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UW-Parkside Student Center

Second Floor
(L1 Level)

Lower Level
(D2 Level - The Den for extra lunch seating)

First Floor
(D1 Level)
April 27, 2012

Dear Students, Colleagues and Guests:

On behalf of the University of Wisconsin-Parkside, welcome to the 12th Annual University of Wisconsin System Symposium for Undergraduate Research and Creative Activity. Today we are proud to showcase the significant and unique undergraduate research and creative activities occurring at the University of Wisconsin System institutions. And, today we proudly celebrate the students who will become our future leaders, educators, entrepreneurs and researchers.

At the University of Wisconsin-Parkside, Academic Excellence, Student Success, Diversity and Inclusiveness, and Community Engagement serve as our Hallmarks. We are committed to high-quality educational programs and to creative and scholarly activities. With our UW System colleagues, our faculty and staff fully embrace Academic Excellence through teaching, learning, and through scholarly endeavors inspiring our students to succeed and to reach beyond their current capabilities.

Congratulations to the students, and faculty and staff mentors who are participating today in the wide variety of posters, oral presentations, gallery exhibits and performances.

To the approximately 300 students, faculty mentors, and guests from throughout Wisconsin and the UW System, I say thank you for traveling to our campus. We are excited to be hosting the symposium, and equally excited to welcome you to the University of Wisconsin-Parkside. I know you will have a rich and memorable experience.

Sincerely,

Debbie Ford
Chancellor
KEYNOTE SPEAKER

DR. DONALD CRESS

Dr. Donald Cress was dean of the College of Arts and Sciences at the University of Wisconsin-Parkside for 12 years. He retired in June 2010, but has remained an active member of the University of Wisconsin-Parkside community as well as the Kenosha, Racine and Milwaukee communities. He continues to assist the University of Wisconsin-Parkside students in the pre-health programs by conducting mock interviews to help them prepare for the application process at professional schools across the country.

Dr. Cress received his Ph.D. from Marquette University and taught at Carroll College (now Carroll University) in Waukesha before spending 25 years at Northern Illinois University where he chaired the Philosophy Department and later served as associate dean of the College of Liberal Arts and Sciences. He was an American Council on Education Administrative Fellow in 1985-1986. Dr. Cress has been a long-standing supporter of undergraduate research and creative activity at the University of Wisconsin-Parkside and other institutions.

Dr. Cress has published widely on medieval and early modern philosophy and has presented his research at national and international venues. He held a Woodrow Wilson Dissertation Fellowship, a Council on Library Resources Grant, two Mellon Post-Doctoral Grants, an Illinois Humanities Council Grant, and several grants from the National Endowment for the Humanities. He also participated in a Fulbright Seminar for U.S. Administrators in International Education in Germany and a CIEE Faculty Development Seminar in Northern Ireland. The second edition of his “Jean Jacques Rousseau: The Basic Political Writings” was published last December. He is currently working on two articles, one on Raphael, the other on Descartes.
SCHEDULE OF EVENTS

April 26 – 27, 2012

Thursday April 26, 2012

7:30 – 8:30 p.m.  UW-Parkside Jazz Combo with Russ Johnson, Bedford Concert Hall, Rita Tallent Picken Regional Center for Arts and Humanities

Friday April 27, 2012

7:00 – 8:00 a.m.  Registration: UW-Parkside Student Center, by Cinema Entrance

Information Table: Top of main stairs in Student Center
Poster Set-Up (all posters): Ballroom, Student Center
Exhibit Set-Up: Spruce Room, Student Center
Continental Breakfast: Lounge (Hall outside Ballroom), Student Center

8:00 – 8:15 a.m.  Opening Remarks, Student Center Cinema
Provost Brown & David Higgs

8:30 – 9:30 a.m.  Poster Session I (odd number posters): Ballroom

9:35 – 10:50 a.m.  Oral Sessions I
Student Center: Oak, Walnut, Hickory, Poplar, and Alumni Rooms

10:50 – 11:00 a.m.  Mid Morning Break

11:00 – 11:40 a.m.  Gallery Exhibits: Spruce Room

11:40 – 12:30 p.m.  Lunch: Box Lunches and drinks Served in Ballroom
Seating throughout Student Center, The Den (lower level) or Outside

12:00 – 12:30 p.m.  Campus Coordinators meeting: Birch Room (bring lunch)

12:45 – 1:20 p.m.  Keynote Speaker, Student Center Cinema
Dr. Donald Cress, Emeritus Dean, College Arts and Sciences

1:30 – 2:45 p.m.  Oral Sessions II
Student Center: Oak, Walnut, Hickory, Poplar, and Alumni Rooms

2:50 – 3:45 p.m.  Poster Session II (even number posters): Ballroom
Ice cream, served in Ballroom

3:45 p.m.  Closing remarks: Ballroom
Students take down Posters by 4:30 p.m.
COMPUTER ACCESS
DURING 2012 UW SYMPOSIUM

The following computer access is available for UW Symposium attendees.

**Internet access via laptops:**
If you have your own laptop, you can access the internet while in the Student Center. The username and password can be obtained from the Symposium Information table on L1 at the top of the grand stairway.

**Available computers:**
If you need to access your email or the internet, five computers are available for limited-time use. These are located in The Den, which is in the lower level of the Student Center. The computers are near the game area.

To use the computers in The Den, you will need to obtain the guest Username and Password available at the Symposium registration table.
Schedule of Creative Activities

10:50 - 11:45 AM
<table>
<thead>
<tr>
<th>#</th>
<th>Time</th>
<th>Room</th>
<th>Presentation</th>
</tr>
</thead>
</table>
| C1 | 11:00 - 11:40 am | Spruce | **Student Author:** Chanda Droske  
**Institution:** UW-Whitewater  
**Faculty Sponsor:** Jared Janovec  
*Exploring the Use of Rare Earth Metal Oxides in Transparent Glazes in Relationship to Ceramic Surface Development* |
| C2 | 11:00 - 11:40 am | Spruce | **Student Author:** Kyle Hendrix  
**Institution:** UW-Whitewater  
**Faculty Sponsor:** Charles Olson  
*Micro-Crystalline Growth in Ceramic High Fire Glazes* |
| C3 | 11:00 - 11:40 am | Spruce | **Student Author:** Michael Kern  
**Institution:** UW-Whitewater  
**Faculty Sponsor:** Jared Janovec  
*Exploring the Use of Commercially Manufactured Underglazes on Utilitarian Ceramic Ware* |
| C4 | 11:00 - 11:40 am | Spruce | **Student Author:** Neta Ron  
**Institution:** UW-Whitewater  
**Faculty Sponsor:** Michael J Benning  
*Mokumé Gane: Patterns Exploration* |
| C5 | 11:00 - 11:40 am | Spruce | **Student Author:** Eric Anderson  
**Institution:** UW-Oshkosh  
**Faculty Sponsor:** Jeff Lipschutz  
*The Role of the Artist and International Politics: Human Rights Atrocities in Burma* |
| C6 | 11:00 - 11:40 am | Spruce | **Student Author:** Robert Jinkins  
**Institution:** UW-Platteville  
**Faculty Sponsor:** Richard Moninski  
*Portraits of the Midwest: Artistic works depicting life in the Midwest* |
| C7 | 11:00 - 11:40 am | Spruce | **Student Author:** Elliot Patros  
**Institution:** UW-Milwaukee  
**Faculty Sponsor:** Christopher Burns  
*Convolutions* |
| C8 | 11:00 - 11:40 am | Spruce | **Student Author:** Rachel Christian  
**Institution:** UW-Whitewater  
**Faculty Sponsor:** Teresa Faris  
*Remember Me* |
ADDITIONAL GALLERY EXHIBITS
AT UW-PARKSIDE

The UW-Parkside Art Department has three current art gallery shows available to UW-Symposium attendees. All three shows are located on the D1 (parking level) of the RITA Tallent Picken Regional Center for the Arts and Humanities, a short 2 minute walk through campus. The galleries are open 12 (noon) through 4 p.m.

Fine Arts Gallery: Two solo exhibitions running concurrently.

Eileen Mueller Neill: Imaginings
Eileen Mueller Neill’s work is on the upper deck, includes smaller scale pieces that are more domestic thematically and brightly colored constructions.

David Rowe: Aesthetic Constructions
David Rowe’s architectonic lumber constructions are installed in the lower level of the gallery. Rowe’s large sculptures suggest ships, drilling rigs, and massive satellite cities described in science fiction.

UW-Parkside Foundation Gallery:
Veterans Book Project, by Monica Haller
The Veterans Book Project is a library of books, each written by a veteran, officer or enlisted, man or woman, or someone closely connected with the current wars (for example, a soldier’s spouse, a man whose brother died in battle, an Iraqi civilian). Artist Monica Haller facilitates workshops with veterans around the country, where those with first-hand experience of the realities of war prepare their words and images to be published in softbound books, which become part of the growing archive or library. Five local veterans made books with Haller in a workshop at UW-Parkside in February and their books are included in this exhibition. Our campus installation is part of a community-wide exhibition of the Veterans Book Project simultaneously on display at the Civil War Museum, the H.F. Johnson Art Gallery at Carthage College, and the Racine Arts Council’s ArtSpace Gallery.
Schedule of Oral Presentations

Morning Sessions
9:35 - 10:50 AM
### SESSION 1 - BUSINESS

<table>
<thead>
<tr>
<th>#</th>
<th>Time</th>
<th>Room</th>
<th>Presentation</th>
</tr>
</thead>
</table>
| O1 | 9:35-9:50 am    | Oak  | **Student Authors:** Christopher McMahon, Trevor Severson  
**Institution:** UW-Parkside  
**Faculty Sponsor:** Abey Kuruvilla  
*Improving Delivery of Healthcare in the Wisconsin Department of Corrections* |
| O2 | 9:55-10:10 am   | Oak  | **Student Author:** Jaeger Nelson  
**Institution:** UW-Whitewater  
**Faculty Sponsor:** David Welsch  
*Does the Gender Composition of Executive Boards Affect Corporate Profits?* |
| O3 | 10:15-10:30 am  | Oak  | **Student Authors:** Michael Mikula, David Sieraski, Lizet Salgado,  
Steve Lange  
**Institution:** UW-Parkside  
**Faculty Sponsor:** Abey Kuruvilla  
*The Sharing Center Expansion* |
| O4 | 10:35-10:50 am  | Oak  | **Student Authors:** Ellyn Hansen, Lijun Chen  
**Institution:** UW-Green Bay  
**Faculty Sponsor:** Gaurav Bansal  
*Not All Privacy Losses Cost the Same: Examining the Relative Perceived Trust Violation in a Hacking Versus Unauthorized Information Sharing Scenario* |

### SESSION 2 - BIOLOGY / MOLECULAR

<table>
<thead>
<tr>
<th>#</th>
<th>Time</th>
<th>Room</th>
<th>Presentation</th>
</tr>
</thead>
</table>
| O5 | 9:35-9:50 am    | Walnut | **Student Authors:** Kristi Nolden, Kyle Kuzicki, Katrina Taylor,  
Amber Kopitzke  
**Institution:** UW-Platteville  
**Faculty Sponsor:** Wayne Weber  
*The Genetic Diversity of Brown Trout Populations in Southwest Wisconsin* |
| O6 | 9:55-10:10 am   | Walnut | **Student Authors:** Rufino Rodriguez  
**Institution:** UW-River Falls  
**Faculty Sponsor:** Cheng-Chen Huang  
*Teratology of Caffeine* |
| O7 | 10:15-10:30 am  | Walnut | **Student Authors:** Peter Sackett  
**Institution:** UW-Whitewater  
**Faculty Sponsor:** Kirsten Crossgrove  
*DNA Binding Activity of the DAF-16/Forkhead Domain Protein in the Parasitic Nematode Brugia malayi* |
## SESSION 3 - PHYSICAL AND COMPUTER SCIENCES

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Location</th>
<th>Student Author</th>
<th>Institution</th>
<th>Faculty Sponsor</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>O8</td>
<td>9:35-9:50 am</td>
<td>Hickory</td>
<td>John Ditkof</td>
<td>UW-Waukesha</td>
<td>Quintin Bendixen</td>
<td>A new look at Venus being a water world and the possibility of harboring life in the atmosphere</td>
</tr>
<tr>
<td>O9</td>
<td>9:55-10:10 am</td>
<td>Hickory</td>
<td>Scott Nelson, Alexander James Turinske</td>
<td>UW-Oshkosh</td>
<td>Nenad Stojilovic</td>
<td>Tailoring the Properties of Alumina Nanofibers by Doping with Nanoparticles</td>
</tr>
<tr>
<td>O10</td>
<td>10:15-10:30 am</td>
<td>Hickory</td>
<td>Kenneth Hanson</td>
<td>UW-Oshkosh</td>
<td>Nenad Stojilovic</td>
<td>Electrospun ZnO and TiO2-doped ZnO Nanofibers</td>
</tr>
<tr>
<td>O11</td>
<td>10:35-10:50 am</td>
<td>Hickory</td>
<td>Adam Nelson</td>
<td>UW-Parkside</td>
<td>Derek Riley</td>
<td>L-system Tree Generation</td>
</tr>
</tbody>
</table>

## SESSION 4 - EDUCATION

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Location</th>
<th>Student Author</th>
<th>Institution</th>
<th>Faculty Sponsor</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>O12</td>
<td>9:35-9:50 am</td>
<td>Poplar</td>
<td>Michael Babington</td>
<td>UW-Whitewater</td>
<td>David Welsch</td>
<td>How Does Minnesota’s Open Enrollment Program Affect Student Performance</td>
</tr>
<tr>
<td>O13</td>
<td>9:55-10:10 am</td>
<td>Poplar</td>
<td>Lainee Hoffman, Judy Dickinson, Stephen Fisher, Stephanie Mabrey</td>
<td>UW-Eau Claire</td>
<td>Eric Jamelske</td>
<td>The Impact of the USDA Fresh Fruit &amp; Vegetable Program on Children’s Consumption and Other Related Behaviors</td>
</tr>
<tr>
<td>O14</td>
<td>10:15-10:30 am</td>
<td>Poplar</td>
<td>Kevin Reinhold, April Ross, Laurelyn Wieseman</td>
<td>UW-Eau Claire</td>
<td>Eric Jamelske</td>
<td>Using Incentives to Influence Children to Bring Fruit and Vegetables from Home for School Snack</td>
</tr>
<tr>
<td>O15</td>
<td>10:35-10:50 am</td>
<td>Poplar</td>
<td>Scott Coey</td>
<td>UW-Parkside</td>
<td>Xun (George) Wang</td>
<td>College Preparation and College Success</td>
</tr>
</tbody>
</table>
## SESSION 5 - ANTHROPOLOGY

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Type</th>
<th>Student Author(s)</th>
<th>Institution</th>
<th>Faculty Sponsor(s)</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>O16</td>
<td>9:35-9:50 am</td>
<td>Alumni</td>
<td><strong>Student Author:</strong> Kyle Moerchen</td>
<td>UW-Oshkosh</td>
<td>Susan Rensing</td>
<td>*Wisconsin Inheritance Laws During the Progressive Era: Attempts to</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Institution:</strong> UW-Oshkosh</td>
<td></td>
<td></td>
<td>Shine the Progressive Light on the Inequalities of Inheritance Laws*</td>
</tr>
<tr>
<td>O17</td>
<td>9:55-10:10 am</td>
<td>Alumni</td>
<td><strong>Student Authors:</strong> David Stock, Emily J. Laak</td>
<td>UW-Milwaukee</td>
<td>Robert J. Jeske</td>
<td><em>Secondary Analysis of Human Skeletal Remains from Altenburg Cemetery</em></td>
</tr>
<tr>
<td>O18</td>
<td>10:15-10:30 am</td>
<td>Alumni</td>
<td><strong>Student Author:</strong> Jefferson Lich</td>
<td>UW-Oshkosh</td>
<td>Stephanie May de Montigny</td>
<td><em>The Unique Culture of the Improvement Station</em></td>
</tr>
</tbody>
</table>
Schedule of Oral Presentations

Afternoon Sessions
1:30 - 2:45 PM
SESSION 6 - SOCIAL SCIENCES

O19  1:30-1:45 pm  Oak  
Student Author: Stephanie Wheeler  
Institution: UW-Parkside  
Faculty Sponsor: Xun (George) Wang  
The Effects of Early Marriage on One’s Socioeconomic Status

O20  1:50-2:05 pm  Oak  
Student Author: Ashley Holen  
Institution: UW-La Crosse  
Faculty Sponsor: Carol Miller  
Attitudes Towards Homosexuality in Galway, Ireland

O21  2:10-2:25 pm  Oak  
Student Author: Katka Showers-Curtis  
Institution: UW-Whitewater  
Faculty Sponsor: Corey Davis  
Narratives of The Transgender Experience

O22  2:30-2:45 pm  Oak  
Student Authors: Lauren Saleski, Angela Hellstrom, Stephanie Bathke, Hailey Cook, Megan Wojtak, Rafael Gutierrez  
Institution: UW-Parkside  
Faculty Sponsor: Jonathan Shailor  
Compassionate Communication: Raising Awareness, Empowering Individuals, and Building Community at a Homeless Shelter

SESSION 7 - BIOLOGY / HEALTH

O23  1:30-1:45 pm  Walnut  
Student Author: Greta Foley  
Institution: UW-La Crosse  
Faculty Sponsor: Carl Simon Shelley  
Abnormal Production of CD43 in Lung Cancer

O24  1:50-2:05 pm  Walnut  
Student Author: Bradley Beaumier  
Institution: UW-Green Bay  
Faculty Sponsor: Uwe Pott  
Heartworm Detection in Wild-Caught Mosquitoes from Northeastern Wisconsin

O25  2:10-2:25 pm  Walnut  
Student Authors: Karisa Laskowski, Jennifer Endisch  
Institution: UW-Parkside  
Faculty Sponsor: William P. Ebben  
Gender Analysis of Hamstrings and Quadriceps Activation Ratios during Bilateral and Unilateral Jump Landings

O26  2:30-2:45 pm  Walnut  
Student Author: Hope Villiard  
Institution: UW-Madison  
Faculty Sponsor: Megan Moreno  
The Rural Healthcare Provider: Barriers and Benefits to Their Practice
SESSION 8 - ENVIRONMENT AND POLICY

O27 1:30-1:45 pm  Hickory  
**Student Authors:** Brittany Whited, Chris Brown, Drew Christensen, Elora Leene, Dan Putman  
**Institution:** UW-Eau Claire  
**Faculty Sponsor:** Eric Jamelske  
Comparing Survey Results to Assess Climate Change/Global Warming Awareness, Perceptions and Beliefs of College Students in the United States and China

O28 1:50-2:05 pm  Hickory  
**Student Authors:** Marc Palmer, Tim Hansen  
**Institution:** UW-Parkside  
**Faculty Sponsor:** Ross Astoria  
Renewable Energy Standard & Wind Turbine Setback

O29 2:10-2:25 pm  Hickory  
**Student Authors:** Dan Putman, Chris Brown, Drew Christensen, Elora Leene, Brittany Whited  
**Institution:** UW-Eau Claire  
**Faculty Sponsor:** Eric Jamelske  
Comparing Survey Results to Assess Political Differences in Relation to Climate Change/Global Warming Awareness, Perceptions and Beliefs of College Students in the United States

O30 2:30-2:45 pm  Hickory  
**Student Author:** Michael Spoon  
**Institution:** UW-Parkside  
**Faculty Sponsor:** Ross Astoria  
Regulations that affect organic farming in Wisconsin

SESSION 9 - COMMUNICATION

O31 1:30-1:45 pm  Poplar  
**Student Authors:** Alison Bailey, Kelley Morrison  
**Institution:** UW-Whitewater  
**Faculty Sponsor:** Teresa Faris  
Intergenerational Investigation with High School Art Students

O32 1:50-2:05 pm  Poplar  
**Student Author:** Ellen Larson  
**Institution:** UW-Stevens Point  
**Faculty Sponsor:** Cortney Chaffin  
Wang Keping: Art as Revolution

O33 2:10-2:25 pm  Poplar  
**Student Author:** Emily Van Veen  
**Institution:** UW-Whitewater  
**Faculty Sponsor:** Matthew Sintchak  
Japanese Contemporary Classical Saxophone Music

O34 2:30-2:45 pm  Poplar  
**Student Author:** Sean Mobley  
**Institution:** UW-La Crosse  
**Faculty Sponsor:** Patricia Turner  
Francis Scott Key and the Defense of Fort McHenry
SESSION 10 - BUSINESS - ETHICS - COMMUNICATION

O35  1:30-1:45 pm  Alumni  

Student Authors: Khanh Dang, Robyn Fredericks, Jeremy Eppler, Jeremiah Jensen  
Institution: UW-Parkside  
Faculty Sponsor: Abey Kuruvilla  
Parkside Academic Resource Center

O36  1:50-2:05 pm  Alumni  

Student Author: Joshua Frazier  
Institution: UW-Parkside  
Faculty Sponsor: Christopher Hudspeth  
Business Ethics: Optimization and Welfare

O37  2:10-2:25 pm  Alumni  

Student Author: Austin MacKenzie  
Institution: UW-La Crosse  
Faculty Sponsor: Alexander O’Brien  
Describing Dwight: Examining Levels of Abstraction in Written and Spoken Language

O38  2:30-2:45 pm  Alumni  

Student Author: Ariel Kraemer  
Institution: UW-Stout  
Faculty Sponsor: Daisy Pignetti  
Classical Rhetoric and the Film Thank You For Smoking
Schedule of Poster Session I

8:30 - 9:30 AM
<table>
<thead>
<tr>
<th>#</th>
<th>Topic</th>
<th>Poster Presentation</th>
</tr>
</thead>
</table>
| P1  | Arts and Humanities           | **Student Author:** Mackenzie Hautala  
**Institute:** UW-La Crosse  
**Faculty Sponsor:** Ronda Leahy  
Exploring Parasocial Interactions in Live Music Performances and the Use of Affinity-Seeking Strategies |
| P3  | Arts and Humanities           | **Student Author:** Jetro Merilainen  
**Institute:** UW-Milwaukee  
**Faculty Sponsor:** John Stropes  
Leo Kottke Archive Project |
| P5  | Arts and Humanities           | **Student Author:** Diana Witcher  
**Institute:** UW-Stout  
**Faculty Sponsor:** Alex DeArmond  
Isamu Noguchi’s Utopian Landscapes |
| P7  | Arts and Humanities           | **Student Authors:** Sarah Neudeck, Max Hey, Matthew Squire  
**Institute:** UW-Whitewater  
**Faculty Sponsor:** Todd W. Loushine  
An Introspective Study of the Occupational Safety Profession through a Critical Literature Review |
| P9  | Arts and Humanities           | **Student Author:** DeJuan Mason  
**Institute:** UW-Whitewater  
**Faculty Sponsor:** Samantah Samreth  
Visual Arts in African American Communities |
| P11 | Social Sciences and Anthropology | **Student Authors:** Rachel Prokop, Stephanie Lynch  
**Institute:** UW-Green Bay  
**Faculty Sponsor:** Dean VonDras  
Stress and Social Support Among College Students |
| P13 | Social Sciences and Anthropology | **Student Author:** Julie Krueger  
**Institute:** UW-La Crosse  
**Faculty Sponsor:** Carol Miller  
The Development, Management, and Impact of the Atheist Identity |
| P15 | Social Sciences and Anthropology | **Student Author:** Mara Stewart  
**Institute:** UW-Madison  
**Faculty Sponsor:** Megan Moreno  
Attitude Changes toward Tobacco and Marijuana in Students’ First Year of College |
P17  Social Sciences and Anthropology

**Student Authors:** Lainee Hoffman, Judy Dickinson, Stephen Fisher, Stephanie Mabrey
**Institute:** UW-Eau Claire
**Faculty Sponsor:** Eric Jamelske

*The Impact of the USDA Fresh Fruit & Vegetable Program on Children’s Consumption and Other Related Behaviors*

---

P19  Social Sciences and Anthropology

**Student Authors:** Kevin Reinhold, April Ross, Laurelyn Wieseman
**Institute:** UW-Eau Claire
**Faculty Sponsor:** Eric Jamelske

*Using Incentives to Influence Children to Bring Fruit and Vegetables from Home for School Snack*

---

P21  Social Sciences and Anthropology

**Student Author:** Julia Bizub
**Institute:** UW-Parkside
**Faculty Sponsor:** Robert Sasso

*Buckles, Buttons, And Jewelry – Pieces of Everyday Life Left Behind at the Vieau Fur Trade Post, Archaeological Site in Franksville, Wisconsin.*

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P23  Social Sciences and Anthropology

**Student Author:** Christina Daniels
**Institute:** UW-Parkside
**Faculty Sponsor:** Xun (George) Wang

*Media Exposure and Perception of Guilt in Highly Publicized Court Trials*

---

P25  Social Sciences and Anthropology

**Student Author:** Kayla Kasten
**Institute:** UW-Oshkosh
**Faculty Sponsor:** Erin Winterrowd

*Understanding Young Adults’ Perceptions of Self-Harm*

---

P27  Social Sciences and Anthropology

**Student Author:** Jessica De Larwelle
**Institute:** UW-Oshkosh
**Faculty Sponsor:** Erin Winterrowd

*“Perceived Responsibility of Bullied Victims & Sex Differences among College Student’s Just World Beliefs”*

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P29  Social Sciences and Anthropology

**Student Authors:** Olivia Schuenke, Houa Lee
**Institute:** UW-Stout
**Faculty Sponsor:** Susan Wolfgram

*Parental attitudes towards children with Perinatal HIV/AIDS*

---

P31  Social Sciences and Anthropology

**Student Author:** Kathy McPhee
**Institute:** UW-Parkside
**Faculty Sponsor:** Xun (George) Wang

*Main Factors Affecting the Attitudes toward the Dream Act*
<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Student Authors</th>
<th>Institute</th>
<th>Faculty Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>P33</td>
<td>The Male Inmate Perspective on Jail Parenting Programs</td>
<td>Student Authors: Leah Hoffman, Megan Kelly</td>
<td>UW-Stout</td>
<td>Susan Wolfgram</td>
</tr>
<tr>
<td>P35</td>
<td>Analysis of Water-Screening Samples from the 2011 Vieau Archaeological Site Excavations</td>
<td>Student Author: Heather Porter</td>
<td>UW-Parkside</td>
<td>Robert Sasso</td>
</tr>
<tr>
<td>P37</td>
<td>The Relationship between Gender &amp; Contemporary Dating Behaviors</td>
<td>Student Authors: Megan Jacoby, Heather Meliska</td>
<td>UW-Stout</td>
<td>Susan Wolfgram</td>
</tr>
<tr>
<td>P39</td>
<td>Comparison of Internet distraction among college students with and without ADHD</td>
<td>Student Authors: Nicole Zach, Jimena Brito, James Brown, Dan Ross</td>
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**Student Author:** Timothy Noonan  
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**Institute:** UW-Parkside  
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**Institute:** UW-Manitowoc  
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**Institute:** UW-Milwaukee  
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**Student Authors:** Lisa Griffin, Andrew Fuchs  
**Institute:** UW-Whitewater  
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**Student Authors:** Andrew Fuchs, Lisa Griffin, Lindsey Schulte  
**Institute:** UW-Milwaukee  
**Faculty Sponsor:** Elisabeth Harrahy  
Chronic toxicity of ibuprofen to *Daphnia magna*

P108  Life Sciences  
**Student Authors:** Tim Bierwirth, Erick Azmus, Luke R. Garceau  
**Institute:** UW-Parkside  
**Faculty Sponsor:** William P. Ebben  
Kinetic Assessment of Diurnal Variation in Stretch Shortening Cycle and Non-Stretch Shortening Cycle Jumping Performance

P110  Life Sciences  
**Student Authors:** Sean Riley, Brett Vanderwerff  
**Institute:** UW-Parkside  
**Faculty Sponsor:** Edward Wallen  
The Influence of Lighting Conditions on Food Consumption, Activity, and Weight Gain in Rats
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Institute: UW-Whitewater  
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| P114    | Student Author: Danelle Olson  
Institute: UW-Stevens Point  
Faculty Sponsor: Annie C. Wetter  
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Institute: UW-Washington County  
Faculty Sponsor: Mohamed Ayoub  
*Caffeine "Lift": Natural Bond orbital Study for a Central Nervous System Stimulant* |  |  |
| P118    | Student Authors: Jeanne Price, Kayla Schertz  
Institute: UW-Whitewater  
Faculty Sponsor: Catherine Chan  
*Analysis of photosynthetic activity in the presence of caffeine in Raphanus sativus (radish)* |  |  |
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Faculty Sponsor: Robert Horan  
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| P122    | Student Author: Amarachi Okorigbo  
Institute: UW-Superior  
Faculty Sponsor: Zamira Simkins  
*Economic growth and development in pre-colonial and post-colonial Nigeria* |  |  |
Creative Activity & Gallery Exhibit Abstracts
C1 Exploring the Use of Rare Earth Metal Oxides in Transparent Glazes in Relationship to Ceramic Surface Development

Student Author: Chanda Droske
Institution: UW-Whitewater
Faculty Sponsor: Jared Janovec
Spruce, 11:00-11:40 am

The purpose of this project is to develop transparent colored glazes that will help accentuate the surface design of my utilitarian ceramic work. In my work, I explore the relationship between compositional surface development and glazes using a combination of line, texture, and color with an application of transparent glaze over such designs. My research has consisted of developing test tiles containing many different combinations of slips (liquefied, pigmented clay) and textures. Many different colors of slip have been tested using line and areas of color in combination with surface texture. Over these tiles I am testing transparent glazes primarily colored with three rare earth metallic oxides: Erbium Oxide, Praseodymium Oxide, and Neodymium Oxide, respectively. These three colorants provide brilliant hues of pink, yellow, and purple and lend themselves to creating a transparent layer of color that accentuates surface development. They also work with other coloring oxides and Mason brand ceramic pigments to create an even wider range of colors. Generally, four to six percent of colorant is sufficient to create a subtle layer of color with the surface design still very evident. These results have helped me to expand my surface design and color palette while creating a more cohesive and engaging body of work. This research will be evident in my work for my graduating BFA Exhibition in May 2012 and will also be displayed at the University of Wisconsin-Whitewater’s 2012 Undergraduate Research Day and through other exhibition opportunities.

