Table of Contents

Map of Student Center .................................................................................................................2
Chancellor’s Welcome ..................................................................................................................3
Keynote Speaker ..........................................................................................................................4
Schedule of Events ......................................................................................................................5
A Quick Guide to Gallery, Creative Activity and Oral Presentations by Room with Presentation Time .................................................................................................................................7
Creative Activity and Gallery Exhibit Abstracts with Room Assignments .................... 15
Oral Presentation Abstracts with Room Assignments and Presentation Time ...... 19
A Quick Guide to Poster Number and Session Assignment ............................................. 41
Poster Abstracts with Room Assignments and Session Time ........................................... 51
List of Student Participants by University ................................................................. 88
Acknowledgements ................................................................................................................. 91
Index of Students and Abstract Titles ............................................................................... 92
Map of Great Hall with Poster Locations .............................................................................99
April 20, 2007

Dear Students, Colleagues and Guests:

On behalf of the University of Wisconsin-Stout, welcome to the Eighth Annual UW System Symposium for Undergraduate Research and Creative Activity. Today we showcase the significant and unique undergraduate research and creative activities occurring at the UW System campuses and celebrate the students who will be the state’s future researchers, entrepreneurs and leaders. We are pleased that you and more than 400 students, faculty mentors and guests from throughout Wisconsin and the UW System have traveled here to experience this event and share in the excitement.

A hallmark of the UW System is the growing undergraduate research agenda. We congratulate the undergraduate researchers and their faculty/staff mentors who are participating today in the categories of poster sessions, oral presentations, gallery exhibits and artistic performances.

A special appreciation to the Steering Committee who has guided the planning of this statewide event to showcase undergraduate scholars; and to UW-Stout Outreach Services who have executed the event.

We hope you enjoy your time on our campus.

Welcome!

Charles W. Sorensen
Chancellor
Keynote Speaker

Julie A. Furst-Bowe, Provost and Vice Chancellor
Academic and Student Affairs
University of Wisconsin-Stout

“The Value of Student Research”
12:25 p.m. - 12:45 p.m. Ballrooms ABC

Julie Furst-Bowe has been in the field of higher education for 20 years. She has been at the University of Wisconsin-Stout since 1990, and served as a faculty member, graduate program director, department chair, assessment coordinator and associate vice chancellor prior to assuming her position. She has been extensively involved with quality improvement efforts at UW-Stout and serves as a senior examiner for the Baldrige Awards Program and for the Academic Quality Improvement Project.

She was instrumental in UW-Stout becoming the first institution to receive the Malcolm National Quality Award and serves as a judge for the state quality award programs in Wisconsin and Minnesota. She has presented nationally and internationally on the topic of quality in higher education and recently edited a book on this topic. Julie holds a doctorate in education from the University of Minnesota. She can be reached at furst-bowej@uwstout.edu.
Schedule of Events

Thursday, April 19

6:00 p.m.-9:00 p.m. Early Registration Holiday Manor, Lobby

Friday, April 20

All Events take place in the Memorial Student Center

7:00 a.m.-8:20 a.m. Registration Concourse Lounge
7:00 a.m.-8:15 a.m. Poster Set Up Great Hall
7:00 a.m. - 4:00 p.m. Campus Representative Room Open Prairie, Lower Level
7:15 a.m.-8:15 a.m. Breakfast Buffet Student Center
8:20 a.m.-8:30 a.m. Welcome/Logistics Stage Area, Great Hall Sue Foxwell, Director, Research Services

8:30 a.m.-9:30 a.m. Oral Presentation Session 1
Creative Activity Session 1 Ballrooms A, B, C (Upper Level)
Oral Presentation Session 2 Northwoods & Oakwood (Lower Level)
9:35 a.m.-10:35 a.m. Poster Session 1 Great Hall
10:45 a.m.-11:45 a.m. Luncheon Ballrooms A B C
11:50 a.m.-12:45 p.m. Keynote Speaker-Julie Furst-Bowe Ballrooms A B C “The Value of Student Research”
12:25 p.m.-12:45 p.m. Poster Session 2 Great Hall

12:55 p.m.-1:55 p.m. Oral Presentation Session 3
Creative Activity & Gallery Exhibit Session 3 Ballrooms A, B, C (Upper Level)
Oral Presentation Session 4 Northwoods & Oakwood (Lower Level)
2:00 p.m.-2:45 p.m. Creative Activity Session 4
2:50 p.m.- 3:50 p.m. Oral Presentation Session 4
Creative Activity Session 4

