. These long-lived supercells are often more isolated and discrete compared to shorter-lived supercells. One such long-lived supercell occurred during the severe weather outbreak of 12 March 2006. The storm began in northern Oklahoma, traveled through eastern Kansas, Missouri, Illinois, and ended in Northern Indiana. The supercell lasted over thirteen hours, spanned five states, and spawned numerous tornadoes in addition to two inch hail, and wind gusts over 70 miles per hour throughout its long life. Two tornadoes from this storm struck parts of Springfield, Illinois. Rated F2 on the Fujita scale the tornadoes left $100 million of damage to the Springfield area. In this study, the Weather Research and Forecasting model (WRF) was used to examine the cause of storm initiation, its morphology, and its longevity. The simulated storm will be
compared to the actual storm using observed weather radar data and other meteorological measurements. Implications of the results will be discussed.

10:45AM
The Importance of Giant Aerosol to Supercooled Large Drop Formation. Ashley Shackelford, Sonia Lasher-Trapp. Purdue University, West Lafayette, IN. Sponsor: Sonia Lasher-Trapp

Supercooled large drops are an extremely hazardous source of aircraft icing but little is known about their formation. Recent data from the Alliance Icing Research Study II (AIRS II) suggest that giant aerosol particles may be responsible for the formation of supercooled large drops in wintertime stratiform clouds. Here we present microphysical calculations initialized with those data to test this hypothesis. The results suggest that the importance of giant aerosol particles is secondary to the number of small droplets in the cloud: clouds containing fewer small droplets appear to be capable of forming the supercooled large drops without the presence of giant aerosol, while clouds with greater numbers of small droplets are less capable of producing supercooled large drops unless giant aerosol particles are present. These results are consistent with findings from past studies in warm cumuliform clouds.

11:00AM
Correlations between Monthly Anomalies of Tornado Data and Monthly Anomalies of Water Vapor Transport Mechanisms. Mark Nance. Purdue University, West Lafayette, IN. Sponsor: Dr. Robert J. Trapp

The 2006 tornado season in the United States was noteworthy in a number of ways. Climatologically, approximately 300 more tornadoes than the ten-year average had been reported within the first four months of the year, and record number of tornadoes for the year seemed imminent. Then, during the months of May through September, a lower number of tornadoes was reported, such that by the end of the year, the total annual number was very close to the ten-year average. There was a relatively high number of tornadoes in the spring of 2006 in non-traditional places such as the Tennessee River valley and the Midwest versus the southern Plains. The key to understanding these quantitative and spatial anomalies in the tornado data may lie in the anomalies of various atmospheric variables. Since no previous assumptions were made about the 2006 anomaly fields, many atmospheric variables were investigated. These variables included isobaric heights, temperatures, specific humidities, and winds throughout the profile of the atmosphere. Additional variables that were investigated included CAPE, dew point and soil moisture content. The North American Regional Reanalysis (NARR) data was used to create 28-year averaged monthly data sets of the aforementioned variables and anomaly fields for the year 2006. The strongest correlations between the anomalies in the tornado data of 2006 and the various atmospheric anomaly fields for 2006 were those that involved available moisture and moisture transports. In the future, monthly outlooks of water vapor transport mechanisms could prove vital in creating monthly outlooks for tornadoes.

Education
Session A
Jordan Hall, Room 183
Moderator:

09:00AM
Society, the Individual, and the Teachings of Gandhi and Einstein. Phillip Call. Ball State University, Muncie, IN. Sponsor: Donald Gilman

Society, the Individual, and the Teachings of Gandhi and Einstein Globalization is resulting in extreme disparities between rich and poor, with the population of the poor growing more rapidly than that of the rich. As history has repeatedly taught us, economic entropy eventually ensues in such unequal situations, usually through harsh or violent processes. Having this knowledge, we can and ought to stage a significant change in this phase of our collective progression in order to prevent such conflicts from occurring again. Each individual must make a voluntary choice, independent of governmental insistence, to provide social and economic equality to the world’s population. This choice should be presented by schools through the discussion of the benefits and drawbacks related to the paradigms of consumerism versus service-based love, the cognitive and emotional practice of giving one’s excess to fill another’s lack so that all might be capacitated to reach their full scientific, inventive, or artistic potential and thereby singularly contribute to the worldwide community. In spite of differences reflected by time, geography, culture, and intellectual outlook, Mohandas Gandhi and Albert Einstein knew of the problems incident with social inequalities and saw this same altruistic remedy that synergistically combines recipients and donors in a mutually beneficial way. When applied, this cooperative mode of thinking and living will lead to degrees of peace, prosperity, and progression, for individuals and their respective societies, which are currently unapproachable through our consumerist beliefs, teachings, and practices.

09:15AM
Comparing Valparaiso University Students’ Knowledge About STDs Based Upon High School Background. Gayle Joll, Kristen Kardas, Audrey Hall. Valparaiso University, Valparaiso, IN. Sponsor: Matt Ringenberg

The aim of this study is to determine whether there is a difference in knowledge levels concerning sexually transmitted diseases (STDs) amongst university students based on grade level, gender and type of high school attended. We are particularly interested in the difference between private religious based schools and public schools. Students will be surveyed and quantitative methods used to determine any differences between these groups. We hope that our outcomes can be used by the university to determine what, if any, education about STDs should be provided. The university health center could determine what types of information should be available to help students protect themselves against STDs.

09:30AM
150 Years of Butler: A Student-Run Honors Course. Michelle Sams, Tyler Blakley, Katie Leciejewski, Susan Surber, Anne Wilson. Butler University, Indianapolis, IN. Sponsor: Anne Wilson

During Fall 2004, Dr. Anne Wilson, Director of the Honors Program, and other Butler University Honors Department Faculty came up with the idea of a student-developed and student-driven course in the Butler University Honors Program. The course, entitled “150 Years of Butler” focused on the celebration of the university’s sesquicentennial and bringing to it an academic and student-involved component. All Honors students were offered the chance to participate in an Independent Study in planning the course, which would be held in Spring 2006. Four students accepted the challenge, forming the steering committee. The steering committee met with Dr. Wilson, who received the title course convener, weekly during the fall semester to organize the course syllabus, create student projects, and arrange speakers and tours. Following the completion of the course in Spring 2006, the course convener, in conjunction with the four members of the steering committee, co-authored an essay to be published in a future
issue of Honors in Practice, entitled “Teaching an Honors Course Tied to a Large University Event.” The steering committee would like to present both the planning and the outcome of the course at this year’s Undergraduate Research Conference in order to stimulate interest among other students to participate in similar projects.

9:45AM
Effectiveness of Alternative Programs in Relation to High School Graduation. Julie Harris. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

Commonly found among states across the United States has been a decrease in the actual number of students who have graduated from high school. Different factors have been linked to this decline. School systems across the United States are implementing programs to help aid those students who are at-risk of dropping out. This study was designed to explore how alternative school programs help aid students who are at-risk of dropping out stay in school and receive their high school diploma. Students from the Warren Township Renaissance School were surveyed to provide information about the link between alternative programs and high school graduation. Different variables have been measured to understand the relationship between alternative school programs and high school graduation.

09:00AM
Alternative Sources of Narration: The role of traditional flamenco music and dance in Carlos Saura’s film “El amor brujo.” Bethany Anderson. Butler University, Indianapolis, IN. Sponsor: Linda Willem

Carlos Saura is a world-renowned Spanish film director who has more than 30 films to his credit. His “Flamenco Trilogy” includes three of his best-known films: Bodas de sangre, Carmen and El amor brujo. Each focuses on a different aspect or perspective of the flamenco tradition in Spain. In the movie El amor brujo, Saura employs both of the central elements of flamenco—music and dance—to tell the story of three characters in a classic love triangle. Rather than using dialog, Saura uses the traditional Andalusian music of composer Manuel de Falla and elements of flamenco dance to narrate the storyline and develop the plot of Candela, Carmelo, and the ghost of José, Candela’s murdered husband. In this film, music serves three different functions: to pay homage to the flamenco tradition; to narrate the thoughts of the main characters and their interactions with each other; and to create motifs that foreshadow the appearance of certain characters—most notably the ghostly apparition of José.

09:45AM
Use of musical repetition and variation in Carlos Saura’s Taxi. Paul Bell. Butler University, Indianapolis, IN. Sponsor: Eduardo Santa Cruz

In this 1996 film set in urban Madrid, Spanish director Carlos Saura brings to light the generational conflicts and violence of post-Franco Spain. Through repetition and variation—as discussed in Bordwell and Thompson’s book Film Art—Saura uses musical motifs and sounds to assist the audience in understanding Taxi’s theme of cruelty. Musical and audible signals alert listeners to key concepts which gradually develop throughout the film. Saura allows his audience to draw its own conclusions, audible signals alert listeners to key concepts which gradually develop throughout the film. Saura allows his audience to draw its own conclusions, but he leaves no doubt about the clear conflict and presence of evil in modern Spanish society. Taxi paints a portrait of deep-rooted intolerance meeting the innocence of youth. It does so by employing artistic elements of sound to stimulate the listeners’ sense of situational awareness and understanding of a complex political and social evolution.
10:00AM
Vision y valor de la mujer durante el desarrollo de Hispanoamérica.
Jennifer Washburn. Hanover College, Hanover, IN. Sponsor: Eduardo Santa Cruz

Mi estudio investiga la situación de la mujer hispanoamericana durante puntos claves de su historia. Mi análisis reflexiona sobre su papel en la familia, sus valores, su aporte intelectual, y también su integración en la sociedad. La historia de Hispanoamérica ha incluido muchísimas opresión y discriminación en los grupos marginados como el de las mujeres. Durante la transición hispanoamericana, las percepciones sobre la mujer han cambiado minimamente si bien impactaron en la cultura de sus respectivos países y contribuyeron a una definición más particular de lo femenino y contraria a la impuesta por el patriarcado. Sus emociones y vivencias en sus respectivas sociedades son evidentes como intentar demostrar en las obras de las autoras que abordare. Usare estos textos para profundizar más allá de respectivas sociedades son evidentes como intentare demostrar en las obras de las autoras que abordare. Usaremos estos textos para profundizar más allá de lo meramente demográfico y abordar diferentes experiencias en el tiempo y espacio hispanoamericano.

10:15AM
Medea en los trabajos de Ovid. Stephanie Weiner. University of Evansville, Evansville, IN. Sponsor: Patrick Thomas

The story of the mythological character of Medea has survived for centuries and is still widely known today. The Latin poet Ovid is one of the reasons her character has survived, by writing her story into two of his works, the Metamorphoses and the Heroides. The Metamorphoses tells the story of the younger Medea, who is obviously in love despite her misgivings about Jason. The Heroides tells the tale of the older, more bitter Medea. The vocabulary Ovid used in each work was specific to portray the characterization of Medea. In the Metamorphoses the vocabulary showed her love and desire for Jason; in the Heroides the vocabulary shows her resentment for Jason and her depression of her abandonment, but showed that she still loved him.

10:30AM
Les similarités et les différences entre les idées sur l’éducation de Rabelais, Rousseau, et Hanover Collège. Patrick Ryan Briscoe. Hanover College, Hanover, IN. Sponsor: LaVerne Dalka

Les méthodes différentes d’éducation sont toujours disputées. Par exemple, j’ai passé douze années dans les écoles catholiques parce que mes parents ont préféré leur système d’éducation. Ils croisaient que la structure des institutions paroissiales aide les étudiantes à apprendre. Il y à, au même temps, les gens qui préfèrent les écoles beaucoup moins structurées, comme les “Montessori Schools”. Les débats sur l’éducation ne sont rien de nouveau. Dans le seizième siècle François Rabelais a écrit au sujet d’éducation et puis, deux cent années après, Jean-Jacques Rousseau a adressé le même sujet avec quelques opinions différentes. Dans les essais de Rousseau et Rabelais il y a les points très similaires et très différents sur le sujet d’éducation qui se réunissent aux méthodes de Hanover Collège.

10:45AM

The Viennese composer, Franz Schubert, is to this day well known for leaving us with his “Unfinished Symphony”, and most impressively with the breathtaking more than 600 innovative “Lieder” (songs) for us to venerate. This ingenious method of composition, he developed, was to amalgamate dense and meaningful music with many profound poems by Johann Wolfgang von Goethe, Wilhelm Mueller, Johann Schiller, Heinrich Heine and many more poets. To explain his originality of the “das Lied”, one must acknowledge that Schubert is seen now as a transitional figure between classicism and romanticism in music, and to his contemporaries he was considered as a “modernistic” and “realistic” composer. His compositions were structured relatively in a classical manner, and the inspiration and phrasing was of the romantic realm. His contribution of the lied artistically brought forth an equally essential relationship between voice and piano. Schubert’s lied Gretchen am Spinnrade with text by Goethe illustrates a fine example of this partnership between the two instruments. The art of “das Lied” was eventually passed down to many other German composers and to this day is still held in high esteem.

11:00AM
Le système éducatif africain. Irene Berman. Butler University, Indianapolis, IN. Sponsor: Sylvie Vanbaelen

Despite having gained their independence, countries in post-colonialist Africa are still struggling with finding the balance between an African and a European identity. One of the main areas where this issue can be seen is the educational system. This problem is very well portrayed through the emerging art of film making in Africa, giving directors a voice to express their opinions and call for change. This paper deals with the way films present the problem in the educational system, and compares these representation with the actual conditions and reforms taking place in various african countries. The films discussed are: Keïta : l’héritage du Griot, Sango Malo, and Faat Kinè.

11:15AM
The physics behind Lola Rennt. Thomas Tuegeli. Butler University, Indianapolis, IN. Sponsor: Fred Yaniga

In German 310, we analyzed the Tom Tykwer film Lola Rennt to spur thought and discussion from a variety of viewpoints. As a student of physics, I was intrigued by the use of two modern physical concepts in the film. The realities presented in films generally act as mirrors of the real world to draw the audience in, stirring their emotions because they identify with the characters. Lola Rennt, however, seems to alter the fabric of reality and accentuates these strange physical phenomena. Tykwer allows these realities full rein over Lola's world, raising fascinating questions about human existence, fate, free will, and the seemingly random chaos of the universe.

11:30AM
The Quest for Identity. Michael Tetrault. Butler University, Indianapolis, IN. Sponsor: Eloise Sureau

What is the source of identity, and what happens when adventurers seek to find the truth? This presentation explores the search for identity as described by Guy Roland in Rue des boutiques obscures (Patrick Modiano), Robert Klein from the film Monsieur Klein, and the painter Magritte in his paintings, Le fils de l’homme and Portrait d’Edward Jones. The search for a past identity in Rue des boutiques obscures and Monsieur Klein impacts the lives of the principal characters, driving the two men to the brink of insanity in their efforts to “find themselves.” In short, the conscious search for an identity will ultimately cause confusion and ambiguity. The setting in the book and film are intriguing because they both portray a France that is profoundly affected by the circumstances of the Second World War. In fact, the war propels the action and creates a sense of urgency in the works. When considering the paintings of Magritte with the two stories, one can see glaring similarities. The struggle with the mundane is evident in the paintings and the stories, as characters try and separate themselves from the sea of faces in which they find themselves. Therefore, is the search for the truth and identity doomed to fail, frustrate, and confuse? When one expects a defined, clear answer, then yes. Instead, identity is created by the choices made and by the routes taken in life. As the characters in this story fail to discover, identity is the place where our loyalty lies.
The examination of history reveals that Presidents have long exercised the prerogative in foreign affairs and war based on their powers as commander-in-chief. This century and preserved their independence against neighboring powers for centuries. Each assertion of sovereignty also represented a linguistic struggle, and when the sixteenth century saw the attachment of Brittany to France, the loss of political independence signaled linguistic endangerment. French soon became the language of administration and academics, and through the combined forces of intentional French policy against regional languages and of resigned cultural acceptance of French, the Breton tongue has dwindled almost to extinction. The story of Breton is the story of linguistic imperialism integral to cultural domination. This presentation will focus primarily on the story of Breton as a case study of linguistic imperialism. Examining the methods, forms, and consequences of this policy reveals its destructiveness. This imperialism spans centuries, from the Norman Conquest of England through contemporary immigration policies. As the presentation explores these other instances of linguistic imperialism, we will see our position as contemporary speakers of English, a “world language.” In Central America, in West Africa, in the United States, speakers of English have behaved no less imperially than the French officials aiming to eradicate the Breton language. Today, we hold the power to let disappear or to intentionally maintain local languages around the world. What will be our legacy?

**History**

**Session A**

**Jordan Hall, Room 207**

**Moderator: Dr. Scott Swanson**

**09:00AM**


In recent years debate has raged over whether the President of the United States, acting on his inherent executive power, has the authority to commit American forces to combat without a declaration from Congress. Though many pro-Congress scholars insist that Congressional deliberation is at least required before such commitment by the President, a close examination of history reveals that Presidents have long exercised prerogative in foreign affairs and war based on their powers as commander-in-chief of the military. Further, close study of the revolutionary and founding generations reveals that, though the colonists believed they were rebelling from tyranny, they were not rejecting the principles, which made up British constitutional thought. This in fact, after the failure of the Articles of Confederation, led to the adoption of a stronger federal government, which valued a stronger national energetic executive. The bicameral legislature also resembled Britain’s Parliament insofar as it emphasizes that the consent of the governed would be required for taxation. This strong national government, modeled after the state governments of the revolutionary era, would transform over the next century with the influence of strong executives ranging from Abraham Lincoln, Theodore Roosevelt, to George W. Bush. Though the development of the “Imperial Presidency” has had negative connotations, it has been supported by Supreme Court decisions and the willingness of the legislative branch to give the president initiative in foreign affairs and war.  

**09:15AM**

*Descent into Hell and Back: American Foreign Policy during the Bosnian Civil War.* Daniel Barnhardt. Pennsylvania State University - Berks., PA. Sponsor: Michelle Mart

The war in Bosnia-Hercegovina in the early 1990s was a conflict that could have been significantly less devastating and deadly had the United States and European powers acted sooner. This paper traces the various ways that the world powers, particularly the United States government, tried to rationalize avoiding direct military intervention in the Bosnian crisis from 1992 to 1995. During this period, the presidency changed from Republican George H.W. Bush to Democrat Bill Clinton. Moreover, control of the majority vote in the United State Congress passed from the Democrats to the Republican Party. Political leaders of both parties were more concerned with national elections and personal reputations than with ending the ethnic conflict in Bosnia. Not until the media reported on mass murders of civilians in the town of Srebrenica in July 1995, did American politicians feel the need to get seriously involved militarily. By October 1995, with America finally contributing significantly in NATO military operations, a cease-fire was brokered and the war was over. Had the United States government focused on trying to end the Bosnian war sooner, tens of thousands of lives may have been saved.

**09:30AM**

*Lessons in How Not to Maintain a Colonial Empire: France and de Gaulle in Algeria.* Thomas Pilotte. Ball State University, Muncie, IN. Sponsor: Ellen Thorington

After the end of World War II, Algeria, the prize of the French colonial empire, was caught between two sides in a brutal civil war. The Algerians, led by the Front de Libération Nationale, were fighting to gain autonomy and to end more than a century of oppression by their French overlords. France and her army were fighting to preserve the outdated axiom of “l’Algérie française” (French Algeria). Between 1954 and 1958, the turmoil caused the collapse of several French governments, and was partly responsible for the return of General Charles de Gaulle to the presidency. The French army repeatedly claimed to be winning the war in Algeria; in large part, President de Gaulle supported the army’s actions in Algeria. However, popular support for the war waned due to certain developments such as the use of torture by the French army and continued terrorist actions on both sides. Finally, on September 16, 1958, de Gaulle spoke of “l’autodétermination” (self-determination) on French national television, thereby raising the possibility of Algerian independence. In response, dissenting members of the military formed the Organisation Armée Secrète, which initiated attacks on French supporters of de Gaulle’s new policy, and on the Algerian people. In Lessons, I argue that the contradictions between the policies of the French government (primarily that of President de Gaulle) and those of the French army regarding the conflict in Algeria caused the war to become unwinnable, and resulted in Algerian independence.
Fear. It is the essence of their very existence. For the past twenty years, a civil war in northern Uganda has created a generation of children who know too well the brutal realities of war. Raped, brutalized, murdered, abducted, and forced to kill, these children—some as young as five—are taken from their homes by the Lord’s Resistance Army, the rebel group responsible for atrocities that are seemingly impossible to comprehend. Reports estimate that since fighting began in 1986, as many as 50,000 children have been abducted by the LRA to serve as child-soldiers. Given AK-47s, trained to march, they become victims of a harsh indoctrination process that strips them of their identity as children. Young girls become “wives” of commanders—once child-soldiers themselves—and both males and females are dehumanized as they are forced to murder their own family members, civilians, and other children: kill or be killed. Furthermore, these victims are considered lucky to be killed by a single bullet, for the alternative involves being bludgeoned to death with sticks and machetes—all carried out by children. Without any true sense of why they fight, the youth of Uganda have been forced into a war that uses innocent children as weapons. My goal with this presentation is to share their story.

The Communist-Nationalist Civil War was a turning point in the history of modern China. In 1945, Japan’s surrender ended its brutal occupation of China which had cost millions of Chinese lives. The Chinese then hoped that they would be able to establish a lasting peace after the brutal seven year war. During the later stage of the war, however, the stage was being set for the final battle between the Communists under Mao Zedong and the Nationalists under Chiang Kai-shek. Although the United States tried to broker a peace deal between the two sides, both sides could not agree with the other and soon took up arms in a final showdown. The reason why the Nationalists lost China and the Communists gained control are numerous. Nevertheless, the main problems facing the Nationalist government were corruption, economic troubles, and bad morale. In contrast, the Communist armies had few of these problems and in fact were able to exploit them to their advantage. Whereas the Nationalists earned the hatred of the common Chinese people, the Communists won their support and used this to launch a “people’s war” which ended with their victory in 1949.

David Kanson-Benanav. Earlham College, Richmond, IN. Sponsor: Dr. Carol Hunter

This paper is about how Eastern European Jewish immigrant's children became American by participating in the "underworld" of crime. By creating one of the most complex crime syndicates ever, they further developed the American Tradition of "lawlessness" that has shaped American culture since before the signing of the Declaration of Independence. Abraham "Kid Twist" Reles, Meyer Lanskey, "Buggsy" Siegel, and Harry "Pittsburg Phil" Strauss, were some of the Jews that made up the underground organization that the world would come to know as “Murder, Inc.” Through the murder, stealing, racketeering, gambling, these young Jewish men were no longer seen as Jewish Gangsters, they were simply “American Gangsters.” Further more, it was these Jews that understood the dynamics of American Society so well that they successfully took the capitalist ideology of the age and created "gangsterism", a highly structured confederacy of organized crime. Being sons of immigrants, or being immigrants themselves, they saw the underworld as they best path to becoming true Americans.

Removing Closet Doors: Exposing why the Renaissance was Homosexual not Italian. Jordan Carroll. University of Evansville, Evansville, IN. Sponsor: Annette Parks

Surely the homosexual inclinations of Renaissance masters must be shocking when revealed to college students, and one begs the question why not simply tell students the truth of the matter earlier in their educational career? Art within the Renaissance period gains magnificent homoerotic overtones through the praise of androgyny, the love of masculinity and the symbolic use of such figures like the youthful Ganymede or the triumphant teenage David. Much like Italian artists of the time, the works of many Italian philosophers and scholars involved male adoration. Humanist philosophers recognized the intense bonds between mentors and students in Classical Greece. Looking to the past for inspiration, many philosophers wrote of the admiration of all things male, better known as amor Socraticus. Renaissance art and philosophy was very much a product of renewed Classical homoeroticism. In essence the Italian Renaissance hinges upon homoeroticism, and if one deletes this element then the entire Italian Classical Revival cannot exist within the historical record. Overwhelmingly heterosexualized, the historical record that is taught year after year to history students lacks the spectrum and diversity of human sexuality. For this reason, more research must be done to uncover examples of homosexuals from the closets of the past to give modern gay, bisexual, lesbian, and transgendered people a history to which they can cling: a history that does not isolate them as freaks or rare occurrences.


Abraham Lincoln's nomination as the Republican candidate for the presidency in 1860 was not a foregone conclusion as the delegates headed to Chicago to make their selection. Straw polls conducted on surprisingly rowdy railroad cars indicated that William H. Seward would win the nomination. Yet, he and his equally well-known competitors fell to an awkward looking lawyer. Historians have traditionally explained this by investigating the failure of these candidates to appeal to moderate Republicans or by claiming that the political skills of Lincoln alone account for his nomination. The purpose of this paper is to offer a third alternative. It provides a model for explaining Lincoln’s actions toward his nomination at the Republican National Convention of 1860 and measures the effectiveness of those actions. In doing so, it will examine Lincoln from after his defeat for Senator in 1858 forward, to his nomination in May of 1860. Lincoln’s personal character is particularly critical to this study, as it provides a framework for understanding his conduct in politics. The paper will argue that Lincoln approached the National Convention with a mixture of self-doubt and ambition, which produced a hesitant, yet effective strategy for winning the nomination when coupled with the work of his managers at the Wigwam.
Across the world, soccer is heralded as the most popular sport. In America, however, we often do not understand the fanaticism associated with soccer, especially among European teams. Until the 1980s, hooliganism was extremely common in Europe, and measures were taken to curb this behavior. Soccer has evolved to accommodate social and economic changes, and has expanded globally. The presentation will focus on the globalization of the sport and look to the past in order to decipher the rise in racist actions. Topics that will be covered include legislation passed by the European Union, the fall of the Soviet Union and the socioeconomic struggles which followed, and the practice of bringing players from Africa and Latin America to teams that predominantly featured “home grown” players.

**International Studies**

**Session A**

**Jordan Hall, Room 207**

**Moderator: Dr. Montgomery Broaded**

**09:00AM**


While interning and studying last semester in Washington D.C., I heard similar sentiments about Pakistan that were mentioned by several experts. They said essentially that Pakistan had the potential to be the most dangerous state in the world, and that it should be the central front of the United States’ “War on Terrorism,” rather than Afghanistan or Iraq. After researching this assessment, I am convinced that it is correct. There are several reasons why Pakistan is so volatile, despite its strategic international position that seems to lurk underneath the radar of forceful reprov. These reasons include a questionable ruling authority, a radical Islamist population, a history of harboring terrorists, problematic relations with neighbors such as Afghanistan and India, a significant nuclear weapons capability, and an embarrassing historical example of proliferation (A. Q. Kahn). Despite all these factors, Pakistan has managed to avoid much of the wrath of the U.S. and others, largely because of the clever maneuvering of Pakistan’s president, Pervez Musharraf. The above noted, there is certainly reason for concern for the U.S., the rest of the West, and even Pakistan’s neighbors. But concern is different than panic. There is an election scheduled for this upcoming October. The key question is, ‘Who will come to power?’ Will it be a moderate like Musharraf who is sympathetic to the West, or will it be an Islamist who views the U.S. as the enemy of Islam? Would a coup before the election be too far out of the realm of possibility? These and other questions merit critical consideration for U.S. foreign policy.

**09:15AM**

From Guestworkers to Citizens: The Creation of a Turkish-German Political Identity. Kelsey Davenport. Butler University, Indianapolis, IN. Sponsor: Antonio Menendez

The second half of the twentieth century saw a rapid increase in the number of immigrants settling permanently outside their state of birth. Immigration, the integration of immigrants, and their influence on the receiving society have become fundamental issues in most states around the world. In Germany, the question of immigrant integration is particularly salient, as nine percent of the German population is comprised of immigrants, the majority of whom entered West Germany as guest workers after World War II. Changes to German citizenship laws in 1999 have now eliminated many of the barriers to citizenship that immigrants in Germany previously faced. The subsequent integration of immigrants into German society as full citizens has resulted in much debate over how these “new” German citizens will balance the interests and traditions of their new nationality with their state of origin. This presentation focuses on the formation of political identity among the Turkish population, the largest group of immigrants in Germany. By studying how three Turkish political organizations have responded to Turkey’s bid to join the European Union, this presentation examines how the newly enfranchised Turks have arranged themselves politically in relation to German political parties. It argues that the Turkish Workers’ Unions in Germany and their ties to Turkish political groups are the primary agents influencing Turkish political identity.

**09:30AM**


The Rwandan genocide of 1994 was indisputably carried out by Rwandans perpetrators on Rwandan victims. However in a variety of ways, France and the United States significantly impacted the genocide. The United States obstructed the United Nations Security Council from adequately supporting its mission to Rwanda (UNAMIR) and failed to disclose or act on evidence gathered which proved that genocide acts were being committed in Rwanda. France had strong ties to the Habyrimana government, which oversaw the atrocities of 1994, and kept French soldiers in Rwanda to advise all levels of its military. France also deployed troops in Operation Turquoise, which was not undertaken in coordination with UNAMIR, thus prolonging the genocide by about a month with resulting tens of thousands of additional deaths. These actions and attitudes were the result of a number of factors including past experiences in peacekeeping missions, unwillingness to commit financially to genocide prevention, and alliances with the Rwandan Hutu government. Present-day warnings of continued racial tensions in Rwanda make this subject all the more urgent to explore. If two powerful nations in the U.N. Security Council could enable and participate in Rwanda’s 1994 genocide, then measures need to be taken to ensure that the international community will take steps in the future to hinder genocide and not ignore or encourage it.
Literature

Session A Allegory, Ecstasy, and Curse: Studies in Literary Methodology from Aeschylus to Kawabata
Jordan Hall, Room 303
Moderator: Susan Neville

09:00AM
Curse and Characterization: Aeschylus’s Clytemnestra and Virgil’s Dido.
Amanda Clark. Ball State University, Muncie, IN. Sponsor: Donald Gilman

Both Aeschylus and Virgil employ a curse to delineate the virtues and vices of their tragic heroines. In spite of the differences in genre, Clytemnestra in Aeschylus’s Oresteia and Dido in Virgil’s Aeneid reflect the strengths and challenges of solitary women who construct civilized societies. A curse, though, enables each author to develop the subtleties of tragic characterization. This composition contains a discussion of the curses and character analyses of both women, including a justification and argument against their reactions to their respective fate. Clytemnestra struggles with the curse of Atreus but succumbs to it in her selfish search for power, her uses of assassination and adultery, and her downfall. The virtues of Dido who adheres to a pietas contrast the vices of Clytemnestra. But, in suffering rejection and unrequited love, she employs the curse to instill within Aeneas to need to exercise heroism to found Rome. These distinctions in characterization that evolve or proceed from a curse result interestingly in a higher order: the justice that prevails at the end in the Oresteia; the establishment of Rome founded on law.

09:15AM
The Invigorating Experience of Ekstasis in Donne, Herbert, and Milton and its Relation to the Coleridgean Secondary Imagination. Catherine Doubler. Butler University, Indianapolis, IN. Sponsor: Dr. Jim Watt

The philosopher Plotinus defined ecstasy, or ekstasis, as an experience of “perfect quietude” in his Enneads and through this lens that literary critics have examined the empathetic, ecstatic experiences portrayed in the short poems of 17th century writers John Donne, George Herbert, and John Milton. However, through close readings of three short poems by these authors, one finds that these three poets challenge the Plotinian assertion that empathy is essentially a static occurrence, and by doing so they redefine both erotic and spiritual ecstasy as an existentially benefiting experience of reinvigoration. Coleridge’s definition of the Secondary Imagination also places itself in a tradition of describing ecstasy in terms of rejuvenation, and by applying Coleridge’s observations to my analysis, I hope to show how these poets portray ecstasy as unaccomplished of an individual’s mobility and freedom.

09:45AM
Snow, Smoke and Mirrors: Perception as Allegory in Kawabata’s Snow Country. Chad Andrews. Indiana University-Kokomo, Kokomo, IN. Sponsor: Terri Bourus

Any avid book reader will admit that they have been tempted every so often to skip ahead and read the last sentence of a work. However, book worms should take note that some of the most important lines in Kawabata’s Snow Country come at the very beginning of the lengthy novella. From the beginning, one reads: “The train came out of the long tunnel into the snow country. The earth lay white under the night sky”. The imagery immediately suggested here maintains a sense of desolation and loneliness. This type of language can be found throughout the entire story. Kawabata’s phenomenological approach to narrative style will continue to be a driving force for the story’s thematic elements. With his extensive use of descriptive language, Kawabata skillfully manipulates his prose in order to create an experience that comes forth through a number of literary elements. Together, the allegorical imagery of mirror and mask work together to provide an outward reflection of the character Shimamura’s inward interpretations. By way of sustained metaphor, Kawabata is able to speak the mind of Snow Country’s main character most candidly, and with great effectiveness. Shimamura’s perceptions are often made evident through his interaction with setting. Yet, his perceptions are at times altered by his interaction with the other characters. Thus, Snow Country’s setting, characters, and modes of perception interact in such a manner that all three elements substantiate each other.

Session B Shakespeare: Love, Dreams, and Treachery
Jordan Hall, Room 348
Moderator: Dr. William Walsh

09:00AM
Love’s Obstacles Overcome in Much Ado About Nothing. Tracy Bowling. Butler University, Indianapolis, IN. Sponsor: William Walsh

The on-again, off-again dynamic between Beatrice and Benedick in Much Ado About Nothing makes for one of the most memorable and entertaining love stories in Shakespeare’s comedies—even stealing the spotlight from the two (relatively quiet) young lovers who are the true main characters of the play. As different in temperament as the two couples may be, though, both manage to overcome personal obstacles in order to mature in their love for one another and enter into a happy marriage. Shakespeare, then, seems to be interested not only in those who love at first sight. To lovers in any stage of life who manage to overcome their misconceptions, learning to value each other’s personalities, pay heed to each other’s desires, and recover from the inevitable setbacks, Shakespeare’s comedies carry a message of fulfillment, whether it be our first love or our last—and best.

09:15AM
“And By the Way Let Us Recount Our Dreams”: Seeing Shakespeare’s Hidden Dream in Bottom’s Soliloquy. Nichole Pena. Indiana University-Kokomo, Kokomo, IN. Sponsor: Terri Bourus

This paper will discuss the importance of dream imagery in theatre practice as a way of expressing fears and desires. In his play, A Midsummer Night’s Dream, Shakespeare uses the dream-work to address issues about the society in which he lived. Issues concerning mythology and Christianity, gender and women’s rights, and social position occur within the play. With Bottom, he uses a dream within a dream to create recognition within the character. Bottom’s soliloquy upon waking is not only an interpretation of his dream, but also Shakespeare’s interpretation of his own dream reflecting his fears and desires in his attempt to establish himself as an actor and playwright and create a legacy for himself in a society that mocked the notion of a “low character” achieving a role traditionally reserved for only the luckiest of university scholars. Through Bottom’s speech, Shakespeare shows how an “upstart crow” with a dream can create a work of art that can stand the test of time and establish a legacy for its author.

09:30AM
Shakespeare’s Tragic Villains. Natalie Todd. Butler University, Indianapolis, IN. Sponsor: William Walsh

Typically, it is possible to look at a Shakespearean tragedy as a conflict between the two opposites of hero and villain, in which the villain ultimately destroys the hero of the play both physically and spiritually. However, it is also useful to look at the role that the villains play in controlling the play’s events, and the specific way in which they go about their path of destruction. In my paper, I will argue that each villain, through his initial immoral act, destroys the moral order in the world of the play, thus making it impossible for any other character in the play to act morally. This order is only restored when all who have acted immorally have been
punished, usually resulting in the death of both hero and villain. Therefore, Shakespeare’s tragedies can be seen not only as the destruction of the tragic hero, but also as the destruction and reconstruction of moral order. With this view, the rise and fall of the villain is a major controlling element of the story, in which the hero’s role is to serve as the final agent of order.

Session C Different Yet Equal: Women in Literature from Homer to Austen
Jordan Hall, Room 387
Moderator: Dr. Lee Garver

09:00AM
Penelope, Dido, and the Epic Heroine. Mike Graczyk. Ball State University, Muncie, IN. Sponsor: Donald Gilman

Penelope of Homer's Odyssey and Dido of Virgil's Aeneid advance the male hero's quest while remaining heroic themselves. As a heroine, Penelope is quite clever, she almost exceeds, rather subtly, the epic nature of her journeying husband. Her deception in weaving the shroud to distract the suitors shows remarkable insight. Furthermore, Penelope remains steadfast and faithful in her vows of marriage, manages to fully resist the men vying for her hand, and perseveres through emotional suffering in the absence of her husband and son. In fact, Odysseus can only truly complete his voyage upon returning to his Ithacan homeland and eventually embracing his wife, suggesting that Penelope’s secondary but essential role complements his heroic character. Conversely, Dido is a tragic heroine employed as a plaything of the gods and fate. Pierced by Cupid’s arrow, the queen shatters her vows to honor her deceased spouse Sychaeus. Thus, her illicit affair with Aeneas and her utter vulnerability only confirm her tragic downfall. Obviously, Dido’s death contrasts with Penelope’s reunion—but there is an underlying thread to both tales. In each epic poem, the heroine permits the hero to actualize his fate. Just like how Penelope’s faithfulness allowed her to represent a sanctuary of stability for Odysseus to return to, Dido’s death ultimately led Aeneas to found Rome without ties to Carthage. These female characters, though secondary and different from each other, afford outlets for both Homer and Virgil to delineate and reinforce the accomplishments associated with their male heroes.

09:15AM
Adam and Eve as Different, Yet Equal, Partners in "Paradise Lost". Sara Fliehman. Butler University, Indianapolis, IN. Sponsor: Dr. Jim Watt

A common interpretation of the Fall of man, at least before John Milton published Paradise Lost, is that Eve is the wrongful party. That accusation is commonly coupled along with the idea that Adam fell because of Eve’s erotic temptation of him. However, Milton, throughout Paradise Lost, shows that if God created both Adam and Eve "good," Eve, as well as Adam, would have to be, at least in Paradise, perfect. By the end of the epic, Milton is able to portray Adam and Eve as equal partners, different only in their roles and interests, and therefore overcomes the anti-feminine views that were so vehemently held about Eve, her relations with Adam, and her influence in the Fall.

09:30AM
Made in the Likeness of God: Two Voices in the Quest for Human Spirituality. Donna Hamilton. Indiana University-Kokomo, Kokomo, IN. Sponsor: Terri Bourus

Seventeenth-century Europe witnessed the end of unquestioning belief in the authority and teachings of the clergy. With the rise of widespread literacy, people began to search the Scriptures themselves for guidance, while considering input from other manuscripts by religious writers. As two of the major trailblazers in early modern English literature, Aemilia Lanyer and John Donne were each in a position to wield a vast amount of influence over their contemporaries and the reading public to come. Aemilia Lanyer’s voice was not regarded as significant in her own generation. Females were considered to be somewhat intellectually inferior at that historical point in time. John Donne, however, was able to enjoy all the privileges his gender accorded him. Each produced texts obviously steeped in life experiences. It is interesting to note that as a youth, Donne was just the sort of man about whom Lanyer penned her feminist vitriole, yet a comparison of their works depicts a common mission. This paper will verify that although Lanyer and Donne approached the Bible from vastly varied perspectives, both sought to marry their secular lives as commentators on the changing world around them to their never-ending journey to know the deepest thoughts of God.

09:45AM
Satisfaction in Equality. Christina Lear. Butler University, Indianapolis, IN. Sponsor: William Walsh

Nineteenth-century romances were typically a reflection of women’s social status at the time, featuring a submissive woman and a dominating “superior” man. However, in Jane Austen’s Persuasion, we see a new type of woman and her new style of relationships. In the novel, Austen creates wise and capable female role models and rewards them with satisfying marriages. These women and their husbands are shown to be happy because they consider each other equally capable and valuable to their relationship. I argue that Austen’s representation is not only a call for equality in relationships but also a plea of the nineteenth century women: she urges them to fulfill their potential as intelligent and mature people in order to be considered equal to men.

Session D Poetics, Science, and Rhetoric from Aristotle to Richard Nixon
Jordan Hall, Room 205
Moderator: Dr. Patrick Clauss

09:00AM
The Nature of Comedy: Recreating the Principles of Aristotle’s Lost Poetics II. Ashley Caveda. Butler University, Indianapolis, IN. Sponsor: William Watts

“The Nature of Comedy: Recreating the Principles of Aristotle’s Lost Poetics II” is a continuation of the project “Bringing New Life to Greek Tragedy: Medea Revisited and Reworked”, which used Aristotle’s Poetics as a basis for the analysis of Greek Tragedy, Euripides’ Medea, and the concept of adaptations in general. The continuation of this project aims to increase the depth of understanding of Greek comedies and to make conjectures about the basic principles of Aristotle’s lost Poetics II through the analysis of the surviving Greek comedies, as well as through the creation of a new one.

09:15AM
“Literary Garden: A Collection of Essays on the Science, Lore, Culture and History of Medicinal Herbs”. Sara Beth Dalton. Butler University, Indianapolis, IN. Sponsor: Dr. Carol Reeves

What do an apothecary, Harry Potter’s Professor Sprout, and a medicine man have in common? All work with herbs rich in mythical and medicinal traditions. Perceptions of herb use are varied; many people are often skeptical of herbal medicine in today’s society. Combining field observations, scientific studies, anecdotes, and artistic illustration, the purpose of “Literary Garden” is to provide a series of essays which are educational and accessible to both the academic scholar and the general reader.

Roderick P. Hart, author of Modern Rhetorical Criticism, includes Richard Nixon’s 1952 “Checkers” speech in his discussion of “Analyzing Argument: The Logic of Persuasion,” dubbing it “the most famous speech in American political history.”To examine the strength of several of Nixon’s claims, Hart advocates the use of English philosopher Stephen Toulmin’s schema for argument analysis. In his 1958 The Uses of Argument, Toulmin proposes a Data—Since Warrant—So, Claim structure, which the rhetorical critic can use for argument analysis. Essentially, Toulmin’s schema can be understood or applied thus: Data are the facts one cites as premises or support; the claim is the argument’s conclusion; and the warrant is the general operating principle or rule of thumb one relies on to move from data to claim. Toulmin’s schema operates as a pair of 3D glasses. When viewing a 3D movie with such glasses, one sees the movie in a different way. Thus, a close, Toulmin-inspired reading of the “Checkers” speech elucidates Nixon’s various claims and reveals his arguments to be primarily authoritative in nature (a matter of ethos). In my paper, I pay specific attention to an extended but unwarranted argument Nixon constructs involving his wife, Pat, and her Irish heritage. Similar in style and nature to arguments found elsewhere in the speech, Nixon twists this particular argument into an invalid form of personal defense.

Session E Postcolonialism: Self, Place, and Past in Rushdie, Morgan, and Naipaul
Jordan Hall, Room 303
Moderator: Dr. Lee Garver

10:30AM
How I learned to write comics and everything else; also I improved as a person. Mike Meginnis. Butler University, Indianapolis, IN. Sponsor: Dan Barden

An informal presentation/conversation on the summer I spent learning to write better comics and sharper prose, and how I was given license to entertain first and enlighten incidentally (if at all). There’ll be some art -- please bring some of your own. We might even do some drawing as a group.

10:45AM
Controlling the Uncontrollable and Finding Purpose in Post-Colonial India. Elizabeth Gross. Butler University, Indianapolis, IN. Sponsor: Lee Garver

Although clearly a criticism of post-colonial practices in India, Salman Rushdie’s Midnight’s Children functions most as a text about the innate human desire to find purpose and meaning in one’s life.

11:00AM

Sally Morgan’s My Place provides a unique insight into what life was like as a “passing” Aboriginal in the second half of the twentieth century. As Sally (I will distinguish between the text’s author, Morgan, and narrator, Sally) ages and becomes aware of her roots, she reclaims and celebrates her history. An examination of the forms the text takes, the proposed audience, and the author’s motivation each assist in determining whether Morgan’s autopathy is successful in arousing interest among and providing information for its readership. By critically evaluating the narrative of My Place, one can witness how and why the readership interprets Morgan’s message concerning the Aboriginal.

Sally’s narrative is not simply a search for her personal place in society, she wants to place her ancestry. Sally Morgan’s text provides a look into the retrieval of the Lost Generation, and her Aboriginal ancestors provide for her firsthand accounts and details. While Morgan may not be an Aboriginal, her story revives the history of a people integral to Australia’s intellectual and spiritual development, sustainability, and future growth. My Place challenges its audience to perceive the world as a stage that always veils something, and an investigation behind the veil will ultimately lead to another veil, but history’s complexities are part of its attraction.

11:15AM
Shedding the Past in a Post-Colonial Africa: An Analysis of "A Bend in the River". Sara Flicheam. Butler University, Indianapolis, IN. Sponsor: Lee Garver

In his novel, A Bend in the River, V.S. Naipaul chooses to represent a very unique group of characters in post-colonial Africa: educated refugees. These people, aimless and confused, struggle to adjust to an Africa in which they can't seem to realize their place. The narrator and protagonist Salim is one of these outcasts. He searches throughout the entire novel for a way to find his place in the present world, how to make his way in the future, and how he can do this with the memory of his complicated past. The novel's only way of resolving this issue for Salim, and the other confused characters, is the idea of shedding the past in order to accept the responsibility of the present and face what is really going on in the world.

Session F Destiny, Drama, and Pattern: Heroism from Moses to Buffy
Jordan Hall, Room 348
Moderator: Susan Neville

10:30AM
The Destiny of Heroic Actions: Moses, Odysseus, and Aeneas. Lyndsey Adams. Ball State University, Muncie, IN. Sponsor: Donald Gilman

The Destiny of Heroic Actions: Moses, Odysseus, and Aeneas. Heroes are born. Although some may claim that hard work, background and nurturing, and random actions create heroes, such is not necessarily the case in all ancient heroes. A force of fate often controls all that has been and all that ever will be. This force compels humans to perform inhuman acts, separating them from the rest of society and securing their status as a hero. A hero is a person with good intention – an inherent quality that no one can learn. Acting in the best interest of others, a hero is selfless and ignores his own earthly desires in seeking the will of fate. He perseveres in the face of hardship. Moses overcomes internal conflict in order to save the Jews by leading them out of Egypt. Despite endless hardship, Odysseus attempts to lead his crew in their best interest and eventually restores peace in Ithaca. Aeneas ignores his desires when he leaves Dido behind in following his destiny of founding Rome. All of these men perpetuate heroic qualities, and Moses, Odysseus, and Aeneas seem subject to a destiny that weaves the quilt of their heroic deeds.