C2 Micro-Crystalline Growth in Ceramic High Fire Glazes

Student Author: Kyle Hendrix
Institution: UW-Whitewater
Faculty Sponsor: Charles Olson
Spruce, 11:00-11:40 am

The primary goal of my research is to investigate the development of micro-crystalline glaze surfaces on clay, fired in a temperature controlled oxidation atmosphere. These glaze surfaces were then used as visual elements integrated into my functional, utilitarian ceramic vessels. My research utilized a small electric test kiln that has an internal computer which controls firing rates and temperatures throughout the firing process. With the use of the computerized test kiln I was able to operate different firing programs, in search for the best-suited atmosphere and firing rates required to induce micro-crystal formations in glazes. Through controlling time and temperature rates for heating and cooling cycles I was able to hold the glazes at critical temperatures in order to induce the growth of micro-crystals. My research thus far has provided me with an abundance of possibilities to further explore with my ceramic work.

C3 Exploring the Use of Commercially Manufactured Underglazes on Utilitarian Ceramic Ware

Student Author: Michael Kern
Institution: UW-Whitewater
Faculty Sponsor: Jared Janovec
Spruce, 11:00-11:40 am

The purpose of this project is to investigate the potential of commercially manufactured underglazes and employ them in an effort to enhance the surfaces of my current utilitarian ceramic work and offer more information in terms of surface development options to the ceramic community. A variety of underglaze colors have been tested under transparent gloss glazes, special effect glazes, and simply on top of and within incised lines in clay without the use of glaze whatsoever. The tests were performed on flat, ceramic test tile surfaces and then progressed onto three-dimensional utilitarian vessel forms. These commercial underglazes have shown interesting results under a variety of glazes at the pyrometric cone 10 (2350°F) firing. Certain underglaze colors remain stable while others will bleed underneath a particular glaze, which can produce an attractive, aesthetically pleasing surface quality. Many underglaze colors can be applied onto bisque ware then immediately glazed over and fired with no apparent defects. These results have potential not only on utilitarian ware, but also on sculptural ceramic surfaces. Thus far this research has allowed me to develop my current work in terms of the aforementioned techniques and their possibilities towards generating uniquely interesting textural and visual surface qualities. This research will contribute to the ceramics discourse through the addition of options in surface enhancement. The resulting new body of work will be displayed at my BFA Senior Exhibition, and Undergraduate Research Day events at both UW-Whitewater and UW-Parkside, and potentially through regional and national juried exhibitions.
C4 Mokumé Gane: Patterns Exploration
Student Author: Neta Ron
Institution: UW-Whitewater
Faculty Sponsor: Michael J. Benning
Spruce, 11:00-11:40 am

My current body of artwork discusses cultural issues in relation to societal subjects such as poverty, tolerance for the different and “the other”, lack of love and lack of unconditional friendship. In my research, I will develop different textures and patterns using the Mokumé Gane technique on non-ferrous metal. My main goal in this research is to explore the psychological effect of patterns and textures on the way an idea is transferred to the viewer. I will investigate patterns that are related to my work and relative to the expressive aspect of it; through this process I will discover new ways to pursue the final result. I am interested in seeing how patterns and textures on the surface of an object can affect the understanding and help to clarify the concept for the viewer. In order to achieve the best result, I will first test different ways to accomplish the texture/pattern by using reductive processes such as filing and etching, as well as different ways to manipulate the metal to accomplish various designs. I will use these results to fabricate at least three objects that will communicate, most clearly, the concept using pattern/texture. I expect to see cohesive results that will provide me a better understanding of the psychological reaction to visual stimuli.

C5 The Role of the Artist and International Politics: Human Rights Atrocities in Burma
Student Author: Eric Anderson
Institution: UW-Oshkosh
Faculty Sponsor: Jeff Lipschutz
Spruce, 11:00-11:40 am

In dealing with issues internationally of a socio-economic nature, we are acting on our understanding of what it is we are in dealing with very sensitive relations. The highest responsibility of the artist as individual is to assist us in better understanding what it is that we are. The nature of this collaborative research project is to research, develop, and practice the highest responsibility of the artist. The conclusions of the research will be carried out within the contents of an intellectually cohesive body of artworks. The specific issue of international socio-economic relations being researched in this project is the topic of human rights abuses in Burma. By conducting field research paired with within the country of Burma through direct interpersonal account, the artist is allowed to carry out fullest responsibility.

The results of the scholarly research of the role of the artist and the role of the artist in international politics reflects the proficiency in which the artist is able to lead in understanding what it is we are and how we better exchange; the international realm being of the most delicate nature. To present the nature of these findings to the appropriate audiences, an exhibition of the works of art will be held at a variety of locations, with a lecture to precede each exhibition reception.

C6 Portraits of the Midwest: Artistic works depicting life in the Midwest
Student Author: Robert Jinkins
Institution: UW-Platteville
Faculty Sponsor: Richard Moninski
Spruce, 11:00-11:40 am

Portrayal of the Midwest using detailed portraiture and varied mixed media drawing technique requires practice, experimentation and patience. This is especially the case as there are subtleties to the people and places of the Midwest that aren’t possible to grasp at first glance, but only through an unspoken feeling or experience of the place. I have spent the last year working on a number of portraits to tell the subject’s stories within the context of the sociogeographical region. The art world tends to marginalize realistic representational works, in general, and anything from the Midwest in particular. I have used graphite drawings and numerous delicate washes of thin acrylic paint to achieve the effects I desire and to capture the minutely observed details of a scene. This gives my work a general quality that allows many people to relate to the work, while simultaneously depicting a very particular person, place or object. Each work goes beyond the simply observable, though, and portrays stories, values, and beliefs of the Midwest. I attempt not only to have a pleasing representation but also to depict the symbolic, deeper meaning that becomes more evident as one looks on. The artwork in the project represent several hundred hours of work and include portraits of people as well as portraits of things and places that represent snippets of the region and its history.
C7 Convolutions
Student Author: Elliot Patros
Institution: UW-Milwaukee
Faculty Sponsor: Christopher Burns
Spruce, 11:00-11:40 am

Convolutions is the result of research on the interdependency between analog and digital sound systems. The full extent of each system’s ability to control the other has not yet been discovered; only by understanding more about the nature of both analog and digital worlds can we hope to discover the breadth of possibilities these tools have to offer. “Convolutions” was created for hollow-body electric guitar, analog amplification, and laptop running Miller Puckette’s interactive music programming language: pd. The guitar is placed directly in front of the amplifier, creating a chaotic and potentially explosive scenario involving continuous feedback between the guitar and amplifier. This feedback loop is interrupted by the laptop, which receives and manages the guitar’s audio signal before sending it to the amplifier in an attempt to continuously and precisely alter the behavior of the interaction between the guitar and amplifier. The laptop’s management of the analog system is twofold. First, the laptop alters between encouraging and suppressing overall volume to prevent feedback from either exploding or becoming silent. Second, it specifically targets the loudest pitches and suppresses those to prevent the system from becoming stuck on one note, while simultaneously encouraging the quietest or silent pitches to ring out to again prevent silence. Convolutions is an example of a scenario in which the tendencies of chaotic analog behavior are understood through analysis by an automated digital system and then controlled by digitally shaping and reintroducing the processed audio back into its analog source.

C8 Remember Me
Student Author: Rachel Christian
Institution: UW-Whitewater
Faculty Sponsor: Teresa Faris
Spruce, 11:00-11:40 am

I believe we need to remember the mistakes of the past so we can learn and avoid repeating them. I researched the trends in mourning, identification, sentimental and spiritual jewelry in search of a way to tell the story of the world in which I grew up. I believe the events that occur in our world as we grow shape who we become as individuals. Using photo editing software I created collaged image pages of events that were a part of my world during those years, the trends, experiences and events that made me who I am. I used Metal-Smith and other techniques to combine images and metal in a way that can “tell a story” creating an Heirloom piece that reminds me who I am and why. Through my research I found that throughout history there has always been some form of jewelry that serves as a reminder of who a person is or was, of a deceased loved one, as in the case of many lockets or identifies a person, as in medical I.D.’s or military dog tags, or signify social status or religious beliefs as in the Christian cross. I conclude that having a permanent visual reminder that can be physically carried with you can remind you of the miracles and the mistakes that made you who you are and serve as a comforting reminder which is why so many people carry them in one form or another.
Oral Presentation Abstracts
O1 Improving Delivery of Healthcare in the Wisconsin Department of Corrections

Student Authors: Christopher McMahon, Trevor Severson
Institute: UW-Parkside
Faculty Sponsor: Abey Kuruvilla
Oak, 9:35-9:50 am

We analyzed current practices, policies and procedure regarding the delivery of healthcare in Wisconsin Department of Corrections Institutions, Facilities, and Centers. The current manner in which offenders request and receive healthcare, and the way in which healthcare staff manages and track healthcare is out of date, inefficient and has cost taxpayers millions of dollars in lawsuits as a result. Current practice does not utilize any technology for standardizing scheduling, tracking, and/or reporting medical appointments or medical information across the Department’s 27 or institutions. Each institution has its own manner in which offender medical appointments are kept and tracked; most are unique – some as archaic as writing offender names in a spiral notebook – but nothing is standardized across the Department. Information is not shared electronically, creating a situation where redundant work is being done daily. Paper, hand-filled forms are filled out for each offender – all 27,000 of them. For example: Security information is not shared with Social work which isn’t shared with Work Release which isn’t shared with Education so many, many redundant databases exist. We developed revised practices and develop information technology solutions for these problems and offer them as an alternative to the current practice. Provided is a link to our presentation: http://prezi.com/zwjg0hkrfzio/edit/?auth_key=2jjm1ta&follow=gpm08xn6vf9r#0_4428459

O2 Does the Gender Composition of Executive Boards Affect Corporate Profits?

Student Author: Jaeger Nelson
Institute: UW-Whitewater
Faculty Sponsor: David Welsch
Oak, 9:55-10:10 am

There are substantially fewer female CEOs and female board members compared to the number of males holding similar positions; yet, the relationship between corporate performance and the gender composition of upper management has garnered very few empirical studies. This relationship warrants further investigation as governmental bodies and corporations, primarily in Europe, are beginning to implement new policies and regulations imposing at some level, a gender ratio quota; thus requiring companies to either maintain a predetermined number or percentage of females on their board of directors or management team. This paper focuses on the potential financial implications a firm may experience as a result of having a higher percentage of females on their executive board. The sample for this study is comprised the S&P 500 Index Fund; which is comprised of 500 companies covering ten fundamentally different sectors of the economy and spanning 65 industries. The models used in this study control for past financial performance, and systemic market fluctuation by including historical financial data and an annually compounded sub-industry growth rate. Furthermore, causality concerns are explored and addressed, and while preliminary results indicate that female executives have a positive effect on profits, after addressing the aforementioned causality concerns the results indicate that no evidence can be found to suggest a causal relationship between the gender of a company’s board members and their respective profits.

O3 The Sharing Center Expansion

Student Authors: Michael Mikula, David Sieraski, Lizet Salgado, Steve Lange
Institute: UW-Parkside
Faculty Sponsor: Abey Kuruvilla
Oak, 10:15-10:30 am

The sharing center is a non profit organization that supplies goods to people in need. Currently they are operating out of an old dental office, but have recently purchased and old fire station. The goal is to improve the way they make use of this building. We are studying every aspect of how they receive and send their inventories. We look to allow them to maximize the money they receive in donations as well.

O4 Not All Privacy Losses Cost the Same: Examining the Relative Perceived Trust Violation in a Hacking Versus Unauthorized Information Sharing Scenario

Student Authors: Ellyn Hansen, Lijun Chen
Institute: UW-Green Bay
Faculty Sponsor: Gaurav Bansal
Oak, 10:35-10:50 am

Background and Rationale: Trust is so important for e-commerce, that it will not be inappropriate to say that Trust empowers an e-commerce Website more than its web server. Hacking and unauthorized information sharing are serious problems that shake up one’s trust
in e-commerce in general and a Website in particular. The study examines the relative trust loss in a hacking versus unauthorized information sharing by a Website.

Methods: An experiment was conducted in which UW-GB undergraduate students were asked to view a Website and asked to answer questions to measure their trust in the same. We then shared with them one of two scenarios pertaining to (a) hacking of user information from the website servers and (b) unauthorized information sharing of user information by the Website. The trust in the Website was measured again (Trust2). Trust drop was tabulated by subtracting Trust2 from Trust1. Data were then analyzed using Anova. Total 326 students’ responses were analyzed. Results and Conclusion: The results of the study show that users experience a significantly higher degree of trust decline when the Website intentionally and unethically share the user data with other companies for data mining or other unauthorized purposes as opposed to information hacking by unknown hackers. The findings could be explained by Attribution theory which suggests that people experience a greater drop in trust when a situation is perceived to have a high possibility of reoccurrence, and is perceived to be more internal and controllable by the trustee who chose to act otherwise.

O6 Teratology of Caffeine
Student Author: Rufino Rodriguez
Institute: UW-River Falls
Faculty Sponsor: Cheng-Chen Huang
Walnut, 9:55-10:10 am

Caffeine’s increasing popularity and increasing concentration in items we consume has created the extremely important need to know, in detail, what teratogen affects caffeine has on vertebrates. The oviparous zebrafish embryos are a great tool for teratology due to the transparency and well characterized organogenesis. In this project, we aim to study the mechanism of caffeine toxicity in detail using zebrafish embryos. First we exposed the embryos to different concentrations of pure caffeine. The treated embryos exhibited drastic curvature of the body. Next we performed a dosage study using .5, 2.5 and 5 μm of caffeine. At .5 μm zero percent, at 2.5 μm sixty percent, and at 5 μm hundred percent of the embryos showed the curvature phenotype. To understand the developmental defects leading to the curvy body, we performed immunostaining with antibodies that stained the nervous system. In whole mount embryos, we performed immunostaining with antibodies that stained the nervous system. In whole mount embryos, we found that caffeine treated embryos developed wider brain and neural tube. These embryos were then cryosectioned and examined with a compound fluorescence microscope in detail. After analyzing the thin tissue sections we confirmed that the brain ventricle in caffeine treated embryo is approximately 25% wider than the wild type, suggesting a neural tube closure defect, a defect that has been reported in other studies. This phenotype resembles the human spina bifida symptom. Our results demonstrate that Zebrafish embryos could be a great tool to study the detailed molecular mechanisms and possible pharmacogenetics of caffeine toxicity.
O7 DNA Binding Activity of the DAF-16/Forkhead Domain Protein in the Parasitic Nematode Brugia malayi

Student Author: Peter Sackett
Institute: UW-Whitewater
Faculty Sponsor: Kirsten Crossgrove
Walnut, 10:15-10:30 am

The filarial parasite Brugia malayi shares many traits with its non-parasitic, free-living cousin Caenorhabditis elegans. The most similar point shared by both organisms in their life cycle occurs when development is arrested. In C. elegans, when environmental conditions are unfavorable, the L2 worm can enter an alternate life stage known as dauer. When conditions again become more favorable, the larva will receive environmental cues and re-enter the normal life cycle. This diapause in C. elegans is analogous to the infective L3 (iL3) stage in B. malayi. Inside a mosquito, the iL3 parasite’s development is arrested until transmission to the human host. Upon entering a human, the larvae will receive an environmental cue and will molt to the L4 and adult stages, which accumulate in the lymphatic system. Adult parasites block the lymphatic vessels and trigger host immune responses, both of which lead to the symptoms of human lymphatic disease. One major factor in the dauer decision pathway in C. elegans is the DAF-16/FOXO transcription factor. Previous work has shown Bm-daf-16 gene expression in B. malayi is high during the microfilarial and iL3 stages of development. We have cloned the Bm-daf-16 cDNA sequence into an E.coli vector and are currently working to produce Bm-DAF-16 protein. We will then perform an electrophoretic mobility shift assay (EMSA) to test whether the Bm-DAF-16 protein binds to the known conserved consensus site. The critical role DAF-16 plays in the developmental decisions of B. malayi makes it a good potential target for drug development.

O8 A new look at Venus being a water world and the possibility of harboring life in the atmosphere

Student Author: John Ditkof
Institute: UW-Waukesha
Faculty Sponsor: Quintin Bendixen
Hickory, 9:35-9:50 am

Amphiboles that contain the hydroxide ion form only in the presence of water and this fact has become the way for scientists to prove that Venus was once a water world. Tremolite is the frontrunner, but this mineral also requires life to allow it to form. Venus is known to have extensive volcanic features and with little erosion taking place; a mineral that is associated with volcanism and forms only in the presence of water should be regarded as the main goal. Though tremolite is known to be a robust mineral, the possibility of finding it is next to impossible as it may lay deep underground. To further add to the mystery the unusual atmospheric composition needs further explanation. The presence of both sulfur dioxide and hydrogen sulfide demand further research as these gases are not being replenished by any geologic activity. There are particles that have been detected in the atmosphere that seem to be absorbing UV radiation is also located at these same altitudes. Finding tremolite on Venus would only further excite the possibility that we are not alone in the universe. Could life on Venus be related to life here on Earth? Where in the Solar System did life originate? These are questions that would need serious thought if such an event took place. Finding hornblende on Venus would confirm several theories, but finding tremolite would change everything.

O9 Tailoring the Properties of Alumina Nanofibers by Doping with Nanoparticles

Student Authors: Scott Nelson, Alexander James Turinske
Institute: UW-Oshkosh
Faculty Sponsor: Nenad Stojilovic
Hickory, 9:55-10:10 am

Alumina (Al2O3) nanofibers were fabricated from polymer-inorganic solution using electrospinning method and subsequent calcinations at high temperatures. Morphology of the fibers was studied using electron microscopes whereas changes in the crystal structure were monitored via X-ray diffraction measurements. In an attempt to enhance the surface area of alumina nanofibers, the fibers were doped with titania (TiO2) and alumina nanoparticles. Changes in calcination temperature and the amount of nanoparticle affect the properties of the nanofibers. Our goal is to first understand how these changes occur and to be able to tailor the properties of the nanofibers for various applications. Due to relatively large surface area-to-volume ratio these materials are excellent candidates for catalysis applications.
O10 Electrospun ZnO and TiO2-doped ZnO Nanofibers
Student Author: Kenneth Hanson
Institute: UW-Oshkosh
Faculty Sponsor: Nenad Stojilovic
Hickory, 10:15-10:30 am

Zinc Oxide (ZnO) is material of great interest in optoelectronic and catalysis applications. It has the same energy bandgap value as GaN (3.37 eV) but has advantage of being environmentally friendly. Being transparent to visible light and opaque to ultraviolet (UV) radiation makes ZnO an excellent candidate for UV sensors. In our laboratory, ZnO nanofibers were synthesized using the method of electrostatic spinning (electrospinning). Both pure ZnO and ZnO fibers doped with titania (TiO2) nanoparticles were produced. The morphology of the nanofibers was characterized using Scanning Electron Microscopy (SEM) and Transmission Electron Microscopy (TEM). The change in specific surface area as a function of temperature was monitored using the Brunauer-Emmett-Teller (BET) method whereas crystal structure of the nanofibers was investigated using powder X-ray Diffraction (XRD) system. The effect of titania doping on the properties of the fibers is studied. Our goal is to make nanofibers with enhanced surface area-to-volume ratio, and reduced energy bandgap.

O11 L-system Tree Generation
Student Author: Adam Nelson
Institute: UW-Parkside
Faculty Sponsor: Derek Riley
Hickory, 10:35-10:50 am

This project is a computer program which graphically generates trees and simulates the growth of trees based on a few set of rules. The creation of this project required combining techniques of programming computer graphics driven by a system, an L-system, which I was already familiar with from previous studies. The specific use of the L-system required research to understand how it would drive the tree generation and successfully simulate the growth of trees. The development of this software led a stronger understanding of computer graphics as well as the realization of how much complexity could be created out of simple rules of growth. This system can lead to the generation of many types of trees found in nature.

O12 How Does Minnesota’s Open Enrollment Program Affect Student Performance
Student Author: Michael Babington
Institute: UW-Whitewater
Faculty Sponsor: David Welsch
Poplar, 9:35-9:50 am

This paper examines the competitive effects of a unique school choice program implemented in the early 1990s. Beginning in 1991 students in Minnesota were allowed to attend any public school of their choosing under an Open Enrollment Program. In contrast to other school choice programs districts not only face negative consequences from losing students and state funding, but they also stand to gain if they are able to attract students from other districts. The empirical model is estimated using panel data over the years 2005/06 through 2008/09 for Minnesota’s public school districts and census level characteristics. Econometric techniques are used to analyze the data to get at the relation between the number of students transferring to and from a certain district and that districts test scores in the subsequent year. Once we are able to account for district specific time invariant characteristics we find that these competitive effects are present. As students leave a district we would expect to see that districts test scores to slightly increase in the following year.

O13 The Impact of the USDA Fresh Fruit & Vegetable Program on Children’s Consumption and Other Related Behaviors
Student Authors: Lainee Hoffman, Judy Dickinson, Stephen Fisher, Stephanie Mabrey
Institute: UW-Eau Claire
Faculty Sponsor: Eric Jamelske
Poplar, 9:55-10:10 am

Most children in the U.S. consume less than recommended amounts of fruit and vegetables. Experts and advocates recognize the school environment as a fundamental setting for providing children access to nutritious food and opportunities to learn about the importance of healthy eating. The United States Department of Agriculture (USDA) initiated its Fresh Fruit and Vegetable Program (FFVP) in 2002 as part of a broad effort to address poor nutrition and rising obesity rates among children. The research literature examining the effectiveness of the FFVP is small and developing. Given the sizeable resources committed to funding the FFVP, more information is needed to understand the successes, limitations, and potential in meeting its stated goals. In this study, we investigate the impact of the 2009-10
FFVP on intake and other behaviors related to fruit and vegetable consumption among Wisconsin 4th and 5th grade students. Consumption of fruit and vegetables served through the FFVP was recorded by teachers over 95 days. Analyses of other behaviors related to fruit and vegetable consumption compared pretest and posttest data from an 8 item survey between program and control students. We find positive effects on both student intake and other behaviors related to eating fruit and vegetables.

**O14 Using Incentives to Influence Children to Bring Fruit and Vegetables from Home for School Snack**

Student Authors: Kevin Reinhold, April Ross, Laurelyn Wieseman  
Institute: UW-Eau Claire  
Faculty Sponsor: Eric Jamelske  
Poplar, 10:15-10:30 am

Most children in the U.S. consume less than recommended amounts of fruit and vegetables. Experts and advocates recognize the school environment as a fundamental setting for providing children access to nutritious food and opportunities to learn about the importance of healthy eating. The United States Department of Agriculture (USDA) initiated its Fresh Fruit and Vegetable Program (FFVP) in 2002 as part of a broad effort to address poor nutrition and rising obesity rates among children. Previous research in Wisconsin found increased intake due to the FFVP; however even after six months of participating in the program, students did not bring fruit and vegetable snacks from home to eat on days when one was not provided for free through the FFVP. In this study we investigate whether incentives such as toy prizes, reminders and positive role modeling can influence children to bring fruit and vegetables from home to eat on days when they were not served one for free. Teachers exposed students to these incentives and recorded the frequency with which they brought and ate fruit and vegetables from home over 53 non-FFVP days. We find incentives to be very successful in influencing student behavior in this context.

**O15 College Preparation and College Success**

Student Author: Scott Coey  
Institute: UW-Parkside  
Faculty Sponsor: Xun (George) Wang  
Poplar, 10:35-10:50 am

The process of the education system is a slow build up from the time one was born till the time one crosses that stage in the gown. College success, to large extend, depends on college preparation. This study examines three different aspects of college preparation at the high school level, and how that translates into college success. Academic preparation is measured by high school GPA. Informational readiness is measured by information received regarding college registration, financial aid, scholarships, etc. The final component is college preparatory and advanced placement courses. The college success is measured by GPA. 30 students from UW-Parkside were randomly chosen to participate in the questionnaire survey. The results show that (1) there is little relation between students GPA in high school and that of college; (2) there is no relation between informational readiness and college GPA; (3) students who took advanced classes and college preparatory classes fair better at the college level.

**O16 Wisconsin Inheritance Laws During the Progressive Era: Attempts to Shine the Progressive Light on the Inequalities of Inheritance Laws**

Student Author: Kyle Moerchen  
Institute: UW-Oshkosh  
Faculty Sponsor: Susan Rensing  
Alumni, 9:35-9:50 am

During most of Wisconsin's history inheritance laws have been guided by dower and curtesy. These laws were passed down to Wisconsin from English Common Law, and in 1917, 1919, and 1921 a “radical” law was proposed by Senator Benfey of Sheboygan to abolish the dower and curtesy law making husbands and wives equal heirs of each other. The Law did not pass at any of those sessions. My research looked at the bills, newspaper articles, and the records of Suffrage and Women's Clubs to find out not only how the bill changed overtime, but also the reaction to the bill and to try to explain why it did not pass. Case studies looked at how widows and widowers were affected by the bill not passing. If the bill had passed there would have been many surviving spouses who would have been better off. The bills allowed for 1/3 of the estate to be inherited or if the estate was under three thousand dollars it would be given to the surviving spouse outright. The lack of organization and other issues of the day overshadowed the small groups of activists who wanted to see changed in the inheritance laws. The Benfey Bill was too radical for its time, and did not pass, but it was one of the only attempts at serious inheritance law reform. It would have led to equality in inheritance.
O17 Secondary Analysis of Human Skeletal Remains from Altenburg Cemetery

Student Authors: David Stock, Emily J. Laak
Institute: UW-Milwaukee
Faculty Sponsor: Robert J. Jeske
Alumni, 9:55-10:10 am

The Altenburg Lutheran Church Society Cemetery in Mequon, Wisconsin was removed as part of a Wisconsin Department of Transportation construction project in 1987 and initial analyses were conducted. The primary goal of the project is to achieve a more accurate inventory of the Altenburg collection and to develop a stronger understanding of how these skeletal remains relate amongst themselves and other collections. A secondary goal is to provide an accurate teaching collection. The process in which this project answers these questions is through a secondary analysis. During this secondary analysis, the contents of the old bag is emptied onto bubble wrapped surface. Bone material is categorized and placed in a new, acid-free bag based on the bone's identified classification. Each bone is recorded onto a sheet that is placed with both the new and old bags into a labeled curation box. Identification mistakes (unidentified individuals) in the initial analysis of the Altenburg Burials were discovered during the secondary analysis by identifying complex and minute details of the bone fragments. The conclusion is twofold. The secondary analysis of the Altenburg collection shows that multiple examinations of a problem lead to a more complete understanding of a collection's contents. One can also conclude from the secondary analysis that the Altenburg skeletons provide a sufficient variety of remains that provide students opportunity to gain a strong understanding of the development of the human skeleton and key skills needed to identify remains in the field.