3:50 p.m.-4:00 p.m. Closing Remarks Stage Area, Great Hall Sue Foxwell
GALLERY, CREATIVE ACTIVITY AND ORAL PRESENTATION

A QUICK GUIDE TO THESE ACTIVITIES BY ROOM WITH PRESENTATION TIMES
NOTES:
<table>
<thead>
<tr>
<th>Session Times</th>
<th>AB NO</th>
<th>Abstract Title</th>
<th>School</th>
<th>Program</th>
<th>Presenter</th>
<th>Advisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM</td>
<td>O011</td>
<td>Deciding Factors of Child Care</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Crystal Miller, Andrea Schultz</td>
<td>Dr. Susan Wolfgram</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>CA03</td>
<td>Three Letters (One Woman's Experience with Human Papillomavirus)</td>
<td>UW-Parkside</td>
<td>English</td>
<td>Carly-Anne Surber</td>
<td>Dexter Westrum</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>O035</td>
<td>International Maternal Healthcare</td>
<td>UW-Milwaukee</td>
<td>Health Care Administration</td>
<td>Antwan Jones</td>
<td>Nigel Rothfels</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>O017</td>
<td>Potential Pathogens in the School Environment</td>
<td>UW-Stout</td>
<td>Biology</td>
<td>Zhicong Wang</td>
<td>Yvonne Nelson</td>
</tr>
<tr>
<td>9:35 AM</td>
<td>O032</td>
<td>Effect of Hip Position on Hip External Rotation Strength Measurement</td>
<td>UW-Milwaukee</td>
<td>Athletic Training</td>
<td>Meghan Geary, Gregory Peckels</td>
<td>Dr. Jennifer Earl</td>
</tr>
<tr>
<td>9:50 AM</td>
<td>O054</td>
<td>Effects of Breakfast on Memory, Attention, and Satiety</td>
<td>UW-Platteville</td>
<td>Biology</td>
<td>Zabrina Fuller</td>
<td>Dr. Amanda Trewin</td>
</tr>
<tr>
<td>10:05 AM</td>
<td>O051</td>
<td>Survey of Sexual Orientation and the Male Pedophiliac</td>
<td>UW-Parkside</td>
<td>Anthropology/Sociology</td>
<td>Mary Pirrello</td>
<td>Anne Statham</td>
</tr>
<tr>
<td>10:20 AM</td>
<td>O044</td>
<td>The Importance of Abstinence Education in the Public School System</td>
<td>UW-Oshkosh</td>
<td>Speech Communication Education</td>
<td>Amanda Doepke</td>
<td>Dr. Gregory Olson</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>O020</td>
<td>Everyman: Bringing Classical Theatre to Life</td>
<td>UW-Fond du Lac</td>
<td>Communication &amp; Theatre Arts</td>
<td>Joe Vande Slunt</td>
<td>Richard Gustin</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>O026</td>
<td>Evaluation of Tiwanaku Presence in the Cochabamba Valley of Bolivia</td>
<td>UW-La Crosse</td>
<td>Archaeology</td>
<td>Elizabeth Plunger</td>
<td>Dr. Timothy McAndrews</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>O030</td>
<td>City Image of the World Heritage City of Guanajuato, Mexico</td>
<td>UW-Milwaukee</td>
<td>Architecture</td>
<td>Silvino Castillo</td>
<td>Dr. Kapila Silva</td>
</tr>
<tr>
<td>2:50 PM</td>
<td>O027</td>
<td>Geophysical Prospection in the Cade Archaeological District, Vernon County, WI</td>
<td>UW-La Crosse</td>
<td>Archaeological Studies</td>
<td>Stephanie Sullivan</td>
<td>Dr. James Theler</td>
</tr>
<tr>
<td>3:05 PM</td>
<td>O021</td>
<td>Verging on Merging or Niftily Shifting?: The Low Vowels of Eau Claire, WI</td>
<td>UW-Eau Claire</td>
<td>English</td>
<td>Jared Balkman</td>
<td>Dr. Erica Benson</td>
</tr>
<tr>
<td>3:20 PM</td>
<td>O024</td>
<td>Analysis of Archaeological Sampling Methods</td>
<td>UW-La Crosse</td>
<td>Archaeology/Sociology</td>
<td>Elizabeth Green</td>
<td>Dr. Timothy McAndrews</td>
</tr>
<tr>
<td>3:35 PM</td>
<td>O019</td>
<td>Wisconsin Act 31: History and Implementation</td>
<td>UW-Barron County</td>
<td>Anthropology</td>
<td>Keely Sanderson</td>
<td>Renee Gudewicz</td>
</tr>
<tr>
<td>Session Times</td>
<td>AB NO</td>
<td>Abstract Title</td>
<td>School</td>
<td>Program</td>
<td>Presenters</td>
<td>Advisor</td>
</tr>
<tr>
<td>---------------</td>
<td>-------</td>
<td>--------------------------------------------------------------------------------</td>
<td>------------------</td>
<td>---------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>8:30 AM</td>
<td>O043</td>
<td>Comparison of Daphnia Behavior in Winter and Summer Water Temperatures</td>
<td>UW-Milwaukee</td>
<td>Biology</td>
<td>Josh Ziarok, Ai Nihongi, Takeyoshi Nagai, Marco Uttieri, J. Rudi Strickler, Emily Muth</td>
<td>Dr. Rudi Strickler</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>O003</td>
<td>Membrane Lipids of Bacteria in Muskegon River Watershed</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Jeff Berkebile</td>
<td>Dr. Stephen Nold</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>O040</td>
<td>Infrared-based Detection of Fish Specimens in Controlled Environment</td>
<td>UW-Milwaukee</td>
<td>Electrical Engineering</td>
<td>Aleksander Plassic</td>
<td>Dr. Chiu-Tai Law</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>O014</td>
<td>Investigating Microbial Diversity in Lake Huron Sinkhole Ecosystems</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Joseph Pangborn, Ashley Dillon, Tapesh Joshi, Caleb Meier, Shane Webb</td>
<td>Dr. Stephen Nold</td>
</tr>
<tr>
<td>9:35 AM</td>
<td>O041</td>