10:45AM
"The Bell and the Light": Historical Accounts of the Underground Railroad Through the Medium of Drama. Tracy Bowling. Butler University, Indianapolis, IN. Sponsor: Susan Neville

The Underground Railroad was certainly an era populated with heroes--their stories survive today, symbolic of a time when ordinary people took a stand for freedom, and they have yet to lose their poignancy in our culture. Unfortunately, the facts behind these heroic stories have often given way to
legend, romanticization, and oversimplification. In large part, we have lost the human beings behind the heroic deeds. The dramatist’s job, in many ways, is to recapture these voices. To write a production based on historical events requires the playwright to examine these sometimes biased, sometimes incomplete stories and ask probing questions in pursuit of faithfulness to the original accounts. The answers to these questions can then be brought together into a new story that, while fictional, reflects the period and its attitudes with a depth and authenticity that has the power to move people. As an outgrowth of my research of escape narratives, which has included personal memoirs of Railroad “operators” as well as Federal Writers Project interviews of former slaves, I have composed a historical drama that attempts to unite the true stories of the people with the heroism that has been handed down. Though the individuals in this play may have never existed, their attitudes and experiences did, and it is my hope to present the audience with an overview of the questions, answers, and personal journeys that have been necessary in creating this medium for both understanding and appreciating the past.

11:00AM
She Saved the World A Lot: Buffy the Vampire Slayer and Joseph Campbell's Heroic Pattern
Catherine Ippolito. Anderson University, Anderson, IN. Sponsor: Jennifer Rondonis

In my paper, I will compare the pattern of Joseph Campbell’s six stages of the hero’s journey to the journey of Buffy Summers, the heroine of Buffy the Vampire Slayer. I will compare Buffy’s development and character to each stage of Campbell’s pattern: warrior, lover, emperor and tyrant, redeemer, saint, and death or departure, to each of Buffy’s main roles: slayer, lover, authority figure, and ‘saver of the world’ and draw a clear parallel between Campbell’s pattern and Buffy’s journey.

Session G Grief, Individualism, and Art: Reflections on the Human Condition from Job to Edward Scissorhands
Jordan Hall, Room 387
Moderator: Dr. Marshall Gregory

10:30AM
Job, Odysseus, and the Pain and Promise of Suffering
Wesley Scott. Ball State University, Muncie, IN. Sponsor: Donald Gilman

As a human emotion, grief influences ethical responsibilities and, at the same time, defines a cognitive process. In both the Book of Job and Homer’s Odyssey, the protagonists suffer a psychological dislocation that compels them to define their identities in terms of deeper awareness of self as opposed to their material possessions. Cultural contexts differentiate these two texts, and their stories recount two mismatched angles of suffering. But, in losing all material benefits that determine their positions in society, there characters share similar experiences for, in transcending; they discover their respective moralities and unite themselves spiritually with a higher being or with the love of family. Thus, through the trials and tribulations of these two different but similar protagonists, contemporary readers are able to perceive suffering as a force, which results in a deeper understanding of the human situation.

10:45AM
Renaissance Individualism and the Rise of the Glass Metaphor
Catherine Douberl. Butler University, Indianapolis, IN. Sponsor: William Walsh

By reading the works of early Renaissance philosophers such as Giordano Bruno and Nicolas Cusanus, it becomes evident that the way Renaissance men and women perceived their emotions and their place in the universe was changing to reflect the newfound individualism. New experiences, of course, lead to the creation of new words and metaphors to describe them. My aim is to look at how the use of glass metaphors, such as Cervantes’ use of lens imagery and Marlowe’s use of mirror images, became a new means in the Renaissance to express the growing philosophical importance of individuality.

11:00AM
Art and Technologies: Questions of Human Boundaries in Literature and Film
Lucy Houchin. Butler University, Indianapolis, IN. Sponsor: Lee Garver

Art and technology are two spheres that are not often closely related. One is based largely in science, the other can be said to be born from beauty, passion, or emotion. Drawing on three seemingly unrelated works—Mary Shelley’s Frankenstein, Philip K. Dick’s Do Androids Dream of Electric Sheep?, and Tim Burton’s Edward Scissorhands - suggests, however, that there exists an intriguing connection between art and technology. Though each work proposes slightly different interpretations of what this connection could mean, all three show a relationship that questions the accepted boundaries of humanity.

Session H Evil, Stoicism, and Original Sin: Justice and Divine Will from Homer to Milton
Jordan Hall, Room 205
Moderator: Dr. Andrew Levy

10:30AM
Absolute Evil or Relative Expediency: Homer's Odysseus and Aeschylus's Clytemnestra
Ashley Czuba. Ball State University, Muncie, IN. Sponsor: Donald Gilman

The taking of another's life has one consequence but numerous reasons. Certainly, premeditated killings often justify capital punishment, whereas random killings call for lesser penalties. And capital punishment and abortions are frequently sanctioned by society. Ancient writers seemed to have confronted similar issues. In restoring social harmony and family unity, Homer's Odysseus confronted Penelope's suitors who, through seduction and threats, attempted to destroy his family. Confrontation was required, and his assassination of these suitors confined in a closed hall was preliminary to a rightful claim to his home and family. Death results in the restoration of his love for Penelope, Telemachus, and Laertes. On the other hand, Aeschylus's Clytemnestra appears to represent absolute evil. Although she had to assume the management of her house during the long absence of her husband Agamemnon, she grew to enjoy this control, premeditating with Aigisthos the murder of her spouse and Cassandra. This moral transgression, though, is perhaps more apparent than real; for, in avenging the murder of his father Agamemnon, Orestes complied with Apollo's command to kill his mother, to undergo madness, and ultimately to restore justice within the kingdom. Is evil; then, an absolute transgression or a requisite to reaffirm order? The Ancients may not have provided us with a definitive answer, but they were asking a relevant question.

10:45AM
Stoic Incongruities: Virgil's Aeneas and the Vestal Virgins
Katrina Bieker. Ball State University, Muncie, IN. Sponsor: Donald Gilman

Both Virgil's poetic representation of Aeneas in his Aeneid and the historical reality of the celibate practice of the Vestal Virgins delineate obvious contrasts but, at the same time, reflect similar characteristics promoted in ancient Rome. In following the precepts of pietas, both share close relationships with the gods and Fate. In abstaining from sexual contact, the Vestal Virgins preserved the Eternal Flame, working tirelessly to be embodiments of Vesta's values, and providing Rome with the goodwill of the gods. In suffering his exile from Troy, the loss of family, and the ordeals of war, Aeneas attains a heroism that enables him to found Rome.
on the basis of law and justice. Such actions recall Stoic principles that result in insights into a divine, eternal reality transcending but incorporating earthly, temporal actions. But, unlike accounts of the Vestal Virgins, Virgil portrays Aeneas's earthly temptations, the recognition of hurt derived from passion and judgment, results in a harmonious state. In many respects this characterization humanizes and elaborates upon the morality exercised by the Vestal Virgins. Nonetheless, in spire of these similarities and differences, the message conveyed by Aeneas and the Vestal Virgins merges into one that requires loyalty to the gods and Rome and a faith and hope in a harmony that unites human actions and divine will.

11:00AM
Natalie Todd. Butler University, Indianapolis, IN. Sponsor: Dr. Jim Watt

When discussing the topic of original sin, two different perspectives arise: one which says that the Fall was the greatest tragedy in human history because it allowed pain, death and evil to enter the world; another saying that the Fall was actually a fortunate event, because it allowed for humankind's redemption by the sacrifice of Jesus Christ. In my paper, I will argue that Milton, by showing that God has the ability to make good come from any evil, portrays the Fall as an event that resulted simply in a different fate for humankind, not a better or worse one, thus rendering the above controversy obsolete.

Session I Repression and Rebellion in 1950s America
Jordan Hall, Room 303
Moderator: Dr. Hilene Flanzbaum

01:00PM
Holden Caulfield and Tommy Wilhelm vs. The Organization Man of the 1950s. Carling Jennings. Butler University, Indianapolis, IN. Sponsor: Hilene Flanzbaum

William Whyte wrote an exhaustive piece on the creeping trends toward groupthink and mindless acceptance of the status quo titled The Organization Man. Whyte systematically uncovers the motivations for the horde of gray flannel suits while simultaneously warning against the dangers of a conformist society. That same society rejects those who refuse to fit the mold, found both in The Catcher in the Rye by J.D. Salinger and Seize the Day by Saul Bellow. Holden Caulfield grows up to be Tommy Wilhelm, and the organization mindset pervading American morality cannot accept either character. Their rejection by society does not go unnoticed by either character; both Holden and Tommy possess a hyper-awareness of their inability to relate to the world and even to themselves.

By examining mainstream thought through the lens of The Organization Man, it lends itself to the comparison of the literature of the time. Holden and Tommy exist on the margin during the decade in which they live, and their stories provide a glimpse at the underbelly of the flourishing Fifties. The pervasive image of a happily-ever-after life never reaches their lives, and the reader sees the power of literature to at once explain and critique, to question and to answer. Holden and Tommy's lives attempt to reach out to a society that rejects them, and the chronicling of their struggle against the culture defines the reality of the Fifties.

01:15PM

Striking similarities between choreographer and dancer Martha Graham and poet Sylvia Plath, two American artists of disparate disciplines, are noted if one analyzes the bodies of work they created during the 1950s. In particular, the three central characters of Graham's ballet Seraphic Dialogue (1955) directly parallel the three female narrators of Plath's Poem for Three Voices (1962). Aside from shared artistic interests, the tumultuous, personal relationships of the two artists also correlate. Although Graham and Plath have difficulty transcending 1950s hegemony in their private lives, the strong female protagonists depicted in Graham's ballets and the powerful voices of Plath's protagonists in her poetry become vivid symbols for the female artist's liberated self.

01:30PM
The Insights Fictional Representations of Sexuality Provide on the Reality of Sexuality in the 1950s. Sara Fliehman. Butler University, Indianapolis, IN. Sponsor: Hilene Flanzbaum

The 1950s was a time of great repression: while individuals looked happy and families seemed perfect, society as a whole was as secretive as possible about anything that could mar the façade of perfection and purity. One of the things society felt would ruin this façade was being open about sex. However, many sociologists discovered that 1950s society was based upon a set of ideals that everyone pretended to uphold, but many did not. These false ideals about sexuality were often uncovered through literature. Today, these kinds of fictional representations provide us with significant insight into the reality of 1950s sexuality.

Session J Fantasy Fiction and Film: Religion, Heroism, and Music in the Works of C.S. Lewis, Phillip Pullman, J.R.R. Tolkien, and Peter Jackson
Jordan Hall, Room 348
Moderator: Dr. Lee Garver

01:00PM

In the nineteenth century, the works of George MacDonald gave rise to a new genre of children’s literature: the religious fantasy. In the middle of the twentieth century, Christian essayist C.S. Lewis used this genre to create a series of books for children known collectively as The Chronicles of Narnia. The first book of the series, The Magician’s Nephew, deals with the biblical stories of Creation and the Fall of Man. In this novel, Lewis affirms the Fall as a necessary but unfortunate occurrence, reinforcing the belief that Man needs to look to God for guidance. Phillip Pullman, on the other hand, is a declared atheist who has often publically voiced his opposition to Lewis’s views. In His Dark Materials, published as three books at the turn of the twentieth century, Pullman perpetuates his humanist perspective on the story, embracing the Fall as a liberation from the tyranny of Heaven. With this paper, I intend to show how, using the same genre, Lewis and Pullman have produced vastly different perspectives on the same story.

01:15PM
Frodo Baggins: Not Your Typical Fantasy Hero. Alyssa Vander Heyden. Butler University, Indianapolis, IN. Sponsor: Jon Porter

Typically, a hero is strong, confident, noble, and brave. Heroes readily welcome a challenge in order to prove their greatness or prowess at some skill; they are generally honored, recognized, and given tremendous amounts of respect for what they have done. Although Frodo Baggins from J.R.R. Tolkien’s Lord of the Rings does display many heroic qualities, he does not fit the mold of the stereotypical hero figure. While most heroes are confident, Frodo is filled with self-doubt. Frodo does not choose to take this journey and, as a matter of fact, does not want to but does so out of necessity. These internal struggles, his failure to throw the Ring into the Fires of Mount Doom, and his quality of life after his journey make Frodo a unique hero figure and atypical of this genre of writing. Many heroes possess qualities so great that it is hard for one to relate to, however, Frodo
is different in the sense that his internal struggles make him a more realistic hero that one can identify with.

01:30PM

The music and poetry in Peter Jackson’s film portrayal of The Fellowship of the Ring serve as powerful influential parts of relaying the mythology of Middle Earth to the public while using, but also excluding, many of Tolkien’s original verses from the novel. This presentation compares and contrasts the musical elements of Tolkien’s work and Peter Jackson’s film while also examining the approach taken by each.

Session K Religion and Literature: False Reasoning, Forgiveness, and Fantasy from Shakespeare to George MacDonald
Jordan Hall, Room 387
Moderator: Dr. Carol Reeves

01:00PM

My paper on Milton's Paradise Lost concerns Satan's use of reasoning based on false premises in his temptation of Eve. The argument is that God created man with free will and the ability to use reason, but that Satan exploits mankind's imperfect knowledge to lead them to sin. During the temptation of Eve, Satan feigns to be a snake in order to create a basis for an argument for the forbidden fruit's virtues. Using this premise, he then leads Evedown an extremely logical but false train of thought until she is confused and prepared to turn to the fruit, rather than God, for the solution.

01:15PM

Forgiveness is something that most of us ask for when our actions are less than perfect, but do we really have a handle on what it means to forgive? This essay, titled "Deep Magic: A Literary Study of Forgiveness," taps the works of Shakespeare, John Donne, and Ben Jonson, among others, for examples of forgiveness and uses them as a springboard for a brief commentary on the subject. Other sources, such as the Bible and the works of C.S. Lewis, will be quoted from as well. Although the essay is not designed to have explicit defense of Christianity, the goal will be to show how that worldview deals with the concept of forgiveness and how some of history's most revered authors have concurred, whether directly or indirectly, with many of its teachings.

01:30PM

For centuries, English and American writers of children’s literature endeavored to impart religious principles. They achieved varying degrees of success. Cotton Mather, the Puritan preacher, taught religion with a heavy hand, reminding children of death and eternity. The stern lessons in The New England Primer frightened many children into moral submission with verses that insisted Death would have the last word: “And thy dear soul in hell must lie/With Devils to eternity” (Zipes et. al., 128). However, John Bunyan and George MacDonald imparted spiritual truths with a lighter touch. This lighter touch, wrapped in fantasy, proved to be far more effective in teaching religious principles than the Puritan’s didactic threats. In The Pilgrim’s Progress, John Bunyan entertained and inspired children and adults alike with his story of life, death, danger, and a quest for heaven. While Bunyan was a Christian purist, George MacDonald was a free thinker and believed that God’s truth could be found in nature. In fact, he believed that man’s creative imagination could express the thoughts of God. In this paper, I will argue that Bunyan and MacDonald used fantasy to effectively impart spiritual truths. However, Mather’s Puritan righteousness was devoid of love and imagination.

Session L Workshop Notes: Poetry and Comics in the Twenty-First Century
Jordan Hall, Room 205
Moderator: Dr. Jason Goldsmith

01:00PM

The purpose of my project was to create a cycle of narrative poetry chronicling the life experience of a man from birth until death. At the URC, I will explain my methodology for composing the poems, as well as talk a bit about the poets I studied for inspiration and as examples of poetic technique. I will then read 3-5 poems, all of which will be pulled from different points in the cycle. This will help create a more complete picture of the character I developed.

01:15PM


01:30PM
"Imagination all compact": How a Graphic Novelist Converses with the Bard. Candace Jones. Indiana University-Kokomo, Kokomo, IN. Sponsor: Terri Bourus

Shakespeare is in the air we breathe. It's almost impossible to write a piece of literature and not discourse at some point on one of "his" themes. But when Neil Gaiman, author of the celebrated graphic novel series, "The Sandman," wrote an episode titled "A Midsummer Night's Dream," he took the great literary conversation to a whole new level. Gaiman's surreal story describes an afternoon in 1593 when Will Shakespeare and his troupe of Players prepare to perform "A Midsummer Night's Dream" (MND) to an unknown audience. An otherworldly patron named The Shaper has bargained with Will to give him special abilities in exchange for plays on dreams. Now the Shaper has brought the real Auberon (note the spelling change from "Oberon") and Titania from the world of Faerie to watch Shakespeare's performance. As Players mirror the audience and viewers start stealing their own parts, the drama's fourth wall begins to unravel, as does the distinction between reality and dreams. This paper examines Gaiman's use of Shakespeare's play, and the fascinating way that it redefines the place we call the stage. Even though Gaiman shortens the Shakespearean text, he compliments core traits of Shakespeare's theatre in surprising ways. When staging a play-within-a-play within a play, Gaiman echoes the bard's own self-referential language about theater, which itself walks hand-in-hand with the concept of illusion. Even in his choice of medium, the comic-book genre of the graphic novel, Gaiman demands from his audience a willingness to enter into the world of the imagination, harking back to Shakespeare's own theater.
A Diophantine problem refers to an equation or inequality in several variables for which one seeks integer solutions. For example, the Diophantine equation \( x^2 + y^2 = z^2 \) has integer solutions \((3,4,5)\) and \((5,12,13)\). In this case and in many others the Diophantine problem has infinitely many solutions. For equations in which the number of variables is sufficiently large in relation to the degree, ideal analysis is by way of the Hardy-Littlewood method, which allows representation of the number of solutions as a definite integral. Simple examples of Diophantine inequalities arise in approximating real numbers by rational numbers. For example, we know that for any positive number \( q \) we can find integers \( x \) and \( y \) satisfying the inequality \( |x/y - 2/1| < q \). However for more general Diophantine inequalities current methods do not allow us to replace \( q \) by an explicit function of the variables while simultaneously obtaining asymptotic estimates for the number of solutions. Resolution of this task is a difficult and tedious process, so software can be a useful tool for calculations. For Diophantine inequalities of the shape \( c_1(x_1) + c_2(x_2) + \ldots + c_s(x_s) < q \), the primary difficulty in analysis appears to be controlling the rational approximations to the coefficient ratios \( c_i/c_j \). In order to retain the features of the method that make it so effective for equations. So the use of specifically generated data such as rational approximations to irrational numbers as well as the ability to use that data in estimations of integrals complements the analysis.

**09:15AM**

**Math and Computer Science**

**Session A**

**Jordan Hall, Room 242**

**Moderator: Dr. Rebecca Wahl**

**09:00 AM**

**Asymptotic Analysis of Diophantine Inequalities.** Keenan Hecht. Butler University, Indianapolis, IN. Sponsor: Scott Parsell

A Diophantine problem refers to an equation or inequality in several variables for which one seeks integer solutions. For example, the Diophantine equation \( x^2 + y^2 = z^2 \) has integer solutions \((3,4,5)\) and \((5,12,13)\). In this case and in many others the Diophantine problem has infinitely many solutions. For equations in which the number of variables is sufficiently large in relation to the degree, ideal analysis is by way of the Hardy-Littlewood method, which allows representation of the number of solutions as a definite integral. Simple examples of Diophantine inequalities arise in approximating real numbers by rational numbers. For example, we know that for any positive number \( q \) we can find integers \( x \) and \( y \) satisfying the inequality \( |x/y - 2/1| < q \). However for more general Diophantine inequalities current methods do not allow us to replace \( q \) by an explicit function of the variables while simultaneously obtaining asymptotic estimates for the number of solutions. Resolution of this task is a difficult and tedious process, so software can be a useful tool for calculations. For Diophantine inequalities of the shape \( c_1(x_1) + c_2(x_2) + \ldots + c_s(x_s) < q \), the primary difficulty in analysis appears to be controlling the rational approximations to the coefficient ratios \( c_i/c_j \) in order to retain the features of the method that make it so effective for equations. So the use of specifically generated data such as rational approximations to irrational numbers as well as the ability to use that data in estimations of integrals complements the analysis.

**09:15AM**

**Modeling Plant Growth with String Rewriting.** Florian Loretan. Earlham College, Richmond, IN. Sponsor: James Rogers

The growth of plants is an application that lends itself well to mathematical modeling using discrete steps. An interesting implementation of such models is to represent the structure of plants as a string of symbols and to use string rewriting rules to define the growth of every plant part. In this project, I developed a growth model for Floerkea Proserpinacoides, a small annual plant commonly found on forest floors. This plant exhibits a relatively simple structure and an interaction with its environment limited to a few parameters. It does however show interesting nondeterministic behaviors that strongly influence the evolutionary strength of the species. Using field data collected in a previous botanical study of the plant, it was possible to calibrate the computational model and to validate its results against the experimental results. Custom software was written to provide a precise level of control over the data structures and the algorithms involved in the processing of the rewriting rules. In order to bypass the exponential complexity of keeping track of every possible instance of a plant generated by nondeterministic rules, a statistical sampling approach based on random choices made it possible to gather information on the whole population. This approach made it possible to keep the time and space complexity within computable values even for more complex models.

**09:30AM**

**A Virtual Campus: Multi-user Online Social Space.** Joshua Elwood. Indiana University/Purdue University at Fort Wayne, Fort Wayne, IN. Sponsor: Beomjin Kim

In this paper, we propose a proof-of-concept implementation of a virtual space (VS) to be used as a social space. The proposed system uses real digitized pictures and computer generated images to provide as realistic environment as possible. By utilizing the resources of the client, we can limit the amount of data communication between nodes while providing realistic images, therefore balancing performance and realism issues. The developed system was applied to a virtual campus that will assist prospective students, current students, and faculty by providing information dynamically and allowing social activities among participants. We have designed the system based on the client-server architecture. Multiple-users can communicate through the server whose main responsibilities are to manage the objects positions and assist in their communication. Clients are responsible for monitoring the user’s motion-related interaction and transferring the information to the server. The server updates the location map and then broadcasts packets including positional information to all connected clients. The Clients reconstruct the VS with its maximum computing power. The industry standard graphics library is used to create an environment as realistic as possible while minimizing the amount of data communication among nodes. This design allows us to fully utilize the varying client-side computing power for rendering the VS. This on-going project shows the feasibility of constructing a virtual campus while balancing realism and performance based on client-side computing power. The proposed system shows how the current VS can be improved to provide more realistic and higher quality social spaces.

**Media Arts**

**Session A**

**Fairbanks Center, Room 146**

**Moderator: Dr. Allison Harthcock**

**10:00AM**

**V for Vendetta and Its Place in the Gothic.** Tarah Cantrell, Charity Scott. Butler University, Indianapolis, IN. Sponsor: Fred Yaniga

The language of film, as with any other form of art or literature, is capable of gripping the audience through the use of its primary elements for a specific purpose, or, as Lajos Egri calls it in The Art of Dramatic Writing, its “premise” (Egri 9). The premise lends itself to the concept of instrumentalism, which is a Gothic element prevalent in early English Gothic literature. Instrumentalism is the use of an object in order to inspire action. In Gothic literature and film, the story serves as the object, and action is inspired through empathy with specific characters. I intend to share my research on the subject of Guy Faulk and his involvement in certain circumstances on the 5th of November, 1606, his revolution, and the instrumentalism that arose out of English history. Furthermore, I will explain the meaning of Faulk’s experiences within the context of the film, and why this film is deeply rooted in the British Gothic.

**10:15AM**

**Opening Dr. Caligari's Cabinet.** Patrick Mullins. Butler University, Indianapolis, IN. Sponsor: Fred Yaniga

My project involves the movie The Cabinet of Dr. Caligari which a fellow student, Patrick Weigand, and I reviewed for our Honors seminar on Gothic Literature in Germany, England, France and America. Caligari is an influential film from the 1920’s and a forerunner of the film noir genre. But first and foremost, it is gothic literature in the form of film. The film starts as a frame story, which is very typical of gothic literature. The narration
forces us question everything within the story, as one can never be too sure about the narrator. The other theme present immediately is that of the pure, innocent woman who tends to fall from grace. Normally, her piety would be described through actions, what others say about her, or in a descriptive paragraph. Because this was difficult to do in the silent genre, she was dressed in an all white dress and very pale to further show both purity and the ghastliness from her decline. As one can see, Caligari wastes no time in displaying one of the many characteristics typical of gothic literature. Some others include a prophesy fulfilled, use of light and dark, "Doppelgänger", and, most importantly, the belief of the narrator being questioned. These examples are just skimming the depth of this film. With this presentation I would begin to describe these and a few others in-depth and show just how crucial and influential a film Caligari truly was and where its influence is still being seen in modern society.

10:30AM
Technology and Fear in Star Trek. Anne Poelker. Butler University, Indianapolis, IN. Sponsor: Allison Harthcock

Through an analysis of the Star Trek franchise (live-action television series and feature films), the expression of technophobia and its implications are examined. The analysis focused on situations where technology or technologically-enhanced creatures were the primary antagonists. It is argued that, as technology in the real world progressed and became more present in the day-to-day lives of average Americans, the representations of technology in the future universe of the Star Trek franchise shifted. In science fiction, technology is generally viewed as benign, easily overlooked aspects of the daily lives of the characters; however, as technology advanced in the real world, the attitude shifted away from that neutral and occasionally positive view of technology to seeing it as a threat, and a source of concern and even fear.

10:45AM
Hybridity and the FCC. Michael Vogel. Butler University, Indianapolis, IN. Sponsor: John Servizzi

The Federal Communication Commission (FCC) has always answered to the United States Congress since its inception. The policies of the FCC generally affect Media Business and also the viewing audience, who vote for (and make campaign contributions to) the United States Congress. In consideration of the preceding statement: Does the FCC also answer to the American People and Media Business. The presented thesis will explore, through Marwan M. Kraidy’s Theory of Hybridity, how the American People and Media Business affect FCC policy and enforcement, and some implications therein.

Performing Arts

Session A
Lilly Hall, Room 110
Moderator: Dr. James Briscoe

09:00AM
Death Most Russian: Dmitri Shostakovich’s Meditations on his own Mortality. Daisy Chew. Butler University, Indianapolis, IN. Sponsor: Dr. James Briscoe

Near the end of Dmitri Shostakovich’s life, the majority of his compositions were introspective meditations on his own mortality. One of his most heavily influenced pieces, despite its double connotation as the story of Shostakovich’s life through his political stance, is his fifteenth symphony. By analyzing how Shostakovich utilizes the orchestra to present death in this work, one can gain a view of Shostakovich’s own feelings toward his own mortality.

09:15AM
Aaron Copland's Appalachian Spring: The Archetype of American Music. Rose Urbil. Butler University, Indianapolis, IN. Sponsor: Dr. James Briscoe

Aaron Copland’s Appalachian Spring represents the archetype of American music and continually invites an appreciation on levels both small and large. The composition thus embodies those values listeners most often identify with "American-ness": simplicity and directness, a spiritual essence, growth and strength, and devotion to a multi-cultural life—Copland the sophisticated, Jewish New Yorker projecting rural, Christian life in Early America. Despite its common recognition as a work of Americanism sentiment, Appalachian Spring possesses many other meanings, especially for those persons familiar with musical structures, concepts, and aesthetics. I will focus both on why and how this work serves as the easily recognizable representation of American music on a simple level, but also on how it functions as a personal and universal, human expression.

09:30AM
J.S. Bach’s "O Mensch, bewein' dein' sünde Gross": Treatments, Speculations, and Conclusions. John Allegar. Valparaiso University, Valparaiso, IN. Sponsor: Linda Ferguson

The shifts in Christian worship associated with the Protestant Reformation in the 16th century resulted in significant changes in worship music. Among composers for Christian worship, J. S. Bach (1685-1750) is particularly noted for showing the musical, theological, and devotional possibilities of the Protestant chorale. This presentation explores Bach's three treatments of a chorale tune that seems to have been particularly favored by him—"O Mensch, bewein' dein' sünde Gross"—which appears in the Orgelbüchlein, the Saint Matthew Passion, and the Saint John Passion. The presentation considers the possible significance of the varied settings and further proposes that the methodology used may provide insight into Bach's own perspective on both music and theology.

09:45AM
Amy Beach and the art of the American Song. Taylor Yandell. Butler University, Indianapolis, IN. Sponsor: Dr. James Briscoe

Since the beginning of her career as a musician, Amy Beach (1867-1944) was an accomplished composer of the art song. She created songs for the voice that represented her personal emotion as well as the style of the Romantic period. Amy Beach's work with the art song demonstrates her dedication to the Romantic idiom through the relationship of text to music. Her life a young musician and her marriage, the beginning of her composing, her art song, and her role as a twentieth century woman had a great impact on future women composers. Her unique taste and reluctance to alter the Romantic general style extended throughout her career and, like Rachmaninoff and Sibelius, shows compositional integrity even when musical style overlapped.
This presentation will consist of an overview of my research on how the human body serves as the most striking and immediate medium for the conveyance of meaning. To do this, I will first need to establish the credibility of the power of the human body. Once this premise has been recognized, I will turn my focus to art and analyze why and how artworks that employ the human body convey meaning through the examination of music, paintings, drawings, sculptures and photographs.

Accessing the Emotional Depths of September 11: the personal response to 9/11, truly remembering, and the catalyst of theatre. Ben Melchior. Butler University, Indianapolis, IN. Sponsor: Diane Timmerman

Can art—can theatre—open doors within societal trauma? After five years since September 11, as America continues in the healing process, a true connection to the personal memory of 9/11 has been eclipsed by the event’s sheer magnitude. The incomprehensible destruction had a numbing affect on an individual’s emotional response, also leading towards a numbing of the event’s memory—whether present that morning or not. As a representation of my University Honors Creative Thesis, which has centered around a staging of Anne Nelson’s play The Guys, my presentation “Accessing the Emotional Depths” will examine the documented psychological affects 9/11 had upon the individual; the effects art and theatre have held within similarly traumatizing events in history such as the Holocaust, Vietnam War, and the genocide of Rwanda; and finally detail my experience and findings in directing a piece of theatre aimed at opening a grounded and real connection with the event. From this can determined the validity of theatre’s role as a specific vehicle for individually re-accessing and thus truly remembering 9/11.

Discovering Dramaturgy. Katelyn Coyne. Butler University, Indianapolis, IN. Sponsor: John Green

The most recurrent definition for the job of those holding the title “Dramaturg” is that they are the conscience of the theatre. I studied the history and theories behind the practice of dramaturgy on a highly theoretical level, and at the same time observed the day to day reality for a real life dramaturg. What I found is that dramaturgy is an art; just like any other aspect of collaborative theater such as: directing, designing, writing, or acting.


This presentation is on Arnold Schoenberg’s “Pierrot Lunaire,” Op. 21. I will focus on the historical and theoretical aspects of the composition and how Schoenberg employed common tonal contrapuntal techniques in a manner that supplied his atomic composition with the same quality of musical cohesion that these same contrapuntal techniques supplied tonal music of the previous centuries. While I will consider all twenty-one movements of Pierrot, I will focus primarily on the eighth movement, “Nacht” (“Night”) and the eighteenth movement, “Der Mondfleck” (“The Moonfleck”).

Analytical Analysis of Schubert’s Die Liebe Hat Gelogen. Jill Palfreeman. Valparaiso University, Valparaiso, IN. Sponsor: John Bernthal

The Romantic era was a response to the structure and order in the Classic period, therefore composers were focused on the expressive portrayal of one’s inner emotions and went to great lengths to embody these intrinsic ideals rather than conforming to a set of rules. One piece in particular that demonstrates the experimental and emotional characteristics of Romantic compositional techniques is a piece by Franz Schubert called Die Liebe Hat Gelogen. Every aspect of this nineteenth century composition is representative of the smooth, expressive and passionate melody lines and harmonic progressions which are characteristic of Romantic music. Contrary to the Classic period which embodied balance and conventional harmony, the Romantic period embraced dissonance and emotional expression as well as freedom and an introspective point of view. Upon close examination of the harmonic progressions in Die Liebe Hat Gelogen, these Romantic qualities can be seen within examples of text painting and smooth, flowing chromatic modulations. Schubert’s use of chromatic harmony creates a somber and reflective atmosphere which paints a musical setting for the intense grief present within the text. Schubert displays inner sorrow by reflecting deception and betrayal through unique harmonic progressions and modulations which are representative of the expressive, fluid and emotionally stimulating textures which typify the Romantic period.


As shown in various manuscript versions made after its composition, Allegri’s Miserere was significantly altered from its original conception. In some versions, ornamentations of various types were added while in others, voice alterations and structural, harmonic changes were made—all done in attempts to adhere to changing musical styles and tastes. Despite these many alterations, Allegri’s Miserere has remained a viable work since its composition in the 1630s and continues to be an integral part of the Vatican’s Holy Week services.

Clara Schumann: Purest Artist. Jennifer Wittig. Butler University, Indianapolis, IN. Sponsor: Dr. James Briscoe

Clara Wieck Schumann was an especially accomplished pianist who was not only influenced by her musically gifted family but also profoundly shaped by many friends and acquaintances. She made it known how passionately she cherished and revered her close companions, especially the deeply romantic Robert Schumann, whom she later married. For much of her adolescent life she lived in the shadows of her parents divorce and was enforced to reincarnate her father’s own dream of becoming a profound pianist. She managed to surpass her insufferable father’s expectations and, with her grace and agility as a musician, she became known in the 19 th century as “Queen of the Piano.” Although she spent much of her life’s energies in performing the piano, she drew ceaseless inspiration from her close companionships. One therefore can state that personal relationships framed her life’s artistry as pianist and composer.
Pharmacy/Health Sciences

Session A
Pharmacy Building, Room 103
Moderator: Dr. Kristal Williams

08:30AM
Do Other Neuroaffective Drugs Affect the Ability of Dopamine Agonists to Induce Obsessive Behaviors Such as Gambling? Christopher Riegel, Bruce Clayton. Butler University, Indianapolis, IN. Sponsor: Bruce Clayton

Obsessive behaviors (e.g., pathological gambling) have been attributed to the use of dopaminergic agents. These incidents have sometimes occurred with dosage increases, and been ameliorated with drug discontinuation or the use of a dopamine antagonist. Behavior is regulated by a complex interplay of neural pathways. The dopamine, serotonin, and norepinephrine pathways have all been implicated in compulsive behaviors, indeed, SSRIs are commonly used to treat OCD. Therefore, it is possible that the onset of compulsive behavior in patients using dopamine agonists may be triggered as a drug interaction with drugs affecting other neurotransmitters. Adverse event reporting databases are being surveyed to search for such a drug interaction. Adverse drug events in patients using dopaminergic drugs from both the US FDA Adverse Events Reporting System and the UK General Practice Research Database will be searched for compulsive behaviors. These events will be examined for concomitant use of neurotransmitter agents. These agents will be classified as agonists or antagonists of particular neurotransmitters. A group of any adverse events occurring with the dopaminergic drugs will also be examined for concomitant drug use. Statistically significant drug interactions will be identified through comparisons of the frequency of use of each class of neuroactive agent in both the compulsive events group and the control group.

08:45AM
Assessing Healthcare Utilization in the Amish Population. Amy Spears, Sarah Withers. Butler University, Indianapolis, IN. Sponsor: Bruce Clayton

Background: There are very few studies about the Amish population and healthcare. Reasons for this are the obvious culture differences, their smaller population, and less use of modern medicine. They take on a very different lifestyle than most Americans and are genetically isolated, making them an exceptional population with which to do research.

Objective: Identify use and trends of healthcare within the Amish population.

Methods: Cross sectional survey form made available at CVS in Berne, IN that serves a substantial Amish population. The survey is specifically written to identify some of the significant cultural differences regarding healthcare views and treatments. Issues addressed are health problems (or lack of), treatments, payment for healthcare services, the frequency with which it is used and maintained, and other lifestyle and environmental factors.

Results: Data collection is ongoing

Conclusions: The purpose of this study is to inform current healthcare providers of the cultural differences that may effect the kind of healthcare the Amish receive.

09:00AM

Background: The community pharmacy is intended to be a place for patient care, however the rise in addiction to prescription drugs has heightened the incidence of both prescription fraud and pharmacy robbery. Currently, research is lacking in the area of pharmacist education on drug diversion.

Objective: To evaluate the perceptions of the community pharmacist with respect to prescription fraud and pharmacy robbery as well as the preparedness to handle such situations, with the intent to assess the need for a continuing education program on this topic. Methods: A survey was sent to licensed Indiana pharmacists using a listserv provided by Butler University. Only data from pharmacists currently practicing in the community (retail) setting was accepted and analyzed. The survey includes questions regarding prescription fraud, pharmacy robbery, security measures and demographics. Results: Of 1000 surveys sent, 80 surveys were returned, 47 met the study criteria, and 43 completed the study. Of those who responded, 58% perceive fraud as a major problem in their area, whereas 18.6% perceive robbery as a major problem. 25.6% rated their own preparedness for handling fraud as excellent or very good. 20.93% felt that their preparation was excellent or very good for robbery. The majority of respondents (88.37%) agreed that a continuing education course on the topic of security would be helpful. Conclusions: Results of the study indicate that pharmacists are concerned about security in the community pharmacy regardless of gender or work experience. Although most of those surveyed do not perceive robbery to be a major problem in their area, they are interested in further education on the topic of security.

09:15AM
The Effects of Direct to Consumer Advertising (Dtica) on Patient’s Involvement in their Own Drug Therapy and on Physician Prescribing. Julia Simpson. Butler University, Indianapolis, IN. Sponsor: Carriann Richey

Background : Past studies have determined the physicians’ feelings toward DTCHA. DTCHA has changed the way some consumers view health care and their own healthcare and physician prescribing. The patients’ point of view has not been thoroughly evaluated in the past. This survey will examine the effects on the actual patient and how they have taken steps to become involved in the health care process.

Objective: The objective of this study is to evaluate the effects of DTCHA on patient interaction in their own health care and drug therapy.

Methods: Surveys were administered to guests visiting pharmacies within the Indianapolis and St. Louis areas. This group provides an overall representation of the general public which are presently taking prescription medications and who may be exposed to DTCHA. The surveys consist of closed ended questions that evaluate the patient’s personal exposure to DTCHA advertisements, how these ads directly affect their feelings toward their personal health care, and if they are leading to any changes in physician prescribing.

Results: Data analysis is ongoing.

Conclusion: This survey will introduce the consumers’ point of view and give some general ideas on how they are affected by DTCHA. The respondents will act as an example of how some patients are researching their own healthcare and approaching their physicians after viewing these advertisements.

09:30AM

Background: One important professional role of a pharmacist is patient education. Studies have shown that the professional expertise provided by a pharmacist during counseling can prevent unnecessary hospitalization, prevent harm or death, and reduce cost. Often, patient counseling is neglected when the patient does not speak English. In the United States, Hispanics have become the largest minority making up 14.5% of the total population. As a result, 11% of patients seeking medical care in the United States primarily speak Spanish.

Objective: To determine the opinions of retail pharmacists regarding the impact of the language barrier on providing quality education for Spanish-speaking patients.
Methods: The study employed a 26 question cross-sectional survey of retail pharmacists over language-assistance services available, pharmacists’ attitudes, and demographic information. The survey was sent to 1,000 licensed Indiana pharmacists randomly selected from a computer listserv database. Descriptive statistics were the principle data analysis. Results were also analyzed using independent sample t-tests to determine differences between pharmacists with different demographic information. Results: Statistical analysis is still pending.

Conclusions: To be determined following completion of statistical analysis.

10:00AM
An Evaluation of the Effects of Over-the-Counter Triglyceride-Lowering Agents on LDL-C. Dawn Harris. Butler University, Indianapolis, IN. Sponsor: Kristal Williams

Background: The American Heart Association recommends omega-3 fatty acid therapy in individuals with documented coronary heart disease and hypertriglyceridemia. Omacor® was recently approved for the treatment of very high (>500mg/dL) triglycerides in adults. In clinical trials, Omacor®, resulted in undesired increases in LDL cholesterol by 40%. Lowering LDL cholesterol levels is the primary target for cardiovascular risk reduction. According to the ATP III guidelines, elevated LDL is an independent risk factor for cardiovascular and cerebrovascular diseases. Over-the-counter fish oils are readily available to the public and is suggested that these products may increase LDL concentrations as well.

Objective: To evaluate the patient’s knowledge of lipid lowering therapy and the effects of OTC fish oils on LDL-C.

Methods: A two phase study consisting of: 1) nine item questionnaire assessing patient’s knowledge of cholesterol abnormalities and treatment, 2) retrospective chart review of patient’s cholesterol history. Data will be analyzed using standard lipid panels. Exclusion criteria: men and women >18 years of age, on fish oil therapy that are patients at IU Methodist Family Practice Center from present through July 2007. Exclusion criteria: pregnant and lactating women, allergy to seafood, contraindications to fish oil therapy, and in patients with undetermined LDL levels.

Results: To date 20 patients have been identified by a query of Family Practice center patients, and 37 patients have completed the survey. Data collection is ongoing.

Conclusions: The aim of this study is to assess the changes in LDL-C that may occur from fish oil use to evaluate increased risk for cardiovascular disease

10:15AM
Physicians’ habits pertaining to late life depression assessment. Sheena Sanders. Butler University, Indianapolis, IN. Sponsor: Kristal Williams

Background: “At least 1 in 10 outpatients have major depression, but most cases are unrecognized or inappropriately treated leading to loss of productivity, functional decline, and increased mortality.” “The prevalence of depression in adults older than 65 years of age ranges from 7 to 36% in medical outpatients.”

Study Objectives: The primary objective is to examine the screening, diagnosis, and treatment practices of depression in the elderly (>65 years or older) among family practice physicians at IU Methodist Family Practice Center. The second primary objective is to survey the resident-physicians to determine their perception of their assessment and screening habits for depression.

Methods: Retrospective Chart Review

The medical charts of patients with depression will be retrospectively reviewed to determine screening, treatment, and follow-up practices of providers among elderly patients. Data will be collected using a query based on age> 65 years, the keyword “depression” and ICD-9 code for depression (ICD-9 code 311). Patients with a positive diagnosis to merit treatment will have chart reviewed for the date of initiation of an appropriate antidepressant medication, in relation to diagnosis date, and follow-up. Appropriate statistical tests will be applied.

Resident – Physician Survey

Residents will be given the survey regarding their habits with depression screening and assessment in the elderly (65 years or older). Residents may volunteer to complete the survey.

Results: Pending

10:30AM
Assessment of Post-Surgical Infections as an Indicator of Adherence To Surgical Care Improvement Project (Scip) Guidelines at Major Hospital. Erin Angle. Butler University, Indianapolis, IN. Sponsor: Bruce Clayton

Background: The Surgical Care Improvement Project (SCIP) guidelines address post-surgical infections as a target area of improvement. The guidelines recommend that surgeons administer prophylactic antibiotics within one hour prior to surgery, select appropriate prophylactic antibiotics according to clinical guidelines, and discontinue prophylactic antibiotics within 24 hours after the end of surgery.

Objective: To assess adherence to the SCIP guidelines for surgical infection control at Major Hospital and to compare post-surgical infection rates from 2006 to previous years.

Methods: A retrospective chart review was conducted of Major Hospital patients undergoing hysterectomy, total hip, total knee, or colon surgeries between January 1-September 30, 2006 (n=68). Surgical infection rates from 2006 were then compared with those of 2003-2005, before implementation of SCIP guidelines, to assess impact of the guidelines on infection rates.

Results: Sixty-eight surgical procedures were reviewed; of those, 25% were colon surgeries, 22% total knee, 13% total hip, and 40% hysterectomy.

Major Hospital was 78% compliant with the first measure (prophylactic antibiotic received within one hour prior to surgical incision). Compliance was 81% with the second measure (prophylactic antibiotic selection for surgical patients). Major hospital was 43% compliant with the third measure (prophylactic antibiotics discontinued within 24 hours after surgery end time). The total post-surgical infection rate from January 1-September 30, 2006 was 6%. This is comparatively less than previous years: 10% in 2003, 14% in 2004, and 12% in 2005.

Conclusions: Results of this study serve as a check of the understanding and adherence to the SCIP guidelines at Major Hospital. This adherence has lead to reduced frequency of post-surgical infections.

10:45AM
Frequency of INR Monitoring in the Nursing Home When Warfarin and an Antimicrobial are Used Concurrently. Melissa Nguyen, Bruce Clayton, Cathy Ramey. Butler University, Indianapolis, IN. Sponsor: Bruce Clayton

Background: The interaction between warfarin and antimicrobial therapy is known; however, it is uncertain whether INR monitoring and warfarin dose adjustments are performed routinely to maintain therapeutic range and to prevent adverse effects.

Objective: To evaluate the INR monitoring trends within the nursing home when warfarin and an antimicrobial agent are co-prescribed and to assess the type of interventions made in response to the drug interaction.

Methods: A retrospective, observational chart review was performed. Medical charts from 13 nursing homes served by Freedom Pharmacy were reviewed to identify patients receiving warfarin and an antimicrobial agent concurrently. The following data was recorded: antimicrobial agent, duration and indication; INR levels and the monitoring frequency; and effects/responses to the drug interaction (i.e. changes in INR levels, dosage adjustments, and vitamin K administration). Special INR monitoring was differentiated from routine monitoring. Descriptive statistics were performed.

Results: Forty-three patients met the inclusion criteria. INR values were obtained in 87% and 54% of co-prescribing instances within 14 and 7 days of antimicrobial therapy initiation. Fluoroquinolones were prescribed the most frequently. Special INR monitoring occurred in 16% of cases. INR values were within therapeutic range in 33% of cases. No action was taken in 56% and 28% of cases when the INR values obtained within 14 days of
co-prescription were < 2 or > 3.5 respectively. Data collection is ongoing. Final results will be updated.

Conclusions: INR monitoring should be performed more frequently in the nursing home setting when interacting medications are co-prescribed to optimize therapeutic outcomes.

Session B
Pharmacy Building, Room 106A
Moderator: Dr. Nandita Das

08:30AM
Evaluation of the safety and efficacy of prophylactic indomethacin for the prevention of patent ductus arteriosus in preterm neonates. Anne Jackson, Gina Ellis. Butler University, Indianapolis, IN. Sponsor: Dennis Gardner

Background: Premature infants have an increased likelihood of developing a persistent patent ductus arteriosus (PDA). If left untreated, a PDA can lead to left-to-right shunting of blood, increased pulmonary blood flow, and eventually congestive heart failure. Prophylactic treatment can decrease the likelihood of a symptomatic PDA and the complications associated with it. Indomethacin, a prostaglandin inhibitor, is used for the prevention and treatment of PDA in newborns to try to avoid the need for surgical ligation. However, indomethacin has potentially serious adverse side effects.