O18 The Unique Culture of the Improvement Station

Student Author: Jefferson Lich
Institute: UW-Oshkosh
Faculty Sponsor: Stephanie May de Montigny
Alumni, 10:15-10:30 am

The aim of my ethnographic research at the Improvement Station, a large home improvement store, was to examine the underlying relationships between coworkers and how the relationships affected employees. I analyzed friendships, acquaintances, and social use of space through interviews, participant-observation, and self-reflection to help understand why these connections were created and maintained. The careful analysis of the interviews, participant-observations, and self-reflections led to the discovery of a social web of connections. A sense of community, reciprocity, and culture helps workers cultivate more relationships and support each other. Through the observations and interviews, I was able to analyze the social space in the store and how the employees situate themselves. I learned that a social hierarchical system controls how those in non-management positions respond and react to supervisors and to other same level workers. This system is largely part of the reason why the social connections exist, it is there for the individual and because of this, others continue to contribute to the social web.

O19 The Effects of Early Marriage on One's Socioeconomic Status

Student Author: Stephanie Wheeler
Institute: UW-Parkside
Faculty Sponsor: Xun (George) Wang
Oak, 1:30-1:45 pm

When people think of young marriage the majority automatically think of the negatives that could happen. For example, if you get married young you won't finish school, and you won't get a good job, and you won't have high income. I am researching this assumption to see if there is any truth to them. Does early marriage in fact affect a person's socioeconomic status? I used snowball sampling procedure to select 30 residents in the local community to participate in my survey. I divided them into three groups (married at 18 or younger, married between 19-25 and married after 26) and correlated their marriage ages with their education level, number of hours worked after the marriage, and monthly income. The results show (1) those who were married at 18 or younger has the lowest educational attainment, (2) those who married at 18 or younger worked least hours, and (3) those married at 18 or younger had the lowest monthly income as well. Future large scale research on the topic is very important because it can help young people in making a decision that will better help them in the long run.
O20 Attitudes Towards Homosexuality in Galway, Ireland

Student Author: Ashley Holen
Institute: UW-La Crosse
Faculty Sponsor: Carol Miller
Oak, 1:50-2:05 pm

In society today there is much attention paid to the topic of sexuality, and an area of sexuality that is tremendously controversial in this country is homosexuality. In the United States, there are movements touching every community to influence their perceptions of homosexuality. As of yet, states are given the discretion to determine their policies regarding same-sex couples and their relationships while there are countries that have legalized same-sex marriages. The present study examines attitudes toward homosexuality in Ireland. This country is known for their supposed religious convictions and the assumption would be that they would be less tolerant, than the United States, of homosexuality. A diverse sample of public residents (N=98) responded to questions regarding many aspects of homosexuality commonly researched. The apparent similarities between attitudes toward homosexuality in Ireland and the United States are examined in relation to the difference in legislation regarding same-sex marriage in these countries.

O21 Narratives of The Transgender Experience

Student Author: Katka Showers-Curtis
Institute: UW-Whitewater
Faculty Sponsor: Corey Davis
Oak, 2:10-2:25 pm

Transgender experiences do not tend to be recognized in traditional gender narratives, and the few that are recognized tend to be constructed in binary, essentialist views. This study was envisioned to bring people who identify as transgender to the forefront of discussion. It was a qualitative study involving in-depth, semi-structured interviews with people who self-identify under the transgender umbrella. These interviews were conducted face-to-face and through Skype, audio-recorded, transcribed, and coded for themes using grounded theory. Interviewees were self-selected and learned of the study by word of mouth, through social networks, or posters that were distributed to universities, transgender advocacy and support networks, and LGBT+ centers. I interviewed eighteen people, all hailing from the Midwest, and their responses showed a wide range of individual experiences, none completely mirroring another. The results of these interviews provide a crucial resource for gender theorists and individuals who are cisgender to recognize that each individual who identifies as transgender identifies in a different way, and that there is no “right” or “wrong” way to be transgender. For example, some people seek hormones and/or other physical alterations, but not all do, and many have other ways of living and expressing their genders. Results also showed that other identities, including, but not limited to, (dis)ability, race, socioeconomic status, and religion or spirituality, inform people's gender identities. The results of this study have several implications for gender and communication studies, the main implication being that gender is not as simple as books may suggest.

O22 Compassionate Communication: Raising Awareness, Empowering Individuals, and Building Community at a Homeless Shelter

Student Authors: Lauren Saleski, Angela Hellstrom, Stephanie Bathke, Hailey Cook, Megan Wojtak, Rafael Gutierrez
Institute: UW-Parkside
Faculty Sponsor: Jonathan Shailor
Oak, 2:30-2:45 pm

The students of University of Wisconsin Parkside’s Certificate Program in Conflict Analysis and Resolution would like to propose a roundtable event in which we present a paper and lead community discussion after. The research for this event is being conducted at the HALO shelter for the homeless in Racine, WI. Parkside students are working to complete twenty hours of fieldwork as facilitators of conflict resolution workshops as we address the problem of homelessness as a social justice issue. Each week a group of eleven students meets at the HALO residence to address the issue of homelessness. While at the residence, students take turns facilitating workshops to help residents achieve an understanding of conflict as an opportunity to increase awareness, personal strength, and compassion. The workshops being conducted focus on a conflict resolution technique that incorporates sociodrama. Sociodrama looks to use theater to engage the community in analyzing conflicts and looking at new perspectives. There are four main research questions we focus on while leading these workshops.

O23 Abnormal Production of CD43 in Lung Cancer

Student Author: Greta Foley
Institute: UW-La Crosse
Faculty Sponsor: Carl Simon Shelley
Walnut, 1:30-1:45 pm

Despite major advances in the field of medical oncology, lung cancer is still the leading cause of cancer death
in the United States. Each year, lung cancer kills more people than breast, prostate, colorectal, liver and ovarian cancers combined. In this study, there were two major types of lung cancer examined: non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC). Along with the SCLC, there were three histologic subtypes of NSCLC tested: squamous cell carcinoma, adenocarcinoma, and carcinoid tumor. Using these different sub-types of lung cancer, the presence of CD43 on malignant lung tissue was observed. CD43 is an anti-adhesion molecule that is normally expressed on the surface of white blood cells. However, earlier studies have found that CD43 may be expressed on certain malignant cells. Unlike normal lung tissue, malignant lung tissue may produce CD43. This hypothesis was tested by correlating immunohistochemical scoring of CD43 expression with each histological class of lung cancer. 105 cases of lung cancer were examined. The cells were tested for an extracellular domain of CD43 and an intracellular domain of CD43, along with an IgG stain as a negative control. The slides were scored according to the degree of positive stain present. It was found that expression of CD43 varies between the sub-types. Overall, the lung cancer cells were over 75% positive for the presence of CD43. This project confirmed that CD43 is abnormally expressed on the surface of malignant lung cells. These results suggest possible diagnostic and therapeutic tools in the fight against lung cancer.

O24 Heartworm Detection in Wild-Caught Mosquitoes from Northeastern Wisconsin

Student Author: Bradley Beaumier
Institute: UW-Green Bay
Faculty Sponsor: Uwe Pott
Walnut, 1:50-2:05 pm

Heartworm disease in dogs and wild canids is caused by the nematode Dirofilaria immitis. This parasitic roundworm must progress through several larval stages in a mosquito host before the infective larva (L3) can be transmitted to the definitive host. In the dog the L3 develops into the adult worm, which settles in major blood vessels near the heart and may ultimately cause heart failure. The goal of this study is to estimate the risk of heartworm infection for dogs in Northeastern Wisconsin during the mosquito season by determining the prevalence of heartworm larvae in the mosquito hosts. Our experimental protocol includes trapping the insects in light traps with carbon dioxide as additional attractant, preparing crude lysates from pools of mosquitoes, and detecting heartworm DNA in these lysates using the polymerase chain reaction (PCR). Currently we are testing if our protocol will allow us to detect reliably the DNA of a single L3, the smallest infective unit, in a large pool of mosquitoes. Thus far, we have been able to amplify heartworm-specific DNA fragments out of pools of 100 mosquitoes spiked with 6 ng of heartworm DNA (courtesy of Dr. Kirsten Crossgrove, UW-Whitewater) or one L3 (courtesy of NIAID/NIH Filariasis Research Reagent Resource Center, University of Georgia). We therefore have established the sensitivity necessary to test a large number of mosquitoes caught during the summer of 2011 in Green Bay, WI, for the presence of larval stages of the heartworm parasite.

O25 Gender Analysis of Hamstrings and Quadriceps Activation Ratios during Bilateral and Unilateral Jump Landings

Student Authors: Karisa Laskowski, Jennifer Endisch
Institute: UW-Parkside
Faculty Sponsor: William P. Ebben
Walnut, 2:10-2:25 pm

Background and Rationale: Low hamstrings to quadriceps activation ratios (H:Q) may be an important predictor in anterior cruciate ligament (ACL) injuries, which women experience 2 to 8 times more frequently than men. This study evaluated gender differences in H:Q of college athletes, during jump landings. Methods: Subjects include 12 women (age 19.83 ± 1.40 years; height 175.49 ± 5.9 cm; weight 73.21 ± 10.37 kg) and 8 men (age 20.75 ± 0.87 years; height 189.71 ± 5.8 cm; weight 87.10 ± 7.70 kg). Subjects were evaluated using electromyography (EMG) to quantify rectus femoris, vastus lateralis, vastus medialis, lateral hamstring, and medial hamstring activation during bilateral countermovement jumps (BCMJ) and unilateral countermovement jumps (UCMJ). Data were normalized to a maximum voluntary isometric contraction (MVIC) and expressed as an aggregate of hamstring and quadriceps muscles, forming the H:Q. Data were analyzed using a one way ANOVA to examine gender differences in EMG during the jump landing. Results: During BCMJ, men produced a H:Q ratio of .59 ± .31 whereas women had a H:Q ratio of .35 ± .18, which was significantly different (P = 0.039). During the BCMJ jump landing, men demonstrated H:Q of .66 ± .23 whereas the ratio of women was .46 ± .21 which was trending toward a significance difference (P = 0.075). Conclusions: Women demonstrate lower H:Q ratio representing less hamstring and more quadriceps activation during jump landings. This results in greater risk of ACL injury. Women should train to increase their H:Q.
O26 The Rural Healthcare Provider: Barriers and Benefits to Their Practice
Student Author: Hope Villiard
Institute: UW-Madison
Faculty Sponsor: Megan Moreno
Walnut, 2:30-2:45 pm

Background: A significant proportion of Wisconsin residents live in rural areas and much is unknown regarding their needs and the resources available to them. Healthcare providers may face unique barriers and limitations when treating patients in a rural setting, despite reporting great job satisfaction and lifestyle advantages. The purpose of this project was to 1) identify what attracts healthcare providers to a rural area, 2) recognize the limitations that rural physicians face in their daily practice, 3) determine the pathways addressing the obesity problem in rural areas, and 4) investigate the needs for future research to bridge the gap between rural providers and tertiary centers. Methods: One-on-one interviews with rural healthcare providers were conducted between September 2011 and March 2012. Audio tapes of each interview were transcribed. Results/Conclusions: The current status of this project is completion of 8 interviews which have been transcribed, and analysis will be completed by the time of the symposium.

O27 Comparing Survey Results to Assess Climate Change/Global Warming Awareness, Perceptions and Beliefs of College Students in the United States and China
Student Authors: Brittany Whited, Chris Brown, Drew Christensen, Elora Leene, Dan Putman
Institute: UW-Eau Claire
Faculty Sponsor: Eric Jamelske
Hickory, 1:30-1:45 pm

Climate Change (CC), a phenomenon entailing warming average global temperatures (global warming, GW) is an important, divisive national and international policy issue. Despite overwhelming scientific consensus and corresponding warnings, many people including policy makers still disagree about the reality of CC/GW and the degree to which human activities are responsible. We conducted surveys examining what US (n 826) and Chinese (n 776) college students think about this important topic. College students are of interest because they represent the next generation of decision-makers. The U.S. and China are of interest because they are disproportionately responsible for world CO2 emissions, however they are also different in several ways. U.S. emissions per capita are nearly four times China’s, while Chinese emissions per $ of GDP are nearly twice that of the U.S. In addition, the U.S. ranks among the world leaders in per capita GDP, while China is a developing country with significant poverty, yet the Chinese economy has grown substantially over the last two decades. This project provides insight into the awareness, perceptions and beliefs of young adults in these two countries comparing responses to a variety of questions. On average, Chinese students report a significantly greater awareness about CC/GW. In particular, U.S. students are much less convinced of the general agreement among qualified climate scientists that human induced CC/GW is happening. These results are interesting and could have meaningful implications for future national and international CC/GW policies.

O28 Renewable Energy Standard & Wind Turbine Setback
Student Authors: Marc Palmer, Tim Hansen
Institute: UW-Parkside
Faculty Sponsor: Ross Astoria
Hickory, 1:50-2:05 pm

Wisconsin policy that effect wind and renewable energies.

O29 Comparing Survey Results to Assess Political Differences in Relation to Climate Change/Global Warming Awareness, Perceptions and Beliefs of College Students in the United States
Student Authors: Dan Putman, Chris Brown, Drew Christensen, Elora Leene, Brittany Whited
Institute: UW-Eau Claire
Faculty Sponsor: Eric Jamelske
Hickory, 2:10-2:25 pm

Climate Change (CC), a phenomenon entailing warming average global temperatures (global warming, GW) is an important, divisive national and international policy issue. Despite overwhelming scientific consensus and corresponding warnings, many people including policy makers still disagree about the reality of CC/GW and the degree to which human activities are responsible. We conducted surveys examining what US (n 826) and Chinese (n 776) college students think about this important topic. The subset of this data related to the U.S. students is particularly interesting when considering the relationship between political ideology and attitudes towards CC/GW. Within the U.S. sample there are significant differences in the political ideologies (on a scale ranging from conservative to liberal) as well
as significant differences in the awareness, perceptions and beliefs of students in relation to CC/GW. In this project we examine this relationship between the political ideologies of U.S. college students and their CC/GW attitudes. Through this, we are able to gain insights into the inability of the U.S. to come to a consensus regarding CC/GW, in particular due to the significant wedge between various segments of the political and CC/GW perceptual landscape. Further understanding of this wedge will elucidate current problems in developing CC/GW policy in both the international and intra-national realm. Understanding these problems will help pave the way towards more effective policies.

O30 Regulations that affect organic farming in Wisconsin
Student Author: Michael Spoon
Institute: UW-Parkside
Faculty Sponsor: Ross Astoria
Hickory, 2:30-2:45 pm

Our project is to analyze and discuss the economics and regulations that affect organic farming in Wisconsin.

O31 Intergenerational Investigation with High School Art Students
Student Authors: Alison Bailey, Kelley Morrison
Institute: UW-Whitewater
Faculty Sponsor: Teresa Faris
Poplar, 1:30-1:45 pm

Our interest in working creatively with high school students began last spring when we were asked to talk on a panel concerning working with and teaching the younger generation. We visited two high schools and asked art students to complete a questionnaire regarding their knowledge of art, feminism, and other current political issues. We found that these students know little about what is happening in the world and they have become so immersed in technology that they lack basic problem solving, hand, and communication skills. We plan to work more intimately with high school students by splitting them into small groups to create a piece of art using metal as the primary medium. Working in metal will help them build problem solving and hand skills while also helping them to express their views and understandings of these topics. By working in small groups the students can better develop their communication skills. We plan to visit two high school art classes over the next few months to introduce a project. Our hope is that by working with these students that they can complete a piece of art that broadens their awareness of current issues. Through working directly with high school students we hope to gain a greater understanding of the younger generation and to find out what issues are important to them.

O32 Wang Keping: Art as Revolution
Student Author: Ellen Larson
Institute: UW-Stevens Point
Faculty Sponsor: Cortney Chaffin
Poplar, 1:50-2:05 pm

During the Cultural Revolution, art in China was not a means for artistic expression, it was a means for state control of the arts. Its sole purpose was as a visual embodiment for the purity and legitimacy of the communist ideology, and as a catalyst for the cult of Mao. Chinese artist Wang Keping’s (born 1949) post-Cultural Revolution work, and his involvement in the avant-garde Stars Art Society, represent a watershed moment in contemporary Chinese art history. Wang’s work drew on his own personal experiences during the Cultural Revolution (1966-1976), and presented a newly expressive critique of Mao Zedong (1893-1976) and Cultural Revolution policies. Such criticism had not been possible in the Cultural Revolution era. For the first time since the Cultural Revolution, Wang’s work criticized Mao publically. Wang’s seminal works from this period greatly influenced later stylistic movements and representations, founding the contemporary Chinese artist world.

O33 Japanese Contemporary Classical Saxophone Music
Student Author: Emily Van Veen
Institute: UW-Whitewater
Faculty Sponsor: Matthew Sintchak
Poplar, 2:10-2:25 pm

Many Japanese composers have written music for the saxophone in classical settings since the 1980’s. The saxophone in Japan has taken a prominent role in the international music scene. This study examined the history of classical saxophone in Japan and the differences in compositional style among Japanese composers. The study began with a broad survey of Japanese classical pieces, before selecting three that represented different styles of concert music. The pieces I selected were Fuzzy Bird Sonata by Takashi Yoshimatsu, Paganini Lost by Jun Nagao, and Night Bird by Karen Tanaka. I prepared these works for a public recital in October and recorded them in November 2011. The preparation of these pieces deepened my
understanding of the differences in compositional style among Japanese saxophone composers (e.g., their melodic and harmonic languages, the incorporation of jazz elements, the use of extended techniques, and instrumentation). I gained invaluable investigative skills from researching these composers and pieces, and the experience of performing and recording this music gave me more knowledge of and familiarity with performance and recording situations. During this project, I collected and examined elements from a relatively new and little-studied style of music. In my opinion, during the last thirty years, this genre seems to have adopted elements of Western art music instead of using traditional Japanese influences. I anticipate the decrease in distinction between Japanese saxophone compositions and Western saxophone repertoire to continue as time progresses.

O34 Francis Scott Key and the Defense of Fort McHenry
Student Author: Sean Mobley
Institute: UW-La Crosse
Faculty Sponsor: Patricia Turner
Poplar, 2:30-2:45 pm

As September of 1814 dawns, the War of 1812 isn’t looking good for the United States. After burning Washington, D.C. to the ground, the British forces set their sights on Baltimore, Maryland. As the British fleet descends on the city, a young American lawyer named Francis Scott Key is on an official mission of parley to the Imperial Navy to secure the release of a political prisoner. While on board the British ships, however, the fleet unleashes a powerful, 25 hour bombardment on Fort McHenry, the city’s bastion of defense. Key, powerless, looks on at the destruction. Caught up in the confusion of the battle, Key turns to writing a poem...a poem which is destined to become the National Anthem of the United States. Who was Francis Scott Key? How did he end up in Baltimore Harbor on this fall evening? And how did Key’s firsthand account of that battle become the most important poem in American History? This documentary short sets out to answer these questions, shot on location in Baltimore and Annapolis, Maryland and Washington, D.C. with the cooperation of the National Park Service, United States Naval Academy, St. John’s College, and the University of Wisconsin - La Crosse.

O35 Parkside Academic Resource Center
Student Authors: Khanh Dang, Robyn Fredericks, Jeremy Eppler, Jeremiah Jensen
Institute: UW-Parkside
Faculty Sponsor: Abey Kuruvilla
Alumni, 1:30-1:45 pm

As the semester progresses, Group seven will be focusing on operations management issues throughout the Parkside Academic Resource Center. Also known as the University of Wisconsin-Parkside Tutoring Center, we will be dealing with scheduling operations and will research how to make schedules more efficient and effective to the students who use this resource. Because the tutoring center has three main functions: general subject tutoring, writing tutoring, and mathematics tutoring, we will be focusing on finding the flaws in these three areas so that students and available tutors are best able to match their schedules with times that do not conflict with classes. Furthermore, we will gather perspectives from other private colleges, public universities, and technical colleges through the use of benchmarking. By comparing these resources, we will be further able to adapt the University of Wisconsin-Parkside Tutoring Center into a highly efficient resource center for students. Because the Parkside Academic Resource Center is seeking to implement a new software program for which students and staff members must log in and out of and schedule appointments, we are also seeking to develop methods to aid in the training of front desk staff that use this program. By developing an effective training approach, this will more than likely eliminate bottlenecks before they exist.

O36 Business Ethics: Optimization and Welfare
Student Author: Joshua Frazier
Institute: UW-Parkside
Faculty Sponsor: Christopher Hudspeth
Alumni, 1:50-2:05 pm

Rational choice theory necessitates business to maximize profits. However maximization of profits accelerates business towards immoral practices. Maximization of profits accelerates business towards immoral practices. Optimization instead of maximization ought to be the result of rational choice; prompting morality and sustainability. Furthermore, business executives should act from a moral consideration that being Utilitarianism. Their main concern ought to be improving society, concluding that business existence ought to be to provide welfare. Optimization and sustainability are the obvious rational choice after discussing Thomas Hobbes
and Garrett Hardin. This goal is supported by an ethical rationale stemming from John Stuart Mill's Greatest Happiness Principle. Mill's Principle advances the idea that the role of business and executives is to improve society. Starting the discussion with Hobbes State of Nature, pure competition is discussed as well as its faults. Next, the Tragedy of the Commons sustains the notion that optimization is far more beneficial to industry than maximization. Concluding with rational choice, we move into a moral stance for executives to follow. Utilitarianism promotes business to generate society's improvement and therefore overall happiness. Through existing to provide the nation, business has the greatest opportunity to promote societal improvement. I concluded that a change must be had in our current acceptance of business practices.

O37 Describing Dwight: Examining Levels of Abstraction in Written and Spoken Language
Student Author: Austin MacKenzie
Institute: UW-La Crosse
Faculty Sponsor: Alexander O'Brien
Alumni, 2:10-2:25 pm
Are people inherently more likely to use concrete terms, like “hit”, more often while speaking and abstract terms, like “attack”, more often while writing? Abstraction is the level of detail inherent in word choice. Stating that one individual hit another, it provides much more detail than stating that one individual attacked the other. Such a simple change could have drastic consequences in criminal trials, doctor/patient interactions, classroom instruction, and many other situations. The Linguistic Category Model, developed by G. R. Semin and K. Fiedler in 1988, is a commonly used model of abstraction in social psychology. Though usually employed to examine in-group/out-group behavior, the model is equally valid in any measure of language abstraction. Yet no studies have examined the effect of communication channel on abstraction. To determine if there is any significant difference in abstraction level between written and spoken messages, 25 students from the University of Wisconsin-La Crosse viewed a short clip of the television series The Office and provided either a written or spoken description of the character Dwight. Each report was coded using the Linguistic Category Model and analyzed to determine its average level of abstraction. A t-test was performed to determine that the mean average abstraction level of descriptions was higher in the written condition than in the spoken condition, t (23) = -3.604, p = .001. Since abstraction is a measure of implicit detail, these findings indicate that participants in the spoken condition may have actually been experiencing a more concrete, detail-rich thought process.

O38 Classical Rhetoric and the Film Thank You For Smoking
Student Author: Ariel Kraemer
Institute: UW-Stout
Faculty Sponsor: Daisy Pignetti
Alumni, 2:30-2:45 pm
Is Truth an absolute single fact, or a tool to be manipulated by speakers, argumentative sorts and rhetoricians? I posit that Truth is a fundamental tool of classical rhetoric, as seen in the film “Thank You for Smoking.” Big Tobacco's spokesman Nick Naylor begins to grapple with how he uses Truth in his life and work rhetoric (and how those two separate lives are becoming less and less separated), as he takes on a larger role in parenting his son Joey. How Truth is used, whether “manipulated” as Gorgias’ theory of rhetoric allows or left entirely whole as Aristotle’s theory demands, is only relevant if we first define how Truth is a tool of classical rhetoric.
12th Annual
2012 UW System Symposium for Undergraduate Research and Creative Activity
Poster
Presentation
Abstracts
P1 Exploring Parasocial Interactions in Live Music Performances and the Use of Affinity-Seeking Strategies

Student Author: Mackenzie Hautala
Institute: UW-La Crosse
Faculty Sponsor: Ronda Leahy
Topic: Arts and Humanities

Live entertainment is a major sector of the economy. The world's leading live entertainment and eCommerce company, Live Nation Entertainment, produces over 20,000 concerts annually (Live Nation Entertainment, 2011). Live Nation increased revenue in the first six months of 2011 to $24 billion, a 21% increase compared to the first six months of 2010 (Diamond Hill, 2011). Through this statistic, it is apparent that these concerts attract many audience members. Within these concerts, parasocial interactions may form a perceived relationship between a performer and an audience member. The perceptions, participation, and exposure of the audience member within live music concert setting are influenced by the interactions with the performer. Within these interactions, affinity-seeking strategies may also be used to develop relationships. There has been extensive research on parasocial interactions in the media; however, there has been limited research on the interactions in live performances. Therefore, it is important to further this research to understand parasocial interactions in a different context. This research will explore and aid in a new understanding of parasocial relationships. In addition, it may provide an insight for performers in the ways these interactions influence audience satisfaction. Participants will be surveyed on a live concert experience. The results from these surveys will give an understanding of the perceptions of parasocial interactions between audience members and live musical performers. Specifically, this study will examine the impact of these perceptions relating to audience satisfaction. The research will be conducted in the spring of 2012.

P2 SHIVER: An Immersion into Interactive Art

Student Author: Alyssa Zasada
Institute: UW-Milwaukee
Faculty Sponsor: Colleen Ludwig
Topic: Arts and Humanities

SHIVER is an interactive environment that represents the connection between architecture and the body. It’s a structure with canvas walls and a ceiling containing motion sensors. Water flows down the walls, grasping the contours of the canvas to create intricate rivulets like water on skin. Valves at the top of the walls turn the water streams on and off. The sensors in the ceiling track a visitor’s motion, and the artwork reacts to those movements. The water flows follow a person as he/she moves around the room. When approaching the wall, more streams of water are turned on, and when backing away, there are fewer streams. The sensitivity of the water is the inspiration for the piece’s name; shivering is one of skin’s responses to light touch, air movement, or close proximity to others. The designers made artistic and technical decisions such as having calm white walls, allowing visitors to touch the streams, and letting the sound of the water fill the space. Each decision was meant to contribute to the aim of bridging the gap between body and art and creating an intimacy between SHIVER and the visitor. This study investigates our theory that a relationship emerges from the experience of interacting with this technologically enhanced environment. We created a questionnaire that asked participants to address how they think, feel, and respond when they are inside the artwork. The results suggest a common theme of fascination and relaxation, with the piece being described as playful, engaging, calming, mesmerizing, and soothing.

P3 Leo Kottke Archive Project

Student Author: Jetro Merilainen
Institute: UW-Milwaukee
Faculty Sponsor: John Stropes
Topic: Arts and Humanities

Leo Kottke Archive Project is an online database documenting the career of one of the most important composer/performers of our time. The database includes Kottke’s set lists as well as concert paraphernalia such as concert programs and posters from throughout his career spanning over five decades. Over time this database can be used as a reference when looking for information about how his setlists have evolved over the years. Also the history of a particular composition can be tracked down; when it was included in the set lists and how long it remained there while posters and programs provide valuable information about the venues. This project is, however, more than just a repository. In the emerging field of finger-style guitar this database provides a relevant and valuable resource for a student of this style of music. It makes us understand this music better. In other words it is a project that must be done.
P4 Translating a Cookbook from the Mid-Twentieth Century: the Transition from German to English, and the Effects on One’s Native Language

Student Author: Alexandria Pipitone
Institute: UW-Parkside
Faculty Sponsor: Siegfried Christoph
Topic: Arts and Humanities

Level of education, age, social status, where one lives and dialect, and influence of another language all account for the way one uses language. In turn, this causes language to change. By studying ideographs, paleographic features, etymology, and semantics, we are able to trace these changes in language over time. This project focused on translating a handwritten German cookbook that dates roughly between the years 1933 and 1941. Using a multi-tiered system of transcription, translation, and research, it was possible to make annotations within the text and trace changes in language during this time period. Translating the text revealed not only where the writer who originally wrote the cookbook lived, but also that at some point in time, they immigrated to America. This shows the writer’s transition from German to American English and through this change in language, Anglicisms were formed within their writing.

P5 Isamu Noguchi’s Utopian Landscapes

Student Author: Diana Witcher
Institute: UW-Stout
Faculty Sponsor: Alex DeArmond
Topic: Arts and Humanities

This project tells the story of Japanese-American sculptor Isamu Noguchi and highlights his lesser-known landscape works. Noguchi was an artist of profound integrity and insight. Beginning in 1933, Noguchi created a number of landscapes including playgrounds, monuments and Japanese inspired gardens. He chose landscapes as a medium because of their practicality and as an artistic contribution to society. He was interested in the use and function of sculpture and wanted sculpture to encompass a larger vision and communicate on a grander scale. Moving beyond the limiting tradition of sculpture for the sole purpose of aesthetic, his was a sculpture for the common man. Examination of Noguchi’s work allows artists and the larger community to question the nature and definition of art and design. It is valuable to understand how the quality and availability of public space pragmatically affects our daily lives. Design, successfully integrated into the larger discipline of fine art, becomes a pragmatic and inspirational model for innovation and creativity. Noguchi pointed us to a new way to understand art. His work breaks free of a stagnant aesthetic, bringing a fresh viewpoint to the ancient and profound.