<td>St. Clair River Erosion and Decreasing Lake Michigan-Huron Water Level</td>
<td>UW-Milwaukee</td>
<td>Civil Engineering</td>
<td>John Skafer</td>
<td>Nigel Rothfels</td>
</tr>
<tr>
<td>9:50 AM</td>
<td>O015</td>
<td>ARISA Applications In Freshwater Studies</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Mandi Seeger</td>
<td>Dr. Stephen Nold</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>CA02</td>
<td>Sekiel</td>
<td>UW-Milwaukee</td>
<td>English</td>
<td>Terry Dassow</td>
<td>Ron Clohessy</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>O055</td>
<td>Polish Poster Art: An Artistic Response to Communist Politics</td>
<td>UW-Platteville</td>
<td>Art</td>
<td>Catherine Kutka</td>
<td>Linda James</td>
</tr>
<tr>
<td>2:50 PM</td>
<td>O025</td>
<td>Ceramic Style and Its Influence on Interpretations of Andean Archaeologists</td>
<td>UW-La Crosse</td>
<td>Archaeology</td>
<td>Beth Haupt</td>
<td>Dr. Timothy McAndrews</td>
</tr>
<tr>
<td>3:05 PM</td>
<td>O066</td>
<td>School Spirit: Definition and Measurement with Assessment of Promotional Strategies for Enhancement</td>
<td>UW-Superior</td>
<td>Business Marketing</td>
<td>Grant Moody</td>
<td>Dr. Ethan Christensen</td>
</tr>
<tr>
<td>3:20 PM</td>
<td>CA04</td>
<td>Community Healing Through Oral Tradition</td>
<td>UW-Eau Claire</td>
<td>Nursing Program</td>
<td>Patricia Elliott</td>
<td>Lois Taft</td>
</tr>
<tr>
<td>Session Times</td>
<td>AB NO</td>
<td>Abstract Title</td>
<td>School</td>
<td>Program</td>
<td>Presenters</td>
<td>Advisor</td>
</tr>
<tr>
<td>---------------</td>
<td>-------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>-----------------------------------</td>
<td>----------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>8:30 AM</td>
<td>O037</td>
<td>Remodeling Industrial Buildings; Vernacular/ High Style or Modern?</td>
<td>UW-Milwaukee</td>
<td>Architecture</td>
<td>Devin Little</td>
<td>Dr. Kapila Silva</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>O058</td>
<td>Deconstructivism in Museum Design – Chicago Illinois</td>
<td>UW-Stevens Point</td>
<td>Interior Architecture</td>
<td>Jennifer Hunt</td>
<td>Nisha Fernando</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>O038</td>
<td>Architecture for the Economically Disadvantaged: Review of Best Design Practices for Housing the Poor in the Context of the Developed World</td>
<td>UW-Milwaukee</td>
<td>Architecture and Urban Planning</td>
<td>Andrew Manto</td>
<td>Dr. Kapila Silva</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>O059</td>
<td>The Museum of 20th Century Art: Modern Expressionism</td>
<td>UW-Stevens Point</td>
<td>Interior Architecture</td>
<td>Crystal Mansfield</td>
<td>Nisha Fernando</td>
</tr>
<tr>
<td>9:50 AM</td>
<td>O062</td>
<td>Out of Sync in the Mainstream</td>
<td>UW-Superior</td>
<td>Teacher Education</td>
<td>Ashley Bergerson</td>
<td>Dr. Rhoda Robinson</td>
</tr>
<tr>
<td>10:05 AM</td>
<td>O029</td>
<td>Rethinking Urban Spaces In Developing Countries: A Case Study of a Textile Market in Negombo, Sri Lanka</td>
<td>UW-Milwaukee</td>
<td>Architecture</td>
<td>Brandon Biederman</td>
<td>Dr. Kapila Silva</td>
</tr>
<tr>
<td>10:20 AM</td>
<td>O060</td>
<td>Atmospherics and Restaurant Design: The Impact of Color and Light</td>
<td>UW-Stevens Point</td>
<td>Interior Architecture</td>
<td>Michelle Niepow</td>
<td>Donna Zimmerman</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>O031</td>
<td>Raising Awareness of the UN Millennium Development Goals in Community Settings</td>
<td>UW-Milwaukee</td>
<td>Institute of World Affairs</td>
<td>Brian Eisold, Heather Baker</td>
<td>Robert Rizigliano</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>O053</td>
<td>Bulgaria and the EU: Economic Prosperity or Europeanization?</td>
<td>UW-Platteville</td>
<td>History/Political Science</td>
<td>Becky Adamski</td>
<td>Susan Morris</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>O047</td>
<td>Economic and Social Factors of Income Inequality</td>
<td>UW-Oshkosh</td>
<td>Economics</td>
<td>Ahmen Sharif</td>
<td>Dr. Mariannuo Johnson</td>
</tr>
<tr>
<td>2:50 PM</td>
<td>O034</td>
<td>If You Teach a Man to Fish: Satellite Development of the Fishing Ministry Organization in Negombo, Sri Lanka</td>
<td>UW-Milwaukee</td>
<td>Architecture</td>
<td>Beth Hanson</td>
<td>Dr. Kapila Silva</td>
</tr>
<tr>
<td>3:05 PM</td>
<td>O028</td>
<td>The United Nations: Reasons for Success and Failure of Peacemaking</td>
<td>UW-La Crosse</td>
<td>Political Science</td>
<td>Volodymyr Vakhov</td>
<td>Dr. Curtis Reithel</td>
</tr>
<tr>
<td>3:20 PM</td>
<td>O052</td>
<td>Aerosol-Phase Assisted Digestion for the Analysis of Lead in Sweeteners</td>
<td>UW-Parkside</td>
<td>Chemistry</td>
<td>Joseph Topczewski</td>
<td>Lori Allen</td>
</tr>
<tr>
<td>3:35 PM</td>
<td>O009</td>
<td>Potential Consumers Over-Generalize Product Information from Authoritative Sources</td>
<td>UW-Stout</td>
<td>Psychology</td>
<td>Grant Michelsen-Grant</td>
<td>Dr. Peizhong Li</td>
</tr>
</tbody>
</table>
## Northwoods (lower level)