Objective: The objective of this study is to determine the safety and efficacy of prophylactic indomethacin for the prevention of a PDA.

Methods: Institutional review board approval was obtained prior to the beginning of the study. A retrospective chart review evaluating the safety and efficacy of a prophylactic indomethacin protocol at St. Vincent Women’s Hospital was performed. All patients born between October 2005 and January 2007 who weighed less than 1000 grams at birth and who received prophylactic indomethacin per protocol were included in the study. Patients were excluded from the prophylactic indomethacin protocol if they had structural heart disease, renal disease, clinical bleeding, platelet count < 50,000/mm3, hydrops fetalis, or if mom received tocolytic therapy with indomethacin within 72 hours of delivery. Descriptive statistics will be performed and evaluated for all variables.

Results and Conclusions: Researchers hope to determine if prophylactic indomethacin is safe and effective in preventing a PDA and the need for surgical ligation in preterm neonates.

08:45AM
Low-Dose Vitamin K supplementation along with Coumadin® to help stabilize fluctuating INR's. Landon Heyerly, Brook Sipe. Butler University, Indianapolis, IN. Sponsor: Chris Degenkolb

Background: Coumadin® is a well known oral anticoagulant used to treat and prevent thromboembolic diseases. Variations in the amount of dietary vitamin K intake may have an effect on patients’ INR readings. With vitamin K supplementation, variations in the amount of vitamin K intake may decrease and may result in more consistent INR readings.

Objective: To determine if low-dose vitamin K supplementation stabilizes fluctuating INR's by minimizing frequent dosing changes.

Methods: A non-blinded study that will enroll participants who meet the required inclusion criteria and that sign the informed consent. These patients will be asked to take 100mcg of oral vitamin K along with their daily dose of oral anticoagulation medication. The patient's data from six months prior to vitamin K will be compared to the six months during vitamin K supplementation. INR's in range, time in range, standard deviation, comparison in weekly dosage adjustments, and time between visits will be compared.

Results: A total of 20 patients' charts have met the inclusion and exclusion criteria for this study. Data is pending and will be presented at the URC.

Conclusions: Since this study is not complete, final results cannot be computed.

09:00AM
Physician Compliance with Baseline and Annual Laboratory Monitoring of Serum Creatinine in Patients Prescribed Metformin at an Ambulatory Care Site. Holly Staker. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: Prescribing information for metformin contains specific guidelines for laboratory monitoring of patients treated with metformin. Metformin is contraindicated in renal disease or dysfunction (e.g., as suggested by serum creatinine levels ≥ 1.5 mg/dL [males], ≥ 1.4 mg/dL [females], or by abnormal creatinine clearance) due to the increased risk of lactic acidosis associated with renal dysfunction. Additionally, renal function should be evaluated before initiation of metformin and at least yearly thereafter. Recommendations for the laboratory monitoring of drug therapy are reported to be inconsistently followed in the ambulatory care setting. Objective: To evaluate physician compliance with laboratory monitoring of metformin and improve overall patient care through enhanced collaborative practices between physicians and pharmacists.

Methods: Part 1: A retrospective, observational chart review was conducted to evaluate physician compliance with recommended laboratory monitoring of serum creatinine in patients prescribed metformin. Subjects were identified using the pharmacy’s computer database. Inclusion criteria were type 2 diabetes patients > 45 years of age who filled a prescription for metformin at Access to Care Pharmacy. Data collected included patient demographics, weight, and dosage form of metformin. Part 2: Pharmacists at Access to Care will be involved in the drug monitoring process to determine if proper monitoring has taken place before metformin is dispensed. Part 3: Evaluation of pharmacist involvement in the monitoring process and presentation of information to pharmacy and medical staff. Results: Data collection is ongoing. Conclusions: To be determined subsequent to data collection.

09:15AM
A retrospective chart review assessing the appropriate use of parenteral nutrition. Angela Mangi. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Study design: A retrospective observational study was used to evaluate the appropriate use of PN.

Data source: Medical charts of patients receiving PN from January 1, 2005 through December 2006 at Methodist Hospital were evaluated.

Inclusion criteria: The study will be restricted to patients hospitalized at Methodist Hospital. The study population will include patients 18 to 89 years of age that received PN during their course of therapy.

Assessment of Outcomes: Assessment includes the indication for use of PN and an evaluation for the presence or potential for enteral access in the patient. Days of PN use will also be evaluated.

Results: Data collection is complete. Statistical analysis is pending

Conclusion: Results of study are pending data evaluation.

09:30AM

Background: Ventricle Assist Devices (VADs) provide support to the circulatory system by improving myocardial contractions resulting in better blood flow in patients with poor cardiovascular perfusion. Patients receiving VADs may be malnourished prior to the procedure. Malnutrition leads to a decrease immune function, decreased respiratory function, and an increased risk of infection. Currently there are no published studies that evaluate nutrition support in VAD patients post-placement in an acute setting but there are studies to show that enteral nutrition is advantageous over parenteral nutrition in the critically ill/postoperative patient. Objective: The purpose of this study is to investigate whether the type of nutritional support used in the critically ill/acute care patients will result in the same benefit in VAD patients.
Methods: A retrospective chart review will be performed at Methodist Hospital of Clarian Health in Indianapolis, Indiana. Patients from 18 to 80 years of age who received their VAD between 1995 and 2006 at Clarian Health will be included. Patients will be excluded if they have insufficient/incomplete patient data that can be obtained. Data collection includes demographic information, history of weight loss, type of VAD placed, co-morbid conditions, pre-albumin and albumin. Outcome data will include hyperglycemic events, days requiring mechanical ventilation, days in the ICU and hospital stay, documented infections, and death.

Results: Data collection is ongoing.

10:00AM
Assessing Patterns of Development and Treatment of Clostridium difficile in a Community Hospital Setting. Jeremy Bryson, Jarrett Amsden. Butler University, Indianapolis, IN. Sponsor: Jarrett Amsden

Background: Clostridium difficile is a gram positive, spore forming, anaerobic rod that commonly causes antibiotic associated colitis. This organism typically produces exotoxins that are associated with the resulting diarrhea or C. difficile associated disease (CDAD). Among the greatest risk factors for the development of CDAD is recent use of antibiotics, particularly broad spectrum agents. Other risk factors have recently emerged as contributors to development. Concerns over the effectiveness of treatment used for C. difficile exist since infection rates have increased over the last decade. Recent studies have identified emergence of new, more virulent strains of C. difficile associated with a worsened disease course.

Objective: Study objectives include examining the efficacy of antibiotic treatments and evaluating risk association for nosocomial C. difficile infection.

Methods: A retrospective, non-interventional, case-controlled chart review will be conducted at Community Hospital Network, Indianapolis, IN to obtain clinical data about the population that develops CDAD. Treatment course data will be based on pharmacotherapy used for infections and respective outcomes including length of hospital stay, time to resolution of diarrhea, recurrence of infection, and need for surgery. Information will also include data for risk factors associated with CDAD development as well as a compilation of patient demographics for risk factor association. All patients with a positive C. difficile toxin assay during the year 2006 will be used to generate our case population.

Results: Data collection is complete; analysis is pending. (To be presented)

Conclusions: To be concluded after data analysis.

10:15AM
Association of antidepressants with gastrointestinal bleeds in depressed patients over the age of 50: A retrospective cohort study. Shaun Kink, Tracy Bottorff. Butler University, Indianapolis, IN. Sponsor: Tracy Bottorff

Background: Upon release, serotonin binds and activates 5-HT2A receptors producing a weak platelet aggregation response that is enhanced by the presence of collagen. 1 Released serotonin also produces a direct vasoconstrictive effect on the blood vessels in the area. 1 These actions contribute significantly to thrombosis and hemostasis. 1 However, the blockade of serotonin receptor proteins by antidepressants prevents the uptake of serotonin by platelets. This proposed alteration in the hemostasis results in an increased likelihood of developing a bleeding episode.

Objective: To evaluate the degree to which antidepressants cause gastrointestinal bleeds in patients over the age of 50.

Methods: Patients will be included if diagnosed with Major Depressive Disorder during 2002 as documented in the outpatient electronic medical record. Patients will then be entered into the cohort on the date they were first prescribed an antidepressant, and observation will end when patient’s exposure to the drug or the study period ends, the patient is admitted to the hospital for a GI bleed or the patient expires. The following data will be collected: age, gender, ethnicity, co-morbid disease states, antidepressant used, presence of GI bleed, smoking status, and risk factors such as concomitant use of NSAIDs, aspirin, anticoagulants, antiplatelets, PPIs, and H2 blockers.

Results: This project is still in the data collection phase. Once data collection is complete descriptive statistics and percentages will be used to quantify the results, controlling for confounding variables. The occurrence of GI bleeds in our patient cases will then be compared for statistical significance to the national average.

10:30AM
Evaluation of adverse effects of aprotinin in pediatric cardiac surgery. Emma Tillman. Butler University, Indianapolis, IN. Sponsor: Maria Whitmore

Background: Aprotinin use in adults has been correlated with renal dysfunction, cardiovascular, and cerebrovascular adverse events. However, there is little evidence of safety of aprotinin in the pediatric population.

Outcomes: The primary outcome of this study is to determine the incidence of renal dysfunction in pediatric patients who receive aprotinin while undergoing cardiac bypass surgery. The secondary outcome is to determine the incidence of cerebrovascular or cardiovascular adverse events.

Methodology: Institutional review board approval was obtained prior to the beginning of this study. All patients less than eighteen years of age who receive aprotinin during cardiac bypass surgery at the St. Vincent Children’s Hospital from January to December 2006 will be included. Patients will be excluded from this study if they have pre-existing renal, hepatic, or clotting disorders. The following data will be collected using electronic medical records: pertinent patient information, renal function, hepatic function, hematologic parameters, type of cardiovascular surgery, dosing of aprotinin, amount of blood loss, and blood products administered. If available, chest X-ray, cardiac echo, CT scans, and head ultrasound reports will also be evaluated. All data will be recorded without patient identifiers to maintain confidentiality. The primary outcome of the incidence of renal dysfunction will be defined as a BUN and Scr outside of the normal range for the patient’s age. Secondary outcomes include the incidence of cerebrovascular and cardiovascular events. Cerebrovascular events are defined as a clinical diagnosis of stroke, encephalopathy, or coma. Cardiovascular events include myocardial infarction or heart failure. Descriptive statistics including mean, median, and mode will be performed and evaluated on all variables.

Results & Conclusions: Results and conclusions will be presented at the conference.

10:45AM
Evaluation of Wafarin Therapy at the Heart Center of Indiana. Kristen Smit, Kenneth Menser. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey, Pharm.D., BCPS

Background: Warfarin is an anticoagulant with proven efficacy in the treatment and prevention of many thromboembolic diseases. Therapy with warfarin is complex and requires careful monitoring and adjustment. Prior studies have shown that there are improved outcomes when pharmacists are involved in the management of warfarin therapy. Currently, at The Heart Center, warfarin is managed by physicians and physician assistants.

Objective: To evaluate if there is a need for pharmacist involvement in the inpatient management of warfarin therapy at the Heart Center of Indiana.

Methods: A retrospective chart review was used to meet the study objective. A list of patients recently receiving warfarin therapy was generated. Data from charts was used to determine average time required to reach therapeutic INR, incidence of complications and the percent of patients that were within therapeutic range at discharge. The results of the study were used to determine if the institution would benefit from the development and implementation of a pharmacist’s managed warfarin protocol.

Results: A total of thirty charts were reviewed. The mean time reach a therapeutic INR was 5.83 days. Ten percent of the patients reviewed experienced a bleeding episode. None of the patients had a thrombotic
complication. At discharge 53.3% of patients were within therapeutic range.

Conclusions: Based on the results of the study no changes will be made in the management of warfarin therapy at The Heart Center of Indiana.

Session C
Pharmacy Building, Room 106B
Moderator: Dr. Iftekhar Kalsekar

08:30AM
Dysglycemic Events in Patients with Type 2 Diabetes Mellitus Following the Administration of Gatifloxacin, Levofloxacin, Moxifloxacin, or Ceftriaxone: A Retrospective Chart Review. Chad Gustin. Butler University, Indianapolis, IN. Sponsor: Chris Degenkolb

Background: Prior to gatifloxacin (Tequin®) removal from the market for dysglycemic events that led to patient hospitalization, case reports and clinical trials described similar occurrences for several other agents in the fluoroquinolone class of antibiotics. Objectives: To examine the risk of dysglycemic events associated with moxifloxacin, levofloxacin, and gatifloxacin administration, as compared with ceftriaxone therapy in the type 2 diabetic inpatient population. Additionally, to compare the incidence of dysglycemic events amongst the fluoroquinolones to determine whether the risk for dysglycemic events with moxifloxacin and levofloxacin is similar to gatifloxacin. Methods: A retrospective chart review was conducted of men and women ages 18 to 85 with the diagnosis of type 2 diabetes mellitus who received inpatient treatment with one of the following intravenous antibiotics: moxifloxacin, levofloxacin, gatifloxacin or ceftriaxone. Patients were followed from day one of antibiotic therapy to up to three days after the completion of treatment. Disruptions to glucose homeostasis were monitored to evaluate the relationship between drug administration and the glucose levels during the specified time frame. Results: A total of 200 patients were included in the study for review. Data collection is still being completed. Results are pending. Conclusion: Will be determined upon the completion of data analysis.

08:45AM
Evaluation of Transdermal Fentanyl Use for Treatment of Chronic Pain. Jennifer Arnold, Judy Harrer. Butler University, Indianapolis, IN. Sponsor: Christopher Degenkolb, Chris Degenkolb

Evaluation of Transdermal Fentanyl Use for Treatment of Chronic Pain

Background: Transdermal fentanyl patches are approved for use to treat chronic pain patients with a 72 hour dosing interval. However, some patients’ may require a 48 hour dosing interval for adequate pain control. To maximize resources, the Veterans Affairs PB (PBM) is evaluating the use of fentanyl patches in veteran patients. The Cleveland Louis Stokes VA Medical Center performed a medication use evaluation (MUE) of their transdermal fentanyl patch use, using the Veterans Integrated Service Network (VISN) 21 criteria. The results from this MUE indicated that few patients meet the criteria outlined by VISN 21. This study performed at the Cincinnati VAMC utilized the criteria outlined in the Cleveland MUE, as well as, those outlined in the manufacturer’s prescribing information for dosing intervals less than 72 hours. Objectives: Primary: To determine whether the Cincinnati VAMC is meeting the established criteria for fentanyl patch usage as outlined by VISN 21. Secondary: To determine whether patients using the transdermal fentanyl patch at 48 hour intervals have been appropriately prescribed this dosing interval. Methods: A retrospective cohort design will be used to meet the study objectives. Outpatients with active prescriptions for fentanyl patches will be reviewed to determine if they meet the appropriate indications. The electronic medical record was utilized to identify patients at the Cincinnati VAMC with active prescriptions for fentanyl patches with a dosing interval of Q48H. From this list, 50 patients were randomly chosen for evaluation. Results: pending

Conclusion: The acceptance or rejection of hypothesis will determine if changes in prescribing may need to be considered.

09:00AM
The Impact of Ethnic Concordance between Hispanic Patients and Physicians on the Utilization of Preventive Health Screening. Amanda Ketterer. Butler University, Indianapolis, IN. Sponsor: Iftekhar Kalsekar

The Impact of Ethnic Concordance between Hispanic Patients and Physicians on the Utilization of Preventive Health Screening

Background: Hispanic women are at a greater risk for breast and cervical cancer compared to Caucasian women in the United States, yet their rates of Papanicolaou (Pap) testing and mammography are lower. Studies have shown that minority patients are more likely to seek medical care from a professional of the same race and/or ethnicity. This pattern prompted the need to evaluate the effect of shared patient-physician ethnic identification on the rate of adequate screening practices.

Study Objective: To evaluate the impact of concordance between patient and physician ethnicity on the rate of mammography and Papanicolaou screening among Hispanic women.

Methods: Data from the Medical Expenditure Panel Survey (MEPS) –2004 will be utilized to meet the study objectives. The final sample will include Hispanic females at least 40 years old or greater who report having a primary individual as their usual source of care. Patients with a prior diagnosis of breast cancer, or cervical cancer or prior hysterectomy are excluded from either the mammography or Pap screening analysis, respectively. A logistic regression analysis will be 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 as recommended by the United States Preventive Services Task Force.

Results: Data analysis pending.

09:15AM

Introduction: Polycystic ovary syndrome (PCOS) is a multifaceted condition resulting in hyperandrogenemia, hyperinsulinemia, anovulation, and infertility. The syndrome is one of the most common causes of infertility and affects up to 10% of women. Metformin has been shown to reduce ovulatory dysfunction and resolve hyperinsulinemia in PCOS patients. However, difficulty conceiving still persists, and many patients turn to assisted-fertility in vitro fertilization (IVF) at an out of pocket cost of $12,400 per IVF cycle. To date, an abundance of data shows an increased ovulation rate induced by metformin therapy, but there is little data describing metformin’s effect on conception or pregnancy.

Objective: To evaluate the effect of metformin therapy on the success of assisted fertility in women with PCOS.

Methods: Literature was identified by a systematic search of publications contained within Medline, EMBASE, International Pharmaceutical Abstracts and the Cochrane Database of Systematic Reviews. Additionally, Fertility and Sterility and Human Reproduction were searched for publications and abstracts not indexed in the aforementioned databases. All English language observational studies and clinical trials were eligible for inclusion in the meta-analysis. The reporting of successful clinical pregnancy in eligible publications was required for inclusion. Analysis investigated whether administration of metformin effects attainment of clinical pregnancy in PCOS patients undergoing assisted fertility. Results will be compiled and weighted based on sample size and study quality. Additional tests for data homogeneity and publication bias will also be performed. Preliminary results: The final results of this meta-analysis are to be determined.
09:30AM
The Effects of Pharmacy Rotations on the Career Plans of Pharm-D Students. Keith Kalvaitis. Butler University, Indianapolis, IN. Sponsor: Jeanne Van Tyle

Background: Although previous studies have looked at factors that influence the career paths of pharmacy graduates, it is unknown what impact, if any, academic rotations have on that process. Considering the current demand for pharmacists, it is important to understand what students look for when choosing a job in that field.

Objective: To determine how career choices and factors that led to those decisions change as a result of undergoing pharmacy rotations.

Methods: A cross-sectional survey of Butler pharmacy students in their P4 year was conducted via a one group pretest-posttest design. Current career plans, dedication to a field, and desired job aspects were assessed before student entry into rotations and again shortly before their conclusion. Student responses were matched and analyzed to see how views changed after the experience.

Results: The pre-survey received 88/124 responses. Early assessment shows a broad diversity of reasons students chose their current career plans. Post-survey results are still pending.

Conclusion: This study aimed to conclude how integral the experience of academic rotations is in influencing career selection while also examining the underlying reasons behind that decision.

10:00AM

Background: The use of cigarettes in women who also take oral contraceptives has well known and publicized risks, as well as an FDA Black Box warning against their concurrent use. Despite these risks, there are still many women who do use both. The study aims to use 2004 data from the Behavioral Risk Factor Surveillance System (BRFSS) to assess current methods used to prevent cigarette smoking in this population.

Objective: To determine the rate of cigarette smoking in U.S. women currently taking oral contraceptives and to identify factors leading to this use.

Methods: A cross sectional study using data collected from the 2004 BRFSS phone survey. Data collected includes current birth control use and method, current smoking status, age, race, household income, and highest education level achieved. Inclusion criteria are participation in the study, current oral contraceptive use and age between 18 and 44 years old. Frequencies were used to determine rates and multiple linear regression was used to determine which factors influence concurrent use.

Results: Data analysis is ongoing, but preliminary data suggests 11.2% percent of women taking oral contraceptives are currently smoking everyday.

Conclusion: This study is aiming to determine nationwide rates of smoking and to assess demographic factors involved. If a certain population is found to be at an increased risk, education and preventative measures can be directed to the appropriate groups.

10:15AM
Evaluation of Treatment of Hypertension in a Clinic Serving Indigent Patients. Mark Miller, Jeanne Van Tyle. 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 such as cardiovascular and renal morbidity and mortality.

Objectives: To evaluate blood pressure control in patients receiving primary care at the Genesaret Free Clinic (GFC) Spann Avenue Wellness Clinic. To compare management of blood pressure in the primary care clinic with the volunteer clinic at GFC using JNC VII guidelines.

Methods: A retrospective chart review design was used. A list of patients with hypertension was generated using a clinic database. Data was collected including age, race, presence of diabetes or renal disease, blood pressure medications and dosages, blood pressure measurements, and adverse events. Data will be analyzed to determine percentage of patients meeting JNC VII guidelines, changes in blood pressure over time, and number of medications used during the study period.

Results: To be determined.

Conclusion: The data from this study will be used by the Medical Service Board of the GFC to evaluate the effectiveness of treatment of hypertension in the indigent population. In addition, these data will be compared to the data of a previous study which examined treatment of hypertension in the volunteer clinic.

10:30AM
Retrospective review of assessment and follow-up of urinary incontinence in the long term care setting. Elizabeth Adams, Jodi Mann. Butler University, Indianapolis, IN. Sponsor: Chris Degenkolb

Background: Currently, the issue of urinary incontinence is often overlooked by many physicians of long term care residents. Nursing assessments are completed, but they are rarely acted upon. Therefore, it remains largely under diagnosed and inadequately treated despite excellent therapeutic options.

Objective: To determine if patients with suspected urinary incontinence are followed up appropriately by physicians and treated for the condition.

Methods: A retrospective chart review of residents in long term care facilities, serviced by Cornerstone Pharmacy, in and surrounding the Indianapolis area was conducted. Inclusion criteria for the review will be any documented suspected urinary incontinence. Patients less than 65 years of age and over the age of 98 years will be excluded. All patients fulfilling the inclusion criteria were assessed as to whether a physician followed up on the findings of incontinence as noted on the general health nursing assessment. Treatment initiation, efficacy, duration of therapy, and nursing reassessment of these residents per protocol was evaluated.

Results: Data collection is complete and results are being analyzed.

Conclusions: The results of this study are currently pending.

10:45AM
Thiazolidinediones and the Incidence of Heart Failure in Patients with Type 2 Diabetes. Amy Sheller, Iftekhar kalsekar. Butler University, Indianapolis, IN. Sponsor: Iftekhar kalsekar

Background: Oral hypoglycemic agents are widely used in the treatment of patients with type 2 diabetes. Thiazolidinediones (TZDs) are a class of oral hypoglycemic agents that includes the drugs Actos and Avandia and are found to be beneficial in patients with type 2 diabetes. However, TZDs can also cause fluid retention, plasma volume expansion, and weight gain. These adverse events are thought to contribute to the development of heart failure and that is why TZDs are thought to cause heart failure more so than other oral hypoglycemic agents. Cases of congestive heart failure have been reported in patients both with and without previously known heart disease. Since there are not many published studies that have researched this topic and found statistical significance, further research needs to be done to determine the association between TZDs and heart failure.

Objective: To conduct a systematic review and meta-analysis of studies reporting the association between TZD use and development of heart failure.

Methods: A thorough search of Medline, Iowa Drug Information Database, Cochrane controlled trials, clinicaltrials.gov and Google Scholar will be performed using the search terms “TZD”, “thiazolidinediones”, “Avandia”, “Actos”, and “heart failure”. All English language observational studies and clinical trials are eligible for inclusion in the meta-analysis. Results will be compiled and weighted based on sample size and study quality.
Additional tests for data homogeneity and publication bias will be performed. Results: Data collection is in progress.

11:00AM
Susan Surber. Butler University, Indianapolis, IN. Sponsor: Medhane Cumbay

Apolipoproteins mobilize dietary lipids via the circulation for use in liver, fat, heart, muscle, lung, and breast tissues. This presentation focuses on one class in particular – apolipoprotein E (APOE). Within this class, there are three isoforms that are scrutinized and heavily studied due to their connection with several neuropathologies: APOE2, APOE3, and APOE4 [1]. Alzheimer’s disease research, as of late, has been significantly impacted by the discovery of this genetic biomarker. Alzheimer’s disease (AD) is a progressive illness that affects cognitive function, memory, and behavior. It is estimated that as many as 4.5 million Americans are afflicted by AD [2]. Alzheimer’s disease is rigorously studied at both molecular and cellular levels, and all findings seem conclusive. It has been continuously verified that the APOE4 allele correlates with the early onset of AD (eAD) and has emerged as a major genetic factor [3]. This presentation will provide a general overview of APOE’s impact on neurological pathologies, in particular AD. The main objective being to convey what has been determined, what is suggested, and what needs to be explored with the relationship between APOE and AD.

Session D
Pharmacy Building, Room 204
Moderator: Professor Trish Barton

08:30AM
Retrospective chart review of the treatment of fractures in long-term care facilities and a prospective follow-up of consultant pharmacist interventions. Allison Nourie, Jarrett Amsden, Cathy Ramey. Butler University, Indianapolis, IN. Sponsor: Jarrett Amsden

Background: Osteoporosis is a major health problem that affects over 200 million people worldwide 4. The annual cost for treatment of osteoporosis and osteoporosis-related fractures in the US is about $15 billion; a figure that may double in the next 30 years if prevention and early intervention is not initiated 6.

Objective: Retrospectively evaluate patients in Long-Term Care facilities and a prospective follow-up of consultant pharmacist interventions. The charts were reviewed to assess osteoporosis medications prior to the fracture as well as to determine if more aggressive therapy was initiated after the fracture. A protocol was developed and osteoporosis therapy recommendations were provided to the physicians by the consultant pharmacist for patients who had inadequate osteoporosis therapy. The physicians could then choose to use the recommendations at their discretion. A prospective follow-up period was conducted to assess the physicians’ adherence to the osteoporosis therapy recommendations. Results: In progress Conclusion: The knowledge to be gained in this study is the 1) the amount of Long-Term Care residents who are not adequately treated for osteoporosis after fractures and 2) the percentage of consultant pharmacist recommendations followed by the physicians.

08:45AM
Assessment of the Utilization of Broad- Spectrum Beta-lactams at a University Medical Center. Shaili Shah, Christopher Crank. Butler University, Indianapolis, IN. Sponsor: Jarrett Amsden

Background: Optimal antibiotic treatment should include choosing the best drug, dose and duration in such a manner to prevent the emergence of resistance. The unnecessary use of broad spectrum beta- lactam antibiotics has increased which has lead to the emergence of resistant pathogens as well as unwanted side effects, and excessive costs.

Objective: The objective of this quality improvement/quality assurance study is to evaluate the usage of broad-spectrum beta-lactams at Rush University Medical Center.

Methods: The project will be a retrospective chart review of the usage patterns of five broad-spectrum antibiotics: piperacillin/tazobactam, cefepime, imipenem, aztreonam and meropenem. Data will be collected using a data collection sheet that includes such things as current risk factors, demographic factors (age, gender), antibiotic choice as well as documented sensitivities, overall health condition of patient (renal function, comorbidities, organ dysfunction), previous antibiotic regimens, clinical outcomes and cost.

Results: Data is being interpreted. Conclusions: These findings will help determine the appropriate treatment option when choosing an effective option in treating infections that require broad-spectrum antibiotics.

09:00AM

Background: Parenteral nutrition (PN) or enteral feedings are often necessary for hospitalized patients. Initiation of PN has associated risk such as mechanical complications (often related to the catheter), catheter-induced sepsis, solution contamination, electrolyte and fluid imbalances, and liver function abnormalities. Infections are concerning in the hospitalized patient due to associated increases in morbidity and mortality. A retrospective chart review will give insight into the incidence of PN related infection.

Objective: The objective of the proposed study is to evaluate the rate of infection after initiation of PN.

Methods: A retrospective chart review will analyze adult patients receiving PN admitted to Methodist Hospital in Indianapolis, Indiana. Documented infectious including line infections, sepsis, bacteremia, pneumonia, and urinary tract infections will be recorded. Established criteria defining bacteremia, sepsis, and septic shock will be used. Pneumonia will be reported if positive sputum cultures are reported and the physician documents the infection in the patient’s chart.

Results: Data collection is currently in progress. Conclusions (in progress): The findings from this study will help evaluate their current infection rate associated with PN.

09:15AM
Medication-Use Evaluation of IV Anti-fungals at Methodist Hospital. Lorah Ehrhardt. Butler University, Indianapolis, IN. Sponsor: Joseph Jordan

Background: With the significant use of antifungal agents at Methodist Hospital and the emergence of new drugs within this class, it is important to understand how and why these drugs are being used. This study was designed to answer these questions and to serve as an aid in formulary management.

Objective: To evaluate physician prescribing of intravenous anti-fungal agents at Methodist Hospital.
Methods: A retrospective review of medical charts was used to meet the primary objective. The study subjects included patients who received treatment with Micafungin, Voriconazole, Caspofungin, and/or Amphotericin B from October 2005 through April 2006. The patients were chosen randomly from a hospital generated list during the specified time period. An observational data collection form was used to guide the recording of information.

Results: A total of 38 charts were reviewed. Caspofungin was the most frequently prescribed agent (15 patients; 39.5%), followed by Micafungin (10 patients; 26.3%), Amphotericin B (Abelcet=3 and Amphocin=6; 23.7%), and Voriconazole (2 patients; 5.3%). The most common use of Caspofungin was seen in identified C. albicans infections (46.7%), followed by empiric use in suspected fungal infection (33.3%). Micafungin was primarily used for C. albicans and C. glabrata infections (80% of total use). Both Amphotericin B products were used in a small percentage of cases for Candida, Aspergillus, and Cryptococcal infections. The use of Voriconazole was insignificant and limited to empiric treatment in febrile neutropenic patients.

Conclusion: The results of this review illustrated that Caspofungin and Micafungin were used most frequently and for similar indications at Methodist Hospital. Anti-fungal drugs were primarily implemented for the treatment of identified C. albicans pathogen and empiric coverage in suspected fungal infection.

Background: PX200: Introduction to Professional Practice is a required course for professional phase students at Butler University pursuing a Doctor of Pharmacy (Pharm.D.) degree. The course instructors are constantly searching for ways in which to improve the course and provide an experience that fits the needs of students. One way to do this is through students’ feedback and ideas for future activities.

Objective: To evaluate what former PX200 students perceive as the most useful and relevant activities of the PX200 course, as well as those activities with low perceived utility.

Methods: The study was conducted with self-administered electronic surveys via SurveyMonkey®. It was distributed October 2006 through February 2007 to all first and second professional year students at Butler University who have completed the PX200 course. The data collected was used to perform a cross sectional survey of students’ views and opinions on various activities in the PX200 course and their perceived relevancy.

Results: Data collection is complete. Data analysis is ongoing.

Conclusion: The survey will obtain constructive, diverse suggestions on ways to modify and adapt activities and the PX200 course as a whole to better prepare second pre-professional year students for pharmacy school, rotations, and a professional career as a pharmacist.

Background: In July 2005, the Community Health Network implemented a formulary switch from gatifloxacin/ciprofloxacin to moxifloxacin/ciprofloxacin. The switch went from a broad spectrum “workhorse” FQ (gatifloxacin) to a formulary where each agent has a specific therapeutic use. Moxifloxacin is used for non-Pseudomonas, community-based infections, but not urinary tract infections (UTIs). Ciprofloxacin is used for Pseudomonas-based infections and UTIs. This formulary was employed to decrease overall cost/use and target appropriate use to preserve efficacy.

Objectives: Primary objectives are to determine how the FQ formulary switch has affected total FQ expenditures and utilization, along with tracking the usage trends of other antimicrobials used. The secondary objective is to review the inappropriate use of moxifloxacin in treating UTIs.

Methods: We conducted a pre and post FQ conversion analysis. Secondly, we conducted a retrospective chart review of the use of moxifloxacin for UTIs during the post-conversion period. The primary objectives will be determined for both the pre-conversion period (July 1, 2004-July 1, 2005) and the post-conversion period (August 1, 2005-August 1, 2006) using the “daily defined dose” (DDD/per 1000 patient days and total expenditures for each agent being studied. The secondary objective will be determined by using the ICD-9-CM codes for UTIs, crossed with patients who received at least one dose of moxifloxacin. Any moxifloxacin use will be considered “inappropriate” if used solely for UTIs.

Results: Data collection in progress.

Conclusion: This study is aiming to conclude whether or not the formulary switch has decreased FQ utilization/costs and resulted in more appropriate use within the Community Health Network.

Background: Colistin is an intravenous polymyxin E antibiotic that is used for the treatment of gram negative bacilli infections. The drug fell out of common practice in the early 1980’s due to adverse reactions such as nephrotoxicity and neurotoxicity. However, multi-drug resistant organisms have increased in prevalence and colistin has re-emerged as a last line option in the treatment of these organisms.

Objective: The primary objective of the study is to describe the safety of colistin in patients infected with multi-drug resistant organisms. Secondary objectives include: determining the composite clinical efficacy of colistin; organism eradication; average changes in renal function from baseline to treatment end; the incidence of neurotoxicity; the duration of therapy and patient’s length of stay; as well as characterizing overall patient outcomes at the end of therapy.

Methods: The study will be an observational, retrospective chart review involving all patients receiving colistin therapy at Community Health Network between June 1, 2003-July 31, 2006. The data for the study will come from the online charts at the Community Health Network in Indianapolis, IN. The sample population will include all patients receiving colistin therapy during the study interval. The inclusion criteria will include all patients that receive at least one dose of colistin therapy to evaluate safety and at least two or more doses to obtain the secondary objectives.

Results: Data collection is in progress.

Conclusion: At the conclusion of this study the results will provide greater insight into the safety and efficacy profile of colistin as well as contribute to optimizing patient therapy and outcomes in the treatment of multi-drug resistant infections.

Background: Rotations are designed to allow students to take what they’ve learned in the classroom and apply it to real life situations under the guidance of clinical preceptors. Preceptors have one thing that students don’t have, practical experience. What preceptors may not have is teaching experience or teaching resources. Many colleges of pharmacy have systems in place for supporting preceptor education. To date there are no studies to determine what kind of instruction school’s are using to support preceptors.

Objective: Purpose of this survey is to find out what techniques and resources are being utilized by Pharmacy Colleges to prepare preceptors to precept Doctor of Pharmacy candidates during the experiential rotation year.

Methods: Anonymous, self-report, on-line survey utilizing Survey Monkey distributed by email to Midwestern Colleges of Pharmacy. Information will
Background: Medication Therapy Management Services (MTMS) allows pharmacists to bill for Medicare-related patient care services. One reason for MTMS is that if you plan to spend money for medications, then also spend money to ensure that medications are used appropriately and safely. Literature reviews have found that patients are highly supportive of MTMS. Patients find pharmacists to be approachable and better prepared to spend time answering medication therapy related questions. Objective: To assess the pharmacist’s role in medication management in patients taking six or more medications.

Methods: We will identify Cardinal Access patients who are taking six or more medications and contact them to participate in the clinic. After obtaining consent, we will meet with each patient for 30 minutes to discuss their current medications. The patient will be asked about medication compliance and any side effects. We will then identify any medication interactions, duplications, or compliance issues. We will be looking for appropriate use of drugs for the patient’s disease states. We will then provide this information to the patient’s physician located at the clinic. We will use the patient’s medical history prior to clinic to assess the pharmacist’s response to our interventions.

Results: Data collection is ongoing.

Conclusions: This study will identify any unnecessary medications while identifying any needed medications. We will also be able to insure proper compliance. Another benefit will be cost management of medications.

Session E
Pharmacy Building, Room 212
Moderator: Dr. Erin Albert

08:30AM
A Survey of P4 Students about their Experiences with Community Pharmacy Rotations. Brad Whitten. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: A college of pharmacy depends on a process called accreditation to validate the quality of education that is generated. Failing to comply with accreditation standards can have serious ramifications on the college and graduating students alike. In Butler’s recent accreditation process, ACPE identified areas that require enhancement which includes the delivery of community pharmacy education.

Methods: Data from survey responses will be extracted from Butler University College of Pharmacy’s class of 2007.

Statistical Analysis: Competency will be achieved with a score of 3.5 or higher, on a Likert scale of 1 to 5. A mean score will be calculated for each question. Means will also be tallied for each skill category: dispensing, counseling, and administrative tasks.

Comparisons will be drawn between students with differing levels of prior community pharmacy internship experience. A comparison will also be examined between those who desire a community pharmacy career path and those students who do not.

Possible Limitations: The survey will be administered at the end of the February rotation block. A low response rate is possible due to students focusing on the completion of their own research. Additionally, whenever a participant must perform a self-assessment, responses may reflect an undervalued perception of the student’s true ability.

Potential Impact: For skill sets with lower scores, we may potentially determine opportunities to enhance classroom, rotation and internship experiences.
09:15AM

Background: Prior research has demonstrated that pharmacy dispensing errors are increasing. Work environment, hours worked, pharmacists’ fatigue, and high prescription volume are but a few factors that may result in dispensing errors. We are unaware of research that has solicited the opinions of Indiana retail pharmacists regarding the potential causes of pharmacy dispensing errors.

Objective: (1) To determine whether years of professional pharmacy practice are associated with a belief that pharmacy dispensing errors are increasing and (2) Indiana retail pharmacists’ opinions on factors that contribute to dispensing errors

Methods: An online survey was sent to major retail pharmacy organizations in Indiana. The anonymous questionnaire queried respondents regarding demographic characteristics, years of licensure, attitudes toward potential causes of dispensing error, and factors that may decrease the risk of dispensing errors. A Likert scale (5-point scale, ranging from not important to very important) was used to elicit responses to questions regarding attitudes and factors that may increase/decrease dispensing errors. Statistical analysis included descriptive statistics, correlations, and analysis of variance.

Results: To be determined after data analysis.

Conclusions: To be determined after data analysis

09:30AM
An evaluation of the adherence of retail pharmacy customers to antibiotic regimens. Abbie Mendenhall. Butler University, Indianapolis, IN. Sponsor: erin albert

Background: The indiscriminate use of antibiotics, by physicians and patients, has contributed to the emergence of bacterial resistance. This resistance has yielded some of the most common antibiotics, such as penicillin, ineffective in treating infections they once covered. Patients represent a significant source of antibiotic misuse in the community. Patients both shorten their prescribed course of therapy or reduce the number of recommended daily doses. Such nonadherence could contribute to the antibiotic resistance burden in the community.

Objective: The primary research objective is to determine adherence rates of antibiotic regimens in retail pharmacy customers. Secondary objectives include whether or not counseling was provided by the pharmacist or physician, reasons for discontinuing therapy early, if the physician is aware the antibiotic was stopped, if a new antibiotic is being taken, and if it is ineffective in treating infections they once covered. Patients either reduce the number of recommended daily doses or stop the antibiotic within the past 7-14 days. Exclusion criteria include: patients who have received a prescription for an oral antibiotic in the past 7-14 days, patients who are unable to give informed consent.

Results: To date, of the 296 charts reviewed, 193 have met inclusion criteria. Of those with normal cholesterol versus those with abnormal cholesterol were compared.

Conclusions: To be determined after data analysis.

10:00AM
The Development of an Educational Website on Nutrition in Diabetes for Pharmacies at Meijer Pharmacy. Adrienne Scherer. Butler University, Indianapolis, IN. Sponsor: erin albert

Background: Diabetic patients are obligated to adopt and maintain proper nutrition behaviors to achieve adequate glycemic control. Good nutrition habits affect not only blood glucose levels, but also insulin resistance, Hgb A1C levels, blood pressure, and cholesterol. Research has shown that diabetics find adhering to a healthful diet to be the most difficult element of diabetes self-care. It is vital that diabetics are properly counseled on their nutrition. Community pharmacists are in an excellent position to provide this counseling. However, in order to effectively educate their patients, they themselves must have sufficient knowledge.

Objective: To develop a website regarding nutrition for diabetes that will be used to educate Meijer pharmacists and to assess the impact of the educational website on pharmacists’ knowledge and comfort levels. Methods: An educational website was developed for community pharmacists employed at Indiana Meijer pharmacies. The website provides information on proper nutrition for the diabetic population from the guidelines of the American Diabetes Association. A pretest and post-test survey was administered via e-mail in order to assess knowledge and comfort levels before and after the website training. SurveyMonkey was used to develop the anonymous survey. The results of the knowledge assessment will be analyzed using an independent sample T-test. Results and Conclusions: Data collection is ongoing and results are pending.

10:15AM
Evaluation of ACE-Inhibitors’ Effect on Cardiovascular Risk Reduction in Post-Myocardial Infarction Patients with Normal versus Elevated Cholesterol. Whitney Daniel. Butler University, Indianapolis, IN. Sponsor: Julie Koehler

Background: Post-myocardial infarction patients are at high risk for recurrent cardiovascular events. Although ACE-inhibitors may have anti-atherosclerotic effects, which may benefit patients, recent clinical trials have questioned whether ACE-inhibitors are effective in reducing cardiovascular events in patients with normal cholesterol levels.

Objective: To compare cardiovascular event rates among post-myocardial infarction patients receiving ACE-inhibitors with normal versus elevated total cholesterol.

Methods: A list of patients greater than 18 years of age admitted to Methodist Hospital with an MI between January 1, 2000 and December 31, 2002 was generated. Each randomly selected patient's medical chart was retrospectively reviewed for the occurrence of a subsequent cardiovascular event during the two years following the initial hospitalization. Any difference between the percentage of patients experiencing an event among those with normal cholesterol versus those with abnormal cholesterol were compared.

Results: To date, of the 296 charts reviewed, 193 have met inclusion criteria for the analysis. Preliminary results have shown that in patients with normal cholesterol, 41% of patients in the ACE inhibitor-treated group reached the primary outcome versus 50% of the patients in the non-ACE-inhibitor-treated group. Also, in patients with elevated cholesterol, 36% of patients in the ACE inhibitor-treated group reached the primary outcome versus 46% of the patients in the non-ACE-inhibitor-treated group.

Conclusions: Preliminary data suggests a numerical trend favoring the ACE-inhibitor group. Further data collection is ongoing to assess whether a statistically significant difference between treatment groups exists with respect to cardiovascular risk reduction.

10:30AM
Adherence to Federal Mandate on Medication Guides by Major Chain Pharmacies via Online Means. Vinny Polito. Butler University, Indianapolis, IN. Sponsor: Julie Koehler

Background: FDA mandated “medication guides” for potentially hazardous drugs in 1999 to better educate the public. Current forms of distribution of such guides are not universally streamlined. Objective: To create a universal electronic means of distribution of medication guides, and implement them at the pharmacy level rather than the manufacturer level.

Methods: Evaluate current means of online availability of medication guides by Walgreen’s Pharmacy, CVS/Pharmacy, and Meijer Pharmacy. Create a universal online system which each company’s
website is capable of hosting. The pharmacy labels will also be redesigned to include a link to the medication guide. Present findings to ISMP and other medication safety organizations for aid in implementation. Present revised plan to Walgreen’s, CVS, and Meijer for implementation. Results: Pending Conclusion: Pending

10:45AM
Attitudes and Knowledge of Indiana Pharmacists Regarding Emergency Contraception. Lindsay Gainey. Butler University, Indianapolis, IN. Sponsor: Dr. Carrie Maffeo

Background: Emergency contraception is defined as the use of drugs or devices within 72 hours of sexual intercourse to prevent unintended pregnancy. Emergency contraception prevents pregnancy by disturbing or hindering ovulation, preventing fertilization, or by inhibiting the embryo’s implantation. The United States has one of the highest rates of unintended pregnancy. Approximately 6 million pregnancies occur each year among American women, 50 percent of these are unintended and 1.3 million of these end in abortion. In 2000, approximately 51,000 abortions were avoided due to the use of emergency contraception. Approximately 121,800 out of 1.3 million women of childbearing age become pregnant each year in Indiana, 12 percent of these end in abortion.

Purpose: The purpose of this study is to describe Indiana pharmacists’ knowledge and attitudes toward emergency contraception and whether a relationship exists between these and demographic variables.

Methods: The survey will be emailed to pharmacists currently practicing in Indiana. There are three sections to this 23 item survey: demographics, knowledge about emergency contraception, and attitudes toward emergency contraception.

Results: Final survey results and completed data analysis will be presented.

Conclusion: At the conclusion of data analysis, opinions, as well as knowledge, of Indiana pharmacists about emergency contraception will be known. This has yet to be studied among pharmacists in Indiana.

Session F
Pharmacy Building, Room 202
Moderator: Dr. Jane Gervasio

08:30AM
Evaluation of medication error reduction and cost outcomes through medication reconciliation. Eric Gilliam, Theresa Salazar, Heath Jennings. Butler University, Indianapolis, IN. Sponsor: Theresa Salazar

Background: The Joint Commission on Accreditation of Healthcare Organization (JCAHO) has determined a need for accurate and timely reconciliation of all medications whenever a transition in care provision occurs. For over three years, Saint Joseph HealthCare Hospital in Lexington, Kentucky has established a protocol for medication reconciliation upon initial admission.

Objective: To assess the effectiveness of the medication reconciliation process during patient admission and to determine if medication reconciliation conducted by pharmacists have a significant impact on medication error reduction.

Methods: Medication reconciliation records will be reviewed for accuracy within forty-eight hours after patients medication history has been recorded by either a nurse or pharmacist. All errors found on the document will be recorded and then investigated to determine if a medication error resulted. All medication errors will be assessed and categorized based on the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) algorithm. Associated costs of each error will be based upon the Saint Joseph HealthCare Inc determined cost savings for preventable errors.

Results: Data collection and analysis will be presented.

Conclusions: The primary expected outcome of this study is a reduction of medication errors, and therefore a reduction of associated costs, when comparing medication reconciliations conducted by pharmacists to those performed by other professionals.

08:45AM
A comparative study on the differences in control of blood glucose in an insulin infusion versus sliding scale insulin protocol at a long-term acute care hospital. Julie Schwarz, Eric Barker. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: Since a landmark study was published by Van den Berghe et al. in 2001, intensive glycemic control in the critically-ill patient has been subject of much attention. Critically-ill patients often develop hyperglycemia even in the absence of diabetes which can be attributed to a combination of factors. The critically-ill patient is under significant stress leading to an overproduction of glucose, diminished insulin production, and increased tissue insulin resistance. In addition, the use of fluids, feedings, and medications can increase blood glucose.

Past studies have suggested that elevated blood glucose levels can increase morbidity and mortality, risk of infection, organ dysfunction, and length of ICU and hospital stay. Therefore, it has become increasingly important for institutions to keep tight control of the glucose levels in patients while avoiding hypoglycemic events.