P6 Northern Exposure to Dance

Student Author: Kelly Kachelski
Institute: UW-Whitewater
Faculty Sponsor: Barbara Grubel
Topic: Arts and Humanities

In the far north of Wisconsin lies the community of Land O’ Lakes that has remained unexposed to dance for over the past twenty years. This past summer, in collaboration with LOLA (Land O’ Lakes Arts Alliance) and my mentor, Barbara Grubel, I developed and taught a six-week summer dance program. The goal of this project was not just to expose this community to dance, but to also begin the process of creating a self-sustained program in this area for years to come. This experience provided Land O’ Lakes and the surrounding area with dance classes ranging from ballet, tap, jazz, and hip hop to adult tap and modern for ages three to seventy. Neighboring Land O’ Lakes is the Lac Vieux Desert Reservation in Watersmeet, Michigan. In partnership with two of the reservation’s tribal dancers, I researched aspects of their culture and dance, as well as participated in a traditional powwow. After gaining an understanding of their cultural dance, I then introduced several of the reservation’s youth to elements of jazz and hip-hop dance by providing a dance workshop at the reservation. The community was very satisfied with the program and has asked that it continue in the future. LOLA has found the means to sustain this program through community involvement and various grants. With this dance program, students from UW-Whitewater will be given the opportunity to teach and give Land O’ Lake’s community the chance to express themselves through the art form of dance.

P7 An Introspective Study of the Occupational Safety Profession through a Critical Literature Review

Student Authors: Sarah Neudeck, Max Hey, Matthew Squire
Institute: UW-Whitewater
Faculty Sponsor: Todd W. Loushine
Topic: Arts and Humanities

The American Society of Safety Engineers publishes its flagship journal, Professional Safety, on a monthly basis. This journal has become the primary source for current
safety and health information and provides a forum for ASSE officers to communicate to the constituency. Surprisingly, a comprehensive study of the quality of its contents has never been conducted. Over 25 years of featured articles were assessed with key data points entered into a Microsoft Excel spreadsheet. Approximately 1,350 articles were categorized by subject area, and similar articles within those subject areas were identified and reviewed to compare: objectives, methods of analysis, and conclusions. These results, and author information, were compared over time to determine if: knowledge changed by building from previous work, knowledge changed without building from previous work, or knowledge did not change over time. Some preliminary results showed that advances in knowledge occurred in certain subject areas, but are currently stagnant. In other subject areas, there seems to be no change of knowledge over time, or lack of cited work to build upon. Due to the size and complexity of this study, analysis is ongoing with a goal to provide representative analyses of 5 to 10 subject areas. Preliminary findings provide some indication that the Professional Safety journal needs a standardized method to classify its featured articles and possibly a new assessment methodology that allows comparison to past publications so that articles are based on a verified body of knowledge.

P8 La Musica Lirica: An Operatic Experience
Student Author: Ryan White
Institute: UW-Whitewater
Faculty Sponsor: Brygida Bziukiewicz
Topic: Arts and Humanities

My intentions for this study were to gain vital experience in opera which I would not have otherwise been able to obtain. For my fellowship I attended an opera program June through July of 2011 in Italy, La Musica Lirica. This program provided hands on operatic training, language training, Italian diction training, and the opportunity to start building connections with my colleagues from across the nation and around the world. During my 5 weeks in this program I learned many things. Through my work participating in operas and opera scenes I learned acting skills. Through my vocal lessons and a minimum 8 hours of singing a day I learned better vocal technique, which has continued to blossom since returning. Finally, through the Italian language classes and my diction sessions I've learned the fundamentals of Italian grammar and advanced phonetic knowledge of the Italian language. The program was vital to me because there is nowhere in WI or even the US that I would have been able to achieve all of these goals in 5 short weeks. Also, the knowledge that I obtained through this program is still unraveling itself through my continued lessons. This undergraduate research has provided priceless stepping stones toward my operatic career.

P9 Visual Arts in African American Communities
Student Author: DeJuan Mason
Institute: UW-Whitewater
Faculty Sponsor: Samantah Samreth
Topic: Arts and Humanities

Visual Arts may often be over looked by the African American community as a key factor in cognitive development and superiority. The African American community has been removed from academia in urban and less fortunate minority communities. This may have increased the gap in knowledge and culture between African American and White American visual artists within the age group of six to eighteen. This disadvantage could remain a problem if visual arts are not replenished in the academic curriculum. Art in all forms, especially visual, has taken the community by its ear. They are in every aspect of self-impression and personal image, perception, our ambition, and inhibition. A self-designed survey will be utilized to analyze whether direct influences can be traced. This research analyzes how African American children and young adults have been influenced by African American visual artists who were part of the Harlem Renaissance.

P10 Connecting the dots: Integrating local food in Western Wisconsin
Student Author: Christine Ostendorf, Allison K. Mentink
Institute: UW-Eau Claire
Faculty Sponsor: Mary K. Canales
Topic: Social Sciences and Anthropology

Wisconsin ranks 24th in the nation for overweight or obesity. The Wisconsin Department of Health Services reports that 65% of adults are overweight or obese and 46% of women participating in the WIC nutrition program are overweight or obese prior to pregnancy. These obesity rates place our population at risk for chronic diseases such as high blood pressure, type 2 diabetes, and cardiovascular disease. Research links obesity with increased consumption of energy-dense, nutrient poor foods high in saturated fats and sugars. Efforts to address the growing obesity epidemic include replacing these unhealthy foods with local food products.
This study examines the impact of locally-supported agriculture in Western Wisconsin, from perspectives of hospital and school administrators, farmers, food cooperative staff, and restaurateurs. Employing ethnographic research methodology, we conducted 24 individual interviews to identify facilitators, barriers, and lessons learned for integrating local food into larger institutions. To successfully integrate local food, existing barriers such as transportation and distribution, corporate food service contracts, hierarchical versus horizontal decision-making, lack of staff involvement, and additional time and effort must be addressed. To overcome these barriers, facilitators such as community support, building and maintaining strong relationships, recognition of the need to begin slowly and carefully, and commitment throughout the organization need to be enhanced. Valuing of local food is essential for any integration to occur. Connections between producers, buyers, and distributors and an understanding of their unique roles are all needed for local food to become part of an organization’s menu.

P11 Stress and Social Support Among College Students
Student Authors: Rachel Prokop, Stephanie Lynch
Institute: UW-Green Bay
Faculty Sponsor: Dean VonDras
Topic: Social Sciences and Anthropology

Previous research suggests that people who report high levels of social support are more likely to report lower levels of perceived stress. This study examines the relationship between social support and stress. Three hundred seventy-five students from the University of Wisconsin-Green Bay participated in this investigation. The majority were female Caucasian students between the ages of 20 and 22. Participants completed a survey about their perceived stress, their level of depression, their amount of social support, and their preferred coping techniques. Results show that students who perceive higher levels of social support experience less stress. Participants with high perceived stress view themselves to be less successful at completing functional behaviors than students in their major and the average college student at UWGB. Participants indicated they would be most willing to participate in exercise classes or watch funny movies as ways to cope with stress.

P12 Approaches the UW-System Employ to Recruit Underrepresented Faculty and Staff
Student Author: Shaquina A. Smith
Institute: UW-Whitewater
Faculty Sponsor: Samantha Samreth
Topic: Social Sciences and Anthropology

This study examines the levels of underrepresented faculty and staff at four different universities, and the strategies used to recruit and retain them. Underrepresented is defined as Women, African American, South East Asian (Cambodians, Hmong, Laotian, Vietnamese), Latinos, and Native American. Interviews and surveys will be used to gather the current and evolving statistics representing faculty in this category. Preliminary results have shown that, although effort has been put forth to recruit underrepresented faculty, it is not enough to show a significant increase in diversity. Factors contributing to the low percentage of underrepresented faculty and staff can be the location of the university or no implementation of strategies that are already available. Implementing or enforcing current strategies to diversify a university will increase the levels of underrepresented faculty and staff. Strategies such as workshops analyzing how to improve the process in order to increase diversity, or learning the knowledge and skills of intercultural competence, can be gratifying strategies, depending on how they are executed.

P13 The Development, Management, and Impact of the Atheist Identity
Student Author: Julie Krueger
Institute: UW-La Crosse
Faculty Sponsor: Carol Miller
Topic: Social Sciences and Anthropology

Atheists have been denied a voice within sociological literature; as such, our knowledge of atheists is limited and superficial. To obtain a deeper, more comprehensive understanding of the American atheist, I will utilize interview methodology to answer the following research questions: How and why do these individuals claim their atheist identity, how do they manage that identity in interpersonal relations and for the larger society, and what are the consequences of accepting that identity? The results of this research will provide insight into the development, management, and impact of the atheist identity.
P14 An Analysis of Nineteenth Century Ceramics from the Vieau Site at Franksville, Wisconsin
Student Author: Riane Nourigat
Institute: UW-Parkside
Faculty Sponsor: Robert Sasso
Topic: Social Sciences and Anthropology
The Vieau site is an early nineteenth century fur trade post located in present day Franksville, Wisconsin. Jacques Vieau, Sr. established the post by 1819 and it remained in operation by two of his sons until 1837. After that time, it became the farmstead of the Benjamin Reynolds family. This analysis deals with nineteenth century earthenware ceramics that were recovered at the site during excavations in the summers of 2009 and 2011. The ceramics were classified and analyzed by decorative types. In addition, measurements of specific pieces were taken to gather economic scaling information on the CC (Creamware) index values. Hopefully, this will provide insights into the socio-economic status of the site's historic inhabitants.

P15 Attitude Changes toward Tobacco and Marijuana in Students’ First Year of College
Student Author: Mara Stewart
Institute: UW-Madison
Faculty Sponsor: Megan Moreno
Topic: Social Sciences and Anthropology
Nearly one-third of students have tried tobacco and over one-third have tried marijuana before college. The purpose of this study was to understand how students’ attitudes toward tobacco and marijuana shift after entering college. 339 participants from two universities were interviewed the summer before college and 109 had follow-up interviews during their first semester. Attitude was measured on a 1 to 5 scale with 5 most positive. Results showed that participants’ attitudes towards tobacco did not change (1.4 to 1.6) but their attitudes towards marijuana became more positive (2.51 to 2.73). Overall, Wisconsin students had more positive attitudes towards both substances (tobacco 1.13 marijuana 1.97) than Washington participants (tobacco 0.70 marijuana 1.83). These results suggest that students’ attitudes towards marijuana change in college but their attitudes towards tobacco do not.

P16 The Relationship between Private Vehicle Ownership and Quality of Life for Low-income Households
Student Author: Shiloh Herrem
Institute: UW-Stout
Faculty Sponsor: Susan M. Wolfgram
Topic: Social Sciences and Anthropology
Transportation difficulties are consistently cited by low-income individuals as an obstacle to achieving financial sustainability (Anderson & Van Hoy, 2006; Brabo, Kilde, Pesek-Herriges, Quinn, & Sanderud-Nordquist, 2003; Fletcher, Garasky, Jensen, & Nielsen, 2010; Garasky, Fletcher, & Jensen, 2006; Lichtenwalter, Koelske, & Sales, 2006). This non-random pilot study investigated whether reliable, private vehicle ownership improved the quality of life for low-income households by surveying participants of a program in west-central Wisconsin that assists low-income individuals with purchasing reliable vehicles. Survey data was analyzed using frequencies. Results indicated quality of life was improved by owning a reliable vehicle. Future research would benefit from a larger sample that generalizes based on immediate environment, takes into account the psychological effects of barriers on quality of life, and utilizes qualitative and/or longitudinal studies.

P17 The Impact of the USDA Fresh Fruit & Vegetable Program on Children’s Consumption and Other Related Behaviors
Student Authors: Lainee Hoffman, Judy Dickinson, Stephen Fisher, Stephanie Mabrey
Institute: UW-Eau Claire
Faculty Sponsor: Eric Jamelske
Topic: Social Sciences and Anthropology
Most children in the U.S. consume less than recommended amounts of fruit and vegetables. Experts and advocates recognize the school environment as a fundamental setting for providing children access to nutritious food and opportunities to learn about the importance of healthy eating. The United States Department of Agriculture (USDA) initiated its Fresh Fruit and Vegetable Program (FFVP) in 2002 as part of a broad effort to address poor nutrition and rising obesity rates among children. The research literature examining the effectiveness of the FFVP is small and developing. Given the sizeable resources committed to funding the FFVP, more information is needed to understand the successes, limitations, and potential in meeting its stated goals. In this study, we investigate the impact of the 2009-10 FFVP on intake and other behaviors...
related to fruit and vegetable consumption among Wisconsin 4th and 5th grade students. Consumption of fruit and vegetables served through the FFVP was recorded by teachers over 95 days. Analyses of other behaviors related to fruit and vegetable consumption compared pretest and posttest data from an 8 item survey between program and control students. We find positive effects on both student intake and other behaviors related to eating fruit and vegetables.

**P18 Meat as Metaphor: Sexual Politics and Food in Ruth Ozeki’s My Year of Meats**

Student Author: Lindsay Brookshier  
Institute: UW-Manitowoc  
Faculty Sponsor: Jessica Van Slooten  
Topic: Social Sciences and Anthropology

Feminism and the meat industry: a paradox or an unknown connection? These two concepts mold together in the novel My Year of Meats by Ruth Ozeki. She highlights women’s rights issues while adding a metaphorical approach to women and the meat industry. My feminist literary analysis of My Year of Meats illustrates Ruth Ozeki’s use of meat as a metaphor for sexual politics, gender roles, female objectification and other negative issues caused by a patriarchal society. In my independent research I found that women are often seen in the same light as animals, thus confirming the metaphor Ruth Ozeki uses of the meat industry representing society and women. Ozeki’s use of meat as a metaphor is the running central theme to the novel; she connects Japanese and American culture together as she shows that each experience different variances of gender inequality. The objectification of women can lead to significant mental disorders as well as physical and sexual violence as Ruth Ozeki shows in the development of her lead female characters. Ruth Ozeki has created a fiction novel but as I illustrate in my poster, these issues are clearly nonfiction.

**P19 Using Incentives to Influence Children to Bring Fruit and Vegetables from Home for School Snack**

Student Authors: Kevin Reinhold, April Ross, Laurelyn Wieseman  
Institute: UW-Eau Claire  
Faculty Sponsor: Eric Jamelske  
Topic: Social Sciences and Anthropology

Most children in the U.S. consume less than recommended amounts of fruit and vegetables. Experts and advocates recognize the school environment as a fundamental setting for providing children access to nutritious food and opportunities to learn about the importance of healthy eating. The United States Department of Agriculture (USDA) initiated its Fresh Fruit and Vegetable Program (FFVP) in 2002 as part of a broad effort to address poor nutrition and rising obesity rates among children. Previous research in Wisconsin found increased intake due to the FFVP, however even after six months of participating in the program, students did not bring fruit and vegetable snacks from home to eat on days when one was not provided for free through the FFVP. In this study we investigate whether incentives such as toy prizes, reminders and positive role modeling can influence children to bring fruit and vegetables from home to eat on days when they were not served one for free. Teachers exposed students to these incentives and recorded the frequency with which they brought and ate fruit and vegetables from home over 53 non-FFVP days. We find incentives to be very successful in influencing student behavior in this context.

**P20 Ozaukee and Washington County Draft Riots**

Student Author: Dion Perego  
Institute: UW-Milwaukee  
Faculty Sponsor: Rachel Buff  
Topic: Social Sciences and Anthropology

The research on Central European immigrants in the immediate Milwaukee area and their politics leading up to the civil war covers an area that has barely been explored and I believe to be an important piece of local history. So far my research covers a series of draft riots and the reasons behind them in a primarily republican state, in that era, and provides insight on the issue. My method of research mainly involves going to various archives in the area and finding new information. It is the ultimate goal of this project to provide new insight into a little covered historical event that is important to local history.

**P21 Buckles, Buttons, And Jewelry – Pieces of Everyday Life Left Behind at the Vieau Fur Trade Post, Archaeological Site in Franksville, Wisconsin**

Student Author: Julia Bizub  
Institute: UW-Parkside  
Faculty Sponsor: Robert Sasso  
Topic: Social Sciences and Anthropology

Ongoing archaeological research at the Vieau trading post since 2002 has yielded numerous artifacts of personal adornment. The current research is focused on identifying those items to provide a greater contextual understanding of the people involved in the fur trade here and the subsequent early Euro-American farmer-
settlers at the site of this historic post. The post was in operation at the end of the Potawatomi residence in Wisconsin and has the potential to offer a unique view into the French-Canadian-American fur trade and the relations between the Potawatomi, the settlers, and the government. Objects involved in this study are being identified where possible by material, construction, maker's mark, style, and typology in an attempt to ascertain place of manufacture, socioeconomic value, and gender of wearer or user.

**P22 The Effects of Online Versus In-Person Administration of Behavioral Activation Task Assignments**

Student Author: Joseph Murphy  
Institute: UW-Milwaukee  
Faculty Sponsor: Jonathan Kanter  
Topic: Social Sciences and Anthropology

A growing body of literature specifies the importance of completing tasks assigned by practitioners in therapy (Bryant, Simons, & Thase, 1999), and research suggests that completion of assigned tasks may be a significant predictor of client outcomes (Harmon, Nelson, & Hayes, 1980). The current study administered the same BA task assignment and completion protocol in in-person and online formats, to determine the viability of online administration compared to in-person administration. Furthermore, it was hypothesized that the in-person administration condition would demonstrate higher rates of homework completion due to the effects of the live relationship which would produce a sense of accountability in the participants. Twenty-one (21) participants participated from the University of Wisconsin-Milwaukee and were randomly assigned to the online or in-person protocol, created their own weekly goals and followed the protocol for three weeks. Completion of up to six weekly short-term and long-term weekly goals were tracked using a validated homework completion scoring system from 0 (did not attempt) to 4 (completed)(Busch, Uebelacker, Kalibatseva, & Miller, 2010). The in-person protocol produced significantly higher mean homework completion rates (M 3.80, SD .15) than did online (M 3.00, SD .60), t (15.92) -4.72, p < .001 (unequal variances assumed). In addition, using the newly developed Measure of Accountability (MoA), the in-person condition produced significantly higher levels of accountability (M 35.00, SD 3.32) than did online (M 28.57, SD 6.30), t (18.85) 3.06, p .006 (unequal variances assumed).

**P23 Media Exposure and Perception of Guilt in Highly Publicized Court Trials**

Student Author: Christina Daniels  
Institute: UW-Parkside  
Faculty Sponsor: Xun (George) Wang  
Topic: Social Sciences and Anthropology

The right to a fair trial may be a constitutional guarantee, but there is no guarantee when it comes to public opinion. Defendants, whether guilty or innocent, will face judgment by the public at large. Consequently, a mere false accusation can result in a defendant being perceived as guilty even if the outcome of a trial proves otherwise. This preliminary study explores the relationship between the level of media exposure and the general perception of a defendant, as well as whether or not the defendant is perceived as guilty for those highly publicized trials. 30 participants were randomly selected to participate in a self-administered survey consisting of 23 questions about their media exposures and perceptions about four high-profile trials. The highest reported rate of guilt for a defendant was for Dr. Conrad Murray. 63.3 percent of respondents felt he was guilty, though 53.3 had a neutral perception or no opinion about him generally. Despite that Casey Anthony was found not guilty; she received the second highest perception of guilt rating with 60.0 percent and the highest negative perception, also at 60.0 percent. Dominique Straus-Kahn, whose charges were dropped, was perceived as guilty by 40.0 percent of respondents with 33.3 reporting a negative overall perception of him. Amanda Knox, also found not guilty at trial, received the lowest reported perception of guilt at 30.0 percent. Only 23.3 percent of respondents reported a negative perception of Knox. The implication is clear that media should take more responsibility about coverage of those cases.

**P24 ERPs during Emotion Regulation Task Affected by Symptoms of Dissociation in PTSD Patients**

Student Authors: Kimberly Lewis, Jordan Robinson  
Institute: UW-Milwaukee  
Faculty Sponsor: Christine Larson  
Topic: Social Sciences and Anthropology

Previous literature has suggested that one's ability to properly regulate emotion can be affected by disorders such as PTSD. Dissociation, a common symptom of PTSD, is also a factor in the emotion regulation process. This study examined Event-Related Potentials (ERPs) to help assess differences in emotional reactivity and regulation to negative images as a function of dissociation.
in a trauma-exposed sample. Twenty-four participants that experienced an A1 criterion event consistent with a PTSD diagnosis were recruited. Participants were asked to view a series of negative and neutral visual stimuli while engaging in an emotion regulation task while EEG recordings were taken. Following this task, participants filled out a series of questionnaires, including measures that specifically inquired about dissociative symptoms and experiences. P3 amplitude was defined as mean signal amplitude 300-700ms post picture onset. We found that P3 amplitude at POz when attempting to increase or decrease emotional responses to the unpleasant pictures were significantly associated with dissociation as assessed by the Dissociative Experiences Scale (DES). Higher DES scores were positively correlated with increased ERP’s for the task in which participants were to decrease negative emotion to unpleasant images (r 0.467, p< 0.05), and increase negative emotion to unpleasant images (r 0.532, p<0.01). Additionally, higher DES scores were correlated with higher ERP’s during passive viewing of negative photos in the decrease (r 0.338, p .098) and increase conditions (r 0.507, p<0.05). These ERP findings would suggest that those with high levels of dissociation are generally more reactive to the negative stimuli in their environment.

P25 Understanding Young Adults' Perceptions of Self-Harm

Student Author: Kayla Kasten
Institute: UW-Oshkosh
Faculty Sponsor: Erin Winterrowd
Topic: Social Sciences and Anthropology
Understanding Young Adults' Perceptions of Self-Harm

P26 Analysis of Container Glass found at the Vieau Trading Post

Student Author: Mary Lentz
Institute: UW-Parkside
Faculty Sponsor: Robert Sasso
Topic: Social Sciences and Anthropology

The Vieau site was a trading post at Franksville, Wisconsin, established by Jacques Vieau Sr., by 1819. The post was operated by his sons Jacques Jr. and Louis, from at least 1830 until 1837. It was a trading post developed to trade a variety of goods with the inhabitants of the adjacent Potawatomi village. After the post was abandoned, it became the farmstead of Benjamin Reynolds. Many pieces of container glass have been unearthed at the Vieau site, most of which represent bottle or drinking glasses. Many different colors and shades were found. I have cleaned and cataloged these specimens, identified their locations, and even pieced a few pieces back together. Some bases from Pontil bottles were found. Pontil bottles were made between the mid 1840’s-1860’s, before the Civil War. Also found at the site were other bases, necks, shoulders, and openings.

P27 Perceived Responsibility of Bullied Victims & Sex Differences among College Student's Just World Beliefs

Student Author: Jessica De Larwelle
Institute: UW-Oshkosh
Faculty Sponsor: Erin Winterrowd
Topic: Social Sciences and Anthropology

Research has examined children's beliefs about bullying. However, little research has examined college students' beliefs about bullying experiences. Researchers suggest relational bullying is highly prevalent among college students and is more harmful than physical bullying. The current study examines college students’ just world beliefs, relational bullying experiences, religious participation, and perceived victim responsibility. It is hypothesized that college students are victims of relational bullying. Further, it is expected that college students with a strong just world belief will perceive the victim to be responsible for the bullying act. Preliminary results (n 95) suggest college students are victims of relational bullying. In addition, it was hypothesized that college students’ religious participation would be related to strength in just world beliefs. However, preliminary results suggest religious participation and strength in just world beliefs are not correlated. Further analysis will investigate whether gender of participant and gender of the victim impacts willingness to intervene, responsibility of the bullied victim, and overall perceptions of the victim. This research will contribute to the literature regarding aggressive behaviors (i.e. bullying) on college campuses and stimulate development of effective on-campus services dedicated to bullying issues.
P28 Typology of ‘Lone Wolf’ Terrorists
Student Author: Michelle Merkovich
Institute: UW-Platteville
Faculty Sponsor: Sabina Burton
Topic: Social Sciences and Anthropology

This research looks at the characteristics of ‘lone wolf’ terrorists in order to determine a profile that could be used in prevention efforts. The different types of ‘lone wolf’ terrorists will be discussed as well as their methodology and motives. The prevalence of ‘lone wolf’ terrorists will also be addressed.

P29 Parental attitudes towards children with Perinatal HIV/AIDS
Student Authors: Olivia Schuenke, Houa Lee
Institute: UW-Stout
Faculty Sponsor: Susan Wolfgram
Topic: Social Sciences and Anthropology

Living with HIV/AIDS is a unique problem because patients have to deal not only with the disease itself but also with reactions from their environment (Macek & Matkovic, 2005). The purpose of our study is to combat any biases about perinatal HIV/AIDS, educate others about transmission, and promote tolerance and acceptance towards people who have the virus. This nonrandom pilot study will be investigating parental attitudes at a university child care center, about their child having contact with a child who has perinatal HIV/AIDS. Informed by literature and Ecological Theory, we hypothesized that this sample of parents of school-aged children would be negatively biased towards persons with perinatal HIV/AIDS and would not want their child having contact in the classroom. Survey data will be statistically analyzed using frequencies, mean comparisons, correlations, as well as a reliability analysis. Implications for practitioners and implications for future research will be discussed. *Key Words: children with HIV/AIDS, HIV, AIDS.

P30 Effects of Obesity on the Construction Industry
Student Author: Sampson Hauser
Institute: UW-Whitewater
Faculty Sponsor: Sang Choi
Topic: Social Sciences and Anthropology

Medical costs of obesity in the United States are continuing to grow; in 2008 the cost totaled about $147,000,000. These problems not only are affecting the United States as a whole but, also the construction industry, 43% of the construction industry is considered to be obese as compared to 35% of all workers. Due to the growing proportion of obesity in the construction sector, it is vital to understand the trends and impact of obesity on the industry. The objectives of this study are to identify the effects of obesity on the construction industry and to justify a need for a health and wellness program for a company. To date, comprehensive literature reviews have been completed and a pilot survey has been successfully developed. The draft questionnaire included: (1) facts about the companies safety program, (2) facts about the companies wages and benefits, (3) facts about the companies health and wellness programs. Data from the pilot study will give me a clear direction in creating a final survey. A final revised questionnaire survey will be sent out to different construction companies (targeting a total of 50 firms) in Wisconsin. The questionnaire will be distributed over a time period of 5-6 weeks. I will be e-mailing the survey to companies and having them filled out by a safety manager or director. Overall, this study could assist construction companies in lowering injury/illness rates, while increasing their productivity, and decreasing costs by understanding why they need to institute a health and wellness program.

P31 Main Factors Affecting the Attitudes toward the Dream Act
Student Author: Kathy McPhee
Institute: UW-Parkside
Faculty Sponsor: Xun (George) Wang
Topic: Social Sciences and Anthropology

Children of illegal immigrants are caught in a system where there is little, if any, means for legalizing their status. They face an uncertain future after graduating high school because of their inability to continue their education, work, or join the military. The Development, Relief and Education for Alien Minors Act of 2010 (DREAM Act) is the most recent failed federal legislative attempt to provide a path to citizenship for children of illegal immigrants – either through obtaining a postsecondary education degree or through military service. This research examines the factors that contribute to the attitudes toward Dream, a policy that aims to benefit young immigrant students. Using a random sampling procedure, I selected 30 residents from two local cities in Southeast Wisconsin to participate in a self-administered survey. The preliminary data analyses show (1) less-skilled workers are more likely to support restrictive immigration policies, (2) the level of political
activity and party affiliation has no bearing on Dream Act support; and (3) perceived cost of immigration is the single most significant factor of restrictive immigration support, and (4) majority of participants support the Dream Act.