<table>
<thead>
<tr>
<th>Session Times</th>
<th>AB NO</th>
<th>Abstract Title</th>
<th>School</th>
<th>Program</th>
<th>Presenters</th>
<th>Advisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM</td>
<td>O008</td>
<td>Aggressive Images Affect Mood and Cognitive Functioning</td>
<td>UW-Stout</td>
<td>Psychology</td>
<td>Trevor Meyer, Rob Schultz</td>
<td>Dr. Peizhong Li</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>O048</td>
<td>Combating Invisibility: Representations of Older Women in Selected Novels by Toni Morrison and Anita Shreve</td>
<td>UW-Oshkosh</td>
<td>English</td>
<td>Anna Simeth, Adeline Miller</td>
<td>Dr. Paul Klemp</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>O006</td>
<td>An Analysis of Steganography Tools: What’s the best for me?</td>
<td>UW-Stout</td>
<td>Applied Mathematics and Computer Science</td>
<td>Matthew Ekensted</td>
<td>Dr. Radi Teleb</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>O067</td>
<td>Racially and Culturally Loaded Humor Within US Culture</td>
<td>UW-Superior</td>
<td>Speech Communication</td>
<td>Devin Pracheco</td>
<td>Dr. Keith Berry</td>
</tr>
<tr>
<td>9:35 AM</td>
<td>O004</td>
<td>Challenges of RoHS Compliant Printed Circuit Board Assembly</td>
<td>UW-Stout</td>
<td>Industrial Management</td>
<td>Matthew Bills</td>
<td>Wendy Dittmann</td>
</tr>
<tr>
<td>9:50 AM</td>
<td>CA05</td>
<td>Gates (No. 1) - A Laptop Instrument for Improvised Electronic Music</td>
<td>UW-Milwaukee</td>
<td>Music - Composition/Technology</td>
<td>Greg Surges</td>
<td>Christopher Burns</td>
</tr>
<tr>
<td>10:20 AM</td>
<td>O012</td>
<td>Climate Change Technologies for the Music Industry</td>
<td>UW-Stout</td>
<td>Graphic Design Multimedia</td>
<td>Lauren Moeger, Andrew Boe, Lynsey Petersen, Tiffany Beltz, Lindsay Carrier, Heather Merch, Jamie Schoeneck, Sarah Klick</td>
<td>Juliet Fox</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>O063</td>
<td>The Use of GIS to Understand the Earthquakes in America</td>
<td>UW-Superior</td>
<td>Geographic Information Systems</td>
<td>Reed Coil</td>
<td>Dr. William Bajjali</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>O065</td>
<td>Potential Earthquakes in Wisconsin and its Influence on the Population and Transportation</td>
<td>UW-Superior</td>
<td>Geographic Information Systems</td>
<td>Matthew Goodman</td>
<td>Dr. William Bajjali</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>O022</td>
<td>Devolatilization of Kuiper Belt Objects via Collision</td>
<td>UW-Eau Claire</td>
<td>Physics and Astronomy</td>
<td>Bryan Cummings, Christopher Thompson, Steven Henke, William Whirry</td>
<td>Dr. Paul Thomas</td>
</tr>
<tr>
<td>2:50 PM</td>
<td>O069</td>
<td>Analyzing the Potential Flood in USA in GIS Environment; Case Study from Kansas</td>
<td>UW-Superior</td>
<td>Geographic Information Systems</td>
<td>William Whirry</td>
<td>Dr. William Bajjali</td>
</tr>
<tr>
<td>3:05 PM</td>
<td>O061</td>
<td>Analyzing the Performance of the Municipal Water Use in the Palestinian Territories Using GIS</td>
<td>UW-Superior</td>
<td>Biology/Earth Science</td>
<td>Kamal Alsharif</td>
<td>Dr. William Bajjali</td>
</tr>
<tr>
<td>3:20 PM</td>
<td>O045</td>
<td>Stellar Distribution in the Fourth Galactic Quadrant</td>
<td>UW-Oshkosh</td>
<td>Physics and Astronomy</td>
<td>Anthony Kuchera</td>
<td>Nadejda Katcheva</td>
</tr>
<tr>
<td>Session Times</td>
<td>AB NO</td>
<td>Abstract Title</td>
<td>School</td>
<td>Program</td>
<td>Presenters</td>
<td>Advisor</td>
</tr>
<tr>
<td>--------------</td>
<td>-------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>8:30 AM</td>