Objective: This study will determine whether those treated with an insulin infusion or sliding scale insulin protocol show better overall blood glucose control within the target range of 80-120 mg/dL. Analysis will also look at patient outcomes among these groups. A secondary objective is to determine whether specific baseline patient characteristics are associated with differences in blood glucose.

Methods: A retrospective chart review was conducted of patients receiving insulin based on a sliding scale or insulin infusion protocol at Seton Specialty Hospital in Indianapolis between May and December 2006.

Results/Conclusions: Data collection is ongoing.

09:00AM
Metabolic Complications Observed in Patients receiving Total Parenteral Nutrition at Methodist Hospital. Miridula Koneru. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Total parenteral nutrition (TPN) is used to provide nutrients to patients who are unable to ingest food orally. TPN can be a life saving therapy, but there is an increased risk of complications associated with its use. Common complications that occur include infections, mechanical complications (pneumothorax), and metabolic complications, such as hyperglycemia, hypoglycemia, hyperlipidemia, acid-base disturbances, and electrolyte disturbances. These complications can increase hospital stay, increase cost, and negatively impact the patient’s health care outcome.

Objective: The objective of this study is to determine the incidence of metabolic complications in patients receiving TPN at Methodist Hospital, as well as to determine if certain indications for TPN are associated with an increased incidence of metabolic complications.

Methods: Data has been collected from a retrospective chart review of randomly selected patients who received TPN at Methodist Hospital from January 1, 2005 to April 31, 2006. Patients aged 18-89 were included in this study.

Results: Pending data analysis.

Conclusions: The information obtained from this study will enable the researchers to identify the most common complications that may result from the use of TPN at Methodist Hospital and assess clinical practices regarding the use of TPN. Data will be presented to the Clarian Health Partners Pharmacy and Therapeutics committee as an ongoing quality improvement measure.
**09:15AM**

**Evaluation of the Relationship between Antidepressants and Gastrointestinal Bleeding Risk: A Retrospective Cohort Analysis.** Jamie Sutton, Julie Koehler, Angela Lehman, Kristal Williams. Butler University, Indianapolis, IN. Sponsor: Julie Koehler

**Background:** Serotonin, when released from platelets in response to vascular injury, promotes vasoconstriction and a change in platelet shape, leading to platelet aggregation and clotting. Antidepressants, particularly those with high affinity for the serotonin transporter, attenuate platelet activation by depleting serotonin storage and decreasing platelet activity in patients with coronary artery disease. Clinical studies have suggested a relationship between antidepressant use and an increased risk of gastrointestinal bleeding. Recent studies have proposed that this risk increases with the greatest inhibition of serotonin reuptake.

**Objective:** The primary objective of this study is to determine if antidepressant therapy increases the risk of gastrointestinal bleeding. The secondary objective is to determine if specific antidepressants are more strongly associated with an increased risk for gastrointestinal bleeding.

**Methods:** A list of patients greater than 50 years of age with a diagnosis of depression between January 2001 and December 2005 was generated from the IU-Methodist Family Practice Center for this retrospective cohort analysis. Each patient’s medical record will be retrospectively reviewed to determine which antidepressant(s) were prescribed (if any), their concomitant medications, their co-morbid illnesses, and the occurrence of hospitalization due to gastrointestinal bleeding. Among those patients receiving antidepressant therapy, the percentage of patients hospitalized for gastrointestinal bleeding will be compared between those receiving antidepressants with high serotonin receptor affinity and those with low serotonin receptor affinity.

**Results:** Pending

**09:30AM**

**Assessing the Risk Factors for Development of Diarrhea in Patients Receiving Enteral Feedings in a VAMC: A Retrospective Chart Review.** Lydia Strole. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey, Pharm.D., BCPS

**Background:** Hospitalized patients have the potential to experience a variety of complications. One such complication for patients receiving tube feedings (enteral nutrition; EN) is diarrhea. The enteral formula, digestive disease, and medications prescribed are possible causes. More specifically, sorbitol content and high tonicity in liquid medications can lead to development of diarrhea. Causative factors for diarrhea are not always reported or known; therefore, increasing awareness of these sources may provide better care to patients.

**Objective:** The objective of the proposed study is to assess the risk factors for development of diarrhea in hospitalized patients receiving EN.

**Methods:** A retrospective study design will be utilized. Medical charts from October 1, 2004 through September 31, 2005 at the Richard L. Roudebush VAMC in Indianapolis will serve as the data source for the proposed study. Patients receiving EN will be followed. Data recorded will include demographic information, admitting diagnosis, medications received, EN formula, reported diarrhea and reason (if occurred) and the incident of diarrhea in respect to initiation of medications and EN.

**Results:** Data collection is ongoing.

**Conclusion:** The study will assess the risk factors for development of diarrhea in hospitalized patients receiving EN and evaluate diarrhea risk compared to medications received assessing the medications sorbitol content and tonicity.

**10:00AM**

**Adherence to *Clostridium difficile* protocol in a VA setting.** John Suzo, Joseph Jordan, Von Moore. Butler University, Indianapolis, IN. Sponsor: Joseph Jordan

**Background:** An outbreak of *Clostridium difficile* is a topic of concern at all hospitals. We conducted a retrospective chart review to determine and evaluate adherence to the Veteran Affairs Northern Indiana Health Care System (NIHCS) Standard Operating Procedure (SOP) for treating patients with *Clostridium difficile* infections.

**Methods:** Charts for patients in Ft. Wayne and Marion VA hospitals that had been diagnosed with *C. difficile* over a two year period, from May 2004 to May 2006, were reviewed to determine date of diagnosis, drug treatment, risk factors determined by VA NIHCS SOP for *C. difficile*, duration of stay in hospital, and occurrence of re-infection.

**Results:** To be evaluated at a later date.

**Conclusion:** To be determined at a later date.

**10:15AM**

**A retrospective chart evaluation of antibiotic use in acute exacerbations of COPD.** Dustin Getz. Butler University, Indianapolis, IN. Sponsor: Tracy Bottorff

**Background:** COPD is the fourth leading cause of death in the United States and acute exacerbations of COPD account for about 500,000 hospitalizations each year. Antibiotics are indicated for treatment of these exacerbations if all three of the following cardinal symptoms are present: increased sputum volume, increased sputum purulence and increased dyspnea. The unnecessary use of antibiotics can lead to increased side effects, increased costs and antimicrobial resistance.

**Objective:** The study objective is to evaluate the prescribing of antibiotics for patients hospitalized with acute exacerbations of COPD. The GOLD guidelines will be used to assess adherence to guidelines with the prescribing of antibiotics.

**Methods:** A retrospective chart review will be conducted at Community Hospital East. The study will consist of 100 patients identified using the Community hospital database who were admitted with a diagnosis of an acute COPD exacerbation during the calendar year of 2005. The data collected from the patient chart will include the following: demographics, allergies, antibiotics used, co-morbidities, corticosteroid use, culture results, WBC count, temperature, chest X-ray results, physician name/specialty and hospital re-admissions.

**Results:** A total of 100 patients were identified through the database. The data collection is currently ongoing. The chart reviews will be completed in March, 2007 and descriptive statistics will be used to analyze the data.

**10:30AM**


**Background:** Intestinal transplant is a rare procedure. Patients necessitating this type of transplant have short bowel syndrome and have experienced complications from long term parenteral nutrition. Nutrition support after this type of transplant has been studied very little. There has been no consensus guidelines will be used to assess adherence to the Veteran Affairs Northern Indiana Health Care System (NIHCS) Standard Operating Procedure (SOP) for treating patients with *Clostridium difficile* infections.
of enteral feeding, laboratory values, glucose concentrations, and medications received. Outcome parameters recorded include number of infections, days on the ventilator, organ system dysfunction, and hospital/ICU length of stay.

Results: Data collection is ongoing. Conclusions: This study is aiming to evaluate how early initiation of enteral nutrition impacts the intestinal transplant patient.

10:45AM

An experimental comparison of bacterial contamination in enteral tubing when feeding tubes are changed every 8 hours compared to every 24 hours. Alison Piechocki. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

An experimental comparison of bacterial contamination in enteral tubing when feeding tubes are changed every 8 hours compared to every 24 hours. Background: Nosocomial infections have been associated with the delivery of enteral nutrition (EN) in neonates. The source of contamination and bacterial entry is likely due to manipulations of the feeding tube set. Minimal studies are available to determine how often administration sets should be changed to have less bacterial introduction. Objective: To determine whether EN administration tubing changed every 24 hours in neonatal patients will have similar or less bacterial growth than EN administration tubing changed more frequently. Methods: A prospective design will be used to look at neonatal administration tubing sets used for the delivery of EN from 40 patients: 20 sets hung for 24 hours and 20 sets changed every 8 hours. The tip of the administration set and the tubing will be assessed for bacterial counts. A data collection sheet will be used to record patient diagnosis, how often the tubing was changed, amount of bacterial growth and medications being administered. Results: Data collection is currently being conducted Conclusion: We expect that EN administration sets changed every 24 hours will have either similar or less bacterial growth as those changed more frequently. By decreasing the number of manipulations, the amount of bacterial contamination should be less, and essentially, the risk of infection and other complications associated with EN should also decrease.

Session G

Pharmacy Building, Room 205

Moderator: Dr. Bonnie Brown

08:30AM

Retrospective review and analysis of venous thromboembolism (VTE) prophylaxis and incidence at Methodist Hospital after the initiation of a hospital wide VTE prophylaxis protocol. Beth Brown, Kevin Tuohy. Butler University, Indianapolis, IN. Sponsor: Kevin Tuohy

Introduction: The prophylaxis of VTE in hospitalized patients is a major issue as an event may ultimately lead to death. Guidelines have been created based on literature to help healthcare providers provide the best treatment for patients. Methodist hospital recently implemented practice guidelines for VTE prophylaxis. All patients admitted to the hospital are to be assessed for DVT risk factors and appropriate prophylaxis is to be given if needed. Study Objectives: The primary objective of this study is to determine whether patients admitted to Methodist Hospital after the implementation of the VTE prophylaxis guidelines were properly assessed and treated according to the protocol. Also, outcomes will be assessed based on whether or not patients developed a VTE. Methods: Charts from 150 patients admitted to Methodist Hospital from the dates of January 1, 2006 until June 30, 2006 will be randomly selected. All patients ages 18 - 89 who were not admitted for treatment of a thromboembolic event may be selected. Data collection includes whether or not the patient was assessed for VTE, risk factors for VTE, contraindications for treatment, the prophylaxis received, and whether or not the patient developed a VTE. All data collected will be compared to data collected from patients who were admitted prior to the implementation of the guidelines to determine any significant difference between the two data sets regarding assessment, treatment and outcomes. Results: Data collection currently in progress and will be presented at the URC.

08:45AM

Retrospective Review & Analysis of Antibiotic Use in Patients with Acute Chronic Obstructive Pulmonary Disease (COPD) Exacerbations Admitted to Methodist Hospital During 2005. Lynn Pudlo. Butler University, Indianapolis, IN. Sponsor: Kevin Tuohy

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 (fever, increased cough with sputum production, leukocytosis, and changes in the X-ray) 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.

Objective: 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 contracting multi-drug resistant organisms.

Methods: This is a randomized retrospective chart review of approximately 50 patients. The patients selected for the study were 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. Appropriate statistical analysis will be performed.

09:00AM

Practitioner knowledge of nutrition needs in the critically ill patient. Shaunte Pohl. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Nutrition support is a vital component of the care given to a critically ill patient and is complicated by the fact that these patients are at risk for becoming malnourished. The baseline knowledge of the healthcare team is important to assess before actions could be taken to reduce the potential for or actual errors that occur related to nutrition support.

Objective: The objective of this research project is to assess the nutrition knowledge of pharmacist, nurses, doctors, residents, and attendants on the critical care units.

Methods: A survey was administered to critical care healthcare providers including physicians, residents, nurses, pharmacists and dietitians. The questions are based on national and international nutrition support guidelines.

Results: Approximately 155 surveys were handed out, 155 were returned. Two surveys were not usable due to incompleteness. As a result 153 surveys were included in the final analysis. Most of those surveyed were nurses, 75 (49%), had practiced one to five years, 48 (31.6%), and had worked on the ICU longer than five years, 46 (30.1%). When considering the Chi square analyses; questions 1 through 5 did not show significance, however questions 6 through 8 did exhibit a difference in knowledge among practitioners.

Conclusions: The overall nutrition score ranged from a low of 2.5 (+ 1.06) to a high of 3.8 (+ 1.05), however both of these scores fall into the poor category. There were specific questions that yielded a greater percentage of incorrect responses but overall this survey demonstrated a deficit in nutrition knowledge.
Conclusions: This study is aiming to conclude whether

Results: Data collection is still ongoing.

Patients receiving enteral nutrition. c) Patients receiving enteral nutrition at Methodist Hospital in Indianapolis, Indiana. Data will be reviewed from critically ill, trauma patients admitted to Methodist Hospital from June 2005 to June 2006. The patient’s name and hospital number will not be recorded, and the patient will be given a generic number, thus preventing patient privacy violations. Demographic information will include age, weight, height, reason for admission and injury severity score. Time to the initiation of enteral nutrition will also be recorded. Inclusion criteria for this study are as follows: a) adults between the ages of 18 and 85; b) hospitalized trauma patients (i.e. motor vehicle accidents, head-injured, burn); c) Patients receiving enteral nutrition. Results: Data collection and results analysis are pending. Conclusions: This study is aiming to conclude whether or not early enteral nutrition is being utilized in adult critically ill patients over a one-year period.

Methods: A retrospective chart review was performed of all adult critically ill, trauma patients, aged 18-85, who received enteral nutrition at Methodist Hospital in Indianapolis, Indiana. Data will be reviewed from critically ill, trauma patients admitted to Methodist Hospital from June 2005 to June 2006. The patient’s name and hospital number will not be recorded, and the patient will be given a generic number, thus preventing patient privacy violations. Demographic information will include age, weight, height, reason for admission and injury severity score. Time to the initiation of enteral nutrition will also be recorded. Inclusion criteria for this study are as follows: a) adults between the ages of 18 and 85; b) hospitalized trauma patients (i.e. motor vehicle accidents, head-injured, burn); c) patients receiving enteral nutrition.

Results: Data collection and results analysis are pending.

Conclusions: This study is aiming to conclude whether or not early enteral nutrition is beneficial.


Background: The geriatric population is a unique group that requires special attention when providing these patients with care. As a patient’s age increases, the number of medications and comorbid disease states begins to increase. As professionals in the health care industry, it is important for pharmacists to recognize the unique needs of the elderly population and to do all that they are able to in order to achieve patient satisfaction and achieve maximum therapeutic outcomes.

Objective: To determine the impact that satisfaction of pharmaceutical care has on medication compliance in the elderly population.

Methods: In order to determine the impact that patient satisfaction in their pharmaceutical care has on compliance in the elderly population, the study utilized a survey mailed to elderly patients ages 65-89 years of age. The survey questions, which are formatted in the form of 5-point Likert scale, measure patient satisfaction with pharmaceutical care and medication compliance, among other information.

Results: Data collection and results analysis are pending.

Conclusions: Data collection and results analysis are pending.

Testing Butler University Students’ Knowledge about Sexually Transmitted Diseases and HIV/AIDS. Stacy Rowe. Butler University, Indianapolis, IN. Sponsor: Jeanne Van Tyle

Background: Estimations from the CDC predict that there are 19 million new cases of sexually transmitted diseases (STD’s) each year, with almost half occurring in people between the ages of 15 and 24. One of the most scary statistics is the fact that 1 in 4 people have genital herpes, but up to 90% are not aware that they are infected. Even more profound is that HPV infects 75% of sexually active men and women. HPV infects 5.5 million people a year, making it the STD with the highest infection rates. A study performed by D.W. Seal and colleagues, assessed how students perceived their own sexual behavior and how they perceived the behavior of their peers. Students consistently overestimated the risky sexual behavior of other students and rated other students chances of contracting HIV or a STD higher than their own.

Objective: To evaluate Butler University students’ knowledge about HIV and STDs and compare the results between classes.

Methods: Data Source: Cross-sectional survey will be sent to all Butler University students via email. Inclusion and Exclusion Criteria: The Butler University list serve will be used to send all Butler students surveys via email. Butler faculty and staff will be excluded from the survey.

Data Collection Procedure: The survey and a cover letter will be sent via survey monkey. The survey includes closed-ended questions broken up into three sections: demographics, knowledge of HIV and STDs, attitudes about HIV and STDs and sexual risks.

Results: Data collection is ongoing.

Conclusion: The results of this study will help to guide the education process of Butler University students.

Pharmacists’ Opinions Regarding the Perceived Benefits and Detriments of Mandatory Prescription Counseling. Elizabeth Klueh. Butler University, Indianapolis, IN. Sponsor: Bonnie Brown

Background: A majority of states mandate all patients be counseled on either new prescriptions or both new and refilled prescriptions. However, Indiana requires only that an offer to provide counseling be made. Objective: To determine if mandated prescription counseling is supported by pharmacists in Indiana. Also, to determine what benefits or detriments pharmacists believe would come from such a mandate. Methods: A link to an electronic survey was distributed to pharmacists in Indiana, both by newsletter and email. Perceived benefits and detriments were elicited, and will be statistically evaluated for significance. Results: The majority of pharmacists responding believe mandatory counseling to provide benefits to patients including: increased adherence, higher awareness of drug interactions and adverse events, and a better understanding of drug therapies. However, the respondents were wary of the detriments pharmacists believe would come from such a mandate. Methods: A link to an electronic survey was distributed to pharmacists in Indiana, both by newsletter and email. Perceived benefits and detriments were elicited, and will be statistically evaluated for significance. Results: The majority of pharmacists responding believe mandatory counseling to provide benefits to patients including: increased adherence, higher awareness of drug interactions and adverse events, and a better understanding of drug therapies. However, the respondents were wary of the detriments pharmacists believe would come from such a mandate.

Statistical analyses will be performed on each individual survey response to determine significance. Conclusion: While results will not likely be significant, this survey does indicate that pharmacists may support mandatory counseling in some shape or form.

The PX100 Health Sciences Seminar at Butler University: A Student’s Perspective. Eric Farmer, Sue Bierman. Butler University, Indianapolis, IN. Sponsor: Bonnie Brown

Background: The PX100 Health Sciences Seminar is a pre-professional pharmacy course required for freshmen pharmacy students. Because the most attrition has been found to occur in the early phase of a student’s academic career, many recent studies have been published to help guide pharmacy schools in establishing introductory courses that better prepare students to be successful in the pharmacy program. Objectives: To evaluate what the students who have completed PX100 in the last 2 years perceive as the most useful and relevant activities of the Health Sciences Seminar.

Methods: A self-administered cross-sectional electronic survey via SurveyMonkey® was approved by the Butler University Institutional Review Board and was distributed to all freshmen, sophomore, and junior pharmacy students in the fall.

Results: A total of 249 students responded to the survey (freshmen=96, sophomores=76, juniors=77). There were distinct trends in the activities
students reported relevant and useful. Over 95% of students surveyed felt the shadowing experience was helpful in orientating students to COPHIS. Approximately 52% of students felt that attending a professional organization meeting was the least helpful activity.

Conclusions: Students reported that writing a resume and shadowing a pharmacist were the activities of PX100 that were the most relevant to their studies and were the most useful learning experiences. Participants also responded that attending an organization meeting was the least useful activity of PX100, but that overall, it was helpful to have an introductory course such as PX100 to better prepare them for a successful academic and professional career in pharmacy.

10:45AM

Spirituality and the pharmacy student: does a student’s faith play a part in deciding to become a pharmacist? Joseph Kleppe, Bonnie Brown, Susan Bierman. Butler University, Indianapolis, IN. Sponsor: Bonnie Brown

Background: Faith in higher education is traditionally held as a taboo subject, so there are few studies that would be willing to approach this topic. However, as faith tends to be a core belief, it stands to reason that it will have some impact on choice of major and career path.

Objectives: The goals of this study include determining to what extent, if any, faith plays in the decision-making process of the (pre-) pharmacy student. Additional goals include collecting (pre-) pharmacy student opinions about faith support on campus, within COPHIS, and in the community. Ultimately, findings will be applied to pharmacy education.

Methods: This study received approval from Butler University IRB. An anonymous, voluntary, electronic survey was used to meet study objectives. A cover letter survey invitation was sent via class email listservs to 2nd year, 4th year, and 6th year pharmacy students.

Results: Responses were as follows for the 2nd, 4th, and 6th year classes: 63/138 (46%), 61/132 (46%), 81/122 (66%), respectively. Women and Christian denominations were the most represented demographic in the survey.

Conclusions: While results of the study are pending statistical analysis, some trends include those pertaining mainly to student opinions about faith on campus and the interaction between student and advisor. Participants appear to feel that Butler University is respectful of their faiths and offers programs on campus that help one explore one’s faith. Results also indicate students not relying on their faith when selecting Butler University for their post-secondary education.

Session H
Pharmacy Building, Room 015
Moderator: Dr. Maria Tzoras

01:00PM

Evaluation of Readability of Patient Information Materials in a Community Pharmacy. Amber Semro. Butler University, Indianapolis, IN. Sponsor: Theresa Salazar

Background: Pharmacies provide printed material to educate customers regarding medications, disease states and cost savings of healthcare. Limited information is available regarding the readability of patient directed materials. A study of the readability is needed to ensure our patients are receiving material that they are able to understand and incorporate that understanding into positive changes affecting their self-care.

Objective: To obtain commonly used patient information materials and ascertain the readability based upon age, in years, and grade level.

Methods: The Fry Readability method was used to review patient information regarding lisinopril, azithromycin and ethinyl estradiol/drospirenone. Three 100-word passages were randomly selected and evaluated for the average number of syllables and average number of sentences. Results are then plotted on the graph and readability is determined according to age in years or grade level. Also, a survey will be conducted in which the participant will be asked to read/review the information provided, patient information regarding lisinopril, azithromycin and ethinyl estradiol/drospirenone, and answer four questions based solely upon the information provided.

Results: Data collection is in progress. Results and analysis will be presented.

Conclusion: This will be presented at the Undergraduate Research Conference Friday, April 13, 2007.

01:15PM

Retrospective review of the incidence of radiocontrast induced nephropathy in a VA Medical Center following cardiac catheterization. Amanda Britva, Darin Ramsey, Pharm.D., BCPS, Karen Messmer, Pharm.D., BCPS. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey, Pharm.D., BCPS

Background: Radiocontrast induced nephropathy (RCIN) is a serious condition that can occur in up to 50% of high risk patients. Those who develop RCIN have an increase in morbidity and mortality. Currently a standardized protocol for the prevention of contrast induced nephropathy does not exist at this institution, therefore resulting in various prescribing practices.

Objective: The objective of this review is to evaluate the use of N-acetylcysteine (NAC) and sodium bicarbonate versus either agent alone in the prevention of RCIN within the VA population undergoing cardiac catheterization.

Methods: This is a retrospective chart review of patients who underwent cardiac catheterization from October 1, 2004 through September 2005 at the Richard Roudebush Veterans Affairs Medical Center in Indianapolis, IN. Patients were excluded if emergent catheterization was required, exposure to contrast media within the previous seven days, serum creatinine greater than 8 mg/dL, patients requiring dialysis prior to the administration of contrast media and those who received another preventative measure (dopamine, fenoldopam, mannitol). Data collected included age, gender, weight, race, contrast agent used and dose, serum creatinine concentrations as well as the presence of risk factors and nephrotoxic medications and other co morbid disease states that increase the risk of contrast induced nephropathy. Incidence of RCIN was analyzed by use of Chi Square test of association. One way Anova was used to analyze changes in serum creatinine after contrast administration.

Results: Analysis still in progress.

Conclusion: To be determined.

01:30PM


Background: Hospital associated Methicillin-Resistant Staphylococcus Aureus (HA-MRSA) is an organism that is typically resistant to many antibiotics including oxacillin, penicillin, tetracyclines, clindamycin, erythromycin, and fluoroquinolones. 1 Large considered a nosocomial infection, HA-MRSA often infects immunocompromised patients in hospitals and nursing homes. However, a new type of MRSA, community associated MRSA (CA-MRSA), has emerged that is infecting otherwise healthy individuals in non-healthcare settings. CA-MRSA infections typically present as skin and soft tissue infections (SSTI) or necrotizing pneumonia, but can cause sepsis and septic shock. 1 CA-MRSA can be identified based on susceptibility patterns, and normally presents with susceptibility to tetracyclines, clindamycin, and trimethoprim-sulfamethoxazole (TMP-SMX). 1 Presently, there is an increasing number of otherwise healthy individuals in the community who are becoming infected with CA-MRSA.

Objective: The objective of this study is to evaluate and describe presentation, risk factors, and outcomes associated with CA-MRSA infections.

Methods: A retrospective chart review of Community Health Network patients, admitted from January 1, 2005 through December 31, 2005, with a
known MRSA culture will be conducted. An anti-biogram from the Community Health Network will be utilized to identify CA-MRSA isolates based on susceptibility patterns to TMP-SMX, tetracyclines, and clindamycin. Medical charts will be reviewed to evaluate any commonalities between CA-MRSA infections and patient demographics, symptoms, vital signs, treatments, outcomes, hospital length of stay, repeat admission, and previous antibiotic use.

Results: Data collection is ongoing.

01:45PM
Adherence to JNC VII Guidelines in Ambulatory Patients in the United States: A Retrospective Database Review. Rebecca Harmon. Butler University, Indianapolis, IN. Sponsor: Iftekhar kalsekar

Background: Early detection, medication therapy, and lifestyle modifications play a key role in the management and control of hypertension. The Joint National Committee (JNC) on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure issues a consensus review report every four to five years that includes stepped therapy guidelines that clinicians may follow to better manage and treat hypertension. The JNC report has become a respected standard for the initial evaluation and treatment of hypertension on the basis that its contents come from the most current clinical evidence related to this disease state.

Objective: To examine the adherence of prescribing physicians to the JNC VII guidelines when treating patients diagnosed with hypertension.

Methods: This study was conducted using the 2004 NAMCS data to analyze physicians’ adherence to the guidelines addressed by the Joint National Committee. It examined patients diagnosed with or having hypertension and assessed the medications that were prescribed to treat this condition. If the medications prescribed followed the JNC VII guidelines, then it was considered adherence. If the medications did not, then it was considered non-adherence. Multi-weighted logistical regression has been utilized to assess physician and patient specific factors that may influence adherence. A sub-analysis has also been performed to determine adherence in newly diagnosed patients.

Results: The preliminary results show that the sample size of included patients was 1,532 adults. Based on the blood pressure measurements of the sample, the JNC VII category distribution was as follows: 11% had normal blood pressure, 36% of patients had pre-hypertension, 33% had stage 1 hypertension, and 20% had stage 2 hypertension. Further analysis of the data is in-progress.

Session I
Pharmacy Building, Room 106A
Moderator: Dr. Sally Arif

01:00PM
Recombinant human erythropoietin (rHuEpo) use in pediatric bone marrow transplant patients. Elizabeth Beckman. Butler University, Indianapolis, IN. Sponsor: Dennis Gardner

Background: Bone marrow and stem cell transplants are treatments for many blood, lymphatic, and immune system dyscrasias. Because these transplants involve obliteration of the host marrow in order to prepare the body to accept the new marrow or stem cells, many profound systemic side effects are anticipated. Anemia is a common complication of bone marrow and stem cell transplants in which recombinant erythropoietin products are used for treatment.

Objective: To investigate the use of recombinant human erythropoietin (rHuEpo) in children that have undergone a bone marrow or stem cell transplant at Riley Hospital for Children. The goal is to develop practice guidelines for future administration of recombinant human erythropoietin in this patient population.

Methods: This research is a retrospective chart review of patients 0-18 years of age who have undergone a bone marrow or stem cell transplant at Riley Hospital for Children in the years 2004-2006. Qualifying patients will be determined from a generated list from a medical record database. Information to be gathered includes, but is not limited to, transplant preparation regimen, graft versus host disease prophylaxis, blood transfusion record, rHuEpo administration record, iron therapy record, and pertinent laboratory values.

Results & Conclusion: Results and conclusion of this project will presented at the Undergraduate Research Conference at Butler University on April 13, 2007.

01:15PM
The Effectiveness of Metoclopramide for Gastroesophageal Reflux in Neonates. Amanda Bemiss. Butler University, Indianapolis, IN. Sponsor: Dennis Gardner

Background: Clinicians in neonatal intensive care units (NICU) have used metoclopramide as a first line agent for gastroesophageal reflux. The question remains whether or not its use should remain as a first line agent. The use of metoclopramide has been associated with extrapyramidal symptoms, such as tardive dyskinesia and dystonias. Due to the small number of studies available about it place in therapy, it was decided that a further investigation of the effectiveness of metoclopramide use in neonates was warranted.

Objective: To determine the effectiveness of metoclopramide on reducing the number of regurgititative episodes in neonates diagnosed with GER or GERD.

Methods: An observational prospective chart review will conducted with NICU patients at Norton Kosair Children’s Hospital who were started on metoclopramide for GER or GERD from January 2007 to February 2007. The data collection will include patient demographics, gestational age, weight, dose of metoclopramide, incidence of adverse effects, and number of GER episodes. Inclusion criteria includes any patient started on metoclopramide admitted to the NICU between January 2007 and February 2007. Exclusion criteria includes neonates with severe brain injury, nasogastric tubes with nissen fundoplycation, and any contraindication to metoclopramide.

Results: The results of the study are pending and will be available at the URC presentation in April. Conclusions: The conclusion of the study will be available at the URC presentation in April.

01:30PM
Evaluation of Intensive Insulin Therapy in a Pediatric Intensive Care Unit. Kayla Alexander, Maria Whitmore. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: Hyperglycemia has been associated with increased morbidity and mortality in adult ICU patients. Maintaining tight glucose control with intensive insulin therapy in adults has been shown to decrease morbidity and mortality without adverse effects. Intensive insulin therapy in critically ill children has not been well studied.

Objective: To determine a nursing insulin dosing protocol for tight glycemic control without adverse effects in a PICU.

Design: Retrospective, chart review.

Setting: PICU at St. Vincent Children’s Hospital, Indianapolis, IN.

Patients: Patients age 2-18 years without a history of diabetes were included in the study. The control group included children who received insulin therapy from September 2003-July 2006. The protocol group included children who received intensive insulin therapy from August 2006-January 2007. Intensive insulin therapy was initiated when the blood glucose was > 140 mg/dL. Nursing monitored and adjusted the insulin therapy based on a protocol with a target glucose of 90-140 mg/dL.

Results: The number of glucose levels within target range and the number of interventions for hypoglycemia were evaluated. The control patients (15) were within the target glucose range 56% of the time while the protocol patients (3) were within the target glucose range 62% of the time. The control group required six interventions for hypoglycemia while only one intervention occurred in the protocol group.
01:45PM
A Comparison of the Efficacy of 0.5 unit/mL versus 1 unit/mL of Heparin in Neonatal PN. Amber Davis, Elaina Szaszczuki. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Many neonates need the assistance of parenteral nutrition (PN) to optimize their nutritional status while in the neonatal intensive care unit (NICU). PN requires a dedicated line for administration and preserving the PN line is of utmost importance in this fragile population. The addition of heparin to the PN can be an effective way to preserve the line. However, heparin has its inherent complications; and therefore determining the lowest effective dose of heparin to prevent clotting of the line without causing adverse side effects is optimal.

Objective: To determine if 0.5 units/mL of heparin is at least as effective as 1 unit/mL heparin in neonatal PN in the

Methods: A retrospective chart review will be conducted at Methodist Hospital, Indianapolis, Indiana. Neonates receiving PN with either 0.5 unit/mL or 1 unit/mL heparin added will be reviewed. Patients must have received PN for at least 5 days. Data collected will include patient demographic, quality of heparin in PN, line patency, and day of PN delivered.

Results: Data collection is pending.

Conclusions: This review is intended to determine if 0.5 units/mL of heparin is as effective as 1 unit/mL heparin in the neonatal PN.

02:15PM
Effect of Megestrol Acetate on Appetite and Quality of Life in Cancer Patients. Kelly Shrode. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Malnutrition from anorexia and decreased nutrition intake is common in patients with cancer. Cancer cachexia is a syndrome associated with weight loss, loss of appetite, and malnutrition which leads to progression of organ damage and even death. The exact etiology of the disease is currently undetermined, leading health practitioners to take several approaches to treatment of cancer cachexia, one of which is appetite stimulation. Megestrol acetate is the most commonly used and studied medication related causes, and utilize this data to develop recommendations. It is important that studies are done to identify which hypoglycemic regimens provide the best blood glucose control and evaluate whether hypoglycemic events and falls are related to blood glucose control in the elderly long term care (LTC) population.

Study Objective: To identify the relationship(s) between incidence of fall to contributing patient specific factors and medication factors. Use the relationship(s) to identify precautionary measures to minimize patients fall risk factors.

Methods: A retrospective chart review will be conducted to identify CHE’s fall risk factors. 200 randomly chosen charts of patients admitted in January 2006 will be reviewed. Exclusion criteria include adolescents, observation patients, hospice patients, or drug or alcohol addiction programs. Data is recorded on a data collection sheet include age, gender, and length of stay, ambulation status, past medical history, social history, co-morbidities, blood pressure, medications, incontinence, incidence of falls within the past 6 months, and incidence of falls during hospitalization. Study endpoints include relationships between patient specific situations and fall incidence. Statistical analysis includes correlation and regression analysis.

Results: Data is currently being collected from 200 random patient charts from January 2006.

Conclusions: This study aims to identify factors contributing to fall risk, specifically medication related causes, and utilize this data to develop methods to help prevent patient falls.

02:45PM
Blood Glucose Control of Patients with Diabetes Mellitus Receiving Insulin glargine versus other Hypoglycemic Treatments in a Long Term Care Population. Allison Chasen, Dr. Carrie Maffeo, Lisa O'Hara, Jodi Mann. Butler University, Indianapolis, IN. Sponsor: Dr. Carrie Maffeo

Background: Currently, there are no national guidelines or consensus statements that have standardized hypoglycemic regimen recommendations. It is important that studies are done to identify which hypoglycemic regimens provide the best blood glucose control and evaluate whether hypoglycemic events and falls are related to blood glucose control in the elderly long term care (LTC) population.

Study Objective: To determine whether regimens with insulin glargine provide better blood glucose control than other hypoglycemic regimens in patients with diabetes mellitus in a LTC population.

Methods: A retrospective medical chart review was performed during September 2006 through January 2007. Inclusion criteria were patients ages 65-90 who were admitted to a LTC facility serviced by Cornerstone pharmacy before September 1, 2005 with at least one HbA1c within the study time period. The study will compare HbA1c levels of different regimens. Secondary outcomes include the incidence of hypoglycemia, number of hypoglycemic agents, and incidence of falls.

Results: Data collection is ongoing.

Conclusions: This study aims to evaluate whether insulin glargine regimens provide better blood glucose control than other hypoglycemic regimens. It will also help to evaluate whether the hypoglycemic events, incidence of falls, and number of hypoglycemic agents is related to the blood glucose control and regimen.

03:00PM
Assessing patterns of development of Clostridium difficile in a community hospital setting. Emily Schesele, Jarrett Amsden, Tracy Bottorff. Butler University, Indianapolis, IN. Sponsor: Jarrett Amsden

Background: Clostridium difficile is a gram positive, spore forming, anaerobic rod that commonly causes antibiotic associated colitis. Given the recent changes in the incidence of infection, severity of the resulting disease, and virulence of the organism, healthcare institutions need to closely follow the frequency of infection and examine site specific patterns of development.

Objective: To evaluate various risk factors associated with the acquisition of nosocomial C. difficile infection by patients during the year 2006 in the Community Hospital Network, Indianapolis, IN.
Methods: A retrospective case-controlled study was conducted. The hospital database was used to identify the case population, patients with nosocomially-acquired C. difficile infections, as defined by the Centers for Disease Control and Prevention (CDC), during the year 2006. For each case identified, two control patients were matched by the admission date within one week and age within one decade. Information gathered from the patient’s medical record for evaluation included the following: previous antibiotic exposure, hospital or nosocomial exposures, use of gastric acid suppressants, physician contact, previous abdominal surgeries, and immunosuppressant/chemotherapy therapies.

Statistical Analysis: Descriptive statistics were used to examine the demographic and clinical characteristics of the study sample. A logistic regression analysis was conducted to examine the risk factors associated with the development of nosocomial C. difficile infections.

Results: Data collection complete, analysis pending

Conclusion: Observations made from the study data provide information on smoking cessation techniques.

Objective: To evaluate the success rates of various smoking cessation therapies such as nicotine gum, nicotine patch, bupropion, or the combination of bupropion and nicotine gum or bupropion and nicotine patch.

Method: Patients who have filled prescriptions for nicotine patch, nicotine gum, bupropion or a combination of bupropion with a nicotine patch or gum at the VA hospital in Indianapolis will be contacted to complete a survey. This survey includes but not limited to questions on the effectiveness of specific pharmacologic agents used.

Results: Data collection is ongoing and results will be presented in spring 2007.

Conclusion: This study may help practitioners identify the most appropriate smoking cessation regimen for the VA population and further more, determine whether or not our veterans would prefer to have an organized smoking cessation support group to help provide structure to current smoking cessation techniques.

01:15PM
Drug Utilization Evaluation of Daptomycin (Cubicin®). Ashley Clouser. Butler University, Indianapolis, IN. Sponsor: Cindy Selzer

Background: Daptomycin (Cubicin®) is an antibiotic indicated in the treatment of complicated skin and skin structure infections caused by gram-positive organisms. Organisms considered susceptible to daptomycin include: Staphylococcus Aureus, Streptococcus agalactiae, Streptococcus dysgalactiae, and Streptococcus pyogenes. Daptomycin is also indicated in bacteremia caused by Staphylococcus Aureus, including methicillin-susceptible and methicillin-resistant right-sided endocarditis.

Objectives: The primary objective of this study is to determine if daptomycin is prescribed appropriately according to the University Hospital adult Antimicrobial Prescribing Improvement Program (APIP) criteria. This program states daptomycin can be used as an alternative in the treatment of complicated skin and soft tissue infections due to susceptible bacteria, MRSA and MSSA bacteremia including right-sided endocarditis, and as an alternative for documented gram-positive infections in patients not responding or tolerating other agents. Daptomycin must be approved by an infectious disease staff physician. Secondary objectives of this study include analysis of the following: occurrence of adverse reactions, duration of therapy, types of infections treated, the prescribing service, prescribing physician, and the patients’ outcomes.

Methods: This is a retrospective observational review completed at Indiana University Hospital. Patients included in the trial are those that were at least 18 years of age and received daptomycin between September 21, 2004 and December 31, 2006. Pregnant women and prisoners were excluded from the study.

01:30PM
Evaluating the Usefulness and Experiences of Pharmacy Rotations Abroad: Survey of Pharmacy Schools Across the United States. Hannah Kinnett. Butler University, Indianapolis, IN. Sponsor: Meghan Bodenberg

Background: Many pharmacy schools in the U.S. offer pharmacy rotations abroad, but currently there is no information available that helps universities, students, and parents decide if a rotation abroad is useful. This study will provide valuable information about rotations abroad that will help everyone to assess the pros and cons of rotations abroad, including location, eligibility, living arrangements, experiences, quality, cost, and the applicability to pharmacy practice in the U.S.

Objective: The primary objective of this survey is to evaluate the usefulness, quality, and experiences of pharmacy rotations abroad from the viewpoint of the Rotations Coordinator and the PharmD Candidate.

Methods: The first phase of this project will be to identify all pharmacy schools in the U.S., and to contact the Rotation Coordinator(s), and obtain a list of email addresses from students that did rotations abroad in 2005-2006. Two surveys will be distributed via www.SurveyMonkey.com. One survey will be distributed to Rotation Coordinators regarding processes and procedures for rotations abroad. Another survey will be distributed to...
PharmD candidates regarding experiences, quality, etc. The surveys will be sent out on the same day with a three week deadline for return. Reminder emails will be sent to all persons taking the survey. The results will reflect the quality, cost, experience, living arrangements, and value of rotations abroad. This information will be useful in planning future rotations abroad, and completed data will be emailed to all participating Rotations Coordinators.

01:45PM  
An Evaluation of Lutheran Hospital’s Pharmacokinetic Clinical Monitoring Services. Allison Skotko. Butler University, Indianapolis, IN. Sponsor: Meghan Bodenberg

Background: Vancomycin and aminoglycosides play a pivotal role as antibiotic therapies within a hospital setting. However, both treatment options require a lot of monitoring in order to assure that each individual patient is not only receiving the appropriate dose but is also avoiding adverse events or toxicities.

Objective: The primary objective of this study was to identify opportunities for improvement in Lutheran Hospital’s pharmacokinetic monitoring services.

Methods: This study is a retrospective clinical study looking at Lutheran Hospital’s pharmacokinetic patient information sheets collected from 1/05-1/06. Data such as antibiotic dose, indication, peak, peak time, trough and trough time will be implemented into an excel spread sheet and compared to normal values. Approximately 400 patient information sheets will be analyzed in order to identify opportunities for improvement in Lutheran Hospital’s pharmacokinetic monitoring services.

Results: Still pending

Conclusion: Results of this study are still pending

02:15PM  
Patient knowledge and perceptions of emergency contraception: Survey data from Indiana Planned Parenthood clinics. Tracy Ng. Butler University, Indianapolis, IN. Sponsor: Jeanne Van Tyle

Objective: To evaluate and assess the knowledge and opinions of patients regarding Plan B, or emergency contraception, and the pharmacist’s role in dispensing the medication.

Methodology: Indiana Planned Parenthood clinic patients were given a ten minute survey that gauged their attitudes and understanding of emergency contraception therapy. The survey included a series of closed-ended questions divided into four subcategories. The first category assessed how patients feel about the effects and accessibility of Plan B. The second category gauged patient knowledge of Plan B through a series of multiple choice questions. The third category gathered information about how patients felt about the pharmacist’s role regarding the dispensing of Plan B and education of patients. The final section gathered demographic information about patients to determine overall differences between groups and social status. The knowledge analysis was scored on a percentage of correct responses with assessment of demographic data.

Results: Approximately 75 participants were interviewed. Only 3 participants reported their reason for the clinic visit was to receive oral emergency contraception, however, 20 participants reported using emergency contraception in the past. The percentage of incorrect responses in certain key questions regarding the use of emergency contraception was as high as 80%. Overall, more than 90% of participants showed a greater interest in learning more about emergency contraception.

Conclusion: Results of the study indicate that participants have a limited knowledge base and carry misconceptions about emergency contraception. As well, patients are eager to learn more from pharmacists and other health care providers regarding emergency contraception.

02:30PM  
Therapeutic Substitution of Proton Pump Inhibitors at the Retail Site: Doctors’ and Pharmacists’ Opinions. Marcellus Schaefer. Butler University, Indianapolis, IN. Sponsor: Jeanne Van Tyle

Background: Insurance companies and hospitals use formularies to control the cost of health care. This often poses a barrier to effective healthcare in the community setting that hospitals do not have to contend with due to protocols for therapeutic substitutions. Objective: To determine the openness of community pharmacists and physicians to the idea of allowing therapeutic substitutions of proton pump inhibitors in the community setting. Methods: A cross-sectional survey was used to meet the study objective. Surveys were sent out to physicians and community pharmacists around the state. Information regarding practitioner age, sex, education, and place of work were gathered. Surveys were based on a scale from strongly disagree to strongly agree and responses were analyzed using SPSS software.

Results: Conclusion:

02:45PM  
Evaluation of Lipid Lowering Strategies in HIV-Infected Patients Receiving HAART. Jamie Gillett, Suellyn Sorensen, Jennifer Tutino. Butler University, Indianapolis, IN. Sponsor: Cindy Selzer

Background: Highly active antiretroviral therapy (HAART) is now the standard of care for human immunodeficiency virus (HIV) because it decreases morbidity and mortality. However, many of the antiretroviral agents cause severe lipid abnormalities. Unlike the other protease inhibitors, atazanavir (Reyataz®) is considered to be lipid neutral and does not adversely affect lipid profiles.

Objective: To determine if patients switched to atazanavir will achieve their lipid goals more frequently than patients on traditional protease inhibitors.

Methods: A retrospective chart review was conducted at the Indiana University Hospital outpatient infectious disease clinic from June 30, 2003 to July 31, 2006. The data collected includes patient demographics, pertinent medical history, current medications, and lipid panels. Inclusion criteria included patients with an HIV diagnosis, available lipid panels, and were seen at the Indiana University Hospital outpatient infectious disease clinic from June 30, 2003 to July 31, 2006. Exclusion criteria included patients less than 18 years old, pregnant women, and prisoners. This study has been approved by the institutional review boards at Indiana University Hospital and Butler University.

Results: Data collection is ongoing.

03:00PM  
Enteral Nutrition in Patients with Severe Head Injury. Angela Seebach, Jane Gervasio. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background/Introduction: Head injury is the leading cause of morbidity and mortality in critically ill trauma patients. Nutrition therapy in these patients is very challenging due to variable metabolic responses to head injury. Nutritional support must be more aggressive for head-injured patients to prevent deficiencies from rapidly occurring. Pharmacological treatment of these patients, including high dose pressors and sedation medications (propofol/pentobarbital), may induce bowel ileus. Because of this, the patient’s ability to tolerate enteral nutrition may be diminished. Objective: The purpose of this study is to determine if patients sustaining a severe head injury are able to tolerate enteral nutrition (tube feedings). Methods: This study will be a retrospective chart review of patients with head injuries admitted to Methodist Hospital in Indianapolis, Indiana. Critically ill patients with severe head injuries requiring specialized nutrition support (not able to eat by mouth) will be eligible for inclusion in this study. The following additional criteria must be met in order for the patient to be included: 1) 18-80 years of age, 2) subarachnoid hemorrhage, 3) closed head injury and, 4) chart available for review. Each patient’s chart will be reviewed retrospectively and the following will be assessed
including route and type of nutrition support the patient received, quantity of nutrition, medications received, length of stay in ICU and length of stay in hospital.

Data Collection: Data collection is ongoing

Conclusion: The study is aiming to conclude that patients sustaining a severe head injury requiring specialized nutrition support will be able to tolerate enteral nutrition.