P32 The Relationship between Gender and Perceived Cyber-bullying Behaviors

Student Authors: Ashley Weibel, Jared Fern
Institute: UW-Stout
Faculty Sponsor: Susan Wolfram
Topic: Social Sciences and Anthropology

Technology has changed the way people live, work, and socialize, including the way people bully one another (Akbulut, Sahin, & Eristi, 2010). According to Walker, Sockman, & Cohen (2011), the prevalence of cyber-bullying in our society has brought the long-lasting detrimental effects on victims to the forefront. Feelings of anxiety, depression, and suicidal thoughts have been described by victims of bullying (Walker et al., 2011). This cross-sectional research investigated gender differences in the perception of cyber-bullying behaviors by surveying 140 college students at a small Midwestern University. Using the Symbolic Interaction Theory, we hypothesized that male and female college students will interpret cyber-bullying behaviors differently because genders are socialized differently (Strong, DeVault, & Cohen, 2008). Survey data was statistically analyzed using frequency distribution, mean comparisons, correlations, and a reliability analysis. Results indicated significant gender differences in four out of the ten variables. Implications for practitioners will include creating effective education and prevention programs which take into consideration the wide range of cyber-bullying behaviors and the gender differences in the perception of these behaviors. Future research would benefit from a large, randomized national sample.

P33 The Male Inmate Perspective on Jail Parenting Programs

Student Authors: Leah Hoffman, Megan Kelly
Institute: UW-Stout
Faculty Sponsor: Susan Wolfram
Topic: Social Sciences and Anthropology

Due to the lack of research regarding what would be beneficial to male inmates in jail parenting programs, it would be valuable to find what inmates believe would be most helpful for them to become a better parent. About 85% of inmates with children want to learn how to better their parenting skills and increase their visitations (Griswold & Pearson, 2005). This nonrandom pilot study investigated the perceptions of 40 male inmates on jail parenting programs in a western Wisconsin county jail. It was hypothesized that there would be a relationship between inmates wanting to learn how their parents’ discipline has impacted their parenting with the desire to learn how to discipline without spanking, understanding the impact drugs and alcohol have on parenting, and how to better communicate with their children. Survey data was statistically analyzed using frequency distribution, mean comparisons, correlations, and a reliability analysis. Results supported our hypotheses. Implications for practitioners include Jail Program Directors utilizing this data when planning a jail parenting program. Future research would benefit from a large, randomized national sample.

P34 The Internet as Radicalization and Terrorism Recruitment Tool

Student Author: William Eichholtz
Institute: UW-Platteville
Faculty Sponsor: Sabina Burton
Topic: Social Sciences and Anthropology

The project will focus on the role of the Internet as a radicalization, recruitment, and socialization tool; the Internet as a virtual terrorist classroom and terrorism community as well as a facilitator of a new powerful identity as Jihadist terrorists. The project will also analyze common risk factors or personality predispositions that turn normal U.S. citizens into terrorists who represent a particular political ideology.

P35 Analysis of Water-Screening Samples from the 2011 Vieau Archaeological Site Excavations

Student Author: Heather Porter
Institute: UW-Parkside
Faculty Sponsor: Robert Sasso
Topic: Social Sciences and Anthropology

The Vieau site was a historic fur trade post run by two French-Canadian-American brothers to serve the Potawatomi village at Franksville, WI, from approximately 1820-1838. The post later became a nineteenth century farmstead. A portion of the sifted material from each level of each unit that was excavated at the Site 2011 was water-screened to recover tiny fragments that might have passed through the ¼ inch mesh. After the water-screened material was dried, the contents were
examined in the summer and fall of 2011. We were hoping to find small pieces of glass, ceramics, bone, metal, and, if we were really fortunate, glass beads. The water-screening process revealed many small pieces of glass, ceramics, bone, and metal. For the most part, the water-screening process reflected the same types of larger artifacts found in the corresponding unit levels.

P36 An Analysis of Faunal Remains and Evidence of Human Modification in the Assemblage Recovered from the Vieau Archaeological Site
Student Author: Kevin Ruiz
Institute: UW-Parkside
Faculty Sponsor: Robert Sasso
Topic: Social Sciences and Anthropology
The purpose of this research is to identify and analyze the faunal remains recovered from the Vieau site in Franksville, WI. The site represents an early 19th century fur trade post and Potawatomi village that became a farmstead in 1838. This faunal analysis involves the identification of species within the assemblage as well as the presence of human modification of the remains. This information was determined using a variety of identification materials specific to archaeology as well as materials aiding in the physical identifiers of fracture morphologies typical of human modification in conjunction with physical examination of the collection. While fracture types were helpful in the identification of human modification, the most obvious indicators were the artifacts displaying tool marks or partial pieces of the tools into which the bone was fashioned. Ultimately more than 10 different species were identified among the collection and more than 7 species represent species that would be typical of sources for food or use for tools giving us a better understanding of the human presence at the Vieau site.

P37 The Relationship between Gender & Contemporary Dating Behaviors
Student Authors: Megan Jacoby, Heather Meliska
Institute: UW-Stout
Faculty Sponsor: Susan Wolfgram
Topic: Social Sciences and Anthropology
What are contemporary dating practices amongst young adults? It is a common belief today that college men typically prefer hooking up over traditional dating (Bradshaw, Kahn, & Saville, 2010). This nonrandom pilot study investigated attitudes about contemporary dating behaviors by surveying male and female college students at a small Midwestern college. Informed by literature and Feminist Theory, we hypothesize that males will be more likely to accept less traditional practices and females will prefer to be in a more traditional committed relationship. Survey data will be statistically analyzed using frequencies, cross-tabulations, mean comparisons, independent t-tests, and a reliability analysis. Implications for practitioners and implications for future research will be discussed. *Key Words: college dating relationships, dating, hooking up

P38 Family Stability in Hard Economic Times
Student Author: Mai Choua Vang
Institute: UW-Stout
Faculty Sponsor: Susan Wolfgram
Topic: Social Sciences and Anthropology
It is not only low income families needing outside resources to stabilize their families, but given the current state of the economy, many middle class families are finding that they need outside resources as well (Offer, 2010). This nonrandom pilot study investigated resources that families who access a local food pantry need to provide for stability in their family by surveying 37 females, 13 males, and one participant who self-identified his/her gender. The site of this cross-sectional and nonrandom pilot study was a local western Wisconsin food pantry. Survey data was statistically analyzed using frequencies, mean comparisons, correlations, and Cronbach’s Alpha reliability analysis. We hypothesized that participants would access various resources readily to assist in stabilizing their family. The results did not support our hypothesis with 70% of participants responding that they would access outside resources only as a last resort. Implications for directors of food pantries would be to increase awareness of what resources could be provided for low income families at the food pantry that would help provide stability to the family. Future research would benefit from a large random sample to generalize findings as well as to ask the participants themselves what the barriers are to seeking assistance.

P39 Family Service of Racine
Student Authors: Nicole Zach, Jimena Brito, James Brown, Dan Ross
Institute: UW-Parkside
Faculty Sponsor: Abey Kuruvilla
Topic: Social Sciences and Anthropology
We met with Family Services in Racine to determine how we would be able to help them with our project. One of the things we came up with is to make a standard
operating procedure of the front desk job description and all the steps involved so that their interns and various other staff could be on the same page. Another thing we thought of is coming up with a system to scan in all of their files from a hard copy chart to an electronic file. We also wanted to look into places that would possibly be willing to donate laptop computers for their therapists to take notes on, that would make it easier to keep the files of the patients in an electronic form and they would not need to be scanned. We will be picking a day and go there to observe the process of how they input patients in order to make the manual. We also wanted to visit some other similar clinics and benchmark to get a better idea of how other places run their business and compare how they could improve their efficiencies.

P40 Sectarian Violence in Scotland’s “Old Firm” Soccer Rivalry and its Relation to International Conflict
Student Author: Jonathan Schaefer
Institute: UW-Whitewater
Faculty Sponsor: Mark Boulton
Topic: Social Sciences and Anthropology
Sectarian Violence in Scotland’s “Old Firm” Soccer Rivalry and its Relation to International Conflict

P41 Comparison of Internet distraction among college students with and without ADHD
Student Author: Natalie Goniu
Institute: UW-Madison
Faculty Sponsor: Megan Moreno
Topic: Education
The number of college students using the Internet has dramatically increased over the past decade. The numerous websites available to students may be distracting, especially for individuals with undiagnosed attention-deficit hyperactivity disorder (ADHD). The purpose of our study was to determine whether individuals with undiagnosed ADHD are more distracted by the Internet than individuals without ADHD. We distributed a survey to college students at a large state university containing questions regarding their Internet use, whether they feel distracted by the Internet, and whether they have been diagnosed with ADHD. Thus far, we have distributed 68 surveys. No participants have reported being diagnosed with ADHD, but 14 have been classified as “at-risk” for ADHD based on their responses to an Adult ADHD Self-Report Scale. Of the 14, only 3 believe they have ADHD. 65 participants have said they feel distracted by the Internet, 13 of which were at-risk for ADHD. Final analysis will be completed by the time of the UW System Symposium.

P42 Musical Participation and the Correlation with Socio-Economic Status and Academic Standing
Student Authors: Cortney Netzel, Gustavo Chaviano
Institute: UW-Whitewater
Faculty Sponsor: Alena Holmes
Topic: Education
Recent developments in the Wisconsin education system have called into question the necessity for co-curricular classes (i.e. art, music, and physical education). Previously, studies have shown positive correlations between musical involvement and academic performance. In consideration of this, it is important to find the effects music on a student’s academic performance. The purpose of this investigation is to examine the relationship between participation in different school music programs (general music, choir, orchestra and band) and students’ GPA and plans to attend post-secondary institutions. In addition, we will study the effect of music education on the academic achievement of students that have lower socio-economic statuses. Participants are students from five high schools in the Midwest region of the United States. Research participants will receive anonymous survey consisted of 11 close ended and 2 open-ended questions. Survey includes questions relating to musical involvement, socio-economic standing, age, ethnicity, range of grade point average, extra curricular activities, and students plans after high school graduation. Answers to the questions will be analyzed using SPSS statistical software. We anticipate that result of this research will assist teacher and administrations, particularly those in urban settings, in evaluating how music education programs influence students’ academic success.

P43 To What Extent Are the Foundations of the Indian Boarding School System and the Urban School System that Serve Latina/o Students Identical?
Student Author: Cynthia Aguas-Fernandez
Institute: UW-Milwaukee
Faculty Sponsor: Rene Antrop-Gonzalez
Topic: Education
The purpose of this research project is to critically analyze, through a conceptual study, the history of the foundations of education of Latinas/os of Mexican origin in the United States with Native American boarding
schools in order to demonstrate that White supremacy is never-changing. This brings me to my centralized question: In what ways are the foundations of the Indian boarding schools and the urban schooling system that serve the Latina/o community twin-like in nature? The literature review that was created to support this argument was prepared first by using Spring’s (1997) book “Deculturalization and the Struggle for Equality: A Brief History on the Education of Dominated Cultures in the United States,” to concentrate on the social inequities and the manifestation of deculturalization in the Indian boarding schools, and Valenzuela’s (1999) book “Subtractive Schooling: US Mexican Youth and the Politics of Caring,” to concentrate on the sociopolitical experience of Latinas/os of Mexican origin in urban schools. This study focused on the principle that both the urban and Indian boarding school systems implement an education of deculturalization through assimilation, which illustrates that there is an inconsistency with the progression of minority education through American history. This is imperative to research, because the same inequalities from the first government based minority education system of the Indian boarding schools are being reiterated in today’s urban schools that serve Latina/o youth of Mexican origin, in which the student’s life opportunities are purposefully suppressed to continue white supremacy. Implications for urban education will be discussed.

P44 Evaluating the Success of a STEM Student Support Program

Student Authors: Erica Brown, Kyle Dufresne, Cortney Marshall, Dwayne Edwards
Institute: UW-Parkside
Faculty Sponsor: Mary Kay Schleiter
Topic: Education

Over the past five years, a study has been conducted to evaluate the Model Science Scholars Program (MSS) at the University of Wisconsin-Parkside. There are two main objectives of the Model Science Scholars program, and those are: to increase the retention rate of S.T.E.M. majors from the beginning of their college process, to degree completion, and to increase the number of under-represented students in the S.T.E.M. majors. The MSS program is funded through a grant by the National Science Foundation (NSF). The program will supply scholarships to two cohorts of twelve underrepresented, financially needy students in Biological Sciences, Chemistry, Computer Sciences, Geosciences, and Physics. Students of color and students with disabilities are underrepresented in all disciplines. Based on financial need, the grant will fund scholarships covering full tuition, on-campus room and board, books, and in-room computer for each student, and support to attend conferences in their discipline. Students also will be paired in a mentor program with a community member working in their field of study. Community members with science backgrounds will be recruited to serve as mentors to help the student scholars to understand the professional skills needed and the careers available to them after graduation. The community mentors will provide students with exposure to unique life experiences and knowledge about job opportunities, new job directions, and job preparation. UWP’s peer mentorship was designed for incoming freshmen to adjust to life on campus. The program will be expanded to include discipline-specific mentoring for the Model Science Scholars.

P45 Child Psychology and Race in School Systems

Student Author: Katharine Wojcik
Institute: UW-Milwaukee
Faculty Sponsor: Markeda Newell
Topic: Education

This undergraduate research project explores how different racial/ethnic groups react to teaching/learning methods, specifically in a school environment. To gather this information we used accredited sources like the School Psychology Board, Journal of School Psychology, and the School Psychology Quarterly to gather research studies from all over the United States. These studies used groups of children mostly below the eighth grade level, in lower income city school systems, with lower generalized test scores. Each of these studies was written on a slightly different subject (“How autistic kids learn?”, “Does economic standing play a part in how a child learns?”) but they all had the same focus on how different racial/ethnic groups react to learning. By changing the way these kids, that were studied, are taught we are hoping that these traditionally low-scoring kids will be able to learn at a more average level for children of their age. These changes would be in what they are taught with and/or who is teaching them. Gearing these learning methods towards the children’s specific racial group or environment may improve their learning potential. However, by going through each of these studies we are hoping to come to a conclusion on whether school systems should change their teaching methods on a large scale.
P46 Digital Natives Leading the Way for 21st Century Learners?

Student Author: Kelly Jones
Institute: UW-Whitewater
Faculty Sponsor: Andrea Maxworthy O’Brien
Topic: Education

I observed a wide variety of skill level in my classmates’ use of technology. I wanted to explore whether future teachers like myself are prepared to use technology to teach K-8 students who are 21st century learners. A digital literacy survey was developed to measure preservice teachers’ knowledge of basic Microsoft applications, their current knowledge of specific Web 2.0 tools effective in writing instruction and their attitude toward the technology preparation in their College of Education courses. The 48 item survey included four sections: demographic information, general technology, Web 2.0 knowledge and a short answer portion with six open-ended questions. Surveys were collected from 107 pre-service teachers at UW-Whitewater during May 2011. Our survey results showed that although natives are comfortable using basic applications and have increased access and ownership of technology, they do not necessarily know how to effectively incorporate Web 2.0 tools in the K-8 classroom. For example, fewer than 28% of the participants agreed or strongly agreed that they could use or teach someone else how to use a wiki or create a podcast. It was concluded that technology instruction should not be taught as a stand-alone course in a teacher training program, but should be integrated into all methods courses. Technology also needs to be taught, practiced, and continually modeled for students in order for them to feel comfortable using Web 2.0 tools in the K-8 classroom. Explicit instruction on how technology can positively impact student performance and enhance instruction needs to accompany technical instruction.

P47 Project Orion: Using distributed computing for education

Student Author: Ambud Sharma
Institute: UW-Stevens Point
Faculty Sponsor: Alex Yuan
Topic: Education

IT infrastructure is expensive especially hosting servers and datacenters, also failure of servers in datacenter leads to downtime, interruption in work and loss of productivity. In a high education framework like university or college, the requirement of computing resources and central computing facilities like file-store, e-Learning solutions, and compute requirements for applications like rendering etc. is very high. This research presents our experience on designing and implementing a commodity cluster based distributed system using existing university infrastructure and resources. Our research focuses on a scenario for use of commodity hardware based computer cluster for file storage and sharing for e-Learning in classrooms. We utilize Apache Hadoop to provide a scalable distributed redundant storage as well as distributed processing framework running on unused lab machines. Our system provides roles based access to the file store using Kerberos authentication and a Java based client along with ability to share files with other users. The system also incorporates a web based cluster monitoring utility tailored for Apache Hadoop for administrators to monitor system usage and performance. Implementing this system we found that such a system is really helpful as an e-Learning solution and is capable of replacing centralized data-stores with highly distributed data storage system that is highly fault tolerant and offers high bandwidth.

P48 Parents with Young Children: Perspectives Regarding Comprehensive Sex Education in Middle Schools

Student Authors: Trista Arendt, Andrea Heussner
Institute: UW-Stout
Faculty Sponsor: Susan Wolfgram
Topic: Education

Teens experience negative emotional and physical consequences from risky sexual behaviors (Kohler, Manhart, & Lafferty, 2008). This nonrandom pilot study investigated the perspectives of 21 parents with young children enrolled in a Midwestern university campus child care center about introducing a comprehensive sex education program in public middle schools. We had originally intended to compare groups of parents, those who supported comprehensive sex education and those who supported abstinence only. We hypothesized that those who supported comprehensive sex education would agree that ten or more sex education topics should be taught to middle school children. After data collection, all parents who responded in fact supported comprehensive sex education and those who supported abstinence only. We hypothesized that those who supported comprehensive sex education topics should be taught to their children in middle school. After data collection, all parents who responded in fact supported comprehensive sex education. Although we were not able to compare groups, we did find support for our hypothesis-parents did support teaching ten or more of the sex education topics to middle school children. These findings were supported in the literature by Alton, Valois, Oldendick, and Drane’s (2009) research.
that found 68 percent of the public supported ten or more of the same comprehensive sex education topics. Implications for practitioners include advocating for early comprehensive sex education policies to decrease risky sexual behavior. Future research would benefit from a large, randomized national sample.

**P49 Integrated Curriculum in Kindergarten Classrooms: Ideology and Practice**

Student Author: Erica Klefstad  
Institute: UW-Whitewater  
Faculty Sponsor: Lucinda Heimer  
Topic: Education

In high quality early childhood training, one learns about the benefits of an integrated curriculum and the connection between early childhood developmental theory and kindergarten curriculum practice. Many schools are unable to integrate curriculum due to the structure of the day and time restraints. Throughout this project, I observed what integrated curriculum looked like in the classroom. The question I addressed was, “how does an early childhood integrated curricular approach to teaching translate in kindergarten classrooms?”. A sample of approximately seven kindergarten classrooms located in southeastern WI was part of this research. Selection was based on the response of principals and teachers to my initial e-mail requesting observation of an integrated curriculum. Therefore, teachers and classrooms were ‘self-identified’ as integrated. The observation protocol included a checklist for typical components of integration as well as anecdotal notes and photos of the physical environment. Semi-structured interviews were conducted with each of the teachers. Data were analyzed and coded using open coding (e.g. environmental influences, student interactions, impact of routine, teacher’s philosophy, and curriculum used). Results showed that while classrooms are able to integrate content in kindergarten, there are myriad influences on this integration. Some schools were able to integrate by using teaching approaches such as Montessori, Reggio Emilia, and Waldorf. Based on this study, I found that schools rooted in early childhood curricular approaches such as those previously listed are more accepting of an integrated curriculum and can make that kind of learning happen for children, based on their philosophy and structure.

**P50 Impact of Study Abroad Experiences on Students at a Four-Year Public University**

Student Author: Milliam Lor  
Institute: UW-Whitewater  
Faculty Sponsor: Samantha Samreth  
Topic: Education

This study examines the impact of study abroad experiences on students’ retention and graduation rate at a four-year public university in Whitewater, Wisconsin. Within the last decades, an increase attention has been given to the study abroad experience and its impact on students’ retention and graduation. Hence, understanding and embracing diversity is a skill that must be redeveloped in today’s global society. Published works related to the study indicate that there are social and economic factors that influence the decision of students’ choice to study abroad. Fundamentally, research has shown that the impact of an international experience will heighten a student’s substantive knowledge, perceptual understanding, personal development, and interpersonal connections. According to Kuh (2008) studying abroad is considered as one of the high impact practices that have had a positive impact on students’ retention and graduation. Thus, many colleges and universities across the nation is now offering courses and programs that help students explore worldviews different from their own, culture, and life experience. Thus, intercultural experiences are enhanced by experiential learning in the community, courses, and/or by studying abroad. In this study the impact of studying abroad experience on students’ retention and graduation rate will be explored at the University of Wisconsin-Whitewater, Whitewater, Wisconsin. The study will identify whether students who have studied abroad would have a better retention and graduation rate than those who has not had the exposure. The methodology for this study will be quantitative using document analysis instrument with data provided by the Office of Global Education on students who have studied broad and those who signed up to study abroad. Questions will be formulated using pre- and post approaches to gain feedback on the student’s transition abroad. The after-effects will be used to determine what impact students have discerned about themselves. Thus, a survey will be emailed out to students to capture their experiences.
P51 Microwave Accelerated Reactions of Oximes with Lawesson's Reagent

Student Authors: Heather Drobnik, Mary Thompson
Institute: UW-Fox Valley
Faculty Sponsor: Martin Rudd
Topic: Science and Engineering

Lawesson's Reagent is a relatively stable, easy to use compound that provides a method of introducing thiation through the cleavage of the four membered “P2S2” ring via dithiophosphine ylides. As part of our ongoing research into Group 16 heteroatom reactions, we have investigated general reactions of oximes. Oximes containing the (C N-OH) functional group, and imino alcohols react readily in a rapid time of less than 10 minutes, under microwave heating conditions. This is a typical route into functionalized dithiophosphonates. We have found that the volume of solvent and long reflux times can be drastically reduced through the use of a MARS System Parallel Reaction Microwave. The reactions have been investigated using column chromatography and NMR spectroscopy.

P52 Eagle Spring Lake Management District Weather System Website

Student Author: Nicole Becker
Institute: UW-Parkside
Faculty Sponsor: Timothy Knautz
Topic: Science and Engineering

In order to better protect the Mukwonago River Flowage, one of Wisconsin’s endangered waterways, weather data is being collected to further scientific research on the flowage and its ecology. This study started with the simple installation of series of water temperature sensors by the Southeast Regional Planning Commission (SERPC) in 2008. In 2009, a weather station meeting the standards of the National Institute of Science and Technology (NIST) was installed to collect more detailed data beyond water temperatures. In addition, the data from the weather station is shared for public and government use in a near real time mode. This data became invaluable in studying the formation of the Eagle tornado which struck the Village and Town of Eagle in 2010. The goal for this project was for the better distribution and use of the data collected by establishing a web site that is easily accessible by the public. This project included a series of deliverables including a requirements specification, an analysis of the project, a design document, the implemented site, and the final project verification. The final site is available for the public as well as the weather site has been integrated into the Waukesha County Severe Weather response plan.

P53 Accelerated Synthesis of Selenocarboxylic Acids Using a Parallel Microwave Reactor

Student Authors: Dylan Schnese, Jedediah Petrie
Institute: UW-Fox Valley
Faculty Sponsor: Martin Rudd
Topic: Science and Engineering

Microwave accelerated reactions are an emerging field of organic chemistry in both research methods and undergraduate laboratory curricula. In this project, we were interested in the ability of a commercial, research grade, parallel microwave reaction system to provide a facile route into our molecules of choice, namely organoselenium compounds. The synthesis of selenium substituted carboxylic acids [RC(Se)OH] has been achieved in a MARS Microwave Reaction System (CEM Corporation) utilizing a variety of carboxylic acids and Woollins Reagent (as a selenium transfer source) in toluene as a solvent. Reactions were complete in 8-12 minutes as evidenced by the complete uptake of the red Woollins Reagent leading to quantitative yields. In traditional published methods, reaction times of 2 hours are required. The reactions were analyzed using various types of chromatography and the products are characterized through nuclear magnetic resonance spectroscopy. The reactions of these acids with electron rich organic molecules are under investigation with a library of unsaturated aldehydes and ketones.

P54 Frack sands in Wisconsin: The causes and effect of mining silica sand

Student Authors: Michael Czarny, Priscilla Balladaras, Jessica Dickman, Gina Hopkins, Elizabeth Pignatelli, Kristin Saeger
Institute: UW-Parkside
Faculty Sponsor: Ross Astoria
Topic: Science and Engineering

With the increased mining of silica sand for the use of abstarting natural gas many environmental problem and health problem have been rised. Our group will examine how the mining of silica sands affect our planets water resources, air, health of citizens, and others thing that might be affected.
P55 Behavior of Cast-in-Place Anchors under Seismic Loading

Student Author: Kevin O’Connor
Institute: UW-Milwaukee
Faculty Sponsor: Jian Zhao
Topic: Science and Engineering

This poster will present the NSF-funded project, “Behavior and Design of Cast-in-Place Anchors under Simulated Seismic Loading” (NEES-Anchor). It will give an overview of the concepts of concrete anchorage and seismic loading. It will describe the design and construction of our specimens, which attempt to simulate real anchor connections. It will detail testing setups and protocols. It will discuss the recorded behavior and data. Finally, it will illustrate the importance of anchor connections in buildings and why these tests are important. If possible, I would like to bring in a failed specimen and present a short video on my laptop.

P56 Improved Distance Estimates to Galactic H II Regions

Student Author: Steven Bartel
Institute: UW-Oshkosh
Faculty Sponsor: Nadia Kaltcheva
Topic: Science and Engineering

This research is focused on establishing a homogeneous distance scale to major H II regions in the Milky Way. These low-density clouds harbor at least one O-type star whose ultraviolet emission is ionizing the surrounding gas. The best way to estimate the distance is to adopt the distance of the cloud’s resident stars. Currently, however, numerous H II regions have uncertain distance. This is mainly due to poor distance determination or misidentification of the exciting stars. One reliable method for calculating stellar distance is based on stellar photometry, particularly on uvby-beta photometry, which provides great sensitivity to various stellar parameters. One alternative method is to use the spectral type and the luminosity class of stars to obtain spectroscopic distances. These results are less precise, but can be calculated for stars without available photometry. In order to use both methods, we tested several spectroscopic-distance calibrations to find those that yield results in agreement with the photometric distances. Thus, combining photometric and spectroscopic calibrations will provide way to obtain homogeneous distances for stars from a large sample of O-type stars associated with the main Galactic H II regions. We use uvby-beta photometry supplemented with spectroscopic calibrations in order to compile a catalog of H II regions with homogeneous distances. This catalog will provide a basis for calculations of physical parameters of H II regions that are distance-dependent. We are presenting our first results on the galactic H II region RCW 121, containing several O-type stars.

P57 A Comparative Analysis of Campus Wireless Security

Student Authors: Adam Dalby, Nicole Becker, Brenda Lovrien
Institute: UW-Parkside
Faculty Sponsor: Susan Lincke
Topic: Science and Engineering

Wireless LANs are particularly vulnerable to security because of the shared physical media. The configuration of the WLAN security, defined at the Media Access Control (MAC) layer, is an important area to audit to ensure communications security. Given the amount of network traffic and the diverse information accessed via wireless networks on campuses across the country today, wireless security is of growing importance. UW-Parkside has two wireless networks accessible for students. One, Eduroam, uses strong encryption while the other, UWP wireless, uses no encryption. This project studies the impact of various security features and makes recommendations to achieve maximum security while using a wireless network. In order to determine this information, we will be analyzing both wireless networks, including the MAC layer protocol using Riverbed’s AirPCAP with WireShark. We will use it to perform an audit of the IEEE 802.11 configuration and monitor traffic to determine any existing security implications. Specifically, we will aim to identify insecure applications on the unencrypted network as well as which ports are being accessed. This study should result in recommendations that will reduce the risks associated with the MAC layer and other wireless attacks. We also hope to use these recommendations to educate the campus community on how to best protect personal data while on a wireless network.

P58 Centaurus Star-Forming Field Revisited

Student Author: Kevin Moran
Institute: UW-Oshkosh
Faculty Sponsor: Nadia Kaltcheva
Topic: Science and Engineering

Background and Rationale: The aim of this project is to further contribute our understanding of the structure of one particular region in our Galaxy, the Centaurus
star-forming complex. This is one of the major building blocks of the Scutum-Centaurus spiral arm, playing a key role in the understanding of the grand design of the Milky Way.

Methods: Our method of investigation is uvbybeta photometry. This is a sophisticated astronomical technique, which allows the derivation of stellar physical parameters, such as brightness and temperature, with high precision. Knowing these parameters allow us to estimate stellar distance and to map the structure of the field of interest, delineating in this way galactic spiral features. From a computational point of view the procedure is highly interactive, involving plotting and analyzing photometric diagrams and intermediate results.

Results and Conclusions: The field we study is located between 299° and 311° Galactic longitude and -5° to 7° Galactic latitude. The study is a sample of nearly 1000 stars with uvbybeta photometry currently available. The stellar physical parameters we derived allowed us to establish a homogeneous scale for distances, extinction of light due to interstellar material, and ages for the major apparent groups and layers of foreground and background stars in Centaurus. We revise the distance to the entire complex, arguing that the star-forming fields in this direction are located closer to the Sun than previously thought. We also detect a previously unnoticed group of very massive stars, which place in the Galaxy is consistent with the outer edge of the Scutum-Centaurus arm.