<td>O002</td>
<td>“I can’t refuse to help you, but we can”</td>
<td>UW-Stout</td>
<td>Psychology</td>
<td>Jordan Wheeler</td>
<td>Dr. Peizhong Li</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>O033</td>
<td>Providing Educational and Personal Growth Opportunities to High School Students</td>
<td>UW-Milwaukee</td>
<td>Architecture</td>
<td>Emmett Gross</td>
<td>Tammy Taylor</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>O016</td>
<td>Promoting Watershed Stewardship Through Service Learning and Citizen Science</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Jessica Van Der Werff</td>
<td>Krista James</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>O023</td>
<td>Evaluation of USDA Fresh Fruit /Vegetable Program in Wisconsin Schools</td>
<td>UW-Eau Claire</td>
<td>Education/Economics</td>
<td>Beth Lutz, Emily Brown, John Rodgers, Jason Halukka, Anjali Anand</td>
<td>Dr. Eric Jamelske, Dr. Lori Bica</td>
</tr>
<tr>
<td>9:35 AM</td>
<td>O018</td>
<td>Demonstrating Eigenvalues and Eigenvectors Using Linear Transformation</td>
<td>UW-Stout</td>
<td>Applied Mathematics and Computer Science</td>
<td>KyLynn Whipple</td>
<td>Dr. Mingchen Wu</td>
</tr>
<tr>
<td>9:50 AM</td>
<td>O046</td>
<td>Teacher Comments: An Effective Learning Tool or a Waste of Time?</td>
<td>UW-Oshkosh</td>
<td>Mathematics</td>
<td>Lynn Quillico</td>
<td>Dr. Carol Seaman</td>
</tr>
<tr>
<td>10:05 AM</td>
<td>O013</td>
<td>Student-Directed Distributed Lab Management Solutions</td>
<td>UW-Stout</td>
<td>Technical Communications</td>
<td>Tony Nelson, Cody Lombard</td>
<td>Dr. Don Cunningham</td>
</tr>
<tr>
<td>10:20 AM</td>
<td>O050</td>
<td>Engaging Students Despite Dissimilar Learning Styles</td>
<td>UW-Parkside</td>
<td>Communication</td>
<td>Mike Bate</td>
<td>Dr. Wendy Leeds-Harwitz</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>O007</td>
<td>Nanocomposite Materials for Novel Heating Applications</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Marc Hannum, Tim Larvey</td>
<td>Dr. Christopher Lutz</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>O049</td>
<td>Donnan Dialysis and the Migration of Metal Ions in Organic Solvents</td>
<td>UW-Parkside</td>
<td>Chemistry</td>
<td>Adam Barsamian</td>
<td>Lori Allen</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>O005</td>
<td>Secreted Protein Screen for Zebrafish Pigment Formation Using Antisense Morpholinos</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Tyson Brown</td>
<td>Dr. Michael Pickart</td>
</tr>
<tr>
<td>2:50 PM</td>
<td>O068</td>
<td>Morphological Variation Between Populations of Lake Trout (Salvelinus namaycush) in Northeastern Minnesota</td>
<td>UW-Superior</td>
<td>Department of Biology and Earth Sciences</td>
<td>Eric Seidelmann, Katie Abo</td>
<td>Dr. Jeffrey Schultz</td>
</tr>
<tr>
<td>3:05 PM</td>
<td>O010</td>
<td>Tissue Culture of Human Melanocytes for Use in the Validation of Pigment Altering Chemicals</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Rebecca Mijal</td>
<td>Dr. Michael Pickart</td>
</tr>
<tr>
<td>3:20 PM</td>
<td>O056</td>
<td>Quadrula Metanevra Glochidia Metamorphose on Select Minnows</td>
<td>UW-River Falls</td>
<td>Biology</td>
<td>Andrea Crambhart, Bernard Seidman, Mark Hove, Nissa Rudh</td>
<td>Dr. John Wheeler</td>
</tr>
<tr>
<td>3:35 PM</td>
<td>O057</td>
<td>Supply and Demand Relationships In Photosynthesis</td>
<td>UW-Stevens Point</td>
<td>Biology</td>
<td>Tyler Fuhrman</td>
<td>Dr. Eric Singaas</td>
</tr>
</tbody>
</table>
CREATIVE ACTIVITY AND GALLERY EXHIBIT