03:15PM

A Survey of Retail Pharmacists’ Knowledge and Opinions of the Indiana Pseudoephedrine Law. Courtney Bennett. Butler University, Indianapolis, IN. Sponsor: Dr. Carrie Maffeo

Methamphetamine is a powerful, addictive, stimulant that causes the brain to release a surge of dopamine. With repeated use, methamphetamine depletes the brain’s stores of dopamine, destroys the dopamine receptors, and causes the user to slip into depression. Additionally, methamphetamine increases the heart rate and constricts blood vessels which may lead to cardiac problems. Methamphetamine can be made from pseudoephedrine (PSE), a decongestant found in numerous over-the-counter cough and cold products. Congress passed a federal regulation limiting the amount of PSE that can be purchased in a single transaction to 3.6 grams. Indiana’s law, however, is more stringent: a customer may purchase a maximum of 3 grams of PSE in one transaction. Furthermore, the customer must be at least 18 years of age, present a valid state or federal ID, and sign a registry. In response to the methamphetamine problems and PSE limitations, many products are being discontinued and reformulated with phenylephrine, a decongestant that can not be used to make methamphetamine. The purpose of this survey is to assess how well pharmacists know the pseudoephedrine law and how they feel about it. The survey will show what pharmacists see as the positives and negatives of the law, and also whether or not they feel that the law is effective. This study intends to identify strengths and weaknesses of the PSE law and ways to improve the law.

Session K
Pharmacy Building, Room 204
Moderator: Dr. Theresa Salazar

01:00PM

How to Best Manage the Medicaid Outpatient Drug Benefit: A Comparison of State Medicaid Policy and Staffing. Michael McIntosh. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: The populations served by Medicaid and the diversity and intensity of their health care needs make Medicaid a major purchaser of prescription drugs and associated services. Annual double-digit growth in drug spending and recent fiscal restraints nationwide are forcing state Medicaid directors to evaluate policy decisions that manage the pharmacy benefit and control costs. This study was prompted by the administration of the Indiana Office of Medicaid Policy and Planning to evaluate the practices and policy decisions other states are utilizing to manage their pharmacy benefit.

Objective: To identify a best practice model that will improve departmental efficiency and serve to create an infrastructure that will mature along with Indiana’s growing Medicaid enrollment.

Methods: A survey instrument was created and forwarded to the directors of each state’s and the District of Columbia’s respective Medicaid pharmacy benefit manager(s). Surveys were released in February and May of 2006. Details of the survey include relative state demographic information, current pharmacy spend, identification of program functions that are performed by third party contractors, and evaluation of the administrative structure within each program.

Results: Data collection and analysis are ongoing. Conclusion: Pending results of statistical analysis.

01:15PM

The Effect of Tight Glucose Control in Patients who Have Undergone Cardio-Pulmonary Resuscitation (CPR). Carly Prater. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Critically ill patients may exhibit hyperglycemia referred to as “diabetes of injury”. The mechanism of resulting hyperglycemia is associated with glucose being provided to non-insulin dependent organs and systems (e.g. brain and immune system) as well as insulin resistance and glucose intolerance. The severity and duration of hyperglycemia and insulin resistance is associated with increased morbidity and mortality.

Objective: To determine the possible benefits of achieving normoglycemia, with insulin if necessary, among patients in the Medical ICU who have undergone cardio-pulmonary resuscitation (CPR). The target populations are patients between the ages of 18 and 80 years of age, admitted to Methodist hospital and requiring CPR. Patients are excluded if the patient has signed a “do not resuscitate” order. Data collected includes patient demographics, history of diabetes, glycosylated hemoglobin, glucose concentrations on admission and throughout hospital stay, organ function and total daily amount of insulin required. If the patient is on a glucose stabilizer will also be reported. Outcome parameters recorded will include days on a ventilator, days in the ICU and hospital, incidence of death, number of infections.

Results: Data collection is currently ongoing.

Conclusions: This study is attempting to determine if patients who have undergone CPR and whose glucose is tightly controlled will ultimately have better outcomes.

01:30PM


Background: Acute pancreatitis is a prevalent disease state with complications ranging from abdominal pain to infectious complications and death. Severe pancreatitis is a hypermetabolic condition. Enteral nutritional delivery is the appropriate nutrition support for management of severe pancreatitis; however, patients with mild pancreatitis may not need aggressive nutrition support for up to 7-10 days, as long as their fluid needs are met.

Objective: To identify which route (NPO, parenteral, or enteral) of nutritional support is being utilized in patients with acute pancreatitis at Methodist Hospital in Indianapolis, Indiana and to evaluate if the route selected is the most appropriate.

Methods: A retrospective chart review is being conducted in patients 18-89 years of age with a diagnosis of acute pancreatitis between January 1, 2005 and December 31, 2005. Exclusion criteria included pediatric patients (under 18 years old), patients with chronic pancreatitis, and pregnant patients. Data collected included gender, age, past medical history, admitting diagnosis, date of diagnosis of pancreatitis, nutrition type, number of days from diagnosis to start of nutrition support, nutrition route/site, indication for nutrition, whether development of infection complications, number of days spent in hospital and/or ICU, and all-cause mortality.

Results: Data collection is ongoing.

Conclusions: This study will reveal if the appropriate type of nutrition support (if any) was utilized in patients with acute pancreatitis and which type of nutrition support delivery appeared to be more beneficial for the patients, in terms of outcomes.
Background: Most patients at Neighborhood Health Clinic (NHCI) are from low-income families and can receive their medications through Community Care Pharmacy according to a sliding fee scale. Prior to Medicare Part D (MPD) and recent generic drug programs at some pharmacies, many NHCI patients without prescription coverage received medications through Community Care Pharmacy or the clinic’s Medication Assistance Program (MAP).

Objective: To perform a cost analysis for patients at NHCI and to determine if enrolling in MPD would be advantageous for this patient population.

Methods: A retrospective chart review was conducted in patients with a diagnosis of neuropathy who were between the ages of 18 and 99 years old. Exclusion criteria included: patients not meeting age requirements and missing chart data. Inclusion criteria included all patients with a diagnosis of neuropathy who were residents in long-term care facilities.

Results: Forty-five peripheral neuropathy patients were identified. Data was collected from low-income families and can receive their medications through Community Care Pharmacy or the clinic’s Medication Assistance Program (MAP).

Analysis of Medication Costs through Various Programs for Patients at Neighborhood Health Clinic. Sarah Daywalt, Dr. J. Phillip Tyndall. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock


Use of pharmacotherapeutic assessment tools prior to pharmacy students’ clinical experience year. Amy Hemsworth, Bruce Hancock. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock


Background: Benzodiazepines (BZDs) are highly addictive drugs that are frequently prescribed for the treatment of Generalized Anxiety Disorder (GAD). There are no existing guidelines that standardize treatment for GAD but there is evidence that supports a general algorithmic method. This includes the use of benzodiazepines for the acute relief of anxiety symptoms for about two to six weeks while an antidepressant is initiated simultaneously for long term treatment. Psychotherapy should also be given.

Objective: The purpose of this study was to observe physicians’ prescribing patterns of benzodiazepines and other anti-anxiety medications used as therapy for patients diagnosed with GAD.
Study Design: This is a retrospective and prospective cohort chart review study of patients with an ICD-9 diagnosis code for GAD at the Veterans Affairs Northern Indiana Health Care System in Marion, Indiana. Charts were assessed for short term versus long term use of benzodiazepines in addition to the use of other anxiolytic drugs. A data collection sheet was used to serve as a standard tool when reviewing the medical charts. These questions provided descriptive statistics allowing for trends in prescribing patterns of physicians to be analyzed and compared.

Results/Conclusion: Fifty-five percent of patients were on a benzodiazepine sometime during therapy; 50% were on it for 6 months or longer; 22% of these patients received psychotherapy, and 65% were on an antidepressant. Data collection is ongoing. The goal of this study is to comparatively demonstrate prescribers’ trends of pharmacotherapy for their patients with GAD to the recommendations based upon suggestive evidence.

Session L
Pharmacy Building, Room 212
Moderator: Dr. Carrie Maffeo

01:00PM
Do Indiana Pharmacists Believe that this State should Implement a Conscience Clause? Aaron Alsmeyer. Butler University, Indianapolis, IN. Sponsor: Laurence Kennedy

Background: A “conscience clause” is any law allowing health care providers to refuse to provide certain services because of personal beliefs. In 2006, the Indiana legislature was presented with a proposal for a conscience clause giving pharmacists the right to refuse to dispense birth control medications or drugs that may cause abortion. A few states have such clauses in place, and surveys have been done to find out what pharmacists in various regions of the country believe about the issues involved. No such survey has been conducted in Indiana.

Objectives: To determine Indiana pharmacists’ knowledge about the current status of the conscience clause, to learn what they believe about the relevant issues, and to find out if they are in favor of having this clause implemented.

Methods: A survey was sent to retail pharmacists (CVS, Target, Walgreens, and Meijer) and IPA members. The questions addressed each objective of the study, as well as demographic information.

Results: The survey received 25 replies, 24 of which were from respondents who practice primarily in Indiana. Of these 24 participants, 14 (58%) believed that Indiana should implement the clause, 9 (38%) were opposed, and 1 (4%) was undecided.

Conclusions: Although this study showed that pharmacists were generally in favor of the conscience clause, it is difficult to extrapolate widely to pharmacists in the state, because of low response rate. However, it is clear that opinions on both sides are alive and well, and Indiana lawmakers should consider what pharmacists think before votes are cast.

01:15PM
Evaluating the use of stress ulcer prophylaxis in a rehabilitation unit: A retrospective chart analysis. Danielle Irish, Sandi Lemon, PharmD, BCPS. Butler University, Indianapolis, IN. Sponsor: Tracy Bottorff

Background: The American Society of Health Systems Pharmacists (ASHP) published a set of guidelines for the use of stress ulcer prophylaxis (SUP), however, these recommendations do not include the specific population of rehabilitation patients. Prescribing acid suppressive medications may be unnecessary in many patients and may also lead to an increased risk of acquiring a *Clostridium difficile* infection.

Objective: To determine the incidence of appropriate use of SUP in patients in a rehabilitation unit at Community Hospital East (CHE). A secondary objective is to determine if a correlation exists between the use of acid suppressive therapy and the incidence of a *Clostridium difficile* infection.

Methods: A retrospective chart analysis utilizing information on patients admitted to the subacute rehabilitation unit at CHE was conducted. These patients were studied to assess the appropriate prescribing of agents for SUP. Descriptive frequencies were used to evaluate the number of patients on appropriate prevention therapy for stress ulcers, defined as a documented history of GERD, PUD, or GI bleed, as well as to assess the frequency of patients acquiring a *Clostridium difficile* infection.

Results: A total of 104 patient medical records were evaluated. The number of patients prescribed SUP appropriately was 48 (46%). Of those patients prescribed SUP inappropriately, 34 (61%) were continued on these agents at the time of discharge. Five patients (0.05%) were treated for *Clostridium difficile* infections; however, the etiology in each case is unclear.

Conclusion: Results of the study indicated there is inappropriate use of stress ulcer prophylaxis in this patient population.

01:30PM
Achieving LDL goals: a retrospective chart review of participants in a worksite based health promotion program. Denise Rollins. Butler University, Indianapolis, IN. Sponsor: Dr. Carrie Maffeo

Background: Research has shown elevated LDL cholesterol is a major cause of cardiovascular disease. It is very important to identify patients who have high cholesterol and are at an increased risk of cardiovascular disease. Health screenings, especially the worksite, are beneficial in identifying these patients.

Objective: To determine the number of participants in a worksite based health promotion program, Healthy Horizons, who are achieving LDL goals as determined by National Cholesterol Education Program (NCEP) Adult Treatment Panel III (ATP-III) guidelines.

Methods: An observational, retrospective chart review was conducted. Participants who had a Healthy Horizons screening with a fasting lipid panel were included. The data collected included demographics, cardiovascular history and risk determinants, lipid-lowering medication, and cholesterol values. Data was also collected for participants with a follow-up screening.

Results: Data collection and analysis is ongoing.

Conclusions: This study is aiming to evaluate if participants in a worksite based health promotion program are reaching LDL goals. It will also evaluate if patients’ LDL values are improving at their follow-up visit and if patients taking lipid-lowering medications are reaching LDL goals.

01:45PM
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. Kasssie Ashcraft. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey, Pharm.D., BCPS

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 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 assessing these additive effects that the combination may provide.

Objective: The primary objective is to assess if 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) and low-density lipoprotein (LDL).

Methods: A retrospective cohort study of patients on combination or monotherapy from 2000-2005 is being conducted. Data collection includes patient age, weight, gender, tobacco and alcohol use, presence of diabetes, concurrent medication use that may effect TG, and the lipid profile and HgbA1C levels on two immediate and one long term occurrence. Inclusion criteria includes patients 18 years and older, diagnosis of dyslipidemia especially hypertriglyceridermia, and a baseline TG level greater than 150 mg/dL. Exclusion criteria includes patients on statin therapy.

02:00PM
Achieving LDL goals: a retrospective chart review of participants in a worksite based health promotion program. Denise Rollins. Butler University, Indianapolis, IN. Sponsor: Dr. Carrie Maffeo
Results: Data collection is ongoing and statistical analyses have not been conducted.

Conclusions: This study will help to determine if combination therapy provides additive TG lowering effects compared to monotherapy. If the combination therapy is found to provide additive lowering effects, the management of high TG’s could be modified and more cost effective.

02:15PM
Evaluation of Sleep Hygiene Awareness and Practice in Pharmacy Students
Evaluation of Sleep Hygiene Awareness and Practice in Pharmacy Students. Daniel Scales. Butler University, Indianapolis, IN. Sponsor: Iftekhar kalsekar
Background: College students have impaired quality of sleep compared to the rest of the population. Knowledge of sleep hygiene directly correlates to sleep practices, as well as to the quality of sleep. To date, no studies have been done to assess either sleep hygiene awareness or the sleep hygiene practices of students in a Pharm D. program. Study objective: To evaluate the sleep hygiene awareness and sleep hygiene practices of Pharmacy Students at Butler University. Methods: The study objective will be met using a cross sectional survey of pharmacy students at Butler University. The survey will be posted online, using Survey Monkey, and a link will be sent via e-mail to all pharmacy students at Butler University. Survey will be posted online during the Spring semester 2007. The survey will be adapted from the existing Sleep Hygiene Awareness and Practice Scale (SHAPS). The awareness section of the scale includes 13 items that measure the respondents’ knowledge of whether specific activities (such as taking a nap or having a regularly scheduled bedtime) are helpful, disruptive, or have no effect on sleep. The practice section of the scale contains 19 items that ask how many nights per week the respondent engages in certain activities known to promote or inhibit sleep. Differences in awareness and practice will be compared based on gender, age, current housing situation, cumulative GPA, and year in school. Independent sample t-tests or one-way ANOVAs will be used for these comparisons. The statistical tests will conducted at the 0.05 level of significance. Results: Data collection is in progress.

02:30PM
Gutkha, a spiced food product, is growing in popularity while the dangers of the product's constituents are not fully understood. It is a chewed food product in Asia, Taiwan, Papua New Guinea, India, and other countries. Due to its widespread use, our goal was to promote awareness by evaluating its constituents and pharmacist awareness. Betel leaf has been chewed for centuries. However, when chewed it produces red saliva. Due to the unsightly saliva production, and the desire to enhance the stimulation effects, gutkha was produced, which contained other ingredients. Along with betel leaf are acaana nut, slaked lime and tobacco were added to create a "buzz" sensation. With the spawn of the newer gutkha products, the harmless looking cachets are available to persons of all ages and contain two pharmacological agents, arecoline and nicotine. Gutkha has made it's way to the United States and is currently being distributed and sold in exotic grocery stores perhaps without selling restrictions or safety labeling. Because acaana nut and tobacco have been found to be addictive, mutagenic, and carcinogenic in vivo, our lab used HPLC to quantitatively analyze the main pharmacological constituents of concern in gutkha, specifically the aforementioned arecoline and nicotine. We also investigated pharmacist awareness and opinions about the selling regulations of gutkha in the United States.

02:45PM
Rating the appropriateness of herbal product information reaching consumers. Madeline O'Bryan. Butler University, Indianapolis, IN. Sponsor: michael vance
Context: The Dietary Supplement Health and Education Act of 1994 allowed consumers the freedom to evaluate and choose herbal products at their discretion. Manufactures of herbal products are only loosely regulated by the FDA and FTC. As a result, information reaching consumers on the efficacy and safety of herbal products does not entirely relate to clinical evidence. Objective: To rate the appropriateness of the information a consumer would likely find if purchasing herbal products in a retail pharmacy, whole foods store, and on the internet to see if the information is misleading. Data Sources: English-language, placebo controlled, double blinded clinical trials and Cochrane Reviews were evaluated for efficacy and safety of the herbal products. Using the YAHOO! Search web engine, the top 10 sites and sponsored sites were analyzed for their health content related to the herbal products: echinacea, kava kava, ginko biloba, and saw palmetto. Labeling, health claims, disclaimers, and references on the above herbal products were examined at a pharmacy and a health food store. Study Selection: Scientific clinical trails in Cochrane Reviews established if the herbal product was (1) effective, (2) possible effective, (3) probably ineffective, or (4) ineffective. Publicly available information on echinacea, kava kava, ginko biloba, and saw palmetto were rated as they gave the impression that the product was effective and safe for unsupervised consumer use. Conclusion: Information reaching consumers regarding herbal products does not relate to evidence found in clinical trials. Labeling and internet marketing, whether on the internet or store shelves, is misleading to consumers.

03:00PM
Retrospective Chart Review Evaluating Nutrition in the Critically Ill Patient. Libby Reising. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio
Background: Nutritional support is an essential element in the care of critically ill patients. Studies of reported enteral nutrition (EN) initiated within the first 24-48 hours after admission to decrease morbidity and mortality. National and international guidelines recommend initiating early EN in the critically ill patients. Objective: To evaluate when EN support is being initiated in critically ill patients and if the guidelines are being met. Methods: This study is a retrospective chart review of adult (18-80 years of age) patients admitted to the intensive care unit at Methodist Hospital in Indianapolis, Indiana. Critically ill patients will be reviewed to identify when their nutritional support was initiated and if the hospital is meeting the guidelines are being met. Results: Data collection is ongoing.
Conclusion: This study is aiming to conclude whether or not nutrition support is being started within 24 to 48 hours in the critically ill patient.
Session M  
Pharmacy Building, Room 202  
Moderator: Dr. Darin Ramsey

01:00PM  
A retrospective chart review of the incidence of diabetes mellitus in elderly schizophrenic patients receiving atypical antipsychotic therapy in a long-term care facility. Sarah Beuligmann. Butler University, Indianapolis, IN. Sponsor: Meghan Bodenberg

Background: Atypical antipsychotics have become the standard of care for schizophrenia and schizophrenic disorders. They are thought to have a better side effect profile than the typical antipsychotics. This class of drugs has also been linked with its own set of side effects that may make their use risky. The use of atypical antipsychotics has been associated with an increase rate in the development of diabetes mellitus. There have been several studies done that show a positive correlation between atypical antipsychotics and the development of diabetes mellitus.

Objective: The primary study objective will be to determine association between the use of olanzapine and risperidone and the development of diabetes mellitus in elderly schizophrenic patients.

Methods: This study will be a retrospective case-control chart review of patients at Williams Brothers Long Term Care Pharmacy in Washington, IN. A chart review will be done to find the target population. Their records will then be looked at to determine which patients were exposed to treatment with either olanzapine or risperidone. The independent variable will be exposure to either olanzapine or risperidone, while the dependent variable will be the development of diabetes mellitus.

Results: Data collection is ongoing.

01:15PM  

Background: Ventricular assist devices (VAD) are mechanical pumps surgically placed in a patient to substitute for a damaged ventricle. VAD is utilized in individuals needing ventricular assistance to allow the heart time to recover its normal function and in individuals awaiting heart transplantation. VAD placement is an invasive procedure placing patients at increased risk for infections. Hyperglycemia, a common complication associated with the subsequent metabolic stress from the surgery, places the patient at additional risk for infection. Intensive glycemic control is a preventative approach to controlling infectious complications that is widely accepted in medical practice, especially in the cardiovascular surgical patient.

Objective: To evaluate glycemic control and insulin therapy in patient's post-VAD placement. Methods: A retrospective chart review will be conducted at Methodist Hospital. Patients 18 to 80 years of age having received a VAD between 1995 and 2005 will be reviewed. Patients will be excluded due to incomplete data and a failure to meet all inclusion criteria. Data collected will include patient demographics, C-reactive protein, homocysteine, albumin and prealbumin levels, blood glucose concentrations (both at point of care and laboratory), insulin received, nutritional regimen administered and the resting energy expenditure will also be recorded. Results: Data collection is ongoing.

01:30PM  

Background: Diabetic peripheral neuropathy (DPN) is one of the most common complications of diabetes. It is estimated that nearly 50% of patients with diabetes suffer from DPN and that 11% of patients with DPN experience pain. There are a multitude of medications that are commonly used for the treatment of DPN. Currently, there are only two drugs with FDA approval for the treatment of DPN pain, duloxetine and pregabalin, neither available currently on the VA pharmacy formulary.

Objective: The objective of this study is to determine the prevalence of diabetic peripheral neuropathy (DPN) among our VA patients and to evaluate pain level and associated sleep and mood disturbances in diabetics with painful DPN. Secondary outcomes will be to evaluate patient level of satisfaction with their current DPN treatment.

Methods: An estimated 250 patients are being randomly selected to complete a survey, which will be collected via telephone. The survey asks: gender, age, type 1 or type 2 diabetes, whether or not last HgA1C was less than seven and whether or not the patient complains of nerve pain. Patients are also asked where the pain is located and to describe the specific pain symptoms that he or she is experiencing.

Results: Results are pending and will be presented at the spring 2007 Undergraduate Research Conference

Conclusion: This study will help serve as a tool for physicians to find the most effective treatment for their patients. Finally, this study will give some insight on the current management of our population and determining satisfaction with current therapy.

01:45PM  
Survey Investigating Physician and Nursing Unit Satisfaction of Pharmacy Services at a VA Hospital. Christina Record, Darin Ramsey, Pharm.D., BCPS, Marshall Jones. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey, Pharm.D., BCPS

Background: In today’s business environment, the demand for services by consumer groups, profits, and the factors that influence those profits are what drive a company. The business of pharmacy is no different. In a hospital pharmacy setting, the two primary consumers of pharmacy services are physicians and nurses.

Objective: The objective of this research project is to gauge physician and nursing quality and satisfaction ratings of inpatient and outpatient pharmacy services at the R.L. Roudebush V.A. Medical Center. Methods: A cross-sectional online survey was e-mailed to all physicians, residents, and nurses at the VAMC. The survey data was collected without participant identifiers and maintained confidentially. The first section of the survey inquired about physicians’ and nurses’ views of the drug information and monitoring services provided by the pharmacy staff. The second section evaluated their satisfaction ratings of the patient education and counseling services offered. The third section, for providers only, evaluated satisfaction with drug therapy recommendations made by pharmacists. The fourth and last section included demographic questions to see if there are significant variations between categories. These categories include: staff position, age, gender, recent work experience in the private sector, specialty practice area, number of prescriptions/med orders written per day, shift worked, and primary focus in the inpatient or outpatient setting.

Results: Data collection is ongoing.

Conclusions: This study is aiming to discover physician and nursing quality and satisfaction ratings of pharmacy services at the R.L. Roudebush VAMC. The information obtained will be used to make any necessary quality improvements.

02:15PM  

Background: Deep vein thrombosis (DVT) is a major concern in patients who are obese, smokers, immobile, on hormone-therapy or are undergoing surgical procedures. Pharmacological prophylaxis is often accomplished by utilizing a fixed-dosing regimen of unfractionated heparin or low molecular weight heparin (LMWH) such as 30mg twice daily enoxaparin. This fixed-dose regimen may not be sufficient for obese patients, due to their increased volume of distribution.
Objective: The objective of this study is to determine if there is a difference in prophylactic benefit of administering enoxaparin at a dose of 40mg twice daily in obese patients with a BMI ≥35 kg/m². Furthermore, the study will examine the adverse event profiles of the different dosing regimens to determine if there is a difference in safety between the dosing strategies.

Methods: A retrospective chart review will be conducted on patients at Methodist Hospital for obese patients that received DVT prophylaxis with enoxaparin. Data collection will include weight, height, indication for prophylaxis, dose and frequency of enoxaparin, other prophylactic measures, development of thrombotic event and development of adverse events.

Results: Data collection is ongoing.

Conclusions: The study is trying to determine whether there is a favorable benefit versus risk profile for higher doses of enoxaparin for the prophylaxis of thromboembolic events. Additionally, the study is also being performed to assess the appropriateness of physician prescribing for DVT prophylaxis in the obese population.

02:30PM
The Use of N-acetylcysteine + Sodium Bicarbonate vs. Sodium Bicarbonate Alone for the Prevention of Radio-Contrast Induced Nephropathy. Samuel Culli. Butler University, Indianapolis, IN. Sponsor: Alexander Ansara

Background: Contrast media is administered to patients undergoing procedures including cardiac catheterizations. One of the most dangerous adverse effects of contrast media is acute renal failure (ARF) (also known as radio-contrast induced nephropathy (RCIN)). Many different drugs have been studied for the prevention of RCIN. Few of them have shown consistent benefit. Two of the agents that have demonstrated efficacy in preventing RCIN are N-acetylcysteine (NAC) and sodium bicarbonate. To date, there have been no trials evaluating the efficacy of the combination of these two drugs in preventing RCIN.

Objective: To evaluate the efficacy of the combination of sodium bicarbonate plus NAC versus sodium bicarbonate alone in preventing RCIN. RCIN will be defined as an increase in serum creatinine (SCr) of 0.5 mg/dl or a 25% increase in SCr from baseline within 48 hours of a patient receiving contrast.

Methods: A retrospective chart review will be performed of patients who have received intravenous contrast media and treatment with sodium bicarbonate plus NAC or sodium bicarbonate alone in preventing RCIN. NAC will be defined as an increase in serum creatinine (SCr) of 0.5 mg/dl or a 25% increase in SCr from baseline within 48 hours of a patient receiving contrast.

Results: Data collection is ongoing.

Conclusions: This study aims to determine whether sodium bicarbonate plus NAC or sodium bicarbonate alone is more effective at preventing contrast-induced acute renal failure.

02:45PM

Background: Acute myocardial infarction (AMI) is considered an emergency condition that requires immediate medical attention. Upon presentation, a diagnosis is made based on an electrocardiogram (ECG) and laboratory assessment of cardiac enzyme changes. Pharmacologic therapy with aspirin/clopidogrel +/- percutaneous intervention (PCI) should be initiated within 24 hours of the onset of symptoms indicative of a NSTEMI. Objective: To determine if physicians are adhering to the American Heart Association (AHA) guideline to prescribe both aspirin and clopidogrel in patients with documented NSTEMI who did not receive PCI. Furthermore, the study will examine whether the area of physician specialty has any impact on prescribing decisions.

Methods: A retrospective chart review will be conducted at Methodist Hospital for patients who present with a NSTEMI. Data collection will include age, sex, race, documented diagnosis, date of diagnosis, prescribed treatment, presence of CABG/PCI, contraindications to treatment, and area of physician specialty.

Results: Data collection is ongoing.

Conclusions: The study is attempting to determine whether physicians are compliant with the guidelines for the treatment of a NSTEMI patient with regards to the use of aspirin and clopidogrel combination therapy.

03:00PM
An Analysis of the Use of Aldosterone Antagonists Among Post-myocardial Infarction Patients Complicated with Heart Failure—Reviewing the Impact of EPHESUS. Lori Huntman. Butler University, Indianapolis, IN. Sponsor: Alexander Ansara

Purpose: This study designed to evaluate the use of aldosterone antagonists in post-MI patients with an ejection fraction of less than 40%. The Eplerenone Post-acute Myocardial Infarction Heart Failure Efficacy and Survival Study (EPHESUS) found that eplerenone decreases mortality by 15% in this population. It is necessary to review whether trial results are being practiced by conducting a medication-use evaluation.

Background: One-third of patients develop the signs and symptoms of heart failure following a myocardial infarction. In general, post-MI treatment involves the initiation of aspirin and/or clopidogrel, an ACE-inhibitor, and a beta-blocker. Additional treatment is necessary with ejection fractions below 40%. For these patients, EPHESUS found eplerenone decreases all cause mortality, cardiac mortality, sudden cardiac death, and hospitalization from heart failure.

Methods: A retrospective chart review was conducted at Methodist Hospital in Indianapolis, IN. For patients presenting to the hospital with an acute myocardial infarction (AMI) between 04/01/2005 and 06/30/2006 aldosterone antagonist use was evaluated in accordance with the EPHESUS trial. Additional data collected included age, ejection fraction, heart failure symptoms, other medications initiated, BUN/CrCl, potassium, and AMI history. Patients with ejection fractions above 40% were excluded.

Results: Data collection is not complete. Preliminary results display 10% (8/80) utilization of aldosterone antagonists. Among all patients not receiving aldosterone antagonists, documentation explaining prescribing rationale was lacking. The presence of confounding risk factors will also be accounted for in the complete data analysis.

Conclusions: The results from this study should help evaluate the affects of EPHESUS on clinical practice.

03:15PM
The Role of the Pharmacist in the Education of Patients with Diabetes at Shalom Healthcare Center. Sarah Duncan, Dr. Marilyn Dargis. Butler University, Indianapolis, IN. Sponsor: Dr. Carrie Maffeo

Background: It is well known that if a person takes control of their health there are far better outcomes than if they are just bystanders in their healthcare. The key to giving control to the patient is proper education.

Objective: This project will show that with proper education and support from a pharmacist a patient can have greater control of their diabetes.

Methods: Patients with the ICD-9 codes of 250.00 – 250.02 will receive a folder of information with seven packets on different diabetes concerns. In each packet patients are told the importance of control, the signs and symptoms of diabetes, and the importance of being compliant with the guidelines for the treatment of a NSTEMI patient with regards to the use of aspirin and clopidogrel combination therapy.

Results: Data collection is ongoing.

Conclusions: The study is attempting to determine whether physicians are compliant with the guidelines for the treatment of a NSTEMI patient with regards to the use of aspirin and clopidogrel combination therapy.
Conclusion: In the future, I would choose a pharmacy to conduct this study at with patients who participate voluntarily by signing up for education.

Session N
Pharmacy Building, Room 205
Moderator: Dr. Kevin Tuohy

01:00PM
Possible Effects of Tight Glucose Control in Cardiopulmonary Resuscitated Patients. Bethany Vasquez. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: “Diabetes of injury” is a well-known phenomenon observed in critically ill patients. Hyperglycemia results from increased hepatic production along with gluconeogenesis. Studies have shown a significant decrease in morbidity and sometimes, mortality when tight glucose control is practiced in the medical and surgical ICU. While tight glucose control is practiced widely in ICUs, it is still unknown what benefits might be seen in the cardiopulmonary resuscitated population as research has yet to be conducted in this area. Objective: The primary objective of this study is to determine the possible effects of tight glucose control via intensive insulin therapy on morbidity and mortality in cardiopulmonary resuscitated patients admitted to the medical ICU. Methods: The proposed study will be a retrospective chart review. Data will be collected from charts of CPR patients admitted to Methodist Hospital medical ICU and maintained with a glucose level in the ranges of 80-120, 120-150, 150-200, and greater than 200 mg/dl.

01:15PM

Background: The emergence of methicillin-resistant staph aureus (MRSA) is a great concern in the pharmacy field, and the choices for combating these bacteria are very limited. Daptomycin is a cyclic lipoprotein antibiotic approved by the FDA in 2003 for gram positive bacteria. Indiana University Hospital has developed a criterion for the use of daptomycin. Objective: To determine if daptomycin is being prescribed appropriately according to the University Hospital adult Antimicrobial Prescribing Improvement Program (APIP) criteria for use. Methods: A continuation of a retrospective observational medical record review performed at Indiana University Hospital. The dates of the study are from September 21, 2004 to July 31, 2006. Inclusion criteria include patients over 18 years of age admitted to Indiana University Hospital. The exclusion criteria are patients that are pregnant or a prisoner. Data collected will include: baseline demographics, renal function, temperatures, creatine phosphokinase (CPK) levels, white blood cell (WBC) count with differential, adverse reactions, cultures and susceptibilities, site of infection, dosage and duration, infusion rate, Infectious Diseases diagnosis, the inpatient service, length of stay, other antibiotics and medications received, outcome, significant medical history, and if rehospitalization was necessary. Results and Conclusions: This study will determine if the usage criteria outlined are being followed at Indiana University Hospital. It will also document adverse events seen, duration of therapy, types of infections treated, service patient was treated and outcome. All of this data will be transmitted to Cubicin Pharmaceuticals and added in their CORE registry to improve prescribing techniques and indications for daptomycin.

01:30PM
Retrospective Chart Review of the Use of Antibiotics in COPD Exacerbations. Jennifer Tharp. Butler University, Indianapolis, IN. Sponsor: Kevin Tuohy

Background: Chronic Obstructive Pulmonary Disease, or COPD, is a disease state that is rapidly increasing in prevalence. Though the disease is becoming more and more common, there is still much that is unknown about the disease and how to treat it, especially with regard to the use of antibiotics. Because there are many working definitions of what a COPD exacerbation is, it has become difficult to look at the varied literature available and determine who is a candidate for antibiotics. Objective: The main objective of this study will be to determine if a patient is appropriately prescribed antibiotics for a COPD exacerbation according to current guidelines. Research Design & Methods: A retrospective chart review will be utilized for this study. The data source for this study will be the charts of the patients admitted to Methodist hospital between January 1, 2004 to December 31, 2004. The patient population used in this study will include all patients diagnosed with a COPD exacerbation within the specified time frame and are at least 18 years of age. Results: Data is currently being collected and analyzed. Rationale: The purpose of this study is to look at the prescribing habits of doctors to determine whether or not antibiotics are being appropriately utilized in the setting of COPD exacerbations.

01:45PM
Retrospective Review and Analysis of Venous Thromboembolism (VTE) Prophylaxis and Incidence at Methodist Hospital Prior to the Initiation of a Hospital Wide VTE Prophylaxis Protocol. Nicole Smith. Butler University, Indianapolis, IN. Sponsor: Kevin Tuohy

Background: Within the hospital setting, it has become standard to administer prophylactic measures such as heparin, low molecular weight heparin and mechanical methods in accordance with protocols in place, as a means of preventing VTEs. These prophylactic measures when abided by, significantly reduce the formation of VTEs in hospitalized patients. Objective: To evaluate whether patients admitted prior to the initiation of the Methodist VTE prophylaxis protocol were assessed for a VTE, appropriately received prophylaxis, and if they developed a VTE. Methods: A retrospective chart review that assessed patients admitted into Methodist Hospital medical ICU and maintained with a glucose level in the ranges of 80-120, 120-150, 150-200, and greater than 200 mg/dl.

02:15PM
Evaluating perceptions of graded versus pass/fail advanced pharmacy practice experiences among pharmacy students in Indiana. Lindsay Whisenant, Amy Peak. Butler University, Indianapolis, IN. Sponsor: Amy Peak

Background: Advanced Pharmacy Practice Experiences (APPE’s) provide pharmacy students with hands-on learning opportunities. There is no standard APPE assessment method and studies evaluating the optimal APPE assessment method, graded versus pass/fail, have not been published. Objective : To assess the perceptions of Indiana pharmacy students regarding graded versus pass/fail APPE’s. Methods: An electronic survey was distributed to 6th year pharmacy students, enrolled at Butler and Purdue Universities, to assess their opinions regarding graded versus pass/fail APPE’s.
Results: 196 students completed the survey. Most (60.8%) students feel that grades stimulate higher performance; however, 74.9% do not feel that grades are more effective than pass/fail systems for assessing clinical rotations. While the majority of students (62.5%) believe pass/fail assessment systems are more effective than grading systems for encouraging communication among students and between students and preceptors, most (80.1%) think graded assessments cause more stress than pass/fail assessments. Ultimately, some form pass/fail system was preferred (69.1%) over a grading system (11.5%) for evaluating APPEs.

Conclusion: It is the opinion of most pharmacy students that APPE’s are best assessed by some form of pass/fail system and not by grades.

02:30PM
Evaluation of Student Use of Technology. Kelli Lukomski, Amy Peak. Butler University, Indianapolis, IN. Sponsor: Amy Peak

Background: In August 2005, Butler University College of Pharmacy and Health Sciences (COPHS) launched a laptop initiative. Objective: To evaluate COPHS students’ use of technology, and compare those students involved in the laptop initiative to those not involved.

Methods: An electronic survey, consisting primarily of questions adapted from the technology section of the National Survey of Student Engagement, was distributed to COPHS students.

Results: 433 students completed the survey. 96 were participating in the laptop initiative. Virtually all respondents indicated that instructors require students to use information technology to complete assignments and indicated they used the World Wide Web (99%) and electronic resources available from the BU library (92%) for academic assignments. Approximately 96% of those in the laptop initiative worked in teams inside of class using information technology to complete course assignments, compared to 68% of students not in the initiative. Over 63% of students indicated they had expressed ideas to a professor via email that they were not comfortable expressing during class. Many more students in the initiative regularly use laptops (88% vs. 5%) and OneNote (75% vs. 4%) during class. Many more students participating in the laptop initiative access the WWW or e-mail during class (84% vs. 14%). Additionally, 60% of those in the laptop initiative, compared to 5% not in the initiative, use Instant Messaging during class.

Conclusions: Students in the laptop initiative are more likely to use information technology in the classroom for both educational and recreational purposes.

02:45PM
Evaluation of the perceptions of preceptor practitioners on the use of graded versus pass/fail advanced pharmacy practice experiences. Sarah Oldaker. Butler University, Indianapolis, IN. Sponsor: Amy Peak

Background: The College of Pharmacy and Health Sciences at Butler University has considered changing the assessment system for students participating in advanced pharmacy practice experiences (APPE’s). Currently, APPE’s are graded on an A, B, C, F scale. The college is considering a pass/fail scale.

Objective: The purpose of this study was to assess the opinions of preceptor practitioners on the use of graded versus pass/fail APPE’s.

Methods: An electronic cross sectional survey was sent to preceptor practitioners affiliated with colleges of pharmacy in Indiana.

Results: Two hundred thirty-nine preceptor practitioners completed the survey. Most preceptors (76.7%) did not believe that graded APPE’s stimulate unhealthy competition among students. However, many preceptors (60.6%) felt that students being assessed by a graded system experience more stress than students in pass/fail assessment systems. There was virtually an even split among preceptors regarding the ability of pass/fail assessment systems to fairly reflect student effort, knowledge, abilities, and attitudes. Although the vast majority of preceptors (86%) believe that grades are more effective than pass/fail assessment methods for didactic class work, only 44.3% feel grades are more effective than pass/fail methods for APPE’s. A majority of preceptors (52.2%) preferred some type of pass/fail system (pass/fail or high pass/pass/fail), while 28.4% preferred a traditional graded system and 19.4% did not have a preference.

Conclusion: It is the opinion of most preceptor practitioners that rotations are best assessed by some type of pass/fail system and not by grades.

03:00PM
Evaluation of Student and Faculty Perceptions of Academic Dishonesty at Butler University. Ayesha Kheiri, Amy Peak. Butler University, Indianapolis, IN. Sponsor: Amy Peak

Background: Academic dishonesty is a growing problem in higher education. Faculty and student perceptions of academic dishonesty may differ.

Objectives: To identify faculty and student perceptions of academic dishonesty, determine if perceptions differ between students and faculty determine the incidence at Butler University, and what factors correlate with academic dishonesty.

Methods: A voluntary, confidential, anonymous electronic survey was distributed to current Butler University faculty and students.

Results: The survey was completed by 129 faculty and 897 students. Perceptions significantly differed regarding situations such as informing another student about general topic information covered on a quiz/exam (p < 0.001), using an old exam to study for a test when the student is aware that the professor does not return tests (p = 0.015), and working in a group on an individual assignment (p = 0.015). Many students admitted to asking (82.3%) or informing (83.6%) other students what topics are covered on a quiz/lab/exam, working in a group on an individual assignment (56.1%), and altering laboratory or other types of data to yield more desirable results (42.9%). Twenty-eight percent admitted to viewing other students’ answers during examinations. Students in social fraternities/sororities were significantly more likely, while married students were significantly less likely to engage in acts of academic dishonesty.

Conclusions: Academic dishonesty is a problem at Butler University. Perceptions of academic dishonesty often differ between faculty and students and developing common definitions of academic dishonesty may be one way to decrease this problem.

03:15PM
Insulin Stability at Room Temperature: A Six Month Assessment. Amber Cook, Amy Peak, Nandita Das. Butler University, Indianapolis, IN. Sponsor: Amy Peak

Background: Current guidelines for insulin storage recommend keeping open or un-opened vials at room temperature for periods of no more than 28 days. However, there are many instances in which storing insulin at room temperature for longer than 28 days would be beneficial to patients and healthcare facilities.

Objective: To determine if vials of insulin stored at room temperature for longer than 28 days will retain potency similar to that of vials of insulin stored under refrigeration.

Methods: Multiple vials of Humulin® N and R and Novolin® N and R will be stored at room temperature and under refrigeration. Triplicate baseline samples will be drawn from each vial and used for comparison to all other samples drawn throughout the study. Triplicate samples will be drawn from each vial at day zero, thirty, sixty, ninety, one-hundred twenty, and one-hundred eighty. All samples will be analyzed using reversed phase high performance liquid chromatography (HPLC). HPLC will be used to determine the concentration of each type of insulin at the specified time periods mentioned above. A change in concentration of insulin to less than 95% of the original measured concentration will be considered a significant change in insulin stability.

Results: Data collection is ongoing.

Conclusion: This study will determine if Humulin® N and R and Novolin® N and R will retain potency when stored at room temperature for longer than 28 days and if the 28 day expiration date is necessary for vials of insulin not in use stored at room temperature.
Socialism. I argue that communism in the Russian society did not reflect
the revolutions and compare Enlightenment ideas from such philosophers
as Descartes, Locke, and Marx. Then I examine Russian history in the early
1900's. The Russian Communist Party and subsequent nation were not
reflective of the original Enlightenment goals.

09:15AM
Theories of Nonconsequentialism. Janell Callahan. Butler University,
Indianapolis, IN. Sponsor: Richard McGowan

Discerning moral actions from immoral actions, philosophers have
developed theories that explain the principles that guide these actions.
One such theory is nonconsequentialism, which asserts that morally right
and wrong acts are determined by the innate character of the acts and not
the related consequences of the acts. Philosophers like Immanuel Kant,
W.D. Ross, and Martin Buber have developed their own unique
nonconsequentialist theories. I will explore Kant’s ideas of good will, the
categorical imperative and humanity as an end, Ross’s rejection of
absolutism, his principles of prima facie obligations and self-evidence,
and Buber’s reliance on the concepts of I-Thou and I-It relations. I
will then show the deficiency of Kant’s theory and explain the merit of the
philosophy of nonconsequentialism. Though nonconsequentialist
theories differ, humans’ differentiation between moral and immoral actions
profoundly reflects the philosophy of nonconsequentialism. I emphasize
that the overall theory of nonconsequentialism is a valid and applicable
philosophy to the establishment of right and wrong.

09:30AM
The Deviation of ‘New’ Natural Law Theory from Thomist Natural Law
Theory. Michael Meiser. Butler University, Indianapolis, IN. Sponsor: Paul
Valliere

Beginning in the 1980’s a man by the name of John Finnis authored a book
titled Natural Law and Natural Rights. This work is considered by many
to be the launch point of a resurgent natural law tradition within
contemporary ethical and legal thought. Finnis’s natural law theory, dubbed
‘New’ Natural Law Theory by natural law theorist Russell Hittinger, claims
a Thomist title. In other words, it claims to operate based on the writings of
Thomas Aquinas, a 13th century Catholic theologian and philosopher.
However, many theorists within the Thomist tradition, particularly Catholic
moral theologians, refute the status of this theory as being an essentially
Thomist theory. It is my contention to discuss the basic tenets of ‘New’
Natural Law Theory in order to show how it deviates from the essence of
Thomistic thinking about the natural law.

10:00AM
Where Have All the Good Men Gone?: Evolving Ministerial Roles and
Identities in the Catholic Church. Ryan Gross. University of Evansville,
Evansville, IN. Sponsor: Dianne Oliver

In the last half century, there has been a great shift in the personnel of those
ministering in the Catholic Church. Significant attention is now focused on
priestly shortages and the potential challenges such a crisis will bring to the
Church. The situation has increased fervent discussion about an end to
 celibacy, the allowance of a married clergy, and the opening of the
priesthood to women. While these suggestions may have some merit, they
are frequently offered only after a misdiagnosis of the situation. There is
indeed a shortage in the Church today, but it is a short-sightedness which
fails to see the dynamic reality of ministry which has undergone significant
change since the era of Vatican II. The Church is primarily experiencing a
management crisis, and any talk of a shortage must be put in this
framework. There are indeed fewer priests than before, but this should not
be the only factor used to evaluate the ministry of the Church. There are
many problems with such an analysis. This nearly always neglects the fact
that there has been an explosion of lay people occupying roles which were
once held by priests and religious, it fails to weigh both societal changes
and changes in the Catholic sub-culture, and it fails to look outside the
experience of the Church in the United States. This methodological critique
locates the errors of modern evaluations of ministry in the Church while
leaving the door open for necessary dialogue concerning the discernment of
adequate solutions.

10:15AM
Removing the Tainted Image. Trevor Smith. Hanover College, Hanover,
IN. Sponsor: Dr. Kate Johnson

In our culture, women have always been defined in relation to men. This
poses a problem for a woman who is striving for self-realization, in a male
dominated society, for her perceived self will always relate back to that
definition proposed by man. In her article, “Some Reflections on
Separatism and Power”, Marilyn Frye suggests the way for a woman to
begin defining herself is to cease accepting androcentrism by engaging in
various forms of separatism from men. In this paper, I will be exploring
Frye’s concept of separatism and it aids a woman’s self-realization. I will
also make use of Catherine Mackinnon’s analysis of gender, as well as
Adrienne Rich’s notion of male dependence on women, to help clarify why
a woman is in such a difficult position in relation to finding a self-
definition in our culture. My conclusion, while agreeing with Marilyn Frye,
Catherine Mackinnon, and Adrienne Rich, will be a personal reflection in
which I suggest that all human relations of every form are interdependent,
and that there must be a balance of support to ensure healthy positive
relationships.
10:30AM

For almost fifty years, Jack Chick has evoked visceral responses out of the American public by communicating his fundamentalist Christian beliefs through the medium of comics in tract form. More recently, these responses have led to a unique visual culture emerging around Chick tracts in interactions between the tracts’ distributors and their iconoclastic critics. The iconoclasts in particular have become aggressive in their efforts against Chick tract distribution by both destroying and creating parodies of them. In response, Chick and his distributors have mocked these acts of iconoclasm and condemned the iconoclasts to perilous fates. This presentation examines why Americans respond so strongly to Chick tracts; it then analyzes how the tract producers’ response to iconoclastic acts point to both sides using propaganda rather than rational debate. Their reliance on propaganda has led to a lack of constructive communication allowing each party to continue criticizing the other without regarding the other’s reproach. This communication breakdown explains how even the well-intentioned act of a concerned person removing these tracts from public venues often leads to their wider distribution.