P59 Spatial and Temporal Variations of Volcanic Materials at Mt. Unzen, Kyushu, Japan

Student Authors: Heather McFarlin, Rhiannon LaVine
Institute: UW-Whitewater
Faculty Sponsor: Prajukti Bhattacharyya
Topic: Science and Engineering

Mt. Unzen is a volcanic complex consisting of several stratovolcanoes located in the Shimabara Peninsula of western Kyushu. Responsible for some of the worst volcanic disasters in Japan's history, Mt. Unzen is notorious for its volatile behavior. Its situation and history afford the chance to study the diversity of eruptions relative to time and location within the Unzen Graben. Our study area is located along the slopes of Fugen-dake, the highest peak of the Unzen group. The focus of our study is to determine whether there is a relationship between the explosivity of the volcano and the chemical composition of erupted materials. We conducted detailed geochemical and mineralogical analyses of volcanic ash samples using Inductively Coupled Plasma Optical Emissions Spectrophotometer (ICP-OES) and X-Ray Diffraction (XRD). Initial analyses of chondrite-normalized trace and Rare Earth Element (REE) concentration patterns show only a slightly negative Eu anomaly in conjunction with a negative slope in the elements after Eu, which suggests a silicic nature of the ash. Preliminary XRD data shows that the samples vary slightly in their mineralogical content and relative proportions. Plagioclase, amphibole, and pyroxene are common minerals found in the collected samples, and, in conjunction with the Eu anomaly, show the known dacitic nature of the magma. The results of these studies may aid in constructing a record of long-term behavior of the Unzen complex. Education on the nature of Mt. Unzen will aid in disaster mitigation in Shimabara and surrounding cities.

P60 Spiral Structure in the First Quadrant of the Milky Way Galaxy

Student Author: Mitchell Matheny
Institute: UW-Oshkosh
Faculty Sponsor: Nadia Kaltcheva
Topic: Science and Engineering

Background and Rationale: The aim of this project is to further contribute to our understanding of the large-scale spiral features in the first quadrant of our Galaxy. The first quadrant is projected in the sky between the constellations of Sagittarius and Cygnus. It contains the galactic center, a large part of the prominent Perseus spiral arm, and also more distant spiral structures. Despite all of efforts so far, the empirical picture of the spiral structure in this part of the Galaxy is still problematic.

Method: In our study, we use recently born stars to trace spiral-arm features. We utilize uvby(beta) photometry, a sophisticated astronomical technique which allows the derivation of stellar physical parameters, such as true brightness and stellar surface temperature, with high precision. When we know these parameters, we can estimate stellar distance and delineate segments of spiral arms.

Results: We present homogeneous estimates of stellar distance of 15 open clusters and nearly 900 recently born stars in the first galactic quadrant. This allows us to trace spiral features as distant as 10,000 light years and to map the distribution of the interstellar dust in this part of the Milky Way.
P61 Design and Implementation of Mobile Applications
Student Authors: Moritz Duettmann, Matthias Kleinert, Michael Tiede
Institute: UW-Parkside
Faculty Sponsor: J. Ubaldo Quevedo
Topic: Science and Engineering

Mobile applications are becoming extremely popular with an estimated 5.9 billion mobile subscribers. Organizations have to develop Smartphone applications in order to include most of its targeted population. In fact, over 300,000 mobile apps have been developed in the past three years; however, demand for mobile apps is expected to peak in 2013 according to mobiThinking.com. Therefore, it is necessary the development of efficient strategies for the design and implementation of mobile applications. We illustrate these strategies within the development of the following four Android apps. Flagtivities is an application that can be used by students, staff, guests of campus, and anyone else that wants to co-ordinate activities with other people. Some benefits of this application may include helping students finding groups to study advanced subjects or those not offered in the university tutoring center. The UW-Parkside Notify is an Android application that allows users to report incidents on the UW-Parkside campus. The reporting of an incident (fire, fight, etc…) will be available to all users of such application. SEResource assists teachers in the intervention and identification of students with learning disabilities in math and reading. LifeRaft allow users’ position to be identified using GPS and WIFI location tracking to find trends and identify potentially life threatening situations. This application uses Google’s Latitude service to get user’s information.

P62 Fabric and Whole Rock Chemical Analyses Of Sheared Granitic Rocks From Mountain, Wisconsin
Student Authors: Jonathon Stencil, Brittany Saylor
Institute: UW-Whitewater
Faculty Sponsor: Prajukti Bhattacharyya
Science and Engineering

Over time, the tectonic forces within the earth have deformed the rocks in both the crust and the mantle. Under some circumstances the rocks may change shape without breaking resulting in the formations known as shear zones. The specific reason as to why shear zones form and their correlation with the distribution of rare earth elements (REE’s) is not clearly known at this time. The purpose of our research is to gain a better understanding of what causes these deformations in rocks and the development of REE’s found within them. The Mountain Shear Zone, near Mountain, WI, was formed approximately 1.8 billion years ago when plate collisions occurred. Most of the comparable shear zones in Wisconsin have been buried under glacial sediment, so the exposure of this area provides a unique opportunity to study rock deformations that have formed deep within the earth. We have collect both deformed and undeformed granitic rock samples to provide a more complete understanding of the effects of shear zones through the entire deformation spectrum on whole rock chemistry and REE distribution. The methods that we are using to determine mineral alignment were obtained through thin section analysis and grain mapping using ArcMap 10. X-Ray Fluorescence (XRF), X-Ray Diffraction, and ICP-OES techniques will be used to collect chemistry data and then those results will be combined with our fabric analysis data.

P63 Monitoring Large Scale Networks
Student Author: Nathan Gotz
Institute: UW-Parkside
Faculty Sponsor: Susan Lincke
Topic: Science and Engineering

Test of the accuracy, reliability, and usefulness of Statseeker to monitor a large WAN and LAN network.

P64 Investigation of Hydrologic Relationships on the University of Wisconsin-Parkside Campus
Student Author: Nicole Hoeppner
Institute: UW-Parkside
Faculty Sponsor: John Skalbeck
Topic: Science and Engineering

Ten groundwater monitoring wells at the University of Wisconsin-Parkside campus were installed in summer 2002. These wells are screened within a zone of sand from 20 to 30 feet below grade within clay till. Water levels collected from these wells show a significant groundwater mound exists beneath the campus building complex. As a class project during the Fall 2011 semester, a study was conducted to address the question of whether this mound is a natural feature or is due to artificial recharge from the campus buildings. A pressure transducer was used to collect water level data at one-hour intervals from MW-9 located near the Greenquist Loading Dock. Water levels were also measured weekly from wells using an electronic sounder. Water levels from previous class projects were compiled to assess the historical patterns. A cross-section from
these previous class projects illustrates the depth (around 20 feet below ground surface) of the campus building complex foundation is similar to the water-bearing sand zone within the clay till. Daily precipitation data for the Fall 2011 semester was obtained from the online Weather Underground. Water level fluctuations in MW-9 correlate closely with precipitation events while water levels from wells located away from the campus building complex show little response. The campus building complex foundation appears to have a hydrologic connection with the sand zone and results in artificial recharge. This study suggests that the groundwater mound is not natural.

P65 Simulated Wastewater Treatment of Estron
Student Author: Paul Knebel
Institute: UW-Whitewater
Faculty Sponsor: Paul House
Topic: Science and Engineering

Natural and synthetic reproductive hormone accumulation in environmental waters is of growing concern, as they are known to cause detrimental biological effects on humans and wildlife. Wastewater effluent is a major contributor toward contamination and there is growing concern about the products of pollutant-hypochlorous acid/hypochlorite reactions due to disinfection methods. To determine how the estrogenic compound, estrone, reacts during a wastewater chlorination treatment, standards of the compound were treated with aqueous sodium hypochlorite under conditions simulating a wastewater treatment plant. Solid phase extraction was used to isolate and concentrate possible reaction products. Analysis of reaction products was primarily accomplished by gas chromatography – mass spectrometry (GC-MS). GC-MS spectra for the reaction of aqueous sodium hypochlorite with estrone, C18H22O2 (FW 270), indicates possible formation of four products, with unreacted estrone still present in the highest concentration of observed species. One of the products has been positively identified to have the molecular composition C18H21O2Cl (FW 304). There are two possible species with this molecular formula: either chlorination of the aromatic region occurs in an ortho position, or oxidation of the hydroxyl group to a ketone and resultant chlorination in the para position occurs, resulting in loss of aromaticity. The other three reaction products have not been identified, but are likely caused by chlorination of the aromatic region; work continues to isolate and identify these compounds.

P66 Analysis of Root River and Pike River Watersheds in Southeastern Wisconsin
Student Author: Jacob Jozefowski
Institute: UW-Parkside
Faculty Sponsor: John Skalbeck
Topic: Science and Engineering

Rivers are a dynamic component of any landscape they occupy. Rivers characteristics are a reflection of their surrounding landscapes. Land use and activities within the river watershed has a direct effect on the behavior and water quality of that river. This study compares two adjacent watersheds in Southeastern Wisconsin using data from the Root River and the Pike River. The behavior and the water quality of each river is examined using discharge and water quality parameters from 2009 to 2011 in order to identify similarities and differences between the two rivers. The parameters used to evaluate water quality were temperature, dissolved oxygen, Transparency, and pH. Land use of each watershed and precipitation is also analyzed to evaluate how these rivers from adjacent watersheds behave. Each watershed has similar land use cover, and each river experiences similar amounts of precipitation, however; the Pike River exhibits a trend of flashy changes in discharge rate, and the Root Rivers change in discharge rate tends to be more gradual. The Root River’s watershed is significantly larger than the Pike River’s watershed. This difference in size is likely a major contributing factor to the difference in behavior between the Pike River and the Root River. Additionally, the Horlick Dam on the Root River likely influences the behavior and the water quality of this river.

P67 Older Adults and Communication Technologies
Student Authors: Chery Fricke, Lisa Rheineck
Institute: UW-Stout
Faculty Sponsor: Susan Qolfgram
Topic: Science and Engineering

The use of information and communication technologies (ICT) by older adults is not a well-researched topic; however, there is evidence of the potential for a boost in the quality of life among older adults who remain connected to family and society (Feist, Parker, Howard, & Hugo 2010). The purpose of our study is to evaluate the use of ICT by older adults to remain viable participants in society and in the lives of their families. This nonrandom pilot study, conducted at senior agencies in Northwestern Wisconsin, investigated differences between users and non-users of ICT and the perspectives of those older adults if ICT helps
them stay connected to significant people in their lives and to society overall. Informed by literature and Ecological Theory, we hypothesized that the use of technology by older adults to stay connected to family and society will be found to alleviate feelings of isolation and loneliness. Survey data will be statistically analyzed using frequencies, cross-tabulations, mean comparisons, independent t-tests, as well as a reliability analysis. Implications for practitioners and implications for future research will be discussed. *Key Words: information technologies, communication technologies, older adults

P68 Comparing Survey Results to Assess Climate Change/Global Warming Awareness, Perceptions and Beliefs of College Students in the United States and China

Student Authors: Brittany Whited, Chris Brown, Drew Christensen, Elora Leene, Dan Putman
Institute: UW-Eau Claire
Faculty Sponsor: Eric Jamelske
Topic: Science and Engineering

Climate Change (CC), a phenomenon entailing warming average global temperatures (global warming, GW) is an important, divisive national and international policy issue. Despite overwhelming scientific consensus and corresponding warnings, many people including policy makers still disagree about the reality of CC/GW and the degree to which human activities are responsible. We conducted surveys examining what US (n 826) and Chinese (n 776) college students think about this important topic. College students are of interest because they represent the next generation of decision-makers. The U.S. and China are of interest because they are disproportionately responsible for world CO2 emissions, however they are also different in several ways. U.S. emissions per capita are nearly four times China’s, while Chinese emissions per $ of GDP are nearly twice that of the U.S. In addition, the U.S. ranks among the world leaders in per capita GDP, while China is a developing country with significant poverty, yet the Chinese economy has grown substantially over the last two decades. This project provides insight into the awareness, perceptions and beliefs of young adults in these two countries comparing responses to a variety of questions. On average, Chinese students report a significantly greater awareness about CC/GW. In particular, U.S. students are much less convinced of the general agreement among qualified climate scientists that human induced CC/GW is happening. These results are interesting and could have meaningful implications for future national and international CC/GW policies.

P69 Plastics: The Latest Invasive Synthetic “Species” disturbing Lake Superior.

Student Authors: Joseph Ripley, Amar Gurung, Raquel Kaizer, Mitchell Knase
Institute: UW-Superior
Faculty Sponsor: Lorena M Rios Mendoza
Topic: Science and Engineering

The amount of plastic waste increases daily, and essentially never degrades, it only fragments into smaller pieces and is dispersed. This leads to an accumulation in our lakes and rivers, with many negative consequences. Studies have found that plastic materials absorb persistent organic pollutants, leading to increased toxicity in wildlife. Our interest lies in what happens to these plastics and how they affect the wildlife, and through the wildlife, us. The samples were collected from Minnesota and Wisconsin Points, which are two long natural sandbars near the towns of Duluth and Superior, respectively. Minnesota Point is about 7 miles in length and Wisconsin Point is 3 miles long. This area has several beaches that are used primarily for recreation. The samples were categorized by type of resin plastic, shape, size, and color. Plastics samples were analyzed using a FT-IR spectrophotometer to identify their chemical structure. In every station (59) of sampling plastic debris was found, suggesting a widespread problem in Lake Superior’s environment. A total of 874 samples were collected from both sites. The results were 396 fragments that correspond to 45% of the total, 5 ropes (0.6%), 3 adhesive tapes (0.3%), 30 fragments of foam (3.4%), 125 bottle caps (14.3%), 7 lines (0.8%), 7 toys (0.7%), and 31 other including straws, candy wrappers, bottles, etc (3.5%). With these results the conclusion is that these plastic debris will most likely to end up in the lakes, possibly after remaining on the shore for an indeterminate amount of time. The smallest of the plastic debris is most easily confused with natural food by wildlife.

P70 Comparing Survey Results to Assess Political Differences in Relation to Climate Change/Global Warming Awareness, Perceptions and Beliefs of College Students in the United States

Student Authors: Dan Putman, Chris Brown, Drew Christensen, Elora Leene, Brittany Whited
Institute: UW-Eau Claire
Faculty Sponsor: Eric Jamelske
Topic: Science and Engineering

Climate Change (CC), a phenomenon entailing warming average global temperatures (global warming, GW) is
an important, divisive national and international policy issue. Despite overwhelming scientific consensus and corresponding warnings, many people including policy makers still disagree about the reality of CC/GW and the degree to which human activities are responsible. We conducted surveys examining what US (n 826) and Chinese (n 776) college students think about this important topic. The subset of this data related to the U.S. students is particularly interesting when considering the relationship between political ideology and attitudes towards CC/GW. Within the U.S. sample there are significant differences in the political ideologies (on a scale ranging from conservative to liberal) as well as significant differences in the awareness, perceptions and beliefs of students in relation to CC/GW. In this project we examine this relationship between the political ideologies of U.S. college students and their CC/GW attitudes. Through this, we are able to gain insights into the inability of the U.S. to come to a consensus regarding CC/GW, in particular due to the significant wedge between various segments of the political and CC/GW perceptual landscape. Further understanding of this wedge will elucidate current problems in developing CC/GW policy in both the international and intra-national realm. Understanding these problems will help pave the way towards more effective policies.

P71 Removal of Chromium from Water Using Fe-Exchanged Zeolite
Student Author: Samantha Leick
Institute: UW-Parkside
Faculty Sponsor: Zhaohui Li
Topic: Chemistry
Chromium is one of the most harmful environmental contaminants. In this research, a natural clinoptilolite zeolite was exchanged with iron (II) to enhance its chromium removal. Batch test results showed that the zeolite could sorb as much as 55 mmol/kg of Fe(II). Sorption of hexavalent chromium Cr(VI) on the Fe-exchanged zeolite (Fe-eZ) could reach up to 6 mmol/kg or 300 mg/kg. The Cr(VI) sorption followed the a pseudo-second order kinetics with a rate of 17 mmol/g-h and a rate constant of 0.7 g/mmol-h. Cr(VI) removal from solution increased as the ionic strength increase, but decreased as the solution pH increased. The observed retardation factor for Cr(VI), as defined by the number of pore volumes (PVs) passed when the effluent concentration equals to half of the input concentration on the Cr(VI) breakthrough curves was 6 in contrast to 1 for the raw zeolite. Test on hydraulic conductivity showed little change before and after Fe(II) modification and before and after Cr(VI) sorption, suggesting good mechanical stability to be used as packing materials for permeable reactive barriers in groundwater remediation.

P72 Water Quality Assessment of Centerville Creek in Manitowoc County, Wisconsin
Student Author: Ethan Poling
Institute: UW-Manitowoc
Faculty Sponsor: Rebecca Abler and Rick Hein
Topic: Chemistry
Centerville Creek, located southern Manitowoc County, winds through the village of Cleveland and feeds directly into Lake Michigan. The creek was once home to a historical mill pond. After the removal of the mill pond dam in 1996, decades of backed up sediment were left behind. This sediment has negatively affected the creek’s water quality, which in turn affects the aquatic life within the creek. In summer 2011, water quality data was collected on physical, chemical, and biological parameters of Centerville Creek. Seven points upstream of and within the mill pond were sampled for pH, temperature, flow, conductivity, turbidity, dissolved oxygen, phosphate, ammonia nitrogen, and bacterial (E. coli) contamination. Levels of E. coli, phosphate, and ammonia were consistently above threshold standards throughout the creek, suggesting that Centerville Creek is a significant source of the bacterial and algal contamination problems existing where it enters Lake Michigan. The north branch of the creek appears to be a significant contributor to E. coli and sediment load. Additionally, increased phosphate and turbidity levels within the millpond area suggest that runoff of sediment within this area is affecting water quality. E. coli pollution is not directly correlated with nutrient pollution, suggesting that the pollution may have several sources. Sediment removal and stream restoration is scheduled for Summer 2012, with a focus on controlling erosion within the mill pond area. Future research will focus on assessing the impact of restoration efforts on improving stream quality and on investigating upstream sources of stream contamination.
P73 Water: Mercury Deposits in Lake Michigan and Oak Creek Ash Spill
Student Authors: Elizabeth Pignatelli, Gina Hopkins
Institute: UW-Parkside
Faculty Sponsor: Ross Astoria
Topic: Chemistry
This presentation presented by Elizabeth Pignatelli and Gina Hopkins will focus on issues of water policies of Wisconsin regarding mercury deposits into Lake Michigan, and the coal ash spill that occurred in Oak Creek. The presentation touches base on health effects due to mercury in Lake Michigan, with a focus on laws and regulations. In Oak Creek, after a bluff collapsed, ash remained for years, spilling into Lake Michigan. Issues regarding state and federal agencies, such as the EPA, involvement are crucial to this case.

P74 Natural Bond Orbital Study for the Catalytic Destruction of Stratospheric Ozone
Student Authors: Christopher Kumferman, Leah Uecker, Theodore Tracy, Maxwell Merget
Institute: UW-Washington County
Faculty Sponsor: Mohamed Ayoub
Topic: Chemistry
The ozone layer, O3, acts as a solar filter, screening out ultraviolet rays, which are known to be energetic and harmful enough to humans, plants and animals alike, so much that it is unlikely that complex life forms would have evolved without this ultraviolet shield, i.e., O3 molecule. In this work we explore the electronic structure and reactivity of O3 relative to O2 using Natural Bond Orbital (NBO). In addition we investigate reactions known to cause the destruction of O3 with hydroxyl radical, chlorine and bromine.

P75 Simulated Wastewater Treatment Chlorination of Tylosin
Student Author: Caleb Frost
Institute: UW-Whitewater
Faculty Sponsor: Paul House
Topic: Chemistry
Pharmaceuticals and personal care products (PPCPs) have been detected in water supplies and wastewater effluents at concentrations of micrograms/L (parts per billion) around the world. One concern is that these pollutants, as well as other contaminants, may form toxic by-products when treated at wastewater treatment plants (WWTPs). One common method of disinfection used at WWTPs is treatment with chlorine gas (Cl2) which dissolves to form HOCl/OCl-. This work simulated treatment with Cl2 by reacting sodium hypochlorite (NaOCl) with select PPCPs to identify the products formed. High-pressure liquid chromatography (HPLC) and gas chromatography/mass spectrometry (GC-MS) were used as the main methods of analysis. Tylosin, a veterinary antibiotic, appears to be very reactive with NaOCl, creating multiple possible product peaks on the HPLC. Focusing on tylosin, the goal was to better identify the products formed when reacted with NaOCl and to create reliable and repeatable methods of detection and identification. New techniques and equipment, such as solid phase extraction with mixed anion exchange (MAX) cartridges in conjunction with HPLC and GC-MS, as well as derivatization of tylosin in conjunction with GC-MS were used. We anticipate to have product peaks on the HPLC after extracting the reaction mixture with the MAX cartridge, and possible identification of these products using the GC-MS. This work can lead to a better understanding on the transformation of PPCPs in WWTPs when chlorination disinfection is used.

P76 Coacervates as chemical reactors
Student Authors: Mercedes Swanson, Armando Ramirez, Nathan Soens
Institute: UW-Parkside
Faculty Sponsor: Vera Kolb
Topic: Chemistry
Coacervates are colloidal systems that are comprised of two immiscible aqueous layers, the colloid-rich layer, so-called coacervate, and the colloid-poor layer, so-called equilibrium liquid. Coacervates have numerous applications, notably as transport vehicles of pharmaceuticals. Our objectives are to explore the potential of coacervates as chemical reactors. Since the reaction medium in coacervates is water, this creates a challenge, since most organic reactants are not water-soluble. To overcome this challenge we are utilizing recent Green Chemistry examples of the organic reactions in water, such as the Passerini reaction. We are investigating this reaction in two coacervate systems.

P77 Synthesis and Characterization of Nitrogen Oxide Adducts with Non-Steroidal Anti-Inflammatory Drugs
Student Author: Lisa Hintz
Institute: UW-Parkside and University Of Arizona
Faculty Sponsor: Katrina Miranda
Topic: Cell and Molecular Biology
Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) are used frequently to treat symptoms of minor pain and inflammation. Although they are effective in their treatment of these symptoms, NSAIDs are responsible for serious side effects, in particular, gastrointestinal ulceration. Second generation NSAIDs overcome these side effects, but their overuse can lead to an increase in the risk of heart attack and stroke. HNO (nitroxyl) and NO (nitric oxide) donors have demonstrated cardioprotective effects, and thus adducts with NSAIDs may prove to be safer and more effective. A small library of NO and HNO releasing derivatives of NSAIDs were synthesized for the treatment of pain, inflammation and cancer. These NONO-NSAIDs were characterized in their effectiveness as HNO and NO donors. The mechanism of decomposition and NO/HNO release were compared to the parent donors. Analysis confirmed the decomposition mechanism in the presence of esterase, and that our NONO-NSAIDs were releasing NO and HNO more effectively than their ionic precursors.

**P78 Interlimb transfer of dynamic adaptation occurs best along intrinsically consistent coordinates**

Student Authors: Khongchee Xiong, Katie Marek  
Institute: UW-Milwaukee  
Faculty Sponsor: Jinsung Wang  
Topic: Cell and Molecular Biology

Learning a motor task with one arm often facilitates performance of the same task with the other. A number of studies have been conducted to understand the pattern of interlimb transfer under various sensorimotor conditions, although their findings are somewhat equivocal. For example, our previous study demonstrated that interlimb transfer of motor learning under a novel dynamic condition occurs best along intrinsically consistent (i.e., mirror-imaged) coordinates between the arms whereas another study showed that it occurs best along extrinsically consistent coordinates. This discrepancy may be attributed to the fact that the subjects in the former study learned a reaching task under an acceleration-dependent force condition whereas those in the latter study learned it under a velocity-dependent force condition. It could also be attributed to the fact that the subjects in the latter study held a handle in their hand while performing the reaching task, which must have provided haptic information, whereas those in the former study did not. We now reexamine this issue by investigating the pattern of interlimb transfer following adaptation to a novel velocity-dependent force condition while our subjects perform a reaching task without holding a handle. Our preliminary results indicate that the extent of interlimb transfer was greater when the two arms adapted to the novel force condition under the intrinsically, as compared with extrinsically, consistent condition, thus replicating our previous finding. These findings collectively suggest that the availability of haptic information can influence the pattern of interlimb transfer of dynamic adaptation substantially.

**P79 Bioinformatics Sequence Comparison Game**

Student Authors: Eric Augustine, James Jensen, Spencer Vanderpoel, Corban McCammon, Brett Penza  
Institute: UW-Parkside  
Faculty Sponsor: Derek Riley  
Topic: Cell and Molecular Biology

Bioinformatics Sequence Comparison Game is a card game developed for Android devices to teach students the structure of amino acids and how they pair. Dr. Robert Barber of the UW-Parkside Biological Sciences department developed the game as a learning tool and wanted an electronic version of the game to make it more widely accessible. We used the iterative prototyping software engineering model to design, implement, and test the application. The finished product allowed 1-4 players to play a game based on Dr. Barber’s paper entitled A ‘Game’ Introduction to Bioinformatic Sequence Comparison. The result is an engaging learning tool students can use to learn both in and out of class.

**P80 Knocking Out the H gene**

Student Authors: Jenifer Andrews, Emily Binversie, Zachary Tutlewski, Christine Gross  
Institute: UW-Parkside  
Faculty Sponsor: M. Scott Thomson  
Topic: Cell and Molecular Biology

Tribolium castaneum exhibits genetic incompatibility between two genes called the Medea gene and H gene. We are interested in the H gene, which has been discovered to be on linkage group 9, but we still do not know the exact location. In order to find the H gene’s exact location, we are using transposable elements in hopes that the element will “jump” into the H gene and distort the normal function of the gene. We crossed females containing the H gene and the transposable element to males containing the Medea and then we
collected the eggs to see if any survivors appeared. To date, we have found three surviving adult beetles from these crosses. The adult beetles have been crossed to set up stocks for future study. There is a possibility that these three beetles have the transposable element in or near the H gene enough to knock out the H gene’s function, or there is the possibility that these beetles are just random survivors caused by random mutations. We cannot determine this until we have a large stock to begin conducting genetic testing.

P81 Genetically Mapping the Hybrid Incompatibility Factor (H) in Tribolium castaneum
Student Authors: Christine Gross, Emily Binversi, Jennifer Andrews, Zach Tutlewski
Institute: UW-Parkside
Faculty Sponsor: M. Scott Thomson
Topic: Cell and Molecular Biology

The Hybrid Incompatibility factor (H) in Tribolium castaneum is of great interest due to the effects such as sterility, reduced fertility, and behavioral deficits it causes when two incompatible strains mate. Genetic crosses were performed between a strain containing a visible eye color mutation, E04410, and a strain homozygous for H. A mapping population was created from the F2 generation of this cross. Only those recombinant between H and the visible eye color mutation were analyzed so as to attempt to determine the exact location of H. A microsatellite marker, 2-1191, known to be located on the ninth linkage group between H and E04410 was used to observe the frequency of recombination between the microsatellite and H via PCR and gel electrophoresis. Additional DNA markers will be tested in turn until the position of H is pin-pointed.

P82 Comparing Punica granatum, Prunus cerasus, and Vaccinium macrocarpon Extracts for Antiviral Potency
Student Authors: Jaime Castillo, Holly Ozanich
Institute: UW-Oshkosh
Faculty Sponsor: Teri Shors
Topic: Cell and Molecular Biology

Plants are naturally occurring organisms that could lead to a deficit in synthetic pharmaceuticals and a shift to alternative and natural remedies. Recently, researchers’ findings demonstrated that pomegranates, Punica granatum, have been found to exhibit antiviral activity in viruses such as human norovirus and feline calcivirus. The use of bioactive compounds present in fruits such as, Prunus cerasus (cherries), Vaccinium macrocarpon (cranberries) and pomegranates, have combined with traditional medicine as a more natural and accessible approach to treat various illnesses. Cherries are becoming known as a ‘super fruit’ with claims to help arthritis pain and inflammation, and reduce the risk factors for cardiovascular disease. Cranberries have been used to treat urinary tract infections for decades but little is known about their antiviral properties. Vaccinia virus was treated with different combinations of pomegranate, cherry and cranberry extracts in order to determine their antiviral potency. Cherry extracts augmented the inhibition of vaccinia virus when combined with cranberry and/or pomegranate extracts.