ABSTRACTS WITH ROOM ASSIGNMENTS AND PRESENTATION TIME
Beyond but not exempt from the realm of socioeconomic obligation exists the phenomenon which occurs and reoccurs in accordance to the ineffable cycles of the natural world. The ontological struggle for understanding in the midst of such phenomenon borders upon the absurd and thus mine has been no different. The physical representation of such a struggle has taken its form in an ongoing collection of automatic writings, photographs, diagrams, and drawings that are continuously added to, subtracted from, and divided by thus forming a progressive palimpsest of yet indiscernible meaning. The time, place, and characters that immerse will not immerse directly but only in accordance to the phenomenon and/or memory they evoke. All will be portrayed through the realm of my own perceptions and therefore may be subject to change. The vague yet specific medium of travel: The palimpsest itself will consist of these intertwining texts assembled together in a 5 x 8 wall format in front of which will be placed a small desk on which a typewriter and a small coffee pot (from which I hope to drink fair trade organic coffee for the duration of the symposium.)

CA02 Sekiel
Terry Dassow
UW-Milwaukee, English
Advisor: Ron Clohessy
Ballroom B – 2:15 PM

Three creatures morphed by the gods go in search of their own purposes only to find that thought they can help the dimensions from falling apart from neglect, there really is no god-given purpose. Little do they know that the world has been recreated numerous times already because of a failing Creator. My presentation will be a reading from this work, a novel that mixes elements of Eastern Philosophy, Existentialism, and Japanese Anime into Fantasy Fiction. It currently stands at 26,000 words, 1/4th of its full size. The most exciting element for me as a writer thus far is to see how the strong emphasis on character common in Anime transcribes into literature. Writing a novel is a process, one where you learn not only the skill of craft, but also about yourself. I have found that it is impossible to try to follow someone else’s example, that eventually the novel takes on a life of its own. When reading a book, it is important to appreciate the writer for the efforts they have put into the work, and to realize that what you hold in your hands are the hopes and dreams of another, not just bound pages.