10:45AM
Jesus in the Bible and Chalcedon: Are they the same? Jessica Fox. Butler University, Indianapolis, IN. Sponsor: James McGrath

Most Protestants today hold that The Bible is the ultimate source of authority in regards to how one should view God and Jesus. At the same time most still adhere to the realm of orthodoxy, choosing to accept the Nicene Creed, which established the doctrine of the Trinity, and the Chalcedonian Definition establishing the dual nature of Jesus Christ. The Chalcedonian Creed states the following about the nature of Jesus Christ: “The selfsame one is perfect both in deity and in humanness; this selfsame one is also actually God and actually man.” In regarding Scripture as the ultimate authority, many Protestants may want to ask whether the Jesus depicted by Chalcedon is the same Jesus that appears in The Bible. What were the passages that the Early Church Fathers used to develop this Creed? The Gospel of John is frequently cited as a Biblical source that supports the Incarnation, and John provides us with the claim, “And the Word became flesh and dwelled among us.” The focus of this presentation will be to what extent we can develop a complete doctrine of the Incarnation using just the Gospel John. Finally I will ask if John alone can consolidate into the essence of God. Whereas in Lossky, the soul remains distinct from God, Catherine claims that the soul literally becomes God. Despite this difference there arises a meaningful similarity. It seems that, though Lossky and Catherine hold opposing views about the way we relate to God, they may both be saying the same thing about God: that we cannot know anything about God. That is, while Lossky claims that we remain ourselves when we reach the final end of mysticism and that God remains other and unknowable, Catherine claims that we become one with God and, as a consequence, loose all of our distinguishing characteristics and hence become unknowable ourselves. Both Lossky and Catherine believe that we can know nothing about the essence of God, the only difference is that Lossky believes that we stand outside of that essence and Catherine believes that we are drawn into it.

11:30AM
The Zen of Nietzsche. Chad Andrews. Indiana University-Kokomo, Kokomo, IN. Sponsor: Robert Strikwerda

Indeed, Nietzsche was a very different kind of philosopher. His thoughts and views on life, to this day, remain among the most unique within all of western philosophy and thought. When one reads Nietzsche, he or she may immediately become aware of his most curious style of writing. While, many philosophical works attempt to create a structure or develop an argument, Nietzsche does neither in his works. Rather, Nietzsche wrote in aphorisms which are neither discursive nor argumentative. Thus, Nietzsche’s work often contains “a great variety of ideas” that are “sometimes mutually contradictory”. This use of paradox – a philosopher contradicting himself in making his arguments – strikes a chord with many concepts found in Zen Buddhism. The very title of one of Zen’s most cherished works, The Gateless Barrier, seems in itself a contradiction of sorts. As a collection of Koa, however, The Gateless Barrier’s ultimate goal is to move the reader away from rational thought altogether and into a heightened state – enlightenment. Paradox is just one of many ways in which Nietzsche’s philosophy and Zen Buddhism intersect: “There are indeed profound points of resonance between Nietzsche and Buddhism, Zen in particular...” This statement is not without exception: “There are also points of genuine confrontation [between Zen & Nietzsche]”. Because Nietzsche’s thought strikes such a chord with portions of Zen thought, it is likely that he was minimally aware of at least some Buddhist thought. Despite limited knowledge on the subject of eastern thought, Nietzsche – with little exception – demonstrates that he is, in fact, the most Zen-minded of all nineteenth philosophers of the western world.

11:45AM

The article addresses the responsible use of psychedelic drugs in relation to Zen Buddhism. After a brief review of the mechanics of LSD, perception and reality are compared as seen through the psychedelic experience. Using Timothy Leary’s notion that one can experience “liberation from ego and space time constraints” through the use of LSD and a few of my own accounts, the article compares and contrasts varying sources and Leary’s assertion with Zen thought. Both the abstemious or sober mystical vision and the LSD induced psychedelic experience are discussed using the thoroughly documented journals of Aldous Huxley in his collected essays Moksha. Huxley’s statements are compared with excerpts from Zen works by Dogen Zenji in Sho-bogenzo and Zen commentary by Dr. John Rudy. The article also examines American poet Allen Ginsberg (who also documented both psychedelic experiences and mystic visions) alongside the sober experiences of Ralph Waldo Emerson and Percy Bysshe Shelley. Following Leary’s University-minded studies, the piece discusses a John Hopkins University study on psychedelic mushrooms. Finally, the article addresses briefly the following questions: Can one responsibly use psychedelic drugs in light of Zen Buddhism? If so, what is to be attained by their use? How does the mystical experience differ from drug induced visions and is either more legitimate and why

Session C Religious Issues II
Jordan Hall, Room 201
Moderator: Dr. Chad Bauman

11:15AM
The Divine Darkness and Purifying Love: The Essence of God in the Mystical Encounters of Vladimir Lossky and Catherine of Genoa. Chris Blackstock. Hanover College, Hanover, IN. Sponsor: Chad Quaintance

My presentation will treat two responses to the theological question: how can an created person have a meaningful relationship with an uncreated God? The first response is provided by 20th century Eastern Orthodox theologian: Vladimir Lossky. The second, by 14th century Catholic mystic: Catherine of Genoa. Vladimir Lossky argues that we can know nothing about God; that the highest possible state for us consists in a perfect contemplation of God's unfathomable nature. In opposition to this, Catherine claims that throughout a process of purification we end up being
Diffusion-limited aggregation (DLA) is a method in which randomly moving particles accumulate, forming complex geometries such as fractals, which are commonly used to model the formation of objects such as coral reefs, snowflakes, and trees because of their similar branching nature. Currently, DLA most often uses random movement of particles based upon classical conditions, though a growing field of study is looking at DLA wherein the random movement of the particles relies also upon the quantum states of the particles. The main focus of my thesis was to determine how much influence the quantum effects have on the fractal shape and growth. In this quantum-based model, each particle has the probability of being in a number of possible positions at any given time up until the position is selected. To describe this quantum random walk, I used the two-dimensional Hadamard transformation in combination with a unitary operator that determines the particle movement based upon the internal state. I then wrote a FORTRAN program to simulate this random walk. The generation of a random number selects the final position of the particle. Individual particles are simulated independently, with the established positions of previous particles influencing the position selection of subsequent particles. I then compared the quantum-based DLA fractals to classically-based fractal formations.


Surface plasmon resonance (SPR) has been an area of theoretical interest for a very long time. In the last ten years novel bio-technological applications have also been devised resulting in the development of useful bio-sensors that monitor reaction rates and products for various molecular interactions. SPR is an example of a resonance mode that is excited at a metal-dielectric interface when the incident light satisfies certain conditions related to its wavelength and polarization state. It is related to, but different from, the more well-known bulk plasmon in metals that is usually detected as an abrupt change in metal reflectivity. Our experiments are designed according to the Kretschmann configuration where the hypotenuse of a prism is coated with a thin metallic film and light is incident upon the dielectric-metal interface in total internal reflection mode. In this arrangement, typically a light source with a well-defined wavelength is employed and the angle of incidence is varied till the coupling to the plasmon mode is achieved. To this end, we have deposited thin films of Gold and silver on the hypotenuse face of the right prism and used 545nm and 633nm He-Ne laser to explore these effects. Our focus was on exploring both the effects of film thickness on SPR properties and the effects of a cap layer on top of the metal film. We would also discuss a different geometry for the experiment whereby the angle of the incident light is kept fixed but the wavelength is varied.

Effects of Magnetic Measurement Uncertainty on Tokamak Equilibrium Reconstruction. Andrea Montgomery, Lang Lao (General Atomics), Edward Strait (General Atomics). Butler University, Indianapolis, IN. Sponsor: Lang Lao (General Atomics)

Reconstruction of the magnetic topology and current density profile from external magnetic diagnostics is vital to the study of tokamak plasmas. It has long been suspected that external magnetic measurements may contain information about the current density near the edge of a shaped plasma. The sensitivity of the reconstruction to uncertainty in magnetic measurements can be determined by analyzing existing and simulated DIII-D data for the effect of measurement uncertainty on the edge current density and the location of the separatrix. The new magnetic uncertainty matrix recently added to EFIT provides a basis for this numerical analysis, and these calculations are compared with simple analytical models. This study uses DIII-D diagnostic data and simulated data from plasmas with current density profiles of varying degrees of complexity to determine how well EFIT can recreate the plasma current profiles. The relative importance of the various measurements can be determined, with the divertor X-point likely to be the most sensitive to the edge current density.

Targeted Motions for Protein Conformational Changes. Heather Fisher. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: A.J. Rader

Protein structures can change with the binding of a ligand. This structural change often impacts the function of the protein as well. Two computational models are used to drive a protein along a pathway from its unbound conformation to the bound structure. Both methods depend on the initial state of the protein and the bound state, as given in the Protein Data Bank. The first method is a coarse-grained method, using an elastic network representation of each amino acid to drive the conformational changes. The second method is an all-atom model, with the rigidity of the starting protein analyzed through FIRST and then driven using FRODA. These two methods are then compared and contrasted, using several factors, such as the root mean square distance between the final structure from a run and the bound protein, and the time it takes to analyze the run.

Modeling Nonlinear Seismic Wave Propagation. Phillip Johnson. Butler University, Indianapolis, IN. Sponsor: dan kosik

The objective of the project is to write the code for a program which expands on previously written coding to model a smooth transition from radial to two-dimensional nonlinear seismic wave propagation in solid media. The program is intended to be valid for a two-dimensional propagation from the point of transition from radial propagation to the point of interaction with the surface. The main idea behind the model is that of Preisach-Mayzergoysz (P-M) space, which models structural features of the medium of propagation, such as cracks, fissures, grains, or contact between grains. In using the P-M space model, mathematical expressions can be developed and written into a program to allow realistic modeling of nonlinear wave propagation. Realistic modeling of the propagation of nonlinear seismic waves would lead to increases in the accuracy of subsurface maps, improve the signal to noise ratio in geophysical prospecting, and refine source array configuration.
political sophistication result in decreased trust of government. Although the mathematical model created in this study is very strong, it instead suggests that increased prayer and political sophistication and prayer. The 2004 American National Election Survey provided the data used for this empirical study. A binary logit regression model was created and used in this analysis to capture the correlation between political sophistication and prayer upon political trust, an interaction term was created and used in this analysis to capture the correlation between political sophistication and prayer. The asymmetry will help determine how it formed. Possibilities for the origin of the asymmetry include a merger galaxy, a triaxial thick disk, and interaction of the inner halo with the stellar bar.

**Political Science**

**Session A U.S. Politics and Political Theory**

**Jordan Hall, Room 203**

**Moderator: Dr. Margaret Brabant**

**09:15AM**


For years, political scientists have attempted to explain what variables predict an individual’s level of trust in government, and have had mixed results in this endeavor. This study will evaluate the relationship that political sophistication and prayer have upon political trust, with the goal of determining both the direction and magnitude that political sophistication and prayer have upon political trust, while simultaneously adding to the body of knowledge that political scientists have amassed regarding trust in government. There has been much disagreement within the field of political science regarding how to best measure an individual’s political sophistication and prayer. In this model, political sophistication is represented by an additive index of political knowledge, political efficacy, and political interest. In order to measure the relationship between political sophistication and prayer upon political trust, an interaction term was created and used in this analysis to capture the correlation between political sophistication and prayer. The 2004 American National Election Survey provided the data used for this empirical study. A binary logit regression was then used to quantify the relationship between political sophistication, prayer, and political trust. This regression made it possible to test the hypothesis that increased political sophistication and prayer would result in increased trust of government. Although the mathematical model created in this study is very strong, it instead suggests that increased prayer and political sophistication result in decreased trust of government.

**09:30AM**

Perceived Impediments to Indiana Women in Politics. Adrienne Romary. Butler University, Indianapolis, IN. Sponsor: Dr. Terri Jett

This is a qualitative senior thesis that explores the impediments to women's activity in Indiana politics. Data shows that women are underrepresented in elected office in Indiana; thus, it was expected that barriers exist to women's full political participation. This study is unique because it identifies these barriers from the perspective of women active at all levels of politics in Indiana. The research for this study comes largely from interviews with female politicians from throughout the state. These interviews reveal that many impediments to female participation in politics still remain; these include voter perception of women, family obligations, and fund-raising. They can be categorized into political, social, and economic barriers. Taken together, these impediments help explain why so few women actively seek and are elected to public office in Indiana.

**09:45AM**

Policy Analysis: Advocating Female Financial Literacy Programs. Ami Kane. Butler University, Indianapolis, IN. Sponsor: Margaret Brabant

The economic position of women in the United States is in dire need of attention. The disadvantaged history of women and the current extent of female specific poverty both illustrate this need. While economic apprenticeships provide children with a basic knowledge base from which all future economic endeavors stem, women who miss out on an apprenticeship needlessly struggle to make up for lost time as young adults. Three possible solutions are considered in this paper. The first possible solution is to take no action. With this, while no investments are required,
Session B International and Comparative Politics
Jordan Hall, Room 203
Moderator: Dr. David Mason
01:30PM
Turkey: An Islamic EU Candidate Threatening to Dismantle the “Clash of Civilizations” Theory . Carling Jennings. Butler University, Indianapolis, IN. Sponsor: David Mason

This paper presentation will address the contemporary issue of the perceived culture clash between Islam and the West by focusing on the unique and controversial nature of Turkey’s bid to join the European Union. The Turkish people overwhelming identify themselves as an Islamic people while maintaining a secular democracy. The study of Turkey forces political theorists to examine the clash between Islam and the West, and to determine whether Islam can ever be compatible with democracy and other Western ideals. A thorough examination of Turkey requires a breakdown of Turkey’s past and present in order to speculate on its future, with specific analysis on the cultural roots of Islam and its Westernized attitude as characterized by the writings of Atatürk and Turkey’s constitution. This paper is formatted in a way to directly address the relevant political scholarship concerning the “clash of civilizations” theory in a post 9/11 atmosphere.

Psychology
Session A Clinical and Applied Psychology
Jordan Hall, Room 236C
Moderator: Dr. Tara Lineweaver
09:00AM

The present study was conducted in order to discover whether or not there was a relationship between religious faith and shame, and between religious faith and self-esteem. Forty-eight undergraduate students from a general psychology class were given the Internalized Shame Scale (ISS) as a measure of both shame and self-esteem. They were also given the 10-question version of the Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ) as a measure of religious faith. It was predicted that religious faith would positively correlate with shame and would negatively correlate with self-esteem. No significant correlation was found between shame and religious faith or between self-esteem and religious faith. An additional analysis found a negative correlation between shame and self-esteem.

01:45PM

Through the inspiration offered indirectly by Gene Sharp, a highly respected scholar who has written extensively concerning non-violent actions, four student democratic movements in Eastern Europe received ideas which would help their cause in ridding their respective countries of the dictators currently in power. Otpor in Serbia, Kmara in Georgia, Pora in Ukraine and Zubr in Belarus will be discussed as will the methods adapted and rejected from Gene Sharp and a comparison of the methods used by each group. Since Otpor, Kmara and Pora were successful in their endeavors, and Zubr has yet to remove their dictator from power, ideas will also be discussed as to what Zubr may do in order to improve their chances of success.

02:00PM
The Unintended Consequences of Ceausescu's Pronatalist Policies and the Subsequent Attempts to fix Romania's Abandoned Children Problem. Alicia Weiler. Anderson University, Anderson, IN. Sponsor: J. Douglas Nelson

Under the Communist regime of Nicolae Ceausescu, the Romanian people suffered under his repressive policies and leadership tactics. No group of people suffered more than the children. In an attempt to increase the population and subsequently the work force, Ceausescu passed several policies forcing women to bare children they could not support. As a result, hundreds of thousands of children were abandoned and were housed in centers that were not fit to meet the needs of the children. Ceausescu's policies not only sacrificed the lives of thousands of children, but also depleted his country of any wealth or resources. Thus, the post-Communist governments have had to right the wrongs done to thousands of children. In trying to deinstitutionalize the children, poor planning and improper funding made it difficult to implement any real change for the abandoned children. The post-Communist governments have not been able to successfully deal with the abandoned children crisis due to the unintended consequences of Ceausescu's policies, the unintended consequences of their own policies, and the standards the international community has set in order for Romania to be seen as a respecter of human rights.
research. However, additional analyses confirmed that certain personality types were more likely to engage in sexual activity.

09:30AM
The Relationships between Residence Status, Involvement, Adjustment, Gender, and Grade Point Average. Holly Estill. Saint Joseph’s College, Rensselaer, IN. Sponsor: Chau-Ming Wong

This study examined the relationships between residence status, gender, involvement, adjustment, and academic success. Thirty-three freshmen and sophomores (11 male and 22 female; 11 off-campus and 22 on-campus) from a small mid-western liberal arts Catholic college volunteered to participate. Adjustment was determined by using the Undergraduate Involvement Survey (Williford, 1997). Significant differences were found in two independent sample t tests comparing on and off campus residential status on adjustment and involvement. A 2-way ANOVA showed a significant interaction in social involvement and adjustment. The correlations between involvement, adjustment, G.P.A., and residence status were also found to be significant. Theses findings suggested that involvement is an important factor that is related to adjustment, academic success and residence statuses. These findings suggest important ways to increase the likelihood of student success in college and improve student retention.

09:45AM
Career Identity Development and the Five Factor Model. Stephen Polivka. Ball State University, Muncie, IN. Sponsor: George Gaither

This study examined the relationship between Marcia’s model of Career Identity Development and the Five Factor Model of Personality (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) in a sample of 69 undergraduate psychology majors enrolled in an “Orientation to Psychology as a Major” course. Specifically, the relationship between the Tendency to Foreclose (TTF) and the Openness & Conscientiousness personality traits was examined using the Commitment to Career Choices Survey (CCCS) to assess career identity development stages and the OCEAN measure to assess the levels of each personality trait. The CCCS was administered both at the beginning of the semester and again at the end. Results showed significant positive correlations between the TTF and Conscientiousness, as well as between the TTF and the six sub-facets of Conscientiousness. However, the difference between the pre and post-tests of the TTF was not significant. Although not predicted, the level of Commitment for Exploration of Careers also predicted, the level of Commitment for Exploration of Careers also demonstrated that, contrary to expectations, the mood induction utilized in this study exerted a larger influence on cognition when implemented in a secondary than in a primary language. Even more surprisingly, the cross-language effects of mood on cognition seemed to be stronger than the within-language effects. Taken together, these results suggest that mood does generalize across languages.

10:00AM
Feliz o Triste? (Happy or Sad?): Cross-Language Effects of Mood on Cognition. Megan Mull, Tara Lineweaver. Butler University, Indianapolis, IN. Sponsor: Tara Lineweaver

The effects of mood and language on cognitive processing are well established in the psychological literature. Research has shown that individuals tend to remember more when they are in a positive versus a negative mood. Language may also influence memory, specifically for those individuals who are bilingual. Evidence suggests that representations of the first and second languages of bilingual individuals may overlap in the brain, but their neural connections may be somewhat independent. This study evaluated whether the impact of mood on memory is language-specific or whether it generalizes across languages. Seventy-nine undergraduates enrolled in 300-400 level Spanish classes who passed a Spanish proficiency test viewed one of four 10-minute movie clips: a happy film in Spanish, a sad film in Spanish, a happy film in English, or a sad film in English. Participants then rated their emotional state on a questionnaire written in the same language as the movie clip. Finally, they completed a memory test for 40 words in either English or Spanish. Half of the participants in each group took the memory test in the same language as the memory clip, and half took it in the other language. Results demonstrated that, contrary to expectations, the mood induction utilized in this study exerted a larger influence on cognition when implemented in a secondary than in a primary language. Even more surprisingly, the cross-language effects of mood on cognition seemed to be stronger than the within-language effects. Taken together, these results suggest that mood does generalize across languages.

10:30AM
Minnesota Multiphasic Personality Inventory – 2 Correlates and Predictors of Machiavellianism. Megan Gourley, Johnathan Forbey, Tayla Lee, Nicole Blauz. Ball State University, Muncie, IN. Sponsor: Johnathan Forbey

The current study investigated the ability of scales related to antisocial behavior on the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) to relate to and to predict scores on the Machiavellianism Scale (MACH IV). One hundred and seven participants, 51 men and 56 women, from a Midwestern university (Ages 18 to 36, mean = 19.5, SD = 2.87) completed the MMPI-2 and the MACH IV (in addition to other measures). Relations between MMPI-2 scales and scores on the MACH IV were examined using zero-order correlations. Significantly correlated scales were entered into an exploratory stepwise regression analysis in order to determine the most parsimonious set of predictors of MACH IV scores. Results indicated Machiavellian traits as measured by the MACH IV could be best accounted for by MMPI-2 Content Scales ASP (Antisocial Practices) and ANG (Anger). These results suggest people with Machiavellian traits may be more likely to engage in anti-social behaviors and have feelings of anger and hostility toward others.

10:45AM
The presence of cognitive distortions in casino advertisements. Megan Crowley, Kristen Russell, Tim Rockstroh, Jessica Zehring, Katlin Springer. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Tim Steenbergh

Research shows that cognitive distortions have been identified among those with gambling problems. Furthermore, it appears that certain factors can enhance irrational thinking and further influence individuals’ gambling behavior. This study examines the extent to which casino newspaper advertisements incorporate material related to cognitive distortions. Newspapers were gathered from several large cities where casino gambling is available. Casino advertisements were identified and coded based on the various cognitive distortions that have been previously identified in the gambling literature. Descriptive data are presented in terms of the wording, formatting, and imagery utilized in the advertisements. Findings are discussed in relation to current trends in responsible gambling promotion.

11:00AM
Labeling Practices of U.S. Instant Lotteries. Pamela Rumsey, Alicia Cuce, Clarissa Bailey, Lauren Steinman, Ashley Ruffer. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Tim Steenbergh

With the growth of U.S lotteries it is important that those involved understand its consequences. Each state is responsible for deciding what information is provided on its instant lottery tickets. Information about the odds of winning, help line numbers for problem gambling, and the risks of
playing can be helpful in informing consumers. This study looks at instant lottery tickets to see what information states are providing lottery consumers. Instant lottery tickets were collected from those states that offer such games. The text of each ticket was examined to see what types of information was provided by each individual state. These data are presented and discussed in terms of informational approaches to responsible gambling.

11:15AM
Differences in Primary Drug of Choice and Levels of Depression. Jacquelyn Jacobs. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Tim Steenbergh

This study examines possible differences in the primary drug of choice and levels of depression in Grant County Drug Court participants at drug court entry and at graduation. There are six classifications of substances to distinguish the participants into groups; alcohol, stimulants, cannabis, opioids, sedatives, and other. These groups were examined in terms of their levels of depression as measured by the Beck Depression Inventory-II (BDI-II). In previous studies, there have been results that demonstrate that opiate abusers have been more depressed compared to cannabis and cocaine addicts.

11:30AM
Effect of Day and Night Landings on General Aviation Landing Flares. Shalagh Allison Frantz. Ohio Northern University, Ada, OH. Sponsor: Danny Benbassat

Flight manuals and aviation regulations stipulate that night landings impair depth perception. In this study, 145 participants with no aviation training performed day night landings in a general aviation simulator. Results suggested that the ability to perform the flare maneuver 3-6 m above ground level was not a function of illumination. These findings call into question night flying restrictions and highlight the importance of the runway shape as a prominent monocular cue.

11:45AM
Reducing Stigma toward the Mentally Ill: An Intervention to Increase Empathy. Stephanie Turner. Hanover College, Hanover, IN. Sponsor: Michelle Mamberg

The stigma surrounding mental illness remains a serious problem for individuals diagnosed with severe disorders such as Schizophrenia. Recent research focused on testing interventions to reduce stigma suggests that certain types of positive exposure to the mentally ill may reduce people’s tendency to stigmatize those who suffer from mental illness. In order to test this phenomenon, a study was conducted comparing two interventions aimed at attitudes and levels of empathy. Participants (n = 20 females, n = 20 males) were undergraduate students at a small Midwestern college. Participants were assigned to one of two conditions: (1) Positive Exposure and (2) Information Only. In the Positive Exposure condition participants were exposed to a one-hour video about a middle-aged man who has suffered from severe mental illness since age 19. The Information Only condition exposed participants to a forty-minute, video-taped lecture about several forms of mental illness, given by a licensed psychologist. All participants completed two surveys before and after receiving their respective interventions: the Community Attitudes toward the Mentally Ill (CAMI) Scale and a version of the Emotional Empathetic Tendency (EET) Scale, revised to include questions specific to mental illness. Results were expected to confirm the hypothesis that the Positive Exposure condition would increase empathy and decrease stigmatizing attitudes toward the mentally ill, while the Information Only condition would not significantly change empathy or attitudes. Implications for the effect of positive exposure on increasing empathy and reducing stigmatizing attitudes are discussed.
Breaking up is hard to do, but easy to remember: Remembering divorce.

Undergraduate participants (n=69) whose parents were divorced were given a questionnaire that tested their memory of their discovery of their parents intended divorce. Groups were formed based on their self-rated affective response (low, mid, high) and the number of times the subjects estimated they retold their divorce discovery stories to others (low, many). An ANOVA revealed a significant effect of Affect, F(2,61) = 9.132, p < .0004. This yielded an inverted “U” effect in which moderate emotion yielded more extensive memory than either high or low affect. Also, a repeated measures ANOVA revealed a significant effect of Recounts, F(1,65) = 6.492, p < .02. Finally, a repeated measures ANOVA revealed a significant effect of Affect, F(1,61) = 9.441, p < .004, as well as a significant effect of Age at Exposure, F(2,61) = 14.26, p < .0001. Also, those reporting lower affect show a significant decline between the age of exposure groups of “five or less” and “six to ten”. The main effects of affect and rehearsal pointed to the same encoding mechanisms responsible for flashbulb memories of 9/11 as the culprit mechanisms in personal autobiographical recollections. Further, the strong inverted “U” effect in affect suggests that divorce announcements to children are among the most upsetting news statements a child might receive. Finally, our findings regarding the age of exposure address the child-amnesia barrier, which has been set around the age of five. Our findings demonstrate that the child-amnesia barrier can be pierced by emotional memories.


This study explored the relationship between acculturation and acculturative stress in Hispanic children to determine if previous results would replicate for a Midwestern population. Past research, conducted in Southern California, suggested that girls tended to be more acculturated than boys and that boys experienced more acculturative stress than girls (Weisskirch & Alva, 2002). The participants in my study were 14 students, grades 3 through 6, at a private Midwestern elementary school. Participants completed a brief demographic questionnaire, the Short Acculturation Scale for Hispanic Youth (Barona & Miller, 1994), and the Societal, Attitudinal, Familial, and Environmental Acculturative Stress Scale for Children (Chavez, Moran, Reid, & Lopez, 1997). Based on past research from other regions, it was hypothesized that boys would report higher levels of acculturative stress than girls, and that girls would be more acculturated than boys. Results were analyzed using ANOVAs. Scores of the acculturation scale and the acculturative stress scale were compared using a Pearson correlation in an additional analysis. The analyses yielded no significant differences, indicating that boys did not experience more acculturative stress than girls, and girls were not more acculturated than boys. In addition, acculturative stress was not significantly correlated with acculturation. Future research will investigate individual styles of acculturation, and additional variables contributing to acculturative stress.

Acculturation and Acculturative Stress Scale for Hispanic Youth (Barona & Miller, 1994).

Acculturation and Acculturative Stress Scale for Children (Chavez, Moran, Reid, & Lopez, 1997).

Breaking up is hard to do, but easy to remember: Remembering divorce.
measure language proficiency in English. The Figural Torrance Test of Creative Thinking (Figural TTCT) will be used to measure creativity. Parents will also complete a questionnaire measuring home environment and demographic information. Independent sample tests comparing stimulating and non-stimulating home environments on creativity and intelligence will be conducted. It is hypothesized that children from stimulating home environments will perform better on creativity and intelligence tests than children from non-stimulating home environments. It is hypothesized that there will be positive correlations among language abilities, IQ scores, and home environment. The relationships of parents’ level of education, socio-economic status and other variables will also be examined.

11:15AM
Family Functioning Correlates of Self-esteem and Ego Identity in Young Adults. Laurel Camp, Jennifer Cline, Laura Soto. Marian College, Indianapolis, IN. Sponsor: Laurel Camp

A model linking family functioning variables with self-esteem and ego identity was developed based on a sample of 200 college students (18-24 years). The family variables included problem-solving, communication, role, affective responsiveness, affective involvement, and behavior control. The participants’ age and gender were also entered into the model. The family variables of communication and affective responsiveness were highly correlated (positively) with ego identity. In addition, ego identity scores were positively related to self-esteem. Being male had a small but significant positive correlation to self-esteem. Implications of the results are discussed.

11:30AM

The associations of early childhood socialization to latter life social anxiety were investigated using a Retrospective self-report survey, a Fear of Negative Evaluation Survey, and the Liebowitz Social Anxiety Scale (1987). College students were given all three assessments, and based on the responses from the retrospective survey the participant was given a label of low, medium, or high childhood socialization; and based on the scored response of the Fear of Negative Evaluation and the Liebowitz Social Anxiety Scale were given the label of none, low, moderate, or severe social anxiety. The findings for each participant were then analyzed and compared to the other data, focusing on those of similar background information.

11:45AM
The Relationship between Duration of Sleep and Academic Performance Among College Students. Abbie Zimmer, David Fryman, Kathryn Dixon, Ginger Kreil. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Tim Steenbergh

The question of what can be done to enhance students’ academic performance has been raised by school administrators across America. This study surveyed students at a small, private, university in order to help us better understand how academic performance can be enhanced. We examined the relationship between students’ sleep duration and their academic performance. Study variables included sleep disturbance, study habits, extra-curricular activities, and living conditions as well as demographic information. The number of hours of sleep students received and their level of satisfaction with the amount of sleep they received was studied in relation to their academic performance. Differences across demographic variables were also examined to provide further understanding of how school administration can assist students in their quest to enhance academic performance.
Several studies have demonstrated that a sense of hope is positively associated with general well-being. This study examined the hope levels of freshman college students over the course of a semester at a small Christian liberal arts University. Snyder’s Adult Trait Hope Scale was given to 541 students at the beginning of the fall semester of 2006, and at the close of the semester. Pre and post-test hope scores are compared and demographic factors associated with hope, including gender, grade point average, and major areas of study are examined. Results are discussed in relation to existing knowledge of the hope construct.

The purpose of this study was to examine the effects of adventure education on self-efficacy. The self-efficacy of approximately 38 undergraduate students was measured by a 19-item questionnaire before and after either a sea-kayaking trip to Florida or a backpacking trip to Arizona. The questionnaire covered four central domains of self-efficacy including cognitive functioning, social intelligence, emotional intelligence, and technical ability. The questionnaire was also distributed to a control group of on-campus students not participating in the school-sponsored wilderness trips. Pre and post data were then compared across these dimensions. Results are discussed in terms of social learning theory.

This study investigated whether or not the qualities desired by female college students in their partner changed from freshman through senior year. Through the four transitional years of college, female college students’ views on male partners and the kind of qualities they would like their partner to possess gradually change. This study hypothesized that underclass and upperclass female college students would prefer difference traits in their male partner. Underclass female college students would prefer more “superficial” trait (e.g., physical characteristics) and upperclass female students would prefer more “mature” traits (e.g., good job, emotional maturity, responsibility). In order to maintain objectivity on what traits would be considered superficial or mature, a list of traits was prepared prior to the study. The list was given to an independent group of participants including 10 seniors and a professor. They were asked to indicate on the list the traits they believed to be mature and superficial. After the final list was compiled, 50 female college students from a small mid-western liberal arts Catholic college were asked to rate the desirability of these characteristics in their potential male partner. A one-way ANOVA was conducted to compare the scores on the survey and their year in college (i.e., freshman, sophomore, etc.). Results supported the hypothesis. The reasons underlying the changes in female college students were discussed.

Exploring gender differences in deprecatory humor use: Discriminatory utterances in two American sitcoms. Sara Shake, Lindsey Hummel. Hanover College, Hanover, IN. Sponsor: Michelle Mambarg

Americans grow up in a society in which patriarchy is reinforced. Women, on average, earn lower incomes, hold fewer significant positions of power, and have less prestige. Thus, American women, as a whole, are disenfranchised. Exposure to and use of deprecating humor increases the tolerance for this type of discrimination. The current study builds on previous research on deprecating humor. We hoped to capture active inequity against women through close examination of characters’ utterances. We aim to show that, by incorporating this type of humor into popular sitcoms, inequality not only continues to exist, but is perpetuated in shows that influence the younger generation. We hypothesized that women used deprecating humor more than men. Additionally, we hypothesized that women’s deprecating humor would be targeted towards women rather than towards men. Data collected included coded material from Season One episodes of Everybody Loves Raymond (n = 22) and Roseanne (n = 22). Episodes were coded using an original coding scheme developed by the researchers for the purpose of this study. Results do not only confirm that women do make more deprecating remarks than men. Furthermore, results should confirm that women’s deprecating remarks will be directed more towards women than men. Future research should seek to collect data from a greater number and variety of sitcoms and work towards incorporating additional factors into the coding scheme with the goal of gaining better knowledge about the context of deprecating humor.

This study was designed to examine the relationship between attitudes towards interracial dating and racism. Participants completed a forty item questionnaire on the Internet. The questionnaire consisted of four measures which were developed to assess individual’s attitudes toward personally interracially dating, their attitudes toward interracial dating in general, and their racism level including the Modern Racism Scale and the Social Distance Scale. An open-ended question was also included which asked the participants if they would ever date a person of another race and why or why not. This study focused on the discrepancy between the general and personal attitudes toward interracial dating. It is expected that some participants will be accepting of other people interracially dating, but would not interracially date themselves. This inconsistency would be explained by a level of racism intermediate between those who are personally accepting of interracial dating and those who are not accepting of interracial dating for anybody. The results may show that there is still racism in the United States, despite the societal changes moving society more accepting of other races.

This study was designed to examine the accuracy of people’s stereotypes about gender differences in relationship attitudes and behaviors. Men and women (N = 133) who were in dating relationships self-reported on their levels of commitment, infidelity, and attitudes toward marriage. To examine stereotypes about gender differences, participants completed the questionnaires a second time, responding as they believed a typical member of the opposite sex would. Discrepancies between actual sex differences (as garnered from self-reports) and stereotyped sex differences were examined. It is our expectation that participants will perceive larger differences between the sexes (e.g., with males having much more negative attitudes toward commitment than women) than is warranted (e.g., with men and women self-reporting similarly positive attitudes toward commitment). Results will be discussed in light of evolutionary and social role theories of gender differences.
This study was performed to find the difference in beliefs and acknowledgement of certain international stereotypes between international students, American students who had studied abroad, and students who had not. Diversity in American work force has increased the need in understanding international perspectives, and the University of Evansville has a high population of international students to represent the mixed cultural society found today. 102 students took part in a 36 item questionnaire based on stereotypes emphasized in the media, with 31 out of 36 questions multiple-choice questions and 5 open-ended questions. 45 students were Americans who had not studied abroad, 21 students were Americans who had studied abroad, and 28 students were international students. A MANOVA was performed on the gathered data to find an overall significance between the group’s ideals. Also the research looks at the overall difference in comparison to the year of school the participant is in. This is a measure to see if age might be a factor as well, when looking at beliefs in stereotypes. 3 x 2 Chi-squares were performed to validate the stereotypes being asked and to see which ones were common in comparison to the groups. Overall certain stereotypes showed specific differences in the actual knowledge of the stereotype and beliefs between the groups. No overall difference was found between the year in school, but specific questions had varying results.

This study reviews sexual research in the past, including research and theories proposed by notable figures in sexology such as Sigmund Freud, Alfred Kinsey, and William Masters and Virginia Johnson. It also discusses more recent focuses on sexuality, including gender differences, homosexuality, and adolescent sexuality. It then presents findings from a study on the sexual attitudes and behaviors of 209 students at the University of Evansville. This study found numerable gender differences in a variety of sexual attitudes and behaviors, including frequency of masturbation, opinions of oral sex, orgasm experiences (having one at all, faking one, or having multiple), homosexuality, etc. Overall, it seemed that participants were more open sexually, both talking about sex and masturbating, opinions of oral sex, orgasm experiences (having one at all, faking one, or having multiple), homosexuality, etc. Overall, it seemed that participants were more open sexually, both talking about sex and masturbating, opinions of oral sex, orgasm experiences (having one at all, faking one, or having multiple), homosexuality, etc. Overall, it seemed that participants were more open sexually, both talking about sex and masturbating, opinions of oral sex, orgasm experiences (having one at all, faking one, or having multiple), homosexuality, etc. Overall, it seemed that participants were more open sexually, both talking about sex and masturbating, opinions of oral sex, orgasm experiences (having one at all, faking one, or having multiple), homosexuality, etc. Overall, it seemed that participants were more open sexually, both talking about sex and masturbating, opinions of oral sex, orgasm experiences (having one at all, faking one, or having multiple), homosexuality, etc. Overall, it seemed that participants were more open sexually, both talking about sex and masturbating, opinions of oral sex, orgasm experiences (having one at all, faking one, or having multiple), homosexuality, etc. Overall, it seemed that participants were more open sexually, both talking about sex and masturbating, opinions of oral sex, orgasm experiences (having one at all, faking one, or having multiple), homosexuality, etc. Overall, it seemed that participants were more open sexually, both talking about sex and masturba
Research on false memories has largely focused on memories for unusual or extraordinary events. In addition, research has traditionally focused on false memories that produce some form of negative consequences. As a result, there is a notable lack of investigation into the effects of false memories of relatively common experiences and of those which produce positive consequences. Therefore, we decided to extend the paradigm of false memory research to examine its effects upon the common experience of test anxiety. To study this, we will attempt to implant a memory of a situation involving anti-test anxiety (i.e., one in which the person overcame an experience of significant test anxiety and achieved success) in a randomly-assigned group of participants and compare them to participants who do not receive the attempted memory implantation on a measure of test anxiety. Data collection is currently ongoing, but we predict that participants who elaborate on the anti-test anxiety question will show a greater decrease in self-reported test anxiety compared to participants who do not elaborate on the anti-test anxiety item.


Previous research suggests that, when people witness an ambiguous interaction, they attribute greater aggressive and threatening intent when the actor is African-American than when the actor is White. Previous research also indicates that many of the stereotypes held against African-Americans are also held against the mentally ill. The goal of the present study was to examine the interrelationship between racial and mental illness stereotypes when witnessing ambiguously aggressive interactions. Introductory Psychology students (N = 98) participated for course extra credit. Half the participants read a description stating that the target had a history of mental illness, while half read a description indicating no such history. Participants watched four brief videos depicting the target interacting with another individual. Half the participants saw an African-American male target, while the other half saw a White male target. Following each video, participants rated the target’s behavior on several adjectives (e.g., friendly, threatening). Last, participants rated their responses to a psychopathy scale developed by the researcher and also coded for fear and disgust and were correlated with both scores from the Machiavellianism. Facial expressions collected from the videotapes were used to assess each participant’s level of psychopathy and Machiavellianism. Results indicate that stereotypes are not additive: if the target was African-American and not mentally ill, his behavior was perceived as more hostile and aggressive than if the target was both African-American and mentally ill or if the target was White (regardless of mental illness status). This suggests that being a member of two stereotyped groups affords some “benefit of the doubt” when interactions are judged. This benefit is limited, however, to specific behavior ratings; no race by mental illness interactions emerged on personality ratings.

02:30PM

This paper presents findings from a study on the differences on the way mental health is diagnosed and treated in the penal systems of Great Britain and the United States. It was found that there were no key differences in the official way that the governments of Great Britain and the United States run their penal systems. Both systems are overcrowded, neither is focused on the rehabilitation of inmates, and both provide a basic mental health screening of each inmate prior to entry into the penal system. Data suggests that inmates are only receiving minimal basic care and treatment within the penal system. These findings suggest that mental health professionals in prisons lack the resources necessary to successfully treat inmates. Further, the failure to focus on rehabilitation in either system may impede efforts to successfully treat mental health.

Symptoms of Psychopathy, Machiavellianism, and the Ability to Deceive. Sarah Vogt. Hanover College, Hanover, IN. Sponsor: Bill Altermatt

This study measures the relationship between symptoms of psychopathy, Machiavellianism, and one’s ability to deceive. The first part of the study measured each participant’s level of psychopathy based on his or her responses to a psychopathy scale developed by the researcher and also measured how Machiavellian the participant was using Christie’s (1970) Mach IV Scale. The second part presented participants with video clips of both stressful and pleasant stimuli each consisting of five short segments displaying subject matter that was expected to result in either feelings of fear and disgust or pleasant feelings, respectively. Participants were asked to try to conceal their emotions when viewing the stressful stimuli. Their facial expressions were videotaped to capture this form of deception. Responses from college students in both introductory and upper-level psychology classes (N = 20) gathered from the 68-item questionnaire were used to assess each participant’s level of psychopathy and Machiavellianism. Facial expressions collected from the videotapes were coded for fear and disgust and were correlated with both scores from the Machivellianism and psychopathy scales. Since previous research has shown that the ability to conceal fear and disgust is negatively correlated with the ability to deceive (Frank & Ekman, 1997), it is hypothesized that those participants who score higher on either one or both of the Machiavellianism Scale IV and the psychopathy scale will be better able to deceive the researcher by concealing their facial expressions during the stressful stimuli than those who score lower on these scales.
Session E Cognitive Psychology
Jordan Hall, Room 238
Moderator: Dr. Robert Dale

01:00PM

Two studies examined the interaction between accuracy for visual memory and group size. For both studies, we defined social loafing as “the concept that a person may not work as hard when they are a member of a group as they would when working alone” (Latane, et al., 1979). We predict that an individual who has viewed a videotaped event in isolation will recall more accurately than an individual who has viewed and discussed the videotaped event within a group of five. In study one, eighty participants (40 high school, 40 college undergraduate) were randomly assigned to one of two conditions. In the first condition a participant viewed the videotaped event, spent two minutes recalling the details and then completed a 15-item questionnaire surveying the events of the videotape; in the second condition, the individual viewed the videotape while in a peer group of five, then given two minutes to discuss the details with peers. Participants then completed the same 15-item questionnaire alone. In study two, we tested three age groups (high school, college undergraduates and junior high school students). Participants viewed a different video clip and then were tested for recall (as in Study 1). Data for both studies will be analyzed using an ANOVA.

01:05PM

This paper presents 2 studies that investigated the utility of textbook boxes. In the first study, 230 participants completed a perception questionnaire. The major finding was that professors and students rarely studied boxed text. In the second study, 177 participants read identical text with an insert that instructed them to stop reading and record the time. The insert appeared as boxed text for some and as regular text for others. There were no significant differences in hit rates or latency among the boxed and regular text groups. Taken as a whole, participants reported ignoring boxed no significant differences in hit rates or latency among the boxed and regular text. In the second study, 177 participants read identical text with an insert that instructed them to stop reading and record the time. The insert appeared as boxed text for some and as regular text for others. There were no significant differences in hit rates or latency among the boxed and regular text groups. Taken as a whole, participants reported ignoring boxed

01:10PM

The brain receives and interprets an enormous amount of information from the visual world. The world is rich with objects, colors, shapes, motion, and depth. The brain must somehow find a way to organize and process all this information to form a coherent picture of the world around us. One of the first steps in the processing of visual information is to organize the massive visual input into meaningful units separated as objects and backgrounds, a process called segmentation (Marr, 1980). Hubel and Weisel (1962) discovered cells in the visual cortex that were sensitive to the orientation or tilt of the visual stimulus. They called these cells simple cells. Thus, these cells which respond to specific orientation might create these outlines separating object from background. This is an exploratory study which will utilize a mathematical model of simple cell receptive fields to examine whether these cells are involved in segmentation. In essence, the goal is to attempt to uncover rules by which simple cells can do segmentation. Ideally, experimental data will be used to test any rules for segmentation proposed.

01:15PM
Misinformation, Traumatic Memory, and Memory Assessment. Adam Reichele. Ball State University, Muncie, IN. Sponsor: George Gaither

The argument concerning the accuracy of memory in response to traumatic events usually is composed mainly of proponents from the two extremes, those who argue that memories are considerably malleable (e.g. Loftus, 2003) and those who argue that they are, indeed, accurate (Bass & Davis, 1988). In the present study, we examine the contention that the method of assessment influences memory for traumatic events. We questioned 153 Midwestern college students enrolled in an introductory psychology course about the Columbia space shuttle accident that occurred on February 1, 2003. Participants were asked to fill out a survey at two separate data collection sessions. The surveys asked participants if they had seen several different details or objects in the footage of the event, some of which were present and some of which were not. Between the two surveys, we also led the participants to believe that one of the researchers vividly recalled seeing an airplane in the footage. Prior to completing the second survey, we also asked participants to write an account of what they had seen, which is the focus of the present study. We expected that, during Session 2, participants would be less likely to mention the passenger jet in their narratives than to falsely recognize it. If this prediction is supported, it could suggest that the method used in assessing traumatic memories has a significant impact on the information that people recall. Specifically, we believe that recognition tasks are more likely to exaggerate the misinformation effect than free recall tasks.