P83 A novel route to N-alkyl-3,5-disubstituted-2-pyridones
Student Author: Matthew Knollenberg
Institute: UW-Oshkosh
Faculty Sponsor: Samuel David
Topic: Cell and Molecular Biology

N-alkyl-3,5-disubstituted-2-pyridones are very highly useful compounds that can be used as part of artificial peptides and are present in many natural products with antibacterial and antifungal activity. We propose a very easy and high-yield route to Ethyl 5-cyano-2-oxo-1-(2-phenylethyl)-1,2-dihydropyridine-3-carboxylate, a structure that is part of therapeutic drugs used in modulating the activity of gamma secretase, a protease active in Alzheimer’s disease.

P84 Gene expression analysis to evaluate the effect of p38 specific inhibitor SB203580 on SEB-induced apoptosis related pathways
Student Authors: Lisa Hesse, Casey Sondgeroth
Institute: UW-Platteville
Faculty Sponsor: Chanaka Mendis
Topic: Cell and Molecular Biology

Staphylococcal enterotoxin B (SEB) is an enterotoxin that has been thoroughly investigated. However, little is known about the cascades of signaling events that explain the patho-mechanism of SEB. This research involves the pathogenic nature of SEB, which can cause death in human peripheral blood mononuclear cells (PBMC). Since SEB is known to induce multiple signal transduction pathways, we have identified a crucial pathway inter-connector (p38) that may have an inhibitory effect in unwanted, SEB-induced, cellular activities. This study is focused on obstructing signaling pathways with the use of the inhibitor 4-[5-(4-Fluorophenyl)-2-[4-[(methylsulfonyl)phenyl]-
1H-imidazol-4-yl)pyridine (SB203580), followed by analyzing alterations to known expression patterns of genes associated with apoptosis. Some of these genes include Caspase 1, 3, 6-10, Heparanse precursor (HEP), Genes associated with Retinoid-IFN induced Mortality (GRIM) 19 and CASP2 and RIPK1 domain containing Adaptor with Death Domain (CRADD). This effect will be further confirmed through a set of protein expression analysis. As our experimental design specifically targets pathway inter-connector p38, we believe the target is unique and has the ability to sustain longer lasting inhibitory effects. We are also confident that inhibiting such a component will have a maximum effect on a cell module, terminating the “leaking effect”, which may benefit a number of experimental modules focused on disease prevention and rapid diagnostics.

P85 Developing a Diagnostic Tool for Screening Iron Deficiency in Infants
Student Author: Cheryl Leyns
Institute: UW-Parkside
Faculty Sponsor: Daphne Pham
Topic: Cell and Molecular Biology

Background and Rationale: Iron deficiency (ID) acquired in infancy can lead to a multitude of metabolic and neurological impairments later in life. Early diagnosis is advantageous, but an optimal screening tool for ID must first be available; the iron storage protein, ferritin, emerges as a good candidate. The goal was to test the feasibility of measuring whole blood ferritin using dried blood spots from the Newborn Screening Program cards to measure ferritin concentrations and predict newborn iron status. Methods: Enzyme-Linked ImmunoSorbent Assays (ELISA) were performed on whole cord blood, cord erythrocytes, cord plasma, and dried, spotted whole cord blood samples to determine if the ferritin levels in the dried samples strongly correlated. The ferritin levels of whole cord blood were also compared to the sum of cord plasma and erythrocytes as an internal control. Results: Cord whole blood, erythrocyte, and plasma ferritin concentrations were positively correlated with dried blood spots from the screen cards. The sum of the cord plasma and erythrocyte ferritin showed a positive correlation to whole blood ferritin as well. Conclusions: Our data showed that ferritin concentrations from dried blood spots have a significant correlation with whole cord blood, cord erythrocyte, and cord plasma ferritin level in cord blood. This tool is a feasible screen for newborn iron status and should be further studied.

P86 Isolation and characterization of bacteriophages from soil samples.
Student Author: Robert McCabe
Institute: UW-River Falls
Faculty Sponsor: Karen Klyczek
Topic: Cell and Molecular Biology

Bacteriophages, or phages, are the most numerous biological entities on the earth and new variants are discovered frequently. There is emerging use in this country for the use of phages to treat certain bacterial infections, such as tuberculosis. This form of treatment is called ‘Phage Therapy’. Mycobacterium smegmatis is a strain of bacteria that is often used to study mycobacteriophages because it is non-pathogenic and rapidly multiplies. It also is in the same genus as the tuberculosis bacteria (specifically, Mycobacterium tuberculosis). Our research involved isolating unknown mycobacteriophages from soil and comparing their structural and genetic makeup to other known mycobacteriophages. Serial dilutions and plaque-picking methods were employed to isolate four possible phages. Two of the four produced large plaques with halos, while the remaining two produced much smaller plaques in comparison. We tested for possible identification with different primers for several viral clusters. Strong PCR results came from multiple viral cluster primer sets, mainly clusters A1 and A2. Transmissions Electron Microscopy (TEM) pictures of the phage were obtained which had traits that were not consistent with cluster A1 or A2. However, further analysis to determine if these results represent genetic mosaicism in the new phages by sequencing the PCR products and comparing the sequences to known phage genes using BLAST analysis. In addition, phage DNA will be analyzed by restriction enzyme digestion and gel electrophoresis, and the fragment patterns compared to the database of previously characterized phages. Additional PCR primers will also be designed and used to generate a more accurate genetic cluster designation. Stable lysogens will be generated from the new halo-forming phages that appear to be temperate, which may allow us to test what is known as cross immunity with other known phages. This study will contribute to understanding the genetic diversity of this important virus group.
P87 Gene Comparison Tool
Student Authors: Adam Nelson, Nicole Becker, Adam Dalby, Jim Choinowski, Emily Marriott
Institute: UW-Parkside
Faculty Sponsor: Derek Riley
Topic: Cell and Molecular Biology

With any research, there is a need to organize information gathered, as such as the case with our client, Dr. Kasandra Riley, a Postdoctoral Fellow working in Steitz Lab on the function of EBV miRNAs at Yale University. Dr. K. Riley needed a way to compare two or three lists of up to 30,000 genes to create attractive, informative Venn diagrams, and output the lists of genes that fall in “unique” or “overlapping” categories between the data sets. Our Software Engineering group implemented this project following an Incremental Prototyping Model, delivering a Requirements Document, Design Plan, Testing Scheme and functional Gene Comparison Tool for our client. From this project, we were able to effectively utilize a software engineering process model in a collaborative setting providing a functional product to our client. As technology continues to expand, the importance of knowing how to engineer a software product within an unfamiliar field, is the future.

P88 GMO Gene Transfer
Student Author: Timothy Noonan
Institute: UW-Waukesha
Faculty Sponsor: Lori Brock
Topic: Cell and Molecular Biology

Genetically modified (GM) plants are consumed in the diets of millions of people today, but the complete implication of using this technology is not yet understood. GM plants often incorporate genetic material that would not naturally occur or be expressed in typical plant flora. Consequently, there may exist unanticipated effects of GM plants on the surrounding environment. One such possible effect is horizontal gene transfer (HGT) from GM plants to bacteria occurring in the gut of native bird species that consume the vegetation in their diet. Antibiotic-resistance genes are combined with genes of interest onto a single DNA plasmid. This plasmid is then inserted into plant cells during the process of transforming, or genetically modifying, a plant. Plants that have successfully incorporated the plasmid into their genome express not only the gene of interest (such as BT toxin), but also the gene granting antibiotic resistance. The plant tissue is then grown on a media with an antibiotic – plants that have incorporated the plasmid are able to grow on the media, while plants that did not take up the plasmid fail to grow. Thus, only GM plant tissue remains and can be used to develop an adult organism. Two of the most common antibiotic-resistance genes used in this process impart resistance to ampicillin and kanamycin. When birds consume plants that are genetically modified, their gut bacteria may take up and express (via HGT) the ampicillin and kanamycin resistance genes released from the plant tissue. Additionally, soil bacteria surrounding GM plants may develop increased levels of antibiotic resistance; birds consuming insects, worms, etc. carrying these soil bacteria may introduce antibiotic-resistant strains of bacteria to their gut flora. Specifically, we are assessing the resistance to ampicillin, kanamycin, and streptomycin in bacteria cultures derived from bird fecal samples. As ampicillin resistance is commonly used during genetic engineering, it will serve as the major indicator of the possible gene transfer from GM plants to bacteria. Ampicillin resistance does occur naturally in soil bacteria, but not on nearly as high a level that GM plants exhibit. As such, resistances to further antibiotics are being examined. Kanamycin is also used during the engineering process, but resistance is not common in the environment. Streptomycin resistance is not imparted to GM plants, but resistance is fairly common in soil bacteria. To that end, we are performing Kirby-Bauer diffusion assays of bacterial samples derived from birds native to southeastern Wisconsin, as well as obtaining the minimum inhibitory concentration (MIC). The Kirby-Bauer assay screens for the presence of antibiotic resistance, while the MIC determines more quantitatively the concentration of antibiotic required to prevent bacterial growth. Additionally, through PCR analysis of the bacterial samples, we are examining the presence of the ampicillin-resistance gene, and GM markers nopaline synthase (NOS) terminator and cauliflower mosaic virus (CAMV) terminator. As 16s rRNA is ubiquitous in bacteria, primers designed to target the gene will serve as a positive PCR control. Preliminary Kirby-Bauer results have shown the majority of samples possess high resistance to ampicillin, but lack resistance to streptomycin. These results remain consistent with the assumption that bird gut flora has obtained resistance due to the influence of GM plants. Comparing the resistances to all three antibiotics, in conjunction with the PCR results, will contribute to determining whether the antibiotic resistances found in bird gut bacteria are naturally occurring, or influenced by HGT from GM plants.
P89 RESCUE OF CAENORHABDITIS ELEGANS DAF-9 WITH BRUGIA MALAYI DAF-9

Student Author: Robert Langenohl
Institute: UW-Whitewater
Faculty Sponsor: Kirsten Crossgrove
Topic: Cell and Molecular Biology

DAF-9 encodes a cytochrome P450 that regulates larval development and adult longevity in the nematode Caenorhabditis elegans. The DAF-9 protein synthesizes the steroid hormone dafachronic acid (DA). DA functions as a ligand for DAF-12 and when bound together, the worm continues on the normal reproductive development pathway. If DA is not bound to DAF-12, the worm will enter the dauer stage, a period of metabolic inactivity the worm can enter when certain environmental conditions are not met. Mutations in daf-9 have been found to cause dauer arrest. The dauer stage is thought to be analogous to the infective stage of parasitic nematodes, including Brugia malayi. B. malayi is a parasitic nematode that is one of the causative agents of lymphatic filariasis, a human disease that is characterized by infection and swelling of the lymphatic system. By identifying and cloning the B. malayi daf-9 gene I hope to be able to rescue mutant C. elegans with Bm-daf-9 to show that daf-9 function is conserved in B. malayi. If these chemical pathways are indeed similar then the genes associated with dauer recovery should be associated with infective stage larvae molting. This information may allow medications or vaccines to be created to prevent B. malayi, and other parasitic nematodes, from progressing into the L4 larvae within a human host, and therefore preventing filarial diseases. Currently I am in the process of generating the plasmids necessary to make transgenic worms to verify that B. malayi daf-9 will rescue mutant C. elegans.

P90 Characterizing the growth kinetics of met31\&#16 and met32\&#16 yeast strains on different sole sulfur sources.

Student Author: Chelsea Stellmach
Institute: UW-Parkside
Faculty Sponsor: Traci Lee
Topic: Cell and Molecular Biology

Met4, a transcriptional activator, induces the expression of sulfur metabolism genes in common bread yeast, Saccharomyces cerevisiae. Met4 relies on cofactors to bind to DNA including the Cbf1 protein, the Met28 stabilizer and two zinc finger proteins: Met31 and Met32. Our laboratory previously determined that transcription of genes involved in sulfate assimilation and sulfonate metabolism is greatly reduced in met32\&#16;cells upon Met4 hyperactivation, compared to met31\&#16; and wild-type counterparts. Despite this, both met31\&#16; and met32\&#16; cells can utilize sulfate, sulfite, cysteate, taurine, and isethionate as sole sulfur sources in a simple growth response assay. To address this discrepancy, we examined the growth kinetics of met31\&#16; and met32\&#16; cells (compared to wild-type and met31\&#16;met32\&#16; controls) in minimal media using these sulfur compounds as sole sulfur sources. We hypothesize that met32\&#16; cells will grow relatively slower than met31\&#16; under these conditions, compared to its relative growth rate in rich media or in minimal media using other sole sulfur sources. Our preliminary findings support this hypothesis.

P91 Alternative Splicing of Algal 5' - 3' Exoribonuclease mRNA in CrXrn1-GFP Transformed Chlamydomonas reinhardtii

Student Authors: Brett Vanderwerff, Ashley L. Gehrand
Institute: UW-Parkside
Faculty Sponsor: David Higgs
Topic: Cell and Molecular Biology

5' - 3' exoribonucleases (Xrn) are critical ribonucleases that regulate RNA abundance and processing in eukaryotes. In the model single-celled green alga Chlamydomonas reinhardtii an Xrn-like enzyme activity has been identified that controls stability of photosynthetic mRNAs in the chloroplast, and thereby could control photosynthesis. Previously, we used genomic and biochemical analyses in C. reinhardtii to identify a putative Xrn gene (termed CrXrn1) that we hypothesize encodes the chloroplast Xrn-like activity. RNA analysis using Reverse Transcription-PCR (RT-PCR) and sequencing has determined that two mRNAs (CrXrn1a and CrXrn1b) are produced from the one CrXrn1 gene through alternative splicing. The CrXrn1b mRNA is hypothesized to encode a chloroplast-targeted CrXrn1b protein and provide the aforementioned chloroplast mRNA degradation activity. To test sub-cellular targeting of CrXrn1b protein we generated transgenic C. reinhardtii with various CrXrn1-GFP (Green Fluorescent Protein) reporter genes. We used confocal microscopy to determine sub-cellular location of the CrXrn1-GFP proteins by virtue of the green fluorescence, and co-localization of CrXrn1b-GFP with chloroplast was detected. To test if the alternatively spliced CrXrn1-GFP mRNAs are being formed as expected, we are using RT-PCR and sequencing. This
will allow us to confirm the RNA sequence (introns and exons) and alternative splicing. Our goal is to gain a better understanding of this alternative splicing process that appears to regulate these important Xrn proteins and their sub-cellular targeting. We will present data on GFP sub-cellular targeting and the alternative splicing for the CrXrn1-GFP mRNAs.

**P92 Forensic Analysis of Hair Degradation and DNA Extraction Success In Two Soil Depths**

**Student Author:** Anna Smith  
**Institute:** UW-Whitewater  
**Faculty Sponsor:** Kirsten Crossgrove  
**Topic:** Cell and Molecular Biology

In the forensic community great strides are being made to further how DNA evidence can be used to help solve a crime or identify a deceased victim. Keratin filled cells protect the internal DNA of hair and that seal could act as an extra layer of protection from contamination and degradation which is important if this DNA might be used as evidence. There are more DNA containing cells in the hair root, but the DNA may be better protected in the shaft of the hair over longer periods of time. To test this hypothesis hair samples were collected from two soil depths, deep soil to simulate a deep grave and a shallow layer soil to simulate a shallow grave, over a five week period. Each hair sample was then cleaned and the hair roots were separated from shafts. DNA will be extracted from the hair samples and analyzed using quantitative Real Time PCR (qRT-PCR) with primers that will amplify three different size products. Through this method we will be able to determine the quality and quantity of the hair samples’ root versus shaft DNA after being subjected to each soil depth for different periods of time. This research will give insight into how durable hair DNA is and at what point the samples’ DNA is no longer able to be amplified.

**P93 Exosome-mediated Pulmonary Resistance to Aspergillus fumigatus**

**Student Author:** Bryan Prahl  
**Institute:** UW-Stout  
**Faculty Sponsor:** James Burritt  
**Topic:** Cell and Molecular Biology

Aspergillus fumigatus is a filamentous fungus that can cause fatal infections in the lungs of humans with defective immunity. However, A. fumigatus rarely causes infections when the immune system is intact. The mechanism of host resistance to A. fumigatus is not completely defined. Evidence from human and animal models indicates resistance to several fungi involves NADPH oxidase, which produces microbicidal reactive oxygen species (ROS) in certain white blood cells known as phagocytes. Pulmonary exosomes are subcellular vesicles that are known to contribute to inflammatory responses in the lungs of mammals. Exosomes have not yet been investigated for their ability to produce ROS, though they have been shown to include a number of host defensive and inflammatory mechanisms. We hypothesize there is a link between exosome production and resistance to A. fumigatus infection. Flow cytometry was used to examine mouse lung lavage samples for exosome numbers and for exosomes bearing proteins, which could be involved in ROS production. Luminometry was used to measure ROS produced by exosomes directly, following exposure to phorbol myristate acetate, which is a trigger of NADPH oxidase. Further, we examined pulmonary exosomes for evidence of protein subunits of the NADPH oxidase and the ability of exosomes to produce ROS. Although exosomes have been reported as nano-size immunomodulatory vesicles, our data suggests that exosomes do not contribute to the production of ROS inside the lung.

**P94 Environmental Effects on Pig DNA Degradation over Time**

**Student Author:** Choua Vang  
**Institute:** UW-Whitewater  
**Faculty Sponsor:** Samantha Samreth  
**Topic:** Cell and Molecular Biology

This research is an analysis of the effects of the environment on DNA degradation and decomposition in pig tissue. Since pigs have been known to share similar tissue as humans, piglets will serve as a model for humans for this research. Subject piglets are placed in one of three environments---submerged, positioned on surface, and buried. During the first three days of decomposition, data and tissue are collected. This schedule of collection is critical because during the first three days, the most physical changes typically take place. After the first three days, data and tissue will be collected every three days until the decomposition cycle is completed. Tissue samples collected during the decomposition cycle of piglets are analyzed by Polymerase Chain Reaction (PCR) and visualized using gel electrophoresis. These tissue samples are tested for presence of DNA over time as well as how different environment might affect the DNA degradation rate of piglets. This study will assist forensic trace evidence
collection and interpretation by determining how environments affect DNA degradation in pig tissue. It is anticipated that the results of the study will yield valuable insight into how the DNA of a similar form of tissue, human tissue, is impacted under similar conditions through photos of gels and graphs to show the degradation of DNA as the decomposition cycle takes its turn. This analysis will assist scientists in evaluation of crime scene evidence, which could aid law enforcement officials’ efforts to more efficiently utilize forensic techniques.

**P95 The Use of Mental Skills During Stock Car Racing**

Student Author: Jessica Gagnon  
Institute: UW-Parkside and Marquette University  
Faculty Sponsor: William Ebben  
Topic: Life Sciences

Background and Rationale: Stock car racing is a popular spectator sport. However, the experience of the driver has been largely un-researched. This study examined the relationship between stock car driver performance, mental skills, and experience.

Methods: Twenty stock car drivers (age \(39.5 \pm 13.8\) years) from throughout the United States participated. Participants’ use of mental skills was assessed with the Psychological Skills Inventory for Sports-R5, along with racing experience and success. A Pearson’s correlation coefficient was used to examine the relationships between these variables.

Results: Track points ranking (percentile) was negatively correlated with mental preparation (\(R = -0.46, p = 0.004\)) and anxiety coping (\(R = -0.53, p = 0.028\)). Participants’ age was negatively correlated with motivation (\(R = -0.56, p = 0.023\)). Participant’s motivation was correlated with self-confidence (\(R = 0.48, p = 0.047\)), mental preparation (\(R = 0.48, p = 0.03\)), and team emphasis (\(R = 0.46, p = 0.04\)). Concentration was correlated with self-confidence (\(R = 0.64, p = 0.002\)) and anxiety coping (\(R = 0.65, p = 0.002\)). Self-confidence was correlated with anxiety coping (\(R = 0.64, p = 0.003\)). Mental preparation was correlated with team emphasis (\(R = 0.50, p = 0.024\)).

Conclusions: Results reveal a relationship between racing success as evidenced by percentile score and mental preparation, as well as the ability to cope with anxiety. Stock car drivers, as well as sport psychologists who work with them, should emphasize strategies reducing anxiety and employ mental skills training to increase racing success.

**P96 Lactobacillus acidophilus Inhibition of Mold Growth on Wet Distiller’s Grains**

Student Authors: Zachary Sankey, Ashley Mangin, Megan Arnoldussen  
Institute: UW-Fox Valley  
Faculty Sponsor: Dubear Kroening  
Topic: Life Sciences

Probiotic bacteria Lactobacillus acidophilus were evolved to grow on wet distiller’s grains (wetcake) at room temperature and inhibit the growth of mold. This would allow preservation of wetcake so that it could be transported and stored for use as livestock feed.

**P97 Effects of BHA and Benzophenone on a Model Land Plant, Arabidopsis thaliana**

Student Authors: Marie Nider, Emmanuel Higgins  
Institute: UW-Whitewater  
Faculty Sponsor: Catherine Chan  
Topic: Life Sciences

Many common pharmaceutical and personal care products (PPCPs) are prevalent enough to be found in the effluent of wastewater treatment plants, which may then accumulate to much higher concentrations in sewage sludge (biosolids). It is a common practice in the United States to apply these biosolids to crop fields as fertilizer, allowing PPCPs to come in contact with crops and other terrestrial plants. Two PPCPs of interest are butylated hydroxyanisole (BHA), a food preservative, and benzophenone, a widely used chemical in packaging and inks. A model land plant, Arabidopsis thaliana, was grown in varying concentrations of these select PPCPs and monitored for changes in germination, early growth, and macro and micro nutrient content. Mineral analysis showed that plants treated with 10 parts per million (ppm) BHA have a significant deficiency in boron and copper. Plants exposed to benzophenone at concentrations as low as 2-3 ppm are notably smaller than the control group and show visible signs of stress, such as leaf yellowing and slowed secondary root growth. The results observed may also be applicable to other land plants, consequently impacting human health by altering the mineral content of plants and decreasing crop yield. PPCPs that negatively affect land plants may also cause significant consequences on the surrounding ecosystem.
P98 Toxicity and Developmental Effects of Tradescantia zebrina Extract on Two Model Organisms

Student Authors: Andrew Mallard, Joshua Laurin, Miriah Pautz, Heather Havel, Tabitha Matznick, Anna Sonnenberg
Institute: UW-Manitowoc
Faculty Sponsor: Rebecca Abler; Richard Hein
Topic: Life Sciences

Background and Rationale: Tradescantia zebrina is a common household plant that has been known in the scientific community to possess medicinal properties. It is consumed as a tea in Hmong and Mexican cultures to relieve muscle strains, ligament tears and relieve cold-like symptoms. We are investigating the toxicity of Tradescantia zebrina on brine shrimp and zebra fish embryos.

Methods: We made a Tradescantia zebrina tea and ran toxicity assays on brine shrimp and zebra fish embryos. During our trials we recorded the number of dead organisms versus living organisms over a period of time as well as the time it took to hatch the fish embryos.

Results: We observed that the lemon juice control and 100% tea extract had a significant decrease in survivorship after 48 hours. The decrease in survivorship correlates with the amount of lemon juice in each dilution. However after 48 hours, the control had the least hatched.

Conclusions: Given the data acquired, we are exploring other extraction protocols. We are currently running trials using Tradescantia zebrina extract without lemon juice to test for potential movement and developmental effects.

P99 Method for Estimating Power Grip Force Using Surface EMG

Student Authors: Eric Sanford, James Fitzgerald, Hillary Brummond, Tiffany Cash
Institute: UW-Milwaukee
Faculty Sponsor: Jay Kapellusch
Topic: Life Sciences

Background and Rationale: This study demonstrates use of surface electromyography (EMG) to estimate applied power grip force. Measurements of applied grip force are needed to design safe jobs in industry. Unfortunately, modifying tools with instrumentation such as force sensors is expensive and often fundamentally changes the way the tool works and/or the way the worker interacts with the tool.

Methods: Surface (EMG) is used to record the muscle activity of 6 muscles (3 flexors and 3 extensors) in the forearm during power grip exertions. Values for normalizing the EMG signals are determined by measuring peak muscle activity. Peak activity is provoked through resisted hand/wrist maneuvers and a maximum grip contraction. This is followed by a series of 8 slow (2s per effort) power grip contractions performed on a digital grip dynamometer and at 67% of maximum voluntary contraction (calibration grasps). EMG signals from the calibration grasps are normalized as a percentage of maximum amplitude for each of the six channels. Linear regression is then used to predict applied grip force (from the dynamometer) using the six normalized EMG signals. Once calibrated, the system can be used to predict power grip force applied to non-instrumented tools.

Results: Preliminary testing has shown that this method estimates grip force within ±10 percent actual for each effort. By measuring several successive efforts, mean required force to use a tool can be estimated to within ±3 percent.

Conclusion: Surface EMG can be used to provide accurate, reliable measurements of applied grip force.

P100 Agriculture, Urbanization, and Typha spp. Impact on Chiwaukee Prairie

Student Author: Katianna Lewis
Institute: UW-Parkside
Faculty Sponsor: David Rogers
Topic: Life Sciences

Chiwaukee Prairie State Natural Area, located in southwestern Wisconsin, is historically classified as both prairie and wetland with undulating ridge and swale topography. Due to the ridge-swale topography, environmental conditions are highly variable, ranging from dry, to mesic, to wet-mesic, to inundated wetland over small spatial scales. This highly variable environment translates to a highly diverse vegetation and high habitat complexity. Development for agriculture and urbanization has changed the natural water flow, which in turn has changed the natural hydrology of the area. Increased sediment and nutrients from nearby agriculture land, coupled with the changing hydrologic conditions, have altered the Chiwaukee Prairie State Natural Area including the invasion of Typha spp., more commonly known the cattail. We used a combination of vegetation surveys and a series of monitoring wells to measure both surface and ground water to gauge the impact of urban and agricultural run-off on Chiwaukee
Prairie. Data suggests that Typha spp. are invading native vegetation and changing the local ecology by replacing sedge meadows (Carex lasiocarpa and Carex stricta) and bulrush (Scirpus spp) dominated emergent marsh. With increased fertilizer use on nearby agricultural land, nitrogen, phosphorous, and potassium levels have increased in the water runoff and are affecting the area by creating optimal growing conditions for Typha spp. Pilot experiments for a large restoration initiative that involved hydrological restoration followed by herbicide treatment of Typha populations show some recovery of the degraded wetlands and marshes five years following treatment.

P101 ERGONOMIC STUDY OF GENERAL PRACTICE PHYSICIANS AND SPECIALTY PRACTITIONERS PERFORMING OFFICE-BASED SURGERIES

Student Author: James Hermanson
Institute: UW-Whitewater
Faculty Sponsor: Sang Choi
Topic: Life Sciences

According to the Institute for Safety in Office-based Surgery, more than 10 million office-based surgeries were performed by family physicians, dermatologists, plastic surgeons, and numerous other surgical sub-specialists. With the continued advancements in medical technology and rising cost of health care, the volume of outpatient surgeries will continue to grow. A subjective ergonomic analytical method is used to assess the occupational risk factors of physicians performing office-based surgeries from within and outside the hospital setting. After several revisions and IRB approval, a single page double-sided survey questionnaire was developed to identify the risk of work-related musculoskeletal disorders (WMSDs) of the physicians performing office-based surgeries. The first section; comprised of nine questions, looks at each participant’s demographic data such as height, weight, and age. The second section; made up of eleven questions, addresses the participants workplace environment such as pace of work, number of surgeries performed, and training. The remaining 26 questions focused on each participant’s level of frequency and intensity of discomfort that make up the BodyMap. A total of 160 questionnaires were distributed to various specialty areas within hospitals, free-standing surgical centers, and doctor offices with a targeted response rate of 30%. Currently, 19 surveys have been fill out and returned. And a preliminary statistical analysis of the data has been completed using an Excel spreadsheet. Results of this research study could provide further insight into providing greater awareness of WMSDs and better implementation of ergonomic interventions associated with office-based surgeries.

P102 Evaluation of Grip Force Required to use Manual Cable-Tie Handtools

Student Authors: James Fitzgerald, Eric Sanford, Hillary Brummond, Tiffany Cash
Institute: UW-Milwaukee
Faculty Sponsor: Jay Kapellusch
Topic: Life Sciences

Background and Rationale: Manual cable-tie hand-tools are commonly used in the manufacture of large wiring harness assemblies, particularly for the aircraft industry. Large wiring harnesses repetitive use of these tools. Force and repetition are known risk factors for musculoskeletal disorders. Given that these tools are used repetitively, quantifying required grip force to use the tool is essential in order to design jobs that use the tool safely.