CA03 Three Letters (One Woman’s Experience with Human Papillomavirus)
Carly-Anne Surber
UW-Parkside, English
Advisor: Dexter Westrum
Ballroom A – 8:45 AM

"Three Letters" is a creative nonfiction account of my experience with Human Papillomavirus (HPV). Along with the discovery of this virus comes the realization of its massive impact on women. While men can carry and pass on this virus, they experience no symptoms. Women, on the other hand, can be exposed to a range of symptoms and it increases their risk of cervical cancer. Drawing from a first-person perspective, I include facts and debunk myths surrounding this virus. Before I was diagnosed, I did not understand the severity of this virus; I did not identify with it. There is a need for women to speak out on this issue. Those affected cannot be silenced by a fear of the taboo. By writing about my experience, I have been able to connect to other women who have been affected by HPV, or who have questions that they are afraid to ask. With inspirations like Kathy Acker, Rita Mae Brown, and Dorothy Allison, this piece can stand alone in the realm of Women’s Literature, but it can have a much broader impact. All women should be aware of this virus and its effects.

CA04 Community Healing Through Oral Tradition
Patricia Elliott
UW-Eau Claire, Nursing Program
Advisor: Lois Taft
Ballroom B – 3:20 PM

Oral tradition has been around for most cultures in one way or another. In some cultures such as the Native Americans, Asians, and African culture, oral tradition is still practiced and holds an important part of their existence today. I believe as a medical community we can take this rich history of oral tradition and use it as a tool for teaching-learning and healing for both the body and the soul. Drama therapy has been used for many years for different purposes. I believe it can be used for community healing in some cultures that have suffered from historical trauma. For the sake of simplicity for this project, I have chosen to focus on the Native American community. Any play used must be short in duration and address how the past does effect the present. It would also require a minimal setting and actors so it could travel to any community. I am submitting a play entitled
Suffer the Little Children which deals exclusively with the historical trauma of the Native American boarding schools and the present effects it has on the community. I believe if you touch some one’s soul with information then their mind retains it.

CA05 Gates (No. 1) - A Laptop Instrument for Improvised Electronic Music
Greg Surges
UW-Milwaukee, Music - Composition/Technology
Advisor: Christopher Burns
Northwoods Room – 9:50 AM

Gates (No. 1) was conceived as a result of a combined interest in electronic music and improvised performance. I hoped to design a unique system for improvisation in both solo and group contexts, while investigating a developing interest in self-oscillating audio feedback networks. Using a free, open-source programming language called Pure Data, I designed and programmed a software instrument that can run on any Windows, Mac, or Linux computer. The basic concept of the instrument is simple: three feedback networks are gated and processed according to parameters specified in real-time by a performer using the computer keyboard. The gating procedures provide rhythm and duration to the gestures, while the unstable nature of the feedback networks provide changing pitch elements. The outcome was successful: The sounds are lively and musical, the instrument is very responsive, and the design is easy to learn. The feedback networks provide a constantly varying, unpredictable sound source that provides the performer with resistance and a rewarding musical experience. Using a software programming environment, it is possible to create a unique electronic music instrument, tailored to the tastes of the programmer. The laptop computer provides a powerful and portable platform for improvised electronic music.
ORAL PRESENTATION ABSTRACTS

ABSTRACTS WITH ROOM ASSIGNMENTS AND PRESENTATION TIME
O002 “I can’t refuse to help you, but we can”  
Jordan Wheeler  
UW-Stout, Psychology  
Advisor: Dr. Peizhong Li  
Oakwood Room – 8:30 AM

People frequently receive requests for help from those in need and distress. Sometimes these requests appeal to one’s individual identity. At other times, they appeal to one’s group (e.g., as a compassionate community). How do group and individual identities influence people’s willingness to help? This research demonstrates that refusing to help is more readily adopted as a group attitude than an individual attitude. Group and individual identities are important aspects of the self. It is difficult for one to dissociate from one’s individual identity, simply because of lack of alternatives. However, as a member of multiple groups (e.g., gender, race, organizational affiliation and etc.), one is capable of strategically identifying with and dissociating from each group. If a particular group membership is associated with lack of altruism (or any other negative characteristic), one can protect one’s personal identity by dissociating from it. In the experiment (N = 79), college students expressed stronger intention to refuse to help victims of a natural disaster when the request was directed to their group (the student body) than to themselves individually.