02:00PM
Adults’ Speech Accommodations to Elders is Less Effected by Age then by Mid- Conversational Feedback. Paul Hutman, Chris Ketcham. Butler University, Indianapolis, IN. Sponsor: Tara Lineweaver

Elderspeak (ES) is a natural and unconscious phenomenon whereby younger adults simplify their speech to older adults. This effect can be enhanced when young adults perceive cognitive impairments in the older adult, hold negative stereotypes about the older adult, or talk to the older adult in contexts like nursing homes or retirement communities. No research has extensively examined how mid-conversation feedback contributes to ES. In this study, 99 students were asked to talk to either an older adult or a younger adult on two different topics for 3 minutes each. The confederates were trained to respond as though they understood what the participant said by nodding and maintaining eye contact in the comprehension condition. In the non-comprehension condition, confederates responded as though they did not understand and displayed confused facial expressions. Conversations were tape recorded, transcribed, and coded for several measures of speech complexity. We hypothesized that participants would simplify their speech 1) when speaking to the older adult and 2) when receiving non-comprehension feedback. We also expected that these effects would be cumulative so that 3) the older adult, when signaling non-comprehension, would receive the most simplified speech. Results showed that the confederate’s age did not significantly impact speech rate or complexity, which defies past research. Speech was simplified when non-comprehension feedback was given by either confederate, consistent with hypothesis 2. Together, results suggest that young adults alter their speech based on the perceived comprehension level of their listener, but do not make accommodations based solely on their listener’s age.

02:30PM
Past research has shown a relationship between self-efficacy and self-reported mood, which has been found to be stronger than the relationship between self-efficacy and actual ability. These studies most often use self-efficacy questionnaires that combine positive, negative, and neutrally-

87
worded statements without examining these question types separately. The present experiment was designed to investigate the interaction between mood state and question wording (positive, negative, or neutral) on self-reported memory self-efficacy (MSE). Fifty-nine Butler University undergraduate students, enrolled in Introduction to Psychology, participated in this study. Mood state was manipulated by showing participants a short movie clip that was happy or sad. Participants in the conditions did not differ in gender, class year, or age. Following the movie clip, they completed the mood manipulation check, MSE questionnaire, and a memory test for 40 non-categorizable words. The 27-item MSE questionnaire was based on nine unique factors of the Memory Assessments Clinic-Self-Rating Scale. Three items from each factor were selected and one was worded positively, one negatively, and one neutrally. Participants in the two conditions reported similar memory self-efficacy levels when responding to positively- or neutrally-worded items. However, in response to negatively-worded items, participants in the sad mood condition were more likely to rate their memory as being poor than participants in the happy mood condition. The relationship between self-efficacy and mood may depend on how self-efficacy questionnaire items are worded. Avoiding negatively-worded items on self-efficacy questionnaires may decrease the undue influence of mood and allow more accurate measurements of self-efficacy to be obtained.

02:45PM

Stereotypes are prevalent in our society and influence social interactions. It is important to understand children's stereotypes and their sources. This study examined the formation of children’s stereotypes about the elderly. The Cognitive Development and Social Learning theories were both investigated. First-, fourth-, and eighth-grade students rated how common positive and negative characteristics are in the elderly. Responses were compared to those of their peers and parents. Based on the Cognitive Development theory, the first hypothesis predicted that first graders would endorse either all positive or all negative traits. Older children were expected to hold both positive and negative views, resembling the complexity of stereotypes typically endorsed by adults. Results did not support the first hypothesis. With regard to the Social Learning Theory, the second hypothesis predicted that first graders would hold views similar to their peers, due to the common influence of society. With age, children’s stereotypes of the elderly were expected to begin mirroring those of their parents. This hypothesis was strongly supported. Children in the first and fourth grades tended to have similar stereotypes across schools, whereas eighth graders’ stereotypes were differentiated by school. Also, the children’s stereotypes did not match those of their parents until the eighth grade, where a significant relationship between children’s views and those of their parents emerged. Taken together, this study provides greater support for social learning than for a cognitive developmental impact on children’s stereotypes. Results elucidate children’s views of the elderly and provide evidence for how stereotypes form in general.

Session F Social Psychology
Jordan Hall, Room 216
Moderator: Dr. Jennifer Spoor

01:00PM
Big Girls Do Cry: Gender-Based Social Norms in the Context of an Interpersonal Loss. Susanne Biehle. Butler University, Indianapolis, IN. Sponsor: Tara Lineweaver

Research suggests that males and females experience emotions similarly, but express them differently due to social norms. This study examined whether gender-based social norms for emotional reactions are applied differently in the context of grief than other interpersonal situations. Undergraduate students read scenarios involving the end of a romantic relationship due to breakup or death and rated both internal emotions and external responses of either a male or female character. Time since the relationship ended was varied across scenarios. We hypothesized that men and women would be allowed to grieve more similarly after a loss due to death than a loss due to breakup, and that women would be allowed to externally manifest their grief for a longer period of time than men. Ratings for each of the internal emotions and external responses were submitted to an analysis of variance with type of situation, character gender, time elapsed, and participant gender as between subject factors. Results revealed that participants expected stronger internal emotions and external reactions in characters whose fiancé died than in those whose fiancé broke up with them. Contrary to expectations, however, few character gender main or interaction effects emerged for either internal feelings or external expression of emotions. Instead, gender of the observer appeared to play a larger role in how social norms are applied to judging the emotional responses of men versus women who have experienced a loss.

01:15PM

Adults of all ages apply common stereotypes when thinking about elderly individuals. Hummert and colleagues (1994) identified eleven different stereotype trait sets that describe older adults. This study examined whether expectations about changes in memory with age differ when applied to adults with various stereotypical traits and determined whether the impact of the stereotypes on these expectations differed for participant age groups. Four adjectives from each of Hummert’s stereotype trait sets were selected to create adjective clusters. Six clusters reflected positive stereotypes, five reflected negative stereotypes; five clusters contained memory-relevant adjectives, six did not. 304 participants in three age groups (young: ages 18-25, n=123; middle age: ages 26-50, n=88; older: ages 51-87, n=93) were asked to rate the memory of 11 targets described by the adjective clusters. Memory ratings were made at each decade of the life-span from 20-90. A 2 (valence: positive versus negative) X 2 (relevancy: relevant versus irrelevant) X 8 (target age: 20 through 90) X 3 (participant age group: young, middle age, older) mixed model analysis of variance indicated that personality characteristics of aging adults impact how others view their cognitive functioning, particularly when the characteristics are relevant. Despite having more direct experience with aging, older adults are more influenced by personality traits than young adults when making these judgments. However, older and middle age adults demonstrate a better understanding of which personality traits are relevant to changes in cognition with age than younger adults.

01:30PM
He loves me, He loves me not: An Investigation of Physicians’ Professional and Personal Relationships. Savanna Mueller. Butler University, Indianapolis, IN. Sponsor: Tara Lineweaver

Many factors influence the physician-patient relationship. Several studies have evaluated physician empathy and have found that empathy differs by gender and by specialty. This study was designed to address three primary questions. First, there has been little research that compares empathy and relationships within a physician’s professional and personal life. Do physicians who emotionally detach from their patients show a similar tendency in their personal lives or do they show stronger attachments in their personal relationships? Second, how does the quality of physicians’ personal or professional relationships impact professional satisfaction? Finally, how do personality factors influence physicians’ relationships, empathy, and satisfaction? To answer these questions, physicians who were contacted by email completed an online survey. The survey included personality measures, indicators of global empathy, the Jefferson Scale of
Physician Empathy, and questions addressing the quality of personal and professional relationships. Two additional items asked physicians to rate their satisfaction with their professional and personal lives. Twenty-six physicians completed the online survey. Results indicate that physician empathy towards patients impacted the quality of their relationships, which, in turn, determined professional satisfaction. Additionally, physicians who emotionally detach from their patients showed similar tendencies in their personal lives.

**01:45PM**


Women often use makeup as an easy way of changing something about themselves in an attempt to feel better about their appearance. It has been noted that many women tend to suffer from poor body image and self-esteem. Many factors, such as the media, societal standards of beauty, and socialization in general have been found to contribute to these findings.

The current study looks at how college women in America choose to use cosmetics and how these choices affect their self-esteem in varying situations. Participants were asked to alter their makeup in three different ways: as if they were going to class, off-campus with their girlfriends, or to a party. They did so in two different actual situations: going to class and going off-campus with girlfriends. After each situation, the participants filled out a short survey in which they recorded their feelings about their makeup use and the corresponding situation they participated in. Based on previous research, it was hypothesized that the presence of makeup would increase a woman’s self-esteem. Furthermore, it was thought that the greater number of products a woman used (i.e. the more makeup worn) the higher her self-esteem would be in each situation. Implications for the findings will be discussed.

**02:00PM**

The Relationship Between College Student Involvement, Investment, and Satisfaction. Sarah Maurer. Hanover College, Hanover, IN. Sponsor: Stephen Dine Young

It has been assumed that college student involvement in extracurricular activities benefits the student by making him or her a more well-rounded individual. Recent studies have also shown that student involvement can benefit an institution by improving retention. Research has not been conducted on the specific aspects of involvement that lead to these positive effects. “Rusbult’s Investment Model” argues that satisfaction with an organization is dependent on the extent to which a person is invested in the organization—i.e., the organization offers high rewards and low costs. The present study elaborates on this model by hypothesizing that greater investment in college organizations will be positively correlated with a student’s satisfaction in their undergraduate experience. An e-mail with a link to an online questionnaire was sent to all students at a small liberal arts undergraduate college. This questionnaire asked about student involvement in co-curricular activities, their investment in the college, and their overall satisfaction with their undergraduate experience. Correlational and regression analyses will be used to examine the relationships between student involvement, investment in the school, and satisfaction with the college experience. The implications of these findings for Student Life professionals will be discussed.

**02:30PM**

A Comparison of Greek and American Clothing Ownership and Consumption Patterns. Melissa Bower. Manchester College, North Manchester, IN. Sponsor: Russell Coulter-Kern

The present study examined the differences in consumption patterns of clothing between Greek and American college students. Sixteen Greek students and 17 American students completed questionnaires concerning the amount of clothing they owned and the cost of the clothing they owned. Data analysis revealed significant differences in consumption patterns between Greeks and American students and between males and females. Implications of these differences are discussed.

**03:00PM**

Service Learning in a Psychological Tests and Measurement Course. Leticia Bitner, Melissa Bower, Kyle Cline. Manchester College, North Manchester, IN. Sponsor: Russell Coulter-Kern

Service learning has become more popular around the country and therefore research of teaching pedagogy has become increasingly more valuable. Service learning may enhance a students’ motivation in learning, their experience in a course, and their involvement in the community. The current study was conducted to discover the impact a service learning project had on the retention of knowledge learned in class. Two different years a Psychological Tests and Measurements class participated in a service project while learning about psychological tests. One test reviewed was the Behavioral Assessment Scale for Children-2 (BASC-2). As part of the current study, students completed questionnaires. These questionnaires assessed the knowledge the students had of the BASC-2, a test that was discussed in depth as part of the course. The pre-test occurred immediately after the class discussion of the BASC-2. The post-test occurred after the students used the BASC-2 to evaluate third graders. On the post-test the students knew significantly more about the BASC-2 than when just reviewing it in class alone. This suggests service learning enhances retention of the class room knowledge.

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**Sociology**

**Session A**

**Jordan Hall, Room 170**

**Moderator: Dr. Ken Colburn**

**09:00AM**

HIV-AIDS and Culture. Tumaini Malenga. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

HIV-AIDS is currently the leading cause of death in Sub-Saharan Africa and other parts of the developing world. It has had devastating consequences for victims, families as well as the economies of the Sub-Saharan countries. There is no doubt that certain cultural practices coupled with poverty have promoted the spread of AIDS. The purpose of this study is to try to identify which aspect of culture most affects the spread of AIDS. The methodology used is Multiple Linear Regression; using several characteristics of culture as independent variables plotted against HIV-AIDS the dependent variable. The Second part of the research will involve a qualitative analysis of the results found in the regression plot, to try to explain the reasons behind the relationship given by the results of the graph.

**09:15AM**

Matriculation to Graduation: Student Attitudes toward Homosexuality and HIV/AIDS. Erin McElwee, Pamela Saylor, Carolyn Styanka. Valparaiso University, Valparaiso, IN. Sponsor: Matt Ringenberg

When students enroll in an institution of higher education, they each bring their own ideology to campus life. This study examines Valparaiso University student attitudes toward homosexuality and HIV/AIDS; do these attitudes change from matriculation to graduation when the student has been exposed to different world and educational perspectives, student
organizations and different religious views? This study will also examine educational, religious, and political backgrounds as a means of determining student attitudes toward homosexuality and HIV/AIDS. The data has been collected from a representative sample of the current student body at Valparaiso University. Previous studies of heterosexual students at liberal arts colleges have found that females are more accepting of homosexuality than are males. Other attributes that predict acceptance of homosexuality include holding liberal sex-role attitudes, lower religiosity, and having positive contacts with gay, lesbian, and/or bisexual persons. This presentation will also include data from other relevant studies to determine whether attitudes on Valparaiso University’s campus are consistent with findings at different institutions across the country.

09:30AM
The Effect of First Generation Student Status on Collegiate Student Formation of Identity and Interaction Abilities. Charli Lehman. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

Research has shown that First Generation college students are reported to have difficulty both in and out of the classroom. This paper examines the difficulty that First Generation (FG) college students experience in completing their undergraduate degrees in traditional time frames or paths. This type of student may be identified as a student whose parent or guardian has not received a degree in higher education. It is through both the collection of original data regarding student experiences of Butler University students, as well as the review of previously collected information, that the factors contributing to the struggle these types of students have in their academic life can be recognized. This study is designed to assess the difficulty these students have in the creation of new dimensions to their self identity, as well as examine their interactions within both their new and previous environments. The students’ attitudes and experiences when bridging the new self and environment with the old will be discussed. Also discussed will be the FG student’s abilities to create and maintain relationships with peers and faculty. The paper draws upon social theories of symbolic interaction in relation to the experiences of these students. The study aims at providing evidence that educational achievement does not merely revolve around the classroom but in fact around the student’s overall experience. This study was built off of the initial research question regarding whether sociological theory could be applied to problem of FG lack of educational achievement and difficulty in the collegiate environment.

09:45AM
Perceptions of Welfare Recipients and the Effects of Media. Liz Burrow. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

In recent years there have been a vast number of researchers focusing on the controversial topic of welfare. Yet, as welfare becomes more and more a social problem, the perceptions of the people receiving such government help has become more and more skewed. There are many factors that play into this phenomenon with one major factor being the media and its increased presence in the lives of Americans over the years. Americans have in some ways become obsessed with the media and have gathered incorrect ideas about what life is like outside of their homes. This paper looks at the perceptions college students have of welfare recipients as well as how the media has affected these perceptions. I look into the student’s opinion of welfare and it’s recipients as well as gathering information on the amount and types of media used by these students. I ask the question, what kind of an effect is the media having on the thoughts and opinions of society and how is this influence effecting reality?

10:00AM
Does playing video games directly affect a Bellarmine student’s performance in school? Jeremy Schultz. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrann

Video games have become a more integral part of our lives in the last couple decades, possibly influencing academic performance. According to Bushman (2001), from the first day of life, humans are acquiring skills that will allow them to perceive, collect data, and organize, interpret and respond to stimuli. The virtual adrenaline rush brought on by video games has focused renewed concern for the emotional stability and performance of the individuals using these games as an important part of their daily lives. This study collects data regarding the college student enrolled at Bellarmine University and the specific behavior exhibited in playing video games. A survey was distributed to 200 college students enrolled at Bellarmine University, during the spring 2007 term, to determine the amount of overall time invested in playing. After the data was collected from the student participants, it was analyzed by cross comparing the number of hours they play video games to the reported grade point average. It is hypothesized that if a student plays video games for more than eight hours a week, he or she will have a lower grade point average than those who play less than eight hours a week. This preliminary convenience study is very important since the objective of the college environment is to learn new information, understand how to learn and to finally acquire the skills necessary to succeed in the working environment. The results of this study may bring about changes within the academic environment at Bellarmine University.

10:15AM
The Culture of a Rave. Amanda Harris. Indiana University-East, Richmond, IN. Sponsor: Susan Shapiro

Raves, large parties where individuals ingest MDMA (or ecstasy), possess many elements of drug culture as discussed in White’s (1996) Pathways from the Culture of Addiction to the Culture of Recovery. This presentation will discuss the effects, neurotoxicity, and history of MDMA (better known as “ecstasy”). Raves gave a way for people to feel connected with each other in a society striving for privacy and practicality. Cultural elements of rave parties include language, symbols, rituals, purpose, history, mythology, places, tribes, dress, food, music, art, literature, visual media, sexuality, social relationships, and time orientation. Roles within the culture of a rave include the Storytellers (disc jockeys and “old-schoolers”), the Man, the Snitch, the Weekend Warriors, and the Bicultural Addict.

10:30AM
The Influence of the Media on Body Image and Disordered Eating: A Gender Comparison Study. Lauren Schnabl. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

The media has become more prevalent in the daily lives of men and women. Individuals are exposed to more forms of media for a greater duration of time. Thus, the images portrayed by television and magazines become commonplace and an accepted part of society. This survey study was conducted to determine if increased exposure to media images influence the perception that Butler University men and women have of the ideal physical appearance of American men and women. Do the media play a role in the perception of the ideal physical appearance of American men and women? If so, is this correlated to disordered eating among consumers, and how does it vary between genders? This presentation offers insights into the impact of today’s media on the eating habits of college students as well as the individual's perception of his body image and the idealized physical standard facing men and women in the United States.
11:00AM
The Development of Student’s Thoughts on Homosexuality on a Lutheran Campus. Judy Velasco, Amie Stefanich, Sean McGinnis. Valparaiso University, Valparaiso, IN. Sponsor: Matt Ringenberg

For many years there has been tension among students at Valparaiso University (VU) regarding negative feelings toward homosexuality. The Gay Straight Alliance at VU has made efforts to inform students about “National Coming Out Week.” This publicity of sexual orientation raises uncomfortable questions for many students at the university. We researched the relationship between faith and the development of views of homosexuality among college students on campus.

11:15AM

Research in the area of gun control perceptions in the past has covered a wide range of theories regarding where people get their perceptions about gun control issues. Among the most compelling arguments is that which focuses on the Cultural theory of risk. This theory is basically an explanation of why individuals choose to partake in certain activities which carry a degree of risk while avoiding other risky activities by looking at not only the risk, but also the social norms associated with cultural orientation. This theory has been used in the past to explain not only perceptions of gun control but also other topics of debate such as environmental issues and opinions on government. In our study we will measure how perceptions of gun control are affected by different variables involving demographic, cultural, and fact based variables. We hypothesize that when looking at all of these variables the most significant determinant of attitudes on gun control will be in relation to cultural orientations which have been proven to be a determinant of certain risk perceptions.

11:30AM
The Effects of Child-Directed Commercials on the Development of Children's Gender Roles. Lindsay Toth. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

Using content analysis, sex role stereotyping will be examined in public television commercials directed and meant to be viewed by children in the United States. Roughly 175 child-directed commercials, from five major children's general access television stations from the post-Thanksgiving to post-Christmas 2006 period were recorded to be coded and analyzed. Results, though not yet analyzed, are expected to stay consistent with findings from past research. Data was collected in a content-analytic manner, from each commercial independently and analyzed either univariately or bivariately. It is also expected, combining results from two previous studies, that males and females will seem to possess some residing qualities. Males are projected to be portrayed as constructive, powerful, more aggressive, independent, and competent. Whereas women are expected to be depicted as weak, sensitive, passive, lacking intelligence, and punished for high amounts of effort. Results will be discussed not only (objectively) but also in terms of their inferences, and also by any other possible effects on children's developing gender roles.

11:45AM

This study focuses on the perceptions of University of Evansville students toward violent video games. Violent video games have gained immense media exposure with their believed threats to children. Many data try to establish a causal relationship between aggressions and the watching or playing of violent video games. While the research does indicate a relationship between aggressive behaviors and violent video games, the data is still too incomplete to draw consistent conclusions about violent video games and their impact on violence. The sample for this study was drawn from University of Evansville students. Introductory classes that were qualified as general education requirements were chosen. In this way, a questionnaire was used to gather generalized perceptions and attitudes students had towards a variety of beliefs held in reference to violent video games. Overall, students agreed that violent video games do induce violence and that they lead to desensitization toward violence. Also, most students believed violent video games have negative impacts on their players, and that they should be restricted by age, violence, blood and gore language. In addition, the perceptions between males and females differed in a statistically significant manner with phi values as high as 42.

12:00PM
Deviant Behavior and Social Strain in Higher Education. Jenna Melton. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

Deviant behavior is often investigated in the context of strain theory when examining criminal behavior. In this study, I seek to connect the causal nature of social strain with the specific occurrences of deviant behavior that typically occur on a university campus, such as alcohol and drug abuse, cheating behaviors, and so on. It can be deduced from past research that such behaviors are affected by factors such as age, race, grade point average, peer behavior, religiosity, and socioeconomic status. Therefore, I will determine a qualitative measure of strain for each respondent, control for the above listed variables for which correlation has already been established to avoid spuriousness, and examine the effects of correlation or causation that can be determined.

12:15PM
Gay Male Relationships and Sexual Exclusivity. Delmi Valladares. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

This quantitative study examines how gay male adults in Indianapolis interact with their partners and whether they participate in sexually exclusive relationships or open relationships. Participants were recruited from gay bars, clubs, organizations, and bookstores around the city. There are four general categories that the participants can identify their relationship in. The categories are explained in detail later in the study. There are different factors that influence individuals in their decision of the type of relationship they participate in; one being equality: legal recognition of marriage. Another factor that makes an impact is their personal satisfaction with their partner and the relationship which can affect whether they want to commit or have a mutual agreement of an open relationship.

Session B
Jordan Hall, Room 174
Moderator: Dr. Marvin Scott

09:00AM
Badge Bunnies. Audrey Hochgesang. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

While most people are aware of women’s attraction to men in uniform, the term Badge Bunny is not as well known. Badge Bunnies are women who are attracted to police officers and most are very open about their attraction. Since no prior research has been done on Badge Bunnies this study uses the constant comparative method of qualitative analysis to study the content of an official Badge Bunny internet forum in order to learn more about this population from both the bunny and officer perspectives. This study will explore the attraction to police officers and what drives it as well as provide some base information for further research on the topic.
09:15AM
Fear of Crime. Sebastian Paul. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

Crime affects people in all walks of life. People are not spared exposure to crime because of their socioeconomic status, gender, age, or other personal characteristics. People are exposed to violent crimes regardless of where they live. People in urban, suburban, all have exposure to violent crime whether through personal experience or exposure from mass media outlets. The purpose of this study is to define what helps create these feelings of fear in various types of people. Do people fear crimes that are most likely to occur to them? Do the media tell us what we should fear? Fear can be created by almost anything, and it is the purpose of this study to determine if people fear crimes that are the most appropriate to fear, or if outside forces project dangers on citizens of this country to illicit certain fears.

09:30AM
Effect of Illegitimate Resources and Limited Job Opportunities. Elliot Payne. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

Similar to William Wilson’s studies, this article assesses the relationship between disadvantaged neighborhoods and crime. This study also takes into account the variable of employment opportunities. Job opportunities are particularly limited in inner cities. Along with joblessness, inner cities that are disadvantaged lack the institutions that are necessary in order for at-risk individuals to succeed. The focus of this article centers on the hypothesis; that in disadvantaged inner cities, there will be high rates of crime- especially property. Because these cities lack job opportunities and have inadequate and insufficient social organizations and institutes. In order to evaluate this hypothesis I will analyze Current Population Survey, the American Community update census of the largest twenty metropolitan areas. I will also analyze the Uniformed Crime Reports. By analyzing these two sets of data, I will conclude if there is a relationship between illegitimate opportunities within disadvantaged neighborhoods and crime.

09:45AM
College Seniors Perceptions of Bellarmine University. Tiffany Whitt. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

There have been many studies that have tried to determine the factors that cause students to have positive or negative perceptions of the university from which they received their undergraduate education. This study will focus upon satisfaction with undergraduate education at a small, private university in the Midwest. A purposive, non-representative sample of students in required senior level inter-disciplinary classes were given a survey composed of questions taken from an earlier HEDS study. Information from this study will be useful in helping universities to increase the satisfaction of their student body with their undergraduate experience and, indirectly, increase annual giving from alumni.

10:00AM
A Sociological View of Baseball: Racial Segregation through Stacking. Michael Hornsberger. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

Unlike most other sports in American society, baseball still has a problem with racial segregation with regards to position within the confines of the field. The issue of stacking, the practice of positional segregation by race, is still existent in professional baseball in our modern society. To determine this, a content analysis was performed using a baseball almanac/online resources, in which each team was analyzed to determine the race of each starting position player. These results were then combined to determine the racial outcome of each position in the league and compared to the projected outcome. It was determined that indeed this practice does still exist in modern baseball. However, comparing these results to past research shows a change in the racial makeup of the league. Using information from previous research and through the formulation of new ideas, it will allow for a better understanding of stacking and the development of theories as to why stacking still occurs in MLB.

10:15AM
Views of Interracial relationships on a Primarily White campus. Sarah Wong, Steven Humphris. Valparaiso University, Valparaiso, IN. Sponsor: Matt Ringenberg

The aim of this project is to bring out viewpoints on interracial dating for students on a primarily white campus. Our sample will consist of two comparative groups: white college students on a primarily white campus and students that are persons of color on a primarily white campus. Both comparative groups will be randomly sampled. As many of each group will be collected as possible; however the group of white students may have more of an overall frequency due to sheer numbers. Our study asks the following questions:
1. When dating inter racially, are certain races more likely to acceptable than others?
2. Are students that are persons of color more likely to date interracially than Caucasian students on a primarily white campus?
3. Will or will not individual students’ views toward interracial dating be more accepting than their perception of their families’ views toward the topic?
4. Are students less likely to accept a marriage outside of their race than dating outside of their race?

10:30AM
Formal Civic Engagement as Measured by a Systematic Social Observation (SSO) of the Butler Tarkington Neighborhood. Brooklyn Rogers. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

This study hypothesizes that Neighborhood blocks with more positive physical and social environmental features, as observed by a Systematic Social Observation (SSO) code sheet created to measure varying characteristics of street blocks, will have a greater number of active members in the Butler Tarkington Neighborhood Association (BTNA). The basic premise of this observation and data collection method is that the SSO offers insight into the individual nature of the blocks under study. The physical and social characteristics of the environment serve as indicators for the amount of civic engagement and involvement of active members of the BTNA. Each indicator was coded and quantified by using a scale of 1-5 ranking the condition of the different features of the neighborhood blocks from nonexistent to above average. Data collected from three Census Bureau Tracts mapping individual blocks within neighborhoods were used to determine the streets included as well as the demographic make-up of those areas. The 20 individual blocks (10 from the north and 10 from the south side) used were determined through a sample selected by using a random numbers table. The goal of conducting this research is to serve as an indicator for some things that may link formal involvement within the neighborhood to informal neighborhood organization, or sense of community experienced by the neighbors. The overall purpose of this study is to determine rather the resulting environmental factors of the SSO relate to the amount of formal involvement in the Butler Tarkington Neighborhood Association.

10:45AM
Depictions of Minorities and Women In Prime Time Television. Femi Oni. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

Women and minorities have often been negatively portrayed and ignored by mainstream media. People take images from television and apply it to their own lives, and sometimes these images heavily influence the views people have of themselves and others around them. This study is designed to explore the depictions of women and minority characters in prime time
television. I would like to investigate whether female and minority characters perpetuate or negate racial and gender stereotypes in our society. Also, what percentage of minorities of women and minorities appear on television when compared with white males? I hypothesize that portrayals of minorities and women will continue to perpetuate negative stereotypes in our society, and that minorities and women will be underrepresented in television. Based on a convenience sample, a content analysis of twenty hours of various hour long prime time television shows will be performed.

11:00AM

How politically engaged are students at the college level? When students participate politically within the university or community it is more likely that they will continue to be involved after graduating. To determine the level of political engagement I use a self report questionnaire given to a convenience sample of 150 students at a private Mid-Western university.

11:15AM

The effect of higher education on the development of a person’s political ideology has been studied extensively during the last century. Many of these studies show that college students have typically been liberal to moderate in political ideology due to socialization with fellow students and faculty. This study looks at the differences in student political ideology at public and private colleges and universities to see if the level of diversity at each type of school might have an effect on student political ideology. The hypothesis is that students at public institutions will be more liberal than those at private institutions because of the higher level of diversity at those institutions. The Harvard University Institution of Politics fall 2006 phone survey of 1125 college students has provided the secondary data that will be analyzed in this study. Effects of this study could be used to add further knowledge of colleges and diversity on political ideology.

11:30AM
College Students’ Dating Habits and Trends: Are students ‘delaying marriage’ and shifting toward more non-traditional relationships? Christina Carpenter. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

The purpose of this study was to determine what intimate relationships are most prevalent on a college campus. Further, by identifying which relationship was the most prevalent and asking specific questions directed at marriage, financial stability, academics, and sexual relations, the researcher hoped to discover if this particular relationship was related to the phenomenon of ‘delaying marriage.’ The study was conducted using a convenience sample of students at a small private mid-western university.

11:45AM
The Rise of Methamphetamines as a Social Problem compared to Crack/Cocaine. Karen Montgomery, Nicole Headlee. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

This research project looks at the history of the drugs methamphetamine and crack/cocaine and their role in society as a social issue/problem. Methods of production, distribution, and consumption are examined to identify any trends for each of the drugs and then a comparison is drawn between the two to find similarities and differences. Crack/cocaine has fallen out of the public’s focus as the drug to be concerned about and has been replaced by methamphetamines. Will methamphetamines eventually follow the same path and be replaced by a different drug? This study also looks at the construction of a social issue/problem and how policy makers identify what current events become social issues. Prevalence of crack/cocaine and methamphetamines in local media for Indianapolis and New York are examined to see how they are portrayed in the media. This portrayal is then compared with actual statistics on usage for each drug to see if usage of these drugs is the epidemic we are being told it is or if the construction of a social problem is the work of the media.

Session C
Jordan Hall, Room 170
Moderator: Dr. Ken Colburn

01:00PM
What deters young adults from smoking cigarettes? Rachel Kirkwood, Kendre Israel, Kendra Wicks. Valparaiso University, Valparaiso, IN. Sponsor: Matt Ringenberg

According to the American Cancer Society, cigarettes kill more Americans than alcohol, car accidents, suicide, AIDS, homicide, and illegal drugs combined. Due to the deadly consequences of cigarette smoking, the aim of our research project is to discover which factor is most influential in deterring young adults from smoking cigarettes. Our research question asks whether personal relationships or public health education play a stronger role in a young adult’s decision not to smoke cigarettes. Our sample includes freshmen men and women enrolled in Valparaiso University’s CORE program. The freshmen students must be between the ages of 18 and 25 years old. Our survey will ask questions concerning public health education such as the D.A.R.E. program, primary and secondary school health classes, and media campaigns against cigarette smoking. Questions regarding relationships include influences from siblings, parents, guardians, adult mentors, and/or peers. We desire that our results will indicate which method or methods of intervention are most successful in preventing a young adult’s decision to begin cigarette smoking. Our research will allow us to advocate directing policy and funding toward the most effective preventative measure or measures.

01:15PM
HOPE VI Grants: The Significance of Application. Julia Kselman. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

Throughout the past 5-10 years, a new phenomenon in urban redevelopment has surfaced. This is the phenomenon of “New Urbanism” which aims to make run down city neighborhoods more attractive. Government grants, known as “HOPE VI” (Housing Opportunities for People Everywhere) provide cities with money to turn severely distressed hyper-ghetto housing projects into New Urban neighborhoods. There are many benefits that come along with inner city neighborhood revitalization, such as decreased crime rates in the area, and more economic and social integration of previously isolated communities. Unfortunately there are rarely enough New Urban homes to provide space for all of the individuals formerly housed in projects. The purpose of this project is to further examine the implication of HOPE VI grants on inner cities, and inner city residents.

01:30PM
A Study of Fairness in the Criminal Justice System. Melissa Sauer. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

My research examines if today there still seem to be racial biases and prejudices present in the societal system that is supposed to be the most fair and impartial of all, the criminal justice system. Using current (2006 and 2007) data on African American (Black) and Caucasian (White) defendants accused of at least one C felony (forgery) in Marion County, Indiana, I will seek to predict differences in bail (bond) amounts between these Black
defendants and their White counterparts. I will control for the relevant factors of other current offense(s) and criminal history. When legally-relevant variables are controlled for, does there still seem to be inherent racial discrimination in the court system? If so, what are possible theoretical explanations for this apparent discrepancy?

**01:45PM**

**Moms Behind Bars: Preserving the Family.** Jordyn Frick. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

The paper examines relationships between women offenders and their children and how a continued relationship between the mother and her children while incarcerated is beneficial to the mother and child result in serious problems for both mother and child. Researchers have also found that mothers who enroll in parenting programs while in prison have better chances for success once released. This is facilitated through the education of the mothers on proper parenting and the maintenance of the relationship between the mother and child. The research used is secondary data analysis that looks at different databases of statistics on women offenders. I hypothesize that women who are given opportunities for rehabilitation while in prison will be better mothers while in, and once out of prison. The paper specifically focuses on offender mothers who are afforded opportunities to learn parenting skills and given positive contact with their children while in prison will have lower rates of recidivism and better success as mothers. With my research I propose to make the importance and benefits of such programs known.

**02:00PM**

**Genuine or Counterfeit: Are You Current With Currency?** Elizabeth Roy. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

Investigating counterfeit note production has long been one of the biggest duties for the United States Secret Service. Although very successful, counterfeit notes are still a major problem for the United States and other nations. The fact that Americans do not examine their money, and are unfamiliar with the features of genuine notes is central to the domestic counterfeiting problem. The purpose of this research is to explore the public’s awareness of counterfeit note production. Through a survey of college students, the study will also examine how well college students know and understand the features of genuine notes. From the study, the United States Secret Service and other professionals can better understand what steps need to be taken to develop programs that educate the general public to help fight against the counterfeiting problem.

**02:15PM**

**Exposure and Aversive Racism: Exploring the Level of Aversive Racism at Butler University.** Dana King. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

Aversive racism is a form of Modern racism that has become widespread. The aversive racism paradigm states that Whites will treat Blacks fairly only when that behavior is ‘expected’ of them, however when expectations are unclear Blacks will be treated poorly. People believe that they are not racist and hold egalitarian belief, but most (unconsciously) hold negative beliefs about another race or ethnicity. One thing that has not been studied is the correlation between aversive racism and levels of exposure. It has been found that people with greater diversity in their social networks interracially eat and marry, but does this mean they are not aversive racists? As stated above the aversive racist paradigm holds that racial beliefs are unconscious this allows for racist beliefs to even be held by those in diverse groups. This research attempts to search for a link between exposure and aversive racism. My research will attempt to establish a connection between the level of aversive racism in an individual and the level of interaction or exposure that individual has with persons of different races and ethnicities. I am attempting to expand on previous research concerning aversive racism. I hope to gain insight about aversive racism and college age students at Butler University. I hypothesize that one’s level of exposure with other races and ethnicities affects the way he/she views other races and in turn affects their levels of aversive racism.

**02:30PM**

**Do mothers always have a stronger bond with their children than fathers?** Wendy Holt. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

Changing gender roles and family structures are affecting many aspects of parenting and the socialization of children, including possible changes in the importance of fathers in the parent-child bond. This study examines how undergraduate students at a small midwestern university perceive their emotional closeness with their mothers and fathers while growing up. The factors studied include activities parents engaged in with the child, home structure, and how strong the student feels their bond is with their parents. This study attempts to uncover the most important elements in building the successful parent/child relationship.

**Poster Presentations**

**Group A 10:00am - 10:50am**

1  
**Novel Biodegradation of Alendronate Sodium and Ritalinic Acid.** William Patch. Manchester College, North Manchester, IN. Sponsor: Jeffrey Osborne

This research characterized novel biochemical degradative pathways of two pharmaceuticals: alendronate sodium and ritalinic acid. The commonly prescribed alendronate sodium (Fosamax by Merck) contains the synthetic functional group bisphosphonate. Ritalinic acid (Ritalin by Ciba) is increasingly used in the treatment of attention deficit hyperactivity disorder (ADHD). Flasks were inoculated with activated sludge into a minimal medium enrichment culture. Trials contained the desired carbon source while controls lacked a carbon source. Successive transfers of inocula were performed, which served to enrich the desired bacteria and remove, by dilution, any carbon sources from the activated sludge. The flask containing the final transfer of ritalinic acid displayed robust growth compared to the control flasks. The flasks containing alendronate sodium as either the sole carbon source or as the sole carbon and nitrogen source exhibited growth much greater than that of the control. Methods were then developed for analyzing the degradation. Solubility data for ritalinic acid was collected with UV-Vis spectrophotometry over a 700-200 nm range. The solubility limit was found to be 4.31 mM ± 0.046 mM at 25 °C and pH 6.9. Samples were prepared and derivatized with a fluorescent label, 9-fluorenylethyl chloride (FMOC), for kinetic HPLC analysis. Future work will involve HPLC kinetic analyses of substrates and products, as well as studies of the isolated enzymes involved in the transformation of these compounds that are being excreted into the environment.

2  
**Combinatorial Solid-Phase Synthesis of Unnatural α-Amino Acid Derivatives.** Christopher Audu. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Prof. Martin O'Donnell

Amino acids, the building blocks of life, are important in many life processes. Various amino acid derivatives have been used as medicinal agents for the treatment of diverse diseases. The goal of this research project is to provide a method through which a large number of drug-like molecules with amino acid backbones can be prepared and analyzed by
undergraduate students. The method used, solid-phase combinatorial synthesis, involves a four-step sequence in which a new alkyl substituent is introduced to the α-carbon of a glycine precursor. Following hydrolysis, N-acylation and resin cleavage, the products are analyzed by LC/MS. A subset are purified by liquid chromatography and are analyzed by TLC and H-NMR. A particular advantage of this procedure is that it is easily reproduced and is based on well-documented research protocols from the O’Donnell and Scott laboratories. In addition, it lends itself to the rapid production of related analogues. The project is significant because it trains undergraduate students in solid-phase chemistry and combinatorial methodology while providing them with the opportunity to engage in original chemical research. The long-term goal of this project is to provide distributed resources to assist in the discovery of biologically active drugs for the treatment of developing world diseases.

3 Microwave Reactions of Carbenes and Acetylenes. Gordon Meyer. Butler University, Indianapolis, IN. Sponsor: Stacy O'Reilly

This project involves the synthesis of a carbene complex which is used to react with multiple, differently substituted acetylenes. These reactions are well documented under standard heating conditions. I, instead, use a microwave to produce conjugated, cyclic complexes. I am researching the effects of using a microwave, as well as different solvent conditions in the microwave, in place of traditional heating methods. In the past, these reactions have taken hours, days or weeks to complete. The goal of this project is to research a more time efficient method of creating these cyclic complexes while still obtaining similar selectivity, yield, and products.

4 Synthesis of Dihydropyrans. Punit Shah. Butler University, Indianapolis, IN. Sponsor: LuAnne McNulty

Modern chemistry has expanded over the past one hundred years. Due to these advancements in chemistry, we have observed new chemical reactions and new cascade type processes. Organic chemists build compounds from simple molecules. They can either use the methodology approach or the total synthesis approach. The methodology approach is where organic chemists look at a reaction and optimize the conditions to obtain maximum yield. The second approach to organic chemistry is known as the total synthesis approach. This is where organic chemists try to obtain the best sequence of reactions to make a useful target such as a polymer or a drug. This research project uses the methodology approach. The reaction involves two separate reactions occurring sequentially to give one product. The two reactions are the Suzuki-Miyaura cross-coupling reaction and the intramolecular Michael addition reaction. In this project, the Suzuki-Miyaura cross-coupling reaction will be followed by the intramolecular Michael addition to give a cyclic product, a dihydropryan. This research focuses on the Suzuki-Miyaura cross-coupling reaction of cyclic allylic boronic acids. Several Suzuki conditions will be varied to achieve a favorable yield of the dienol generated after the Suzuki-Miyaura cross-coupling reaction. This dienol will then undergo an intramolecular Michael addition to obtain the dihydropryan. Not much research has been done on the Suzuki-Miyaura cross-coupling reaction of allylic boronic acids; therefore, if this reaction works, it will expand the scope of research in this area.

5 Characterization of Methotrexate Dendritic Nanodevices. Samreen Khatiri. Butler University, Indianapolis, IN. Sponsor: Sudip Das

Objective: The objective of this study was to develop and characterize dendrimer-methotrexate (MTX) conjugates. MTX is a widely used chemotherapeutic agent that suffers from toxic side effects. Dendrimers are macromolecules known to preferentially accumulate in tumor tissues; therefore, we hypothesize that dendrimer-methotrexate conjugates would preferentially accumulate in tumor tissues while sparing healthy tissues from MTX related toxicities. METHODS: MTX was covalently bonded to dendrimers to form the conjugates. Unbound (free) MTX was removed by dialysis using synthetic membranes. Characterization was done using ultraviolet and nuclear magnetic resonance spectroscopy. Results: The NMR spectra were supportive of the formation of a conjugate. UV spectroscopy demonstrated that negligible quantities of free MTX were dialyzable from the final product mixture. Conclusions: We concluded that PAMAM-G5-dendrimer and MTX were likely successfully conjugated, although additional investigation will be required to confirm the conjugation formation. It was ideal to dialyze the conjugate against dimethylsulfoxide (DMSO) rather than phosphate buffered saline (PBS), because dialyzing against PBS lead to formation of an insoluble precipitate. NMR data, although not conclusive, provided initial support in confirmation of the conjugate formation. Finally, nearly 100% of the MTX in the reaction mixture conjugated with the dendrimer, as indicated by UV Spectroscopy.

6 Platinum Catalyzed Reactions in a Microwave Reactor. Felicia Fullilove. Butler University, Indianapolis, IN. Sponsor: Anne Wilson

In the presence of a platinum catalyst and heat, secondary and tertiary amines add to 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 amine. However, with the use of new microwave technology substantial product formation can occur within 8 hours.

7 The Influence of Drug Court on Rates of Recidivism Among Substance Abusers. Andrew Leitzel, Kyle Iser, Laura Blayney. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Tim Steenbergh

Drug abuse is a major problem within the United States, leading state governments to create innovative ways of addressing drug related problems. A growing number of communities have developed programs that offer drug offenders a choice between traditional criminal justice proceedings or participation in a drug court. Drug court is an emerging alternative which allows drug offenders to live at home, work in the community, and receive quality therapy rather than serving a prison term. To investigate the effectiveness of drug court, approximately 100 participants involved in a community drug court were studied in relation to a control group made up of 50 individuals who received traditional probation services. Rates of recidivism for the two groups were compared, and results are discussed in terms of previous research.

8 Generational Comparisons of Attitudes Toward and Perceptions of Mental Health Professionals. Brittany Tenbarge. University of Evansville, Evansville, IN. Sponsor: Hanns Pieper

As the mental health profession continues to grow and expand, many individuals naturally form opinions about the involved professionals. There are potentially many differences between the perceptions and attitudes of younger generations and the elderly toward the mental health arena. With less exposure, the elderly may be more resistant to accepting these new treatment options. If so, it would be helpful to know what exactly the barriers are that hinder their acceptance. Therefore, generational differences in attitudes towards mental health professionals are noteworthy subjects to be evaluated in this time in history. This particular study was performed using a questionnaire design administered to a population of college-aged students as well as elderly individuals. The results have shown that 63% of college students surveyed do trust mental health professionals, while an overwhelming 70% of the elderly do not. College students are more likely to believe that they may someday need these services and less likely to believe that psychological disorders are over-medicated. In addition, there was a large generational difference in
feelings toward social workers. While the elderly trusted social workers the most of all mental health professionals listed, college students trusted them the least and felt that they were also the least credible.

9
Investigation of the Child Abuse Reporting Practices and Attitudes Among Graduating Christian Ministry Students. Kim Hoziej, Lauren Hanger. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Tim Steenbergh

It is well-known that child abuse is a major problem in society. A major part of this problem is the under-reporting of child abuse by professionals, including clergy. Education is seen as a possible solution to the clergy reporting issue. Studying future clergy can help determine why the under-reporting of child abuse has been such a problem among current clergy. Therefore, this study explores the child abuse reporting practices and attitudes of graduating Christian Ministry students. It also entertains the idea that Christian Ministry students may not receive enough education about child abuse reporting.

10

Risk behavior is a problem often associated with youth. The present study examines differences in risk taking behavior between three different groups; students who live off campus and with a parent or authority figure, students who live off campus without a parent or authority figure, and students who live on campus. Survey data was used to determine rates of risk taking behavior in all three groups. A comparison of risk taking behaviors from these groups is provided.

11
Predictors of Distress and Appraisals of Risk of Breast Cancer in First Degree Female Relatives (FDFRs) of Breast Cancer Patients. Rachel Steffens, Silvia Bigatti, Jennifer Lydon. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Silvia Bigatti

Women who have a family history of breast cancer are at increased risk to develop the disease. Additionally, FDFRs face particular challenges in correctly estimating their physical vulnerability while coping with the diagnosis in a close relative. Though most studies of perceived risk have focused on its relationship with utilization of screening behaviors, some literature also suggests that high perceived risk may be related to psychological trauma. The purpose of the present study is to review both personality and experiential predictors of perceived susceptibility/risk, and the relation between perceived risk and psychological health outcome in FDFRs. This study is significant because of the relationship between psychological health and quality of life as being necessary both in conjunction with and independent of physical health.

12
Cognitive Dissonance, Rule Following and Religious Belief Among Christian College Students. Kelly Vice, Lisa Miller, Jonathan Kaiser. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Tim Steenbergh

Cognitive dissonance in the context of religious beliefs and behaviors has not been widely studied. We examined the presence of cognitive dissonance among college students required to follow religiously based rules laid out in the handbook of a small, Christian university. Students completed questionnaires concerning their obedience to the rules and attitudes towards those rules. In this project, we examine students’ levels of cognitive dissonance in relation to their rule-following attitudes and behaviors and explore whether religiousness influences that relationship.

13
The Effects of Adventure Education on Self-Efficacy. Stephanie Trauschke, Stephen Jagdharry, Lisa Sharp, Lynette Bowsher. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Tim Steenbergh

The purpose of this study was to examine the effects of adventure education on self-efficacy. The self-efficacy of approximately 38 undergraduate students was measured by a 15-item questionnaire before and after either a sea-kayaking trip to Florida or a backpacking trip to Arizona. The questionnaire covered four central domains of self-efficacy including cognitive functioning, social intelligence, emotional intelligence, and technical ability. The questionnaire was also distributed to a control group of on-campus students not participating in the school-sponsored wilderness trips. Pre and post data were then compared across these dimensions. Results are discussed in terms of social learning theory.