Methods: Twenty-four participants (12 males and 12 females) used four different cable-tie tools to apply 3 different strength cable ties (12 combinations). For each combination subjects applied ties at a rate of 6 ties per minute for 10 minutes (60 ties per combination). All combinations were replicated. Applied grip force was estimated using surface EMG. Subjects provided qualitative ratings of perceived effort using the Borg CR-10 scale. Data were analyzed using repeated measures ANOVA to determine effects of tools and ties on applied grip force and ratings of perceived effort.

Results: Average grip forces were between 27.8lbs and 46.5lbs, and Borg CR-10 Ratings were between 1.2 (very light) and 5.6 (hard) for all tool-tie combinations. Tool (p< 0.001) and Tie (p< 0.001) were significant factors associated with both applied grip force and perceived effort.

Conclusions: Cable-Tie hand-tools require substantial grip effort to use, particularly for high strength cable-ties. Some tools require less force than others. Overall, tie strength has the largest effect on applied force. Where possible, smaller ties should be used. Engineers should limit high repetition use of cable-tie hand-tools.
P103 Efficient Storage of Fearful Faces in Working Memory
Student Authors: Melanie M.Wamboldt, Daniel M. Stout
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Faculty Sponsor: Christine L. Larson
Topic: Life Sciences

Past research has investigated the extent to which emotional information influences cognitive processes such as attention and memory. In particular, negative emotional stimuli related to fear, sadness, and anger capture attention and are efficiently processed. However, little research has examined emotional information and its effect on working memory (WM). The purpose of the current study was to evaluate how fearful faces are attended to and stored in WM relative to neutral faces. Students from the University of Wisconsin-Milwaukee completed a computerized change detection task where they viewed faces with neutral or fearful expressions. The setsize (1 or 2) and the emotional expression of the faces were manipulated in each trial. It was hypothesized that fearful faces will be processed more efficiently and stored in WM to a greater extent than neutral faces. Results show there was a significant setsize by expression interaction; where more fearful faces were stored in WM than neutral faces at a larger setsize. An additional condition in this study included a setsize two condition where both fearful and neutral targets are present. Particularly of interest, the results show that individuals performed better than in the neutral face condition, but no difference from the fearful face condition at the same setsize. These results suggest that fearful faces facilitate processing even when there is a neutral face present. These findings are consistent with previous research on emotional information and its role in WM. Identifying and storing negative stimuli in WM is important for detecting threats in our environment.

P104 Influence of Wastewater Treatment Plant Discharge on Reproduction and Vitellogenin Concentrations in Caged Fathead Minnows (Pimephales promelas)
Student Authors: Lisa Griffin, Andrew Fuchs
Institute: UW-Whitewater
Faculty Sponsor: Elisabeth Harrahy
Topic: Life Sciences

Concern over pharmaceuticals and personal care products (PPCPs) in the environment has increased as more of these contaminants have been found in measurable quantities in water bodies. One source of this pollution is wastewater treatment plants (WWTPs), where some PPCPs are being delivered and then discharged unchanged. Estrogens have been found in natural and synthetic forms in receiving waters. Other studies have shown that male fathead minnows (Pimephales promelas) exposed to estrogens or estrogen mimics can produce vitellogenin, an egg precursor protein normally found only in female fish. The goal of this study was to determine if WWTP effluent discharged to Whitewater Creek has effects on egg production and vitellogenin concentrations in caged fathead minnows. Our 24-day field study was conducted at two sites, one located upstream of the Whitewater WWTP, and one located below. One male and two female fish were placed in each of 18 in-situ breeding chambers at each site. We measured survival, egg production, male sexual characteristics, and water quality parameters daily. WWTP influent, and effluent, and Whitewater Creek surface water and sediment were sampled during the study for analysis of 42 PPCPs. We found no significant difference in survival, egg production, or male sexual characteristics between sites. Blood plasma collected at the end of the study from all male fish will be analyzed by enzyme-linked immunosorbent assay (ELISA) for vitellogenin. Results of this study will add to our understanding of the effects of PPCPs on aquatic organisms.

P105 Determining How a Hibernator (Marmota monax) Responds to Temperature Changes During the Summer Euthermic Phase
Student Author: Troy Hughes
Institute: UW-Whitewater
Faculty Sponsor: Brett Woods
Topic: Life Sciences

Energetics and thermoregulation of marmots during winter is a popular topic of research and much has been uncovered on the control of metabolism during hibernation. In contrast, not much has been revealed on how marmots react physiologically to higher summer temperatures. Oxygen consumption (VO2), metabolic rate, and body temperature of marmots are significantly affected by ambient temperature (Ta). To explore the effects of ambient temperature, age, and body mass on VO2 and metabolic rate during the homeothermal cycle; marmots were placed in air tight chambers and rates of mass specific VO2 (ml O2 g-1 h-1) were recorded for four hour periods at Ta 7, 13, 19, 25 and 31 °C. VO2 levels were greatest at Ta values 25 and
31°C. Mass was inversely related to VO2 with the larger marmots consuming less oxygen per gram. Marmots were affected most by higher temperatures due to the nature of their fat storage and fur insulation. This may limit foraging and other activities during the higher temperatures of summer.

P106 Chronic toxicity of ibuprofen to Daphnia magna
Student Authors: Andrew Fuchs, Lisa Griffin, Lindsey Schulte
Institute: UW-Milwaukee
Faculty Sponsor: Elisabeth Harrahy
Topic: Life Science

Ibuprofen is a commonly used over-the-counter analgesic that belongs to a large class of emerging contaminants of concern called PPCPs, or pharmaceuticals and personal care products. Like other PPCPs, ibuprofen is not completely metabolized by the body or removed during the wastewater treatment process. Little is known about the effects of ibuprofen on aquatic organisms. The purpose of this study was to assess the chronic toxicity of ibuprofen to the freshwater cladoceran Daphnia magna. Two toxicity tests were conducted using seven test concentrations ranging from 0 to 80 mg/L ibuprofen. There were ten replicates per treatment, each containing one D. magna. Duration of exposure was 14 days in the first test, and 21 days in the second. Survival and number of neonates (reproduction) were observed daily. In both tests, ibuprofen had a significant effect on reproduction and survival. In the 14-day test, the LOAEC (lowest observed adverse effect concentration) for the survival endpoint was 80 mg/L, and the NOAEC (no observed adverse effect concentration) was 48 mg/L. In the 21-day test, LOAEC was 6 mg/L ibuprofen, and the NOAEC was less than 6 mg/L (lowest concentration tested). These results highlight the importance of longer term studies, since effects were observed at lower concentrations in the 21-d versus the 14-day test. However, because survival and reproduction did not monotonically decrease with increasing concentration, we plan to repeat these studies. Ultimately, these data may be used to help establish water quality criteria for ibuprofen in surface waters.

P107 Physiological Characterization of Freshwater Deinococcus spp.
Student Author: Kristine Knox
Institute: UW-Oshkosh
Faculty Sponsor: Sabrina Mueller-Spitz
Topic: Life Sciences

Physiological Characterization of Freshwater Deinococcus spp." Knox, K. Mueller-Spitz, S. Kostman, T., Department of Biology and Microbiology, UW-Oshkosh. Currently, 27 species of Deinococcus have been characterized in the literature, representing an under-characterized genera of bacteria. It is generally accepted that Deinococcus spp. can be found in aquatic and terrestrial environments. Common characteristics include red/pink pigmented strains that grow in a wide range of temperatures and tolerate high levels of UV and gamma radiation. The objective of this research was to characterize aspects of the physiology and morphology of Deinococcus isolate FR100. Cell size was determined using scanning electron microscopy (SEM). Biofilm formation was assessed and described using SEM. Sole carbon utilization was determined. Optimal growth conditions were determined by examining a variety of temperatures (4-55°C) and salt tolerance (up to 2% NaCl). The chemical composition of bacterial pigment was determined using HPLC. FR100 is a rod-shaped bacterium that is 2.0-2.5 µm long. It forms a thin-layer biofilm that is discontinuous. The observed pigment is orange-pink, which is composed of three carotenoids and four non-carotenoid molecules. It is capable of growth between 10-42°C, which forms flocs in liquid culture at 20°C. It's capable of utilizing simple and complex carbon sources. This bacterium is a good biofilm former, which could be an important trait allowing multi-species biofilms to form in the natural environment. Further characterization of the Deinococcus strain FR100 is needed to give insight into how this bacterium is important in colonization of biotic and abiotic surfaces.

P108 Kinetic Assessment of Diurnal Variation in Stretch Shortening Cycle and Non-Stretch Shortening Cycle Jumping Performance
Student Authors: Tim Bierwirth, Erick Azmus, Luke R. Garceau
Institute: UW-Parkside
Faculty Sponsor: William P. Ebben
Topic: Life Sciences

Background and Rationale: Diurnal variations during power events, such as jumping, have yet to be
determined. This study assessed the diurnal variations during jumping, as well as the subjects’ perceptions of how time of day affects their performance.

Methods: Eighteen subjects (age 19.94 ± 1.73 years) participated in testing sessions at 7 a.m., noon, and 5 p.m., on the same day. During each session, subjects performed a standardized warm-up and 6 test jumps including 3 squat jumps (SJ) and 3 countermovement jumps (CMJ). Performance was assessed on a force platform with peak ground reaction force (GRF), jump height, and reactive strength index modified (RSImod) obtained for each jump. Data were analyzed with a repeated measures ANOVA, with post hoc correction, to assess time of day differences.

Results: Diurnal differences for the CMJ were found for GRF (P = 0.048), with the noon performance exceeding the 7 a.m. performance by 3.2% (P = 0.025). Diurnal differences for the SJ were found in RSImod (P = 0.04) with noon performances exceeding the 5 p.m. performance by 5.6% (P = 0.040). No other significant time of day differences (P > 0.05) were found for any variables for the CMJ or SJ. Subjective assessment of jumping explosiveness was significantly different across time of day (P = 0.047). Post hoc analysis showed that subjects felt more explosive at noon than at 7 AM.

Conclusions: Lower body power training such as plyometrics, may be more effective at mid day than early morning or late afternoon.

P109 Developing Old-growth Longleaf Pine Chronologies in a Sub-tropical Environment

Student Authors: Nicholas Flinner, Tom Wilding
Institute: UW-Platteville
Faculty Sponsor: Evan Larson
Topic: Life Sciences

Dendrochronological research is expanding both theoretically and geographically into the subtropical regions of the world as new chronologies and tree ring-based climate reconstructions are developed. Recent research identified the potentially valuable use of the tree rings of longleaf pine (Pinus palustris) in central Florida as proxies for climate. Our research expanded on this research to develop six ring-width chronologies in the St. John’s Water Management District based on cores collected from 60 longleaf pine trees. Four of the six chronologies extended into the 1700s, with the earliest dating back to 1630. Several longleaf pine cross sections taken from stumps within the study area hold potential to extend these chronologies several centuries further into the past. Ring-width patterns in the samples were highly variable, with mean sensitivities ranging from 0.32–0.63. Mean series inter-correlations ranged from 0.34–0.45 among the chronologies, and up to 0.52 for several individual series. Strong crossdating within sites, but weak crossdating among different sites, indicates variation in the signal recorded by these trees and is likely related to subtle but important differences in site conditions. Early-wood (EW) and Late-wood (LW) analysis showed strong negative correlations with previous winter temperature in EW and strong positive correlations with current year April and September precipitation in LW. This project sets the ground work for continued work in the area.

P110 The Influence of Lighting Conditions on Food Consumption, Activity, and Weight Gain in Rats

Student Authors: Sean Riley, Brett Vanderwerff
Institute: UW-Parkside
Faculty Sponsor: Edward Wallen
Topic: Life Sciences

Previous studies, such as Fonken et al., have elucidated a correlation between exposing mice to dim-light at night and alterations in eating behavior and metabolism. Exposing mice to dim-light during the usual dark period was linked not only to increased caloric consumption during the light period, when mice are inactive, but also with a corresponding increase in body weight. Using rats, our study aimed to reproduce the aforementioned effects of consumption and weight gain by exposing rats to dim-light at night. Furthermore, previous studies have demonstrated that light within the blue region of the visible spectrum is responsible for inhibiting melatonin production and thus plays a critical role in circadian regulation. Therefore, our study also tested whether filtering out blue light while exposing rats to dim-light at night could inhibit the effects of dim-light exposure on circadian rhythms and consequently on eating behavior, activity, and metabolism. We hypothesized that rats exposed to dim-light at night would demonstrate increased caloric consumption during the light period and increased weight gain. Furthermore, we predicted that rats exposed to the filtered dim-light at night would demonstrate an eating behavior and weight gain comparable to a control group, which was not exposed to dim-light at night. The results of our studies show a significant difference in caloric consumption between rats exposed to dim-light at night and rats exposed to filtered dim-light at night; however, the hypothesized differences of weight gain were not found to be significant in any of the experimental or control groups.
P111 Spatial and Temporal Variation in Diversity of Pleurocerid Gastropoda and other Benthic Macroinvertebrate Fauna, Mukwonago River, Wisconsin

Student Author: Kristie Hansen
Institute: UW-Whitewater
Faculty Sponsor: Rex Hanger
Topic: Life Sciences

Gastropods represent an underutilized biotic indicator for ecological changes at multiple scales from local disturbances to effects of global warming. The primary focus of this study was to create a baseline assessment of the local ecology with particular emphasis on Gastropods of the Family Pleuroceridae at the Mukwonago River (Waukesha County, Wisconsin), an Exceptional Resource Water as classified by the state Department of Natural Resources. Benthic macroinvertebrate taxa were sampled using Hess and coring samplers at two localities of the Mukwonago River –gravel substrates immediately downstream from the Phantom Lake dam, and sand substrates further downstream in Wisconsin State Natural Area #417. Collection frequency was biweekly below the dam and monthly within the SNA417 from June through November of 2011. All taxa collected were sorted, identified to the lowest level possible, and counted. The following physical-environmental data were collected simultaneously: water temperature, bottom flow velocity, DO, EC, pH, turbidity and light intensity. Discharge and Gage Height were provided by the USGS station 05544200. Biotic index and species richness metrics were high, confirming the previous designation of the Mukwonago River as an Exceptional Water Resource. The Pleurocerid gastropod species: Elimia livescens and Pleurocera acuta were particularly abundant at both localities, with E. livescens dominant in gravel substrates and P. acuta dominant in sand substrates. As most of the other physical-environmental parameters varied little between the two sampling locations, substrate was taken to be the primary determinant of gastropod dominance within the faunas.


Student Author: Nicole Braun
Institute: UW-Whitewater
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Topic: Life Sciences

Many modern paleoecological methods require counts of the number of individuals. Vertebrate paleoecology has seen limited use of count-based methods, because of the large number of skeletal elements and the overriding effects of taphonomic modification in terrestrial environments. Two counting methods of vertebrate fossil remains have been proposed: 1) the Number of Individual Specimens (NISP), which sums the counts of all identified bone elements to represent the count of individuals, and 2) The Minimum Number of Individuals (MNI), which sums the counts of unique skeletal elements only. For example, if a sample had 5 right femurs and 6 unspecified ribs of taxon A, then the NISP count would be 5+6 or 11, while the MNI count would be 5, because it errs on the more conservative side. In order to test whether any difference exists between NISP and MNI results, a Spearman Rank Correlation Coefficient was calculated in comparisons of both counting methods for two data sources: 1) the published record for the Richards Spur, OK Permian vertebrate fossil locality, and 2) the cataloged record (published and unpublished) for the same locality, from the Field Museum collections. For both data sources, the Spearman Coefficient values are close to +1, indicating that the probability of the two ranks not being correlated is very low (P-values of 0.0022231 for published literature, 0.00000487 for Field Museum catalog). We cannot falsify the hypothesis that the NISP and MNI give different rank order results, and so the less time-consuming MNI can be used if necessary.

P113 The Delisting of Wisconsin’s Gray Wolves: The Policies and Politics

Student Authors: Jacob Rogers, Rachel Simms, Kelley May, Kristin Saeger
Institute: UW-Parkside
Faculty Sponsor: Ross Astoria
Topic: Life Sciences

In this study discuss the impacts of several different regulatory states (overly abundant, recently delisted, listed, etc.) upon management techniques of several species native to Wisconsin. The study focuses on four species: gray wolf, white-tailed deer, round-leaf orchid, and piping plover. We examine laws, regulations, and processes which result in agency actions and decisions, and use wildlife science to assess the impacts those agency decisions have had on the viability of these species. We also rely upon news stories to assess the political implications of decisions pertaining to the management of these species.
P114 Development of a valid wellness assessment tool: concept, methods, and progress in one dimension
Student Author: Danelle Olson
Institute: UW-Stevens Point
Faculty Sponsor: Annie C. Wetter
Topic: Life Sciences
Because wellness is an interdisciplinary field, relatively young (<40 years), and began as a profession instead of field of study, wellness lacks a rich history of empirical research to guide practice. Valid tools for assessing wellness are therefore scarce. To that end, we are developing and validating a wellness assessment survey. We present here our process for the spiritual dimension of wellness. Experts in spiritual and religious studies identified surveys accepted by their discipline as valid assessments of spirituality. They also identified survey questions they felt best assess spiritual wellness as defined by the National Wellness Institute. That subset of test questions was administered along with the valid surveys to students enrolled in a wellness course. Surveys (n 265) were analyzed 1) by exploratory factor analysis to identify clusters of questions that measure a specific aspect (or factor) of the dimension and 2) by confirmatory factor analysis to determine if the newly identified factors are consistent with subscales on the previously validated surveys. Our analyses identified 2 factors of spiritual wellness among the test questions. The factor scores were significantly (p<0.05) correlated to subscale and total scores from the validated surveys. Developing a meaningful and useful (<100 questions) multi-disciplinary assessment tool is a collaborative and logistically challenging process. We successfully identified a parsimonious, valid subset of questions for 1 wellness dimension. We will now repeat this process to develop efficient sets of survey questions for the other 5 dimensions of wellness to arrive at a comprehensive and manageable assessment tool.

P115 Faunal Analysis of the Resique Tavern Site: Simmons Island Kenosha WI.
Student Author: Erik Ward
Institute: UW-Parkside
Faculty Sponsor: Robert Sasso
Topic: Life Sciences
In the summer of 2010, a group of students from the University of Wisconsin Parkside excavated a portion of the Simmons Island Park in downtown Kenosha. Historic records, maps, and accounts documented this area as the site of Kenosha’s first tavern. It later became a General store, then was used as a rooming house, and eventually became part of the park. There were prehistoric occupations of this site, and hopefully an analysis of the deeper layers of the excavation will give more evidence of this. This excavation yielded a lot of different artifacts; however, this poster will concentrate on the faunal remains that are a part of the assemblage. We have found remains from different species of mammals, fish, and birds. Some of the bones have been modified by humans. The assemblage includes a bone knife handle and a bone button. Also several of the remains have been cut with some sort of power saw. This poster will identify species that are a part of the assemblage, and detail some of the ways that the remains were modified by humans.

P116 Caffeine “Lift”: Natural Bond orbital Study for a Central Nervous System Stimulant
Student Author: Daniel Paegelow
Institute: UW-Washington County
Faculty Sponsor: Mohamed Ayoub
Topic: Life Sciences
Caffeine, 1,3,7-trimethylxanthine, is naturally present in coffee beans and tea leaves and is added to many soft drinks. It is the most frequently and widely used central nervous system (CNS) stimulant. In this work we explore the bonding pattern and structure-reactivity relationship of caffeine using Natural Bond Orbital (NBO) techniques and analysis, which lead us to understand the molecular level causes for what is known by the caffeine “lift.”

P117 Relationship Between Reported Carbohydrate Intake and Fasting Blood Glucose
Student Author: Lacey Holzer
Institute: UW-Stout
Faculty Sponsor: Richard Tafalla
Topic: Life Sciences
Background: Elevated fasting blood glucose ranges from normal glucose tolerance (under 100 mg/dL) to impaired glucose tolerance (100-125 mg/dL) to diabetes mellitus (above 126 mg/dL). Dietary intake may have a direct influence on glucose metabolism.
Objective: We hypothesized that dietary carbohydrate intake will be correlated with fasting blood glucose.
Design: Participants (n 12) selected were a subset of “The Glycemic Effect of Honey” study sample. Individuals were recruited who exhibited both normal and impaired glucose tolerance. At baseline, fasting
blood glucose levels were determined by Accu-Chek results are presented as mg/dL. Participants completed the Diet History Questionnaire II (DHQ II) online and the resultant energy, carbohydrate, protein, total fat, total sugar, fructose, glucose, sucrose, galactose, lactose, maltose, and starch were used for analysis. Reported nutrient intake was correlated to blood glucose using the fitted line regression on Minitab (version 15).

Results: Blood glucose is related to reported total energy intake (P < .005) as well as total fat (P < .051), carbohydrate (P < .003), protein (P < .021), total sugar (P < .003), fructose (P < .015), glucose (.006), and sucrose (.002), galactose (P < .046), lactose (P < .037), and maltose (P < .009). Blood glucose is not largely statistically related to reported starch intake (P > .15).

Conclusions: The reported dietary carbohydrate intake including reported energy, total fat, total protein, total sugar, fructose, glucose, sucrose, galactose, lactose, and maltose directly correlated to fasting blood glucose levels however reported starch intake did not. This information can be assessed further with a larger sample size to improve significance.

P118 Analysis of photosynthetic activity in the presence of caffeine in Raphanus sativus (radish)

Student Authors: Jeanne Price, Kayla Schertz
Institute: UW-Whitewater
Faculty Sponsor: Catherine Chan
Topic: Life Sciences

The accumulation of pharmaceuticals and personal care products (PPCPs) in the environment is a growing concern as the consumption of such chemicals increases. To date, the effects of PPCPs on terrestrial plants are not well documented. We are interested in discovering the possible growth effects of a select PPCP, caffeine, on a common garden plant Raphanus sativus (radish). This plant was chosen for its relatively quick generation cycles as well as having leaves large enough for use in measurements when using the Li-COR LI – 6400XT instrument. We applied various concentrations of caffeine to R. sativus and quantified the effects of the chemical on carbon dioxide uptake via the Li-COR LI-6400XT instrument. The rate of carbon dioxide uptake is an indicator of the overall health of the plant and we will attempt to correlate the rate of uptake with caffeine dosage. R. sativus was kept at a temperature of about 75°F and in natural light (about 8 hours light) in the greenhouse with daily watering. Data on R. sativus is forthcoming but previous experiments on A. thaliana indicate that growth is inhibited at caffeine concentration of 60 parts per million or above. Caffeine concentrations in the environment vary depending on location and there is little data to suggest an approximate concentration. Our previous work suggests that some PPCPs only affect Arabidopsis growth at concentrations not likely to be present in natural environments, but we are interested to extend our data to other species such as R. sativus.

P119 Vastus Medialis Oblique and Vastus Lateralis Activation during Closed Kinetic Chain Exercises

Student Author: Bryan Gatzke
Institute: UW-Parkside
Faculty Sponsor: William Ebben
Topic: Life Sciences

Background and Rationale: The activation of the vastus medialis oblique (VM), as well as it’s ratio of activation with the vastus lateralis (VL) is important in the reduction of patellofemoral pain syndrome and improved patellar tracking. Methods: This study measured VM activation and VM:VL using surface electromyography (EMG) during squat, deadlift, step up and lunge. Sixteen women served as subjects (mean±SD; age 21.19±2.17 years; body mass 66.08±9.91 kg). Independent variables included the type of resistance training exercise and the muscle action phase of the exercise for the VM and the VM:VL. Dependent variables included the muscle activation level as assessed by EMG. Data were evaluated with a repeated measures ANOVA to test main effects of EMG for the VM and VM:VL for each exercise assessed. Bonferroni post hoc analyses were used to assess the differences in muscle activation between each exercise. Results: Significant differences in EMG between the resistance training exercise were found for the eccentric (p < .003) and concentric (p < .014) phase. The squat produced 36.9% greater eccentric VM activation than the deadlift and step up, while the lunge produced 48.0% more activation than the deadlift. The lunge resulted in 22.1% greater concentric VM activation than the squat and 38.5% greater activation than the deadlift. The step up produced 24.3% more concentric VM activation than the deadlift. Conclusions: Training with the squat and lunge offer more VM activation during the eccentric phase, while the lunge and step up offer the greatest VM activation during the concentric phase, compared to the other exercises.
P120 Live Life: An Anthology To Raise Money For The American Cancer Society
Student Authors: Richard Hoverman, Jessica Morrison
Institute: UW-Stout
Faculty Sponsor: Robert Horan
Topic: Business

We all have skills and abilities in one area or another, but the question often is how to put these skills to work to accomplish something meaningful. The goal of this project was to bring writers and poets from across the world together to create and publish an anthology of short stories and poetry, the profits of which would go to benefit The American Cancer Society. This project took advantage of the fact that the world is now more connected than ever thanks to social media on the internet. The anthology includes over one hundred authors contributing from twenty-two different countries. We wanted a large variety of stories and poetry to reflect that cancer affects people from all different backgrounds.

P121 The Pathway to Economic Stability for Hmong College Students
Student Author: Melissa Vue
Institute: UW-Whitewater
Faculty Sponsor: Samantha Samreth
Topic: Business

The purpose of this research is to identify Hmong college students’ knowledge about retirement plans. Many of the first generation of Hmong people in the United States relied on public assistance such as social security and Medicare for their retirement. First generation is defined in this study as Hmong people who were born and raised in Southeast Asia and came overseas after the age of twelve (Min & Kim, 2002). Factors such as language barriers, low paying job, and having a large size family (that includes extended family) may cause many families to choose public assistance. Others who are able to overcome these barriers have found other means to become more economically stable for their retirement. This research focuses on identifying Hmong college students’ knowledge about retirement plans. The methodology for this study will be an interview survey (online and in-person). The online interview survey questions will be based on students familiarity to various retirement plans including 401(K), 403(B), Traditional IRA, Roth IRA and Pensions. The reason for focusing on Hmong college students is that being in higher education shall afford them an opportunity to become informed about various retirement plans. This shift in thinking may allow for more contributions to the state, rather than drawing from the state. If less people are on government or state assistance, then that money can be put towards other public services such as better roads, buildings, or schools.

P122 Economic growth and development in pre-colonial and post-colonial Nigeria
Student Author: Amarachi Okorigbo
Institute: UW-Superior
Faculty Sponsor: Zamira Simkins
Topic: Business

Nigeria always seems to be in a spotlight but for all the wrong reasons: terrorism, political regime changes, and ethnic or religious fighting. With a population of over 162 million people and a land area equivalent to twice of the state of California, Nigeria happens to be the most populated African country. It is also a country with over 250 diverse ethnic groups. From 1861 to 1960 Nigeria was one of the British colonies. In 1960 Nigeria got swept by the great wave of independence going through Africa and gained sovereignty. Interestingly, today many Nigerian people feel that the British departure has left the country economically disadvantaged and wish they could regain the British colony status. To determine whether Nigeria was really economically better off under the British colonization than in its post-colonial period, this paper will examine the differences in economic growth and standards of living in Nigeria before and after 1960. Qualitative and quantitative analyses will be used to test the validity of this popular perception.

P123 What defines the safety profession and its practices? A survey of Upper-Midwest safety professionals
Student Author: Andrew Griepentrog
Institute: UW-Whitewater
Faculty Sponsor: Todd W. Loushine
Topic: Business

There appears to be misunderstanding and debate about the value of education and certification within the field of occupational safety and health. A recent NIOSH report indicated that over the next 10 years, U.S. universities would not be able to keep up with the industry’s need for qualified safety and health professionals. An online, self-administered survey of Upper-Midwest safety professions (via the American Society of Safety Engineers local/regional chapters) was conducted to investigate opinions about education, certification, and the practice of safety. A total of 516
responses (~34% response rate) were analyzed using T-tests on dichotomous groupings, and ANOVA with Dunnett T2 Post-Hoc testing on multiple groupings. Aggregate results indicated that a majority “somewhat agree” that the safety profession is well-established, “somewhat to fully agree” that hiring should require a degree and certification, and that the practice of safety is slightly more process and philosophy than tricks of the trade. Analysis results showed that academics are significantly (p<.05) more in favor of a requirement for degree and certification for hiring and that the practice of safety is more of a process and philosophy over tricks of the trade. Also, respondents with advanced degrees (M.S. and Ph.D.) are significantly (p<.05) more in favor of education, certification, and practicing safety through process and philosophy. More analysis is needed, but evidently there is a significant difference in opinion about education, certification, and the practice of safety within the safety field itself. More research is needed to find a solution to this impasse.
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