Group B 11:00am - 11:50am

1
Acute Physiologic and Perceptual Responses to Static, PNF and CRAC Stretching. Emma Bean, Dr. Barbara Wahl, Dr. Greg LeBre. Hanover College, Hanover, IN. Sponsor: Bryant Stanford

When a muscle is stretched, the myotatic (stretch) reflex causes the muscle to contract, preventing potential damage from overstretching. Thus, when stretching, the myotatic reflex must be overcome, because contraction of the muscle prevents stretching of the infrastructural connective tissue – the primary site of flexibility. Static (SS) stretching can in time fatigue the stretch reflex. PNF adds stimulation of the golgi tendon organs (GTO), promoting a relaxation reflex when the protagonist muscle is forcefully contracted. CRAC also stimulates GTO involvement, but adds contraction of the protagonist followed by contraction of the antagonist muscle for increased effect. Theoretically, the CRAC method should produce the greatest stretch, followed by PNF, then SS.

Methods: Ten female subjects completed three randomly assigned treatments. Following a 5-min generalized warm-up, the hamstring muscles of the dominant leg underwent five 3-sec control stretches to determine an accurate baseline. This was followed by 1-min of treatment stretching, then an additional five 3-sec experimental stretches. A unilateral sit-and-reach test was performed blindfolded to mask results. At the conclusion of each treatment subjects provided perceptual feedback.

Results and Discussion: The three treatments demonstrated significant (t-test p < .05) acute increases in flexibility when compared with controls, but there was no difference across treatments (ANOVA > .05). This suggests that once the myotatic reflex is neutralized, additional physiologic input is ineffective. Subjects perceived PNF to be the most effective, while SS was perceived to be the most comfortable and useful (“likely to be used in a workout”).

2
The Effect of Environmental Estrogens on the Expression of Estrogen Receptors in Lung Adenocarcinoma Cells. Mary Bystreke, Mary Huff. Bellarmine University, Louisville, KY. Sponsor: Mary Huff

Previous studies have shown that varying concentrations of the environmental estrogens, cadmium chloride and sodium arsenate, increase cell proliferation in a female-derived lung cancer cell line H1793. Blocking the activity of the estrogen receptor with an estrogen antagonist partially inhibited the induced cellular proliferation suggesting that these carcinogens may act through the same signaling pathway as estrogen. The purpose of this study was to determine if these environmental estrogens affect the levels of estrogen receptor (ER) α and β expression. Cells were treated with varying concentrations of 17β-estradiol, cadmium chloride or sodium arsenate for four days, and protein samples were separated on an 8% polyacrylamide gel. Immunoblot analysis using antibodies raised to
Recent studies have demonstrated that estradiol stimulates proliferative growth by activating mitogen-activated protein kinase (MAPK) signaling pathways via a membrane bound estrogen receptor. Specifically, this nongenomic effect of estradiol results in phosphorylation of the extracellular-regulated kinases (ERK 1 and 2). The ERK1/2 cascade has been shown to be involved in cell differentiation, proliferation, and increased cell motility and migration. To determine if cadmium chloride and sodium arsenate, two environmental estrogens in cigarette smoke, induce phosphorylation of ERK1/2 in a female-derived lung adenocarcinoma cell line, cells were treated with nanomolar concentrations of cadmium chloride and sodium arsenate for 0 to 90 minutes, and cell lysates were separated on an 8% polyacrylamide gel. Using antibodies raised to phosho-ERK1/2, it was determined that activation of ERK1/2 is achieved within 5-20 minutes after treatment with environmental estrogens. Future studies to determine if this phosphorylation is dependent on the estrogen signaling pathway have been initiated.

Raising Awareness of Botany Through Forensic Analysis in the Laboratory. Bobak Kechavarzi. Hanover College, Hanover, IN. Sponsor: Darrin Rubino

In Biological education, particular fields are often underappreciated. By designing a cost-effective laboratory exercise, we present an opportunity for students at the introductory level of biology to gain further insights into various botanical topics. By utilizing the field of forensics, made popular by recent media, we have created a lab exercise to actively engage the student’s ability to critically analyze data and generate informed conclusions. Students are presented with a police report, description of the crime scene, and other botanical evidence. Evidence includes simulated stomach contents, photos of the crime scene, and swabs of clothing. Participating in the investigation familiarizes students with fruits, flowers, seeds, and plant tissues. A key feature of this design is low cost and reliance on few instruments outside of a common compound microscope. This lab is well suited for high school and introductory level classes.

Heat resistance contributing to domestic infestations of the brown dog tick from analysis of unfed larvae. Zachary Bozic. Wittenberg University, Springfield, OH. Sponsor: Jay Yoder

The brown dog tick, Rhipicephalus sanguineus, has recently been found to transmit Rocky Mountain spotted fever. This poses a health threat in that this tick can establish in homes, increasing potential for frequency of human contact. To examine the capacity for indoor survival, the optimum temperature where this tick functions effectively was compared to temperature threshold of common ticks of North American that do not survive well indoors. The comparison focused on the larva, noted for its microscopic size and aggressiveness due to lack of a bloodmeal (thus, no dietary impact on results). Ticks originated from laboratory colonies so that aclimatisation effects due to age, temperature, photoperiod, and relative humidity could be standardized and ruled out. Damage due to heat was evaluated using a scoring system based upon completion of behavioral tasks and percentage mortality after 1-hour exposure ranging from 20 o C-60 o C (at hydrating 98% RH) with observations completed 1 hour and 24 hours later. R. sanguineus was able to survive temperatures up to an impressive 50 o C. Other ticks survived up to 40 o C ( Amblyomma americanum, A. maculatum, Dermacentor variabilis) or 30 o C ( Ixodes scapularis), higher than human comfort standards of 22-24 o C. There was no evidence that first exposing ticks to a high sublethal temperature could generate protection against temperature injury. Results reveal that R. sanguineus is extremely hardy. Their unparalleled ability to cope with high levels of desiccation stress unlike other ticks, however, enables them to survive consistent warm and dry conditions of human homes.

Attributes of desiccation-resistance contributing to long term persistence of bed bugs. Nicholas Del Grosso. Wittenberg University, Springfield, OH. Sponsor: Jay Yoder

This study, prompted by the recent resurgence in bed bugs, Cimex lectularius, in apartments and hotels, explores mechanisms that enable them to survive prolonged periods of starvation, focusing on the ability to maintain adequate levels of body water for proper functioning. This bug is regarded as an irrigating pest, causing sleep loss due to biting activity at night when it feeds, which can also lead to secondary bacterial infections, allergic reactions and possibly hepatitis. Examining stages through the lifecycle (five nymphal and an adult), results indicate that this species is highly modified for desiccation-hardiness, featuring an extremely low net transpiration (water loss) rate, averaging < 0.2%/h, a capacity to lose about 40% of its body water before succumbing to desiccation, and a highly water-resistant integument inferred from a high, 35-40 o C, critical transition temperature. They were observed to refuse to drink free water from droplets and none of the stages absorbed water vapor, as evidenced by net water losses at different relative humidities close to saturation (critical equilibrium humidity > 100% RH), implying that blood is used as the primary source of water. A developmental shift in water balance strategies occurs where the nymphal stages perpetuates increasing desiccation-resistance while a high moisture requirement is lost. Water conservation features are enhanced behaviorally by forming clusters and entering into an inactive state of quiescence, as though playing dead, resulting in further reductions in net transpiration rate.

Cockroaches as sources of allergenic molds: Comparative observations on the mycoflora of three frequently encountered cockroaches and their excreta. Brian Glenn, John Mayo. Wittenberg University, Springfield, OH. Sponsor: Jay Yoder

Exposure to cockroaches occurs in homes and businesses (German cockroach, Blattella germanica; American cockroach, Periplaneta americana), in classrooms and as exotic pets ( Madagascar hissing cockroach, Gromphadorhina portentosa). They can elicit hypersensitivity reactions (cockroach allergy), such as dermatitis, rhinitis, swollen and watery eyes, and difficulty breathing, with links to asthma. A study of fungal flora was conducted to examine the extent to which cockroaches harbor molds. Recovery and identification was based upon macroscopic (colony) and microscopic (conidia) characteristics by subculturing hyphal tips after embedding cockroaches in potato dextrose agar or modified Melin-Norkrans agar. Internal mycoflora was examined by rinsing cockroaches in bleach solution and embedding body portions. Consistently, mycoflora of all three cockroaches, external surface and excreta, was dominated by Rhizopus stolonifer (Zygomycota) (~ 30% of isolates), followed by Penicillium spp (Deuteromycota) (10-20% of isolates). Remaining fungi consisted of a variety of deuteromycetes ( Alternaria spp, Aspergillus spp, Cladosporium spp, Trichoderma spp) and zygomycetes ( Mucor spp and Absidia spp); these genera are typically saprophytic functioning as agents of decay, except for Trichoderma which is mycoparasitic. All are heavy spore producers. There was no evidence in
any of the cockroaches of an internal mycosymbiont. Breakdowns of distribution indicated that 2/3 of fungi were isolated from the abdomen. High level of R. stolonifer associated with these cockroaches is of public health interest, especially to mold-sensitive patients, because this fungus is a known allergen.

8 Validity and Reliability of Treadmill Heart Rate Grip-Monitors. Daniel Love, Dr. Barbara Wahl. Hanover College, Hanover, IN. Sponsor: Bryant Stamford

How accurate and stable are treadmill heart rate (HR) grip-monitors at rest, during exercise and recovery? Methods: Ten college-age males were monitored for HR at rest, during exercise (60% of HRmax = 120 bpm and 80% HRmax = 160 bpm), and recovery. Treadmill walking speed and elevation were manipulated to provide the desired target HR responses as indicated on a chest-strap Polar monitoring system (Polar) that had been calibrated against 60-second EKG strips. When target HR was achieved, subjects gripped the treadmill sensors (TM-sensor) and readings were taken every 10-sec for one minute and compared with the Polar. Results and Discussion: No significant differences (p >.05) were found between mean (over 6 time frames) Polar and TM-sensor responses for any of the four treatments. This suggests good agreement, which is misleading owing to the large variability in overall TM-sensor (SD = 12.5 bpm) versus Polar (SD = 2.2 bpm) responses. Did TM-sensor responses achieve accuracy and stability over time? Mean results (target (Polar) – TM-sensor = delta scores in bpm) in 10-sec increments were judged to be accurate if within +/- 6 bpm (typical error range for 10-sec palpation method and a 4% error for the lower limit of a target heart rate (140 bpm) for fitness training in young adults). Conclusions: TM-sensor HR responses are valid and reliable (within 6 bpm) if the sensors are held for at least 30-sec during exercise and recovery, and for at least 50-sec at rest.

9 Spectroscopic properties of various naturally occurring small particles. Aabeg Bhandari, Shasta Shakya. Hanover College, Hanover, IN. Sponsor: George Nickas

Abstract: Aerosols and particulates suspended in both air and water are increasingly of interest as they occur both naturally and as a result of human, industrial and other activities. Moreover, their occurrence outside of earth environments is well established in the form of gas and dust between the stars. We will determine spectroscopic properties of various sized particles by comparing spectra of standard sources before and after their light passes through our subject media. The spectroscopy of small particle light scattering involves Rayleigh and Mie scattering theory that predicts scattering as a function of wavelength, particle composition, size and density. Such investigations assist in producing models for particulate matter studied spectroscopically both in terrestrial environments and in interplanetary and interstellar space.

10 Is There a Relationship Between Undeveloped Parameters of Balance and Below Average Reading Ability. JoAnna Bielle, Candace Meyer. Hanover College, Hanover, IN. Sponsor: Bryant Stamford

The cerebellum and the vestibular system are involved in sensory integration (SI) for balance, and they also may be used in the learning process. This suggests a possible relationship between balance, learning, and reading ability. If so, logically, it follows that scores reflecting poor SI for balance should predict poor reading ability (reading below grade level). The purpose of this investigation was to test the strength of this potential relationship.

Methods: Subjects were 78 elementary school children with some degree of learning impairment, with 63 reading below grade level, 4 reading at grade level, and 11 reading above. The NeuroCom Sensory Input for Balance Test (N-test) was administered which isolates vestibular (Vb), visual (Vs), and proprioceptive (Pt) influences on balance. N-test scores were correlated (Pearson r) separately (Vb, Vs, or Pt) and as a composite with the “difference” (delta) scores between actual versus expected (age related) reading grade level. Reading above grade level = (+delta) and below = (-delta). It was hypothesized that a significant relationship would exist between poor N-test scores and –delta scores. Results and Discussion: The hypothesis was supported as a significant (p <.001) correlation was found between composite N-test scores and –delta. No relationship was found between N-test scores and + delta grade level. These results suggest that poor balance and impaired reading ability may be meaningfully related. It is suggested that future research efforts investigate the impact of a SI for balance therapy program on reading ability in elementary school children.

11 Histological Evidence of Bimodal Spermatogenesis within the Testis of the Cottonmouth Snake, Agkistrodon Piscivorus. Justin Rheubert. Wittenberg University, Springfield, OH. Sponsor: Kevin Gribbins

Cottonmouth (Agkistrodon piscivorus) testes were examined histologically to determine the germ cell development strategy employed during spermatogenesis. Testicular tissues from Cottonmouths were collected monthly (n=36) from swamps around Hammond, Louisiana. Pieces of testis were fixed with glutaraldehyde, dehydrated with ethanol, embedded in Epon812, sectioned with an ultramicrotome, and stained with toluidine blue. Spermatogenesis within Cottonmouths occurs in all months of the year. Though spermatogenesis was most heavily observed March-May and October/November. These data correspond to previous reports on Cottonmouth populations from Florida. During spermatogenesis no consistent spatial relationships were seen between germ cell generations. Typically, either spermatogonia or spermatocytes were missing or 3 or more spermatids were present within cross sections of seminiferous tubules, which prevented consistent spatial stages from occurring. This is similar to what has recently been reported for other temperate squamates. This temporal pattern of sperm development is different from birds and mammals. The pattern of sperm development within Cottonmouths is more reminiscent of that seen in amphibians. Swamp snakes (Semimatrix pygaea) have a similar germ cell development strategy, however spermatogenesis is more seasonal and restricted to April-October. This study is the first to describe a temporal sperm development within a temperate species of reptile that practices continuous/bimodal spermatogenesis. To date, no matter the seasonality of the temperate reptile studied, all show the same temporal pattern of sperm development. This conserved sperm development (similar to amphibians) within a structurally amniotic testis (like mammals and birds) might represent an intermediate testicular model that may be evolutionarily significant.

12 Reconstruction of Late Pleistocene Glacio-lacustrine systems. Joseph Goshorn-Maroney. Hanover College, Hanover, IN. Sponsor: Ken Bevis

Lacustrine deposits in the lower portions of Indian-Kentuck Creek near Brooksvill, IN and Fourteenmile Creek near Charlestown, IN were selected for intensive study. Stratigraphic and sedimentologic analyses indicate a decrease in bedrock thickness, grain size variation, and overall grain size upvalley; low organic matter and total carbonate content throughout the basins. Faunal analyses have identified 2 species of freshwater pelycopods and 14 gastropods (including Gyraulus altissimus and Helisoma ances striatum, extinct since the late Pleistocene) which we interpret to indicate relatively cool, clear water conditions with moderate biological productivity. Shell fragments obtained from two locations provide bracketing radiocarbon ages of 17,910 +/- 90 BP and 10,580 +/- 50 BP for the lacustrine sediments.
Our current research confirms an earlier interpretation that lacustrine sediments accumulated in small lake basins developed in the lower portion of valleys tributary to the Ohio during the maximum Late Wisconsinan glaciation in the northern portion of the Ohio River’s watershed. Glacial meltwater carried in the Ohio was associated with a broad, rapidly aggrading, braided stream system that produced outwash fill dams at meltwater confluences, ponding these streams and forming lakes. These lakes were likely fed by local streams with sufficient discharge to allow their persistence into the early Holocene, beyond the termination of glacial meltwater input. Subsequent climatic change and lowering of local base level in the Ohio River valley during the Pleistocene-Holocene transition resulted in lower runoff from the local watershed and stream downcutting, both factors contributing to the eventual demise of these lakes.


It has been demonstrated that exercise promotes healthier bodies and longer lifetimes. However, as people age, the intensity and type of exercise that they can perform changes, in that it becomes more limited. Furthermore, for the elderly living in nursing homes, their lifestyles are even more restricted. This raises the question of what is the status and prevalence of exercise programs within nursing homes and assisted living facilities? A questionnaire that is addressed to the activity director of the facility was used to gather the data, included with the questionnaire was a cover letter and a self-addressed stamped envelope. The sample of 141 nursing homes and assisted living facilities was drawn randomly from all nursing homes and assisted living facilities within 100 miles of Evansville, covering three states, Indiana, Kentucky and Illinois. Of the 141 surveyed, 44 returned the questionnaire. The study yielded several interesting findings, perhaps the most relevant was that there are exercise programs in almost all (90%) of facilities, but less than half (45%) of the activity directors indicated that they had any kind of elder-specific training.

14 Assessing the Need for and Feasibility of a Student Run Wellness Program. Kira Olson, Jessica Hyne, Eric Hayes. Taylor University, Upland, IN. Sponsor: Eric Hayes

This study examined the current health of employees at Taylor University and evaluated the effectiveness of a corporate wellness program implemented by undergraduate students. Health was evaluated using national fitness assessment tools, health history surveys and behavioral questionnaires addressing exercise and diet. Subjects were divided into two groups based on duration of program participation: a six-session group and a ten-week group. After program completion, groups were compared on several key factors to determine program effectiveness (based on health re-assessments, behavioral changes and client feedback forms). No significant difference was seen between the six-session and ten-week group in terms of health improvements or exercise adherence, although the tested population as a whole revealed minor advancements in health during the duration of the program. Subjects also expressed feelings of increased confidence, energy and motivation and assigned high satisfaction ratings with student trainers and with the program. Future research should be conducted on subjects who participate in the program for six months or longer to determine the success of long-term intervention and the impact of intrinsic and environmental factors in motivation.

15 Zombie Survival: Adventures in Computer Game Design. Alex Dexter. Ball State University, Muncie, IN. Sponsor: Paul Gestwicki

Zombie Survival is the result of an exploration into computer game design. In order to complete a playable game, problems such as frame rate management, collision detection, and sprite animation had to be researched and solved. This session will demonstrate the various strategies and design patterns used to solve such problems. A demonstration will also be available to play.

16 The Computational Study of Propane Oxidative Dehydrogenation by VO3H4 and V2O7H4 Molecules in the Gas Phase and Supported on TiO2. Jared Friedhoff, Stan Zygmuntp. Valparaiso University, Valparaiso, IN. Sponsor: Stan Zygmuntp

We present a B3LYP/6-31G(*) density functional study of propane oxidative dehydrogenation catalyzed by VO 4 H 3 and V 2 O 7 H 4 molecules, both in the gas phase and supported on (001) anatase TiO 2. The mechanism involves propane adsorption at a vanadyl oxygen, followed by desorption of H 2 O and adsorption of O 2 to fill the oxygen vacancy. The singlet potential energy surface has a 78 kcal/mol activation energy for gas phase VO 4 H 3, but this is lowered by 15 kcal/mol by considering the possibility of a triplet state. For VO 4 H 3 supported on anatase, the activation energy is reduced by an additional 20 kcal/mol, while for supported V 2 O 7 H 4 it is another 10 kcal/mol lower. Since the rate-limiting step involves formation of a propyl radical, the TiO 2 support appears to lower the activation energy, in part by reducing the singlet-triplet excitation energy of the catalyst. Our results are consistent with experiment and help explain the catalyst-support effect.

Group C 12:00pm - 12:50pm

1 Marijuana Use Among College Students. Kimberly Frederick. University of Evansville, Evansville, IN. Sponsor: Hanns Pieper

Since the decline of the hippie counterculture of the 1960s and 1970s, marijuana use has been less publicized, but it is still a drug used by many teenagers, college students, and adults. This study focuses on the motivations behind starting or ceasing to use marijuana, choosing not to use marijuana, and the impact of marijuana use on school experiences and personal relationships. Ten classes from a small Midwestern university were randomly chosen to participate in the study. One hundred and sixteen questionnaires were distributed and collected during class time. Comparisons were made between those who have and those who have not used marijuana, between those who still use marijuana and those who have quit using it, and between those who smoke it rarely and those who smoke it often. The data shows that most students in the sample do not smoke marijuana on a regular basis, but over forty percent of the students have at least tried it, and most students have friends who use it. More students than expected used marijuana for the first time either before or during their high school years. According to this study, students who smoke marijuana are not concerned with its illegal nature, and the most popular reason students gave for using marijuana was to “have fun.”

2 Attitudes Toward, and Use of, Alcohol and Cigarettes Among College Students. Christine Torrence. University of Evansville, Evansville, IN. Sponsor: Hanns Pieper

In recent years, many researchers have started to study the effects of drinking and use of drugs among college students. Research has shown that illicit drug use among college students continues to be a significant problem. Binge drinking is not new to college students, but it is to researchers. However, many studies have shown a decline in smoking cigarettes. For example, the College of Charleston students have reduced smoking. This study will specifically examine students of a small private mid-western university, with hopes of identifying correlations between peer pressure to smoke and drinking for social acceptance.

99
This study is primarily looking to obtain attitudes and assessments about the small private mid-western university use of substances such as drinking and smoking cigarettes. Therefore, the questionnaire design is the best operational tool for this research study. Joining a Greek organization does not cause students to use the substance of alcohol. It did not seem to show that students change opinions of using substances when coming to college.

3 Student Satisfaction with College. Megan Holsten. University of Evansville, Evansville, IN. Sponsor: Hanns Pieper

This study focuses on the satisfaction that students at the University of Evansville have with their college experience. An online questionnaire, which was hosted by www.SurveyMonkey.com, was used to collect student opinions. Three hundred and thirty two students were included in the sample. Overall the level of satisfaction with the college experience was high, and the majority of students would choose to make the same college decision again. Factors were shown which affected the student’s level of satisfaction, one of which being campus involvement. The majority of students stating that they were involved on campus also stated that they were satisfied with their college experience.

4 "Keeping it Human: Maintaining the Human Essence When Exploring the Human Condition in Performance". Kaitlyn Lamansky. Butler University, Indianapolis, IN. Sponsor: John Green

"Keeping it Human: Maintaining the Human Essence When Exploring the Human Condition in Performance" highlights three theatre artists: Anne Bogart, Firenza Guidi and Elaina Artemiev. They share the ideologies that theatre has the potential to be a very powerful tool with which to explore the human condition, and that it is the only performing art in which artists can explore to their full extent the physical, vocal, mental and spiritual aspects of the human instrument. The essay illustrates and analyzes the three distinctly unique processes through which these women manage to maintain and explore the human essence while creating an elaborate and abstract atmosphere. My initial interest was to explore the synergy between physicality and emotion, but the topic's natural evolution has directed me to a discussion of humanism in theatre and its juxtaposition to the abstract atmosphere. In my presentation I plan to address each director’s major influences, process and final products.

5 Presence of Cognitive Distortions in Casino Advertisements. Katlin Springer, Tim Rockstroh, Jessica Zehring, Megan Crowley, Kristen Russell. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Tim Steenbergh

Research shows that cognitive distortions have been identified among those with gambling problems. Furthermore, it appears that certain factors can enhance irrational thinking and further influence individuals’ gambling behavior. This study examines the extent to which casino newspaper advertisements incorporate material related to cognitive distortions. Newspapers were gathered from several large cities where casino gambling is available. Casino advertisements were identified and coded based on the various cognitive distortions that have been previously identified in the gambling literature. Descriptive data are presented in terms of the wording, formatting, and imagery utilized in the advertisements. Findings are discussed in relation to current trends in responsible gambling promotion.

6 Critical Thinking Project. Terra Bailey, Emily Hart, Sarah Stebbe. Taylor University, Upland, IN. Sponsor: Steve Snyder

Critical thinking skills allow students to process and analyze information in a conductive and accurate way. This study explores the effect that classroom instruction has on the critical thinking skills of college students. Halpern’s model of teaching critical thinking skills was used as a guideline for classroom instruction. This study analyzed two college classrooms: Abnormal Psychology with 24 students and Cognition with 15 students. A Pre-test Post-test design was used to evaluate the change in critical thinking skills, specifically the students ability to define, identify, apply, and use metacognitive processes. The results in both classes show an improvement in the overall score and the areas of identifying and defining (p<.05). This suggests that college students’ critical thinking skills can be improved through classroom instruction.

7 Online Communities. Miranda Gilliland. University of Evansville, Evansville, IN. Sponsor: Hanns Pieper

This study focuses on several different types of online communities and their usage by University of Evansville students. The study focused more specifically on not only usage but also the amount of social acceptance for various online communities. The participants of this study are all students at the University of Evansville and were chosen at random. They were contacted via e-mail and were asked to complete the survey online. 95 students completed the survey. Overall, most respondents said they participate in at least one online community and felt a sense of belonging while participating in their communities. While most respondents reported joining their online communities because of friends, an unexpected number reported a feeling of addiction to at least one of the online communities they participate in. Additionally, a larger number of participants reported having met or intending to meet people from their online communities.


This study determined if receiving a degree in Criminal Justice leads to higher priority with jobs and compensation, compared to a program concentration in Criminal Justice, even though the actual course content is quite similar. Police and sheriff departments in cities and counties in southern Indiana, eastern Illinois and western Kentucky were contacted to participate in this study. These locations were chosen to yield a sample consisting of a variety of small and larger communities in the Tri-State. A total of 93 police agencies were contacted. The police chief in each force and the sheriff in each county were sent a survey with a detailed cover letter stating the precise reason for this study and asking for their participation. Nine percent of surveys stated that they did require a college degree when hiring new applicants, while 91% stated they did not require, but did prefer a college degree. 48% of surveys stated that the chiefs or sheriffs held only a high school/GED degree. 44% of surveys stated they did not think it would hold back an applicant in the field who holds a concentration in Criminal Justice, while 25% were indifferent to the question.

9 Effects of media type on reading speed and comprehension. Jason Pitt, Alex Bies, Penny Stewart. University of Evansville, Evansville, IN. Sponsor: Elizabeth Hennon

Reading comprehension is imperative in the context of standardized tests, understanding lectures, and finding pertinent studies when writing papers.
Leary, & Rejeski, 1989). Studies have shown that body dissatisfaction can be a significant predictor of Social Physique Anxiety (Hausenblas & Mack, 1999; Krane et al., 2001). Specifically body fat, muscle tone, and general body proportions (Hart, 1993). This dissatisfaction can potentially lead to more problems with eating disorders among athletes, social physique anxiety, and pushes them to achieve levels of perfectionism (Robinson, and Ferraro 2004). I will examine to see if this is equally true in females who play in a “judged” based sport as opposed to a “referee” sport. I will be looking at the types of shows as well the amount of hour’s athletes and non-athletes spend watching television to see if the difference contributes to body dissatisfaction. Social Physique Anxiety is an emotion that an individual experiences in response to others perceptions and evaluations of their physiques. It is defined as a subtype of social anxiety that occurs as a result of the prospect or presence of interpersonal evaluation involving one’s physique. By physique, we mean one’s body form and structure, specifically body fat, muscle tone, and general body proportions (Hart, Leary, & Rejeski, 1989). Studies have shown that body dissatisfaction can be a significant predictor of Social Physique Anxiety (Hausenblas & Mack, 1999; Krane et al., 2001).

### 10
#### Female Athletes and their Struggle with Eating Disorders, Body Dissatisfaction, and Perfectionism

By Krystal Hendrix. Butler University, Indianapolis, IN. Sponsor: Dr. Colburn

Female athletes are more likely to be dissatisfied with their body image than non-athletes (Smolak, Muren, and Ruble 1999; Sundgot- Borgen, 1993). This dissatisfaction can potentially lead to more problems with eating disorders among athletes, social physique anxiety, and pushes them to achieve levels of perfectionism (Robinson, and Ferraro 2004). I will examine to see if this is equally true in females who play in a “judged” based sport as opposed to a “referee” sport. I will be looking at the types of shows as well the amount of hour’s athletes and non-athletes spend watching television to see if the difference contributes to body dissatisfaction. Social Physique Anxiety is an emotion that an individual experiences in response to others perceptions and evaluations of their physiques. It is defined as a subtype of social anxiety that occurs as a result of the prospect or presence of interpersonal evaluation involving one’s physique. By physique, we mean one’s body form and structure, specifically body fat, muscle tone, and general body proportions (Hart, Leary, & Rejeski, 1989). Studies have shown that body dissatisfaction can be a significant predictor of Social Physique Anxiety (Hausenblas & Mack, 1999; Krane et al., 2001).

### 11
#### Personality Factors and Predicting Performance in Stressful Situations

By Jeremy Owens. Hanover College, Hanover, IN. Sponsor: John Krantz

This study uses the Five Factor Model to help predict how individuals will react in stressful situations. Individuals and organizations face a growing problem of managing stress during performance. Stress in the workplace can arise when faced with a situation that demands performance from them, especially performance that may be beyond their capabilities. This study is designed to examine the relationship between the Five Factor Model personality traits and performance in stressful situations. First, participants will fill out a survey to assess their personality traits on the Five Factor Model scale. A working memory task consisting of an arithmetic and word-recall component will be administered to record the participants’ performance with and without time pressure. The level of state anxiety will then be assessed and all scores will be compared with the participant’s personality traits to see how each personality performs. The two traits that are emphasized to show individual differences in performance are Neuroticism and Conscientiousness. These results should be able to help predict future performance in situations for each personality type.

### 12
#### Defining Rape and Rape Myths on a College Campus: An Exploratory Look into Students’ Perceptions of Rape and Rape Myths

By Heidi Hansard. Ball State University, Muncie, IN. Sponsor: Kristen Ritchey

Written off as a taboo subject in our culture, rape is rarely discussed in any context. Without factual knowledge about a topic, stereotypes and myths can form a person’s perceptions about that particular topic. Many rape myths exist today that justify or excuse rape in various circumstances. These rape myths can have various impacts on the criminal justice system and the lives of people that are involved. Many studies show these rape myths can also affect the decisions of potential jury members and police officers. This study is a preliminary examination of possible correlations between rape myth acceptance and demographic variables, as well as a qualitative analyses of students’ definition of rape. This study found women had lower rape myth acceptance than men and non-sexual assault victims had higher acceptance than sexual assault victims. This study also showed that college students were varied in their definitions of what constitutes rape and what causes rape, showing that the participants did not have a clear understanding of state law regarding rape.

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#### Exploring the Relationships between Psychological Types and Personality Disorders

By Brandy Pierson, Abby Rosswurm. Ball State University, Muncie, IN. Sponsor: Lucinda Woodward

Given that both personality types and personality disorders focus on enduring characteristics, it is not surprising that scientists strive to discover a relationship between the two. Most of the research in this domain has used the Five Factor Model of personality. However, the Myers-Briggs Type Indicator (Myers & McCaulley, 1985) has been used infrequently and with varying results. One previous study identified introverted/thinking (IT) types as more likely to have diagnoses of both Antisocial and Avoidant personality disorders as well as Post-Traumatic Stress Disorder (Otis and Louks, 1997). Dalton, Aubuchon, Tom, Pederson and McFarland (1993) administered the MBTI to Vietnam veterans already diagnosed with Post-Traumatic Stress Disorder (PTSD) and found that 95.6% of all PTSD patients were introverted, 64.5% were introverted/thinking (IT), and 48.9% were introverted/sensing/thinking (IST) types. Another study found introverted/intuition/thinking/perceiving (INTP) types to be largely Schizotypal and introverted/sensing/thinking/judging (ISTJ) types to be largely Obsessive-Compulsive (Coolidge & Merwin, 1992). The present study attempted to investigate the relationship between personality disorders and introversion, intuition, and thinking as measured by the Keirsey Temperament Sorter II (KTS-II) (an abbreviated version of The Myers-Briggs Type Indicator) along with the Personality Diagnostic Questionnaire-4 (PDQ-4). Significant findings include an overrepresentation of the introversion preference for several of the personality disorders as outlined by the PDQ-4. Significant relationships were also found between the thinking preference and several personality disorders. The results are consistent with the view that abnormal personality is a variant of normal personality rather than representing a qualitatively distinct category.

### Group D 1:00pm - 1:50pm

**1**

#### Climbing the Tree of Life: Surveying the Microbial Diversity of Imperial Geyser, Yellowstone National Park

By Shaden Khalaf, Whitney England. Earlham College, Richmond, IN. Sponsor: Peter Blair

The microbial diversity present in the geothermal features of Yellowstone National Park (YNP) has redefined modern theories on the origin of life on Earth. Thermophilic bacteria and other organisms isolated from hot springs and mudpots are remarkably capable of thriving in extreme temperatures (~95 °C, boiling at this altitude) and conditions (pH=1, highly acidic). Early research on and analysis of thermophilic microbes by Thomas Brock, Carl Woese, Karl Stetter, and Norm Pace has aided in subsequently reformating the universal “Tree Of Life”. Numerous geological features and microbial communities in YNP are still unexplored indicating that novel species are still to be discovered. Our research focused on initiating a study analyzing the microbial diversity in and around Imperial Geyser in the Lower Geyser Basin. Field samples were collected from: (1) the interior and exterior of the geyser pool, (2) two adjacent mudpot features, and (3) soil samples extending from the geyser pool. Samples were properly preserved and brought to the laboratory for molecular analysis.

DNA was extracted from all the samples and PCR amplified using both bacteria and archaea specific oligonucleotide primers. Preliminary results indicate species diversity due to variances in banding patterns among the field samples. Further research will involve random cloning and sequencing of the PCR products and bioinformatics to determine particular
bacteria/archaea species. Future sampling and analyses at Imperial Geyser will ultimately be compared to this pilot study to assess change in microbial community structure over time.

Adaptations by branchiobdellids (Annelida), a leech-like associate of freshwater crayfish, for underwater survival. Justin Tank. Wittenberg University, Springfield, OH. Sponsor: Jay Yoder

Branchiobdellids are non-parasitic leech-like associates that use crayfish as sites for reproduction and feeding (epibiont accumulation) and are involved in cleaning symbiosis that benefits the crayfish by preventing gill fouling. Most work on them is taxonomic whereas this was a physiology study aimed at how they are adapted for a freshwater environment. Two species were compared, Cambarincola fallax from Ohio and Cambarincola ingens from North Carolina, that differ with regard to attachment site (subrostral or gill chamber) and stream region (pool or riffle) preference. Characteristics were determined gravimetrically applying standardized equations permitting experimentation without use of radioactive tracers. Both species displayed a high 75% water content and high net transpiration rate. In contrast to C. fallax, C. ingens was 6x larger in body size, water loss was 2x slower, and activation energy for water permeability was reduced. Thus, C. ingens suppresses the amount of water that enters the body, whereas C. fallax relies more on water elimination. Uninterrupted Boltzmann temperature function implies no accelerated water exchange occurs as temperature rises. There was no obvious connection suggesting that water balance was favored by where they attach on the crayfish or reside in the stream, rather water balance strategies represent trade-offs that adjust for body size. The key survival element, however, for C. fallax and C. ingens is their ability to survive down to 1/2 of their body water content, which affords higher net transpiration rates to eliminate excessive water because they are hyperosmotic.

Activity of the Rocky Mountain wood tick depends upon dry rather than moist conditions and its epidemiological significance. Daniel Buchan, Nicholas Ferrari. Wittenberg University, Springfield, OH. Sponsor: Jay Yoder

We report that the Rocky Mountain wood tick, Dermacentor andersoni, is differentially-adapted for a dry environment, classifying it as xerophilic with regard to water balance. This identifies overhydration as the major water stress, which limits activity to the driest times of the year. Because D. andersoni serves as a primary vector of Rocky Mountain spotted fever, this is relevant to seasonality of transmission and pinpointing times when campers and vacationers in the Rocky Mountain area might be most at risk, between mid-June to mid-July. Gravimetric determinations of water balance characteristics throughout the lifecycle, from egg to adult, were used to assess this. The distinguishing feature was a low net transpiration rate that enables D. andersoni in each stage to retain water effectively compared to other stages of tick species representing different habitat types. There is no evidence implying that D. andersoni is desiccation-hardy or that it tolerates high levels of dehydration and functions properly on little body water by having a low percentage of water content. Like most ticks, relative humidity where water vapor absorption occurs (critical equilibrium humidity) is stage-specific, with larvae and nympha surviving down to 75-85% RH while adults are at 85-93% RH. The developmental profile shows that the egg is the major water-retaining stage, while larvae are the most sensitive to dehydration. The water balance strategy shifts from an emphasis on water gain in the larva to water retention in the adult and the nymph is transitional.

The Effects of Exercise-Induced Plasma Norepinephrine Elevations on Galvanic Skin Response (Lie-Detector) Tests. Whitney McBurrows, Victoria Flourny, John Darden, Manuel Myers, Jessica Whitaker. Earlham College, Richmond, IN. Sponsor: David Matlack

Galvanic skin response, GSR, measures the electrical resistance of the skin and is the basis of the commonly used, but often inaccurate, lie-detector tests. Fluctuations in skin resistance are associated with activity of the sympathetic nervous system, which is stimulated by such factors as exercise, fear, embarrassment, and emergency. The catecholamines epinephrine and norepinephrine, NE, are the neurotransmitters and neurohormones of the sympathetic nervous system. To test their hypothesis that pre-existing NE elevations would confound GSR results, the researchers challenged test subjects with an intense exercise protocol and then performed GSR, asking a set of questions designed for lie-detection. Basal and post-exercise plasma NE levels were determined by quantitative ELISA. A control group, n=3, gave basal blood samples and submitted to GSR. In the test group, n=4, plasma NE rose post-exercise, but GSR results were inconclusive. GSR as performed in this small study was not reliable in either the test or control group. Future directions include improving experimental design and GSR techniques, and expanding test subject numbers to obtain statistically significant results.


Soil organic matter (SOM) pools respond at different rates to shifts in a variety of ecological variables including litter, input rate, and invertebrate activity. Invertebrates such as earthworms consume surface plant litter then mix OM into mineral soil by burrowing, altering mechanisms by which plant litter transforms to SOM. To address this process, we established plots in both old and young forests located in an eastern deciduous forest at the Smithsonian Environmental Research Centre in Maryland and amended aboveground litter inputs for one year. We divided the top 5cm of mineral soil into various OM pools using density fractionation, resulting in mineral, light, and heavy fractions. Of interest is the light fraction (LF), which is partially degraded plant litter that is potentially available for further decomposition. On average at all field sites, adding litter resulted in more carbon and nitrogen in the LF. There was a low abundance of native earthworm species at the old sites, while at the young sites there was nearly four times the biomass and the dominant species was the non-native Lumbricus rubellus. More LF by mass was recovered in the old forest sites than the young. Accordingly, there was also more carbon and nitrogen within the LF in the old forest sites than the young. The presence of L. rubellus was associated with a reduction in the amount of OM present as LF overall, indicating a potential shift in SOM stabilisation and retention of carbon within the soil over time.

Reproduction, habitat preference, and year class strength of smallmouth bass (Micropterus dolomieu) in the Eel River near North Manchester, Indiana. Jared Mobley. Manchester College, North Manchester, IN. Sponsor: Jerry Sweeten

The Eel River, located in north central Indiana, has been the subject of numerous fish surveys since a dramatic absence of smallmouth bass was documented in the early 1980’s. While these surveys have provided important data, none have focused on a particular stream reach over an entire field season. From 22 May through 21 August 2006, chemical, physical, and biological data were collected regarding the population, habitat, spawning, and year class strength of smallmouth bass (Micropterus dolomieu) in the Eel River near North Manchester, Indiana. Nest surveys were conducted at least once each week by snorkeling and/or by wading
over a 2.5 km stream reach. Fish clearly preferred nest sites in back eddies where water velocities were less than 0.1 m/sec and water depths were between 30 and 40 cm. Seven nests (with guarding males) were located and five different spawning attempts were documented during the study period. Only 25% of the nests observed were successful. The largest number of black fry produced from any nest was 39 and the largest number of sac fry counted was only 139. The population M. dolomieu was estimated to be 58 in a 500m reach using the Zippin depletion method. Chemical and physical parameters were also measured during low flow and rain events over the spawning period from 22 May to 30 June. Of these data, the most striking was total phosphorus with levels exceeding 1 mg/L 27 times and total suspended solids (TSS) that exceeded 25mg/L eight times.

Whole Cell Lysis and PCR Protocol for Lactobacillus acidophilus an Essential Ingredient in Alcohol Fermentation. Whitney Theis, Joanne Dobbins. Bellarmine University, Louisville, KY. Sponsor: Joanne Dobbins

Lactobacillus acidophilus plays an important role in the distillation industry. The purpose of this study is to determine the role Lactobacillus acidophilus plays in the fermentation of grains (sour mash) in the production of bourbon. The objective of this research was to create a whole-cell lysis protocol that would be used in sample analysis of a primary sour mash culture. Through these protocols samples can be taken directly from the sour mash, run through whole-cell lysis procedure, and amplified using PCR. The first method to determine was to break through the thick peptidoglycan layer of a gram-positive bacterium using standard techniques. Stock cultures of Lactobacillus acidophilus were grown in MRS broth and used for whole-cell lysis. They were sonicated for a few seconds and then using a modified freeze-thaw method, enzymes specific to the break down of cell membranes were added for enhance cell lysis and better DNA recovery. From Blast results it was determined that a conserved region of L. acidophilus genome is located on the Tuf-gene and a possible good source for primers unique to the species. This gene produces an elongation factor important in synthesizing proteins. The primers proved to be specific for the species Lactobacillus acidophilus. While the direct whole-cell lysis protocol did produce some DNA from the bacterium, further research needs to be conducted to optimize the consistency of extraction. Future research will be conducted to compare the DNA concentrations and extraction products from stock strains to bacterial DNA isolated directly from the sour mash.

Transformations of Kalancheo pinnatum leaf embryos. Laura White. Butler University, Indianapolis, IN. Sponsor: Philip Villani

Kalanchoepinnatum is a unique plant because it produces embryos within the margins of its leaves. The purpose of this research was to develop a successful transformation protocol to insert foreign DNA into the cells of the embryos using Agrobacterium-mediated transformation techniques. A selection marker gene, β-glucuronidase (GUS), was used as a marker gene. Chimerical plants were observed as indicated by the characteristic blue color of GUS containing transformed cells. Frequency of transformation was variable with a general trend increasing transformation frequency following exposure of the embryos to greater concentrations of Agrobacterium. There are two aspects of this research that are unique to other plant other transformation studies. First, genetic transformations performed on K. pinnatum have never been done. Furthermore, genetic transformation targeting plant embryo cells within leaf margins has never been accomplished. Through the efforts of this experiment, a potential protocol was developed for a new and faster transformation process for genetically modifying plants in this species. While further investigation will be needed, the work performed in this experiment has laid the foundation for others to continue to investigate new regeneration procedures.

Synthesis and Analysis of a cDNA Library from Giant Ragweed Pollen. Chad Manning. Bellarmine University, Louisville, KY. Sponsor: Joann Lau

It has been estimated that up to 40 million Americans are allergic to pollen released by grasses, trees, and weeds. A major source of allergenic pollen is Giant Ragweed (Ambrosia trifida L.). Currently the NCBI GenBank lists only two nucleotide sequences for allergens from this species. To examine gene expression in Giant Ragweed pollen we made a cDNA library. From 8 grams of Giant Ragweed pollen we isolated 5.46 micrograms of mRNA (FastTrack 2.0 Kit; Invitrogen). We made a cDNA library using the CloneMiner cDNA Library Construction Kit (Invitrogen). From this library, cDNA clones were isolated, sequenced, and compared to other DNA sequences already published in the GenBank. These clones might provide useful information about not only pollen allergenicity, but also ragweed biology.

Cloning and Sequence Analysis of CAG-Repeat Regions in Animals. Kaitlin Keaveny, Ashley Beck. Bellarmine University, Louisville, KY. Sponsor: Dave Robinson

There are numerous cases of CAG repeats being associated with neurodegenerative diseases in humans. Examples are Spinoocerebellar Ataxia Type-1 (SCA-1), Kennedy’s Disease (KD), and Dentatorubral-Pallidolysian Atrophy (DRPLA). Each disease gene is characterized by different a number of CAG repeats and chromosomesal locations. There is variation in the number of CAG repeats in these three genes between species, as well as within species. We are studying the evolution of these CAG repeat genes by cloning them from various exotic animals, including elephants. Additionally, there are numerous accesses already in the NCBI GenBank that can be analyzed and compared to obtained data. Numerous genome projects also provide trace files from individual subjects within a species. We are finding consensus sequences upstream of the CAG repeat regions of these genes that might be associated with CAG expansion. This information could be useful in understanding the evolution of these neurodegenerative diseases.

Initial studies of endocytosis in the budding yeast Pichia pastoris. Steven Rowland. Indiana University-East, Richmond, IN. Sponsor: Pamela Connerly

Pichia pastoris is a methylotrophic yeast used here to study the essential process of endocytosis. P. pastoris is frequently used for protein production and as a model organism to study peroxisome biogenesis and the relationship between the endoplasmic reticulum and the Golgi apparatus. The Golgi cisternae of P. pastoris are stacked, more closely resembling the arrangement found in higher eukaryotes, whereas the Golgi cisternae found in the more commonly studied yeast Saccharomyces cerevisiae are scattered throughout the cell. To begin to characterize endocytosis in P. pastoris, two fluorescent dyes, commonly used in S. cerevisiae to observe endocytosis, were analyzed. Both yeasts were able to internalize both the fluid-phase marker Lucifer Yellow (Sigma) and the membrane-specific marker FM-4-64 (Molecular Probes). When the cells were treated with 10mM sodium azide and 10mM sodium fluoride, neither dye was taken up, consistent with the energy-dependent process of endocytosis as the means of transport into the cell. Other fluid phase markers are currently being investigated to determine if this difference is marker-dependent. In order to investigate the role of the actin cytoskeleton in endocytosis in this yeast, we are currently working to develop a temperature sensitive actin mutant in P. pastoris. The actin gene in P. pastoris has been cloned and will be used to create a temperature sensitive actin mutant similar to a S. cerevisiae actin mutant. Study of these actin mutants in combination with the characterization of various endocytic markers will provide important tools for the study of endocytosis in P. pastoris.
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