O003 Membrane Lipids of Bacteria in Muskegon River Watershed  
Jeff Berkebile  
UW-Stout, Applied Science  
Advisor: Dr. Stephen Nold  
Ballroom B – 8:45 AM

Our research involves analyzing the membrane lipids in bacteria growing on surfaces in the Muskegon River Watershed. We seek to understand how periphytic bacteria adapt to higher levels of nutrients in environment. Bacterial biomass was scraped and analyzed from tiles incubated for two weeks in river, wetland, and lake bottom locations. Some tiles received nitrogen and phosphorus amendments, while non-treated tiles acted as controls. Lipids were extracted from freeze-dried biomass and fatty acid methyl esters were prepared from periphytic phospholipids. Samples were analyzed by gas chromatography and to measure the abundance and diversity of phospholipids. While this research is ongoing, initial analyses indicate a diversity of lipids in the samples. Some samples exhibit much higher biomass than others. We plan to use these data to investigate the impact of nutrient addition on watershed microorganisms, and to better understand how microbial communities respond to eutrophication.

O004 Challenges of RoHS compliant Printed Circuit Board assembly  
Matthew Bills  
UW-Stout, Industrial Management  
Advisor: Wendy Dittmann  
Northwoods Room – 9:35 AM

July 1, 2006 was the implementation date for the European RoHS (Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment) Directive 2002/95/EC. The RoHS directive applies to any company exporting its product to the E.U. (European Union). The RoHS effort was undertaken in an attempt to encourage recycling and reduce the amount of hazardous substances leaching out of various electronic products that increasingly end up in landfills. One major side effect is that tin/lead solder is no longer allowed to be used, the industry standard lead-free solder has a much higher melting temp than tin/lead solder which can create a number of problems.

O005 Secreted Protein Screen for Zebrafish Pigment Formation Using Antisense Morpholinos  
Tyson Brown  
UW-Stout, Applied Science  
Advisor: Dr. Michael Pickart  
Oakwood Room – 2:30 PM

Antisense morpholinos (MOs) targeting secreted proteins from an ongoing screen with the University of Minnesota were used for “knockout” of pigment related gene expression in zebrafish (Danio rerio). One to four cell stage wild-type zebrafish embryos were injected with morpholinos. Initial results from laboratory tests indicate that injection ranges of .3 to 3 ng of MOs minimize toxic effects, while decreasing expression of the target gene (“knockout”). Over a two day period, injected embryos were scored for development of pigment. Developmental abnormalities were recorded. Embryos displaying alterations in pigment were considered for in-situ hybridization to determine the interrelatedness of blocked target gene expression, and known pigment gene expression. Data of previous screens using the secretome suggest a 2-3% (3/150) gene discovery rate through phenotypes. As such, we expect a screen of (at minimum) 50 morpholinos to yield 1 to 2 pigment related genes for further study. Analysis of such genes leads to a greater understanding of pigment biology which may have potential biomedical application.
As computers become more and more connected, private data is becoming harder to protect. Most turn to cryptography, but what about when the very presence of data needs to be hidden? Steganography is the process of hiding the existence of data or information. This paper will discuss what steganography is, and how it relates to cryptography. There are many types of steganography tools, and many tools of each type. Several different tools will be discussed in detail. They will be analyzed based on the technique they use, ease of use, and detectability. The implementation and potential detection of the technique will be discussed. Detection can occur when there is a suspicion of hidden data, such as in a man in the middle attack. In these cases it is likely that detection software will be used. These tools will also be analyzed. Once the presence of data is detected, the questions of whether the data can be read, altered, or destroyed will be addressed. We will also look at the feasibility of detecting, reading, and destroying hidden data without using steganographic detection tools. Finally, we will look at which tools are right for different environments.

O007 Nanocomposite Materials for Novel Heating Applications
Marc Hannum, Tim Lurvey
UW-Stout, Applied Science
Advisor: Dr. Christopher Lutz
Oakwood Room – 2:00 PM

It is known that single-walled carbon nanotubes (SWNT) exhibit very unique thermal properties upon exposure to coherent electromagnetic radiation within the range of 800 to 1200 nm (NIR), and such exposure causes SWNTs to heat to temperatures of at least 80°C. With this property in mind we intend to fabricate new polymeric composites containing SWNTs that will be capable of trapping monochromatic near-infrared radiation at 808 nm as broadband infrared energy, or heat, and then distributing that energy throughout the polymer composite. SWNTs will be synthesized according to an established chemical vapor deposition (CVD) procedure and cast in methyl methacrylate, high-density polyethylene, and polyvinylchloride polymer membranes. Composite membranes and control samples will then be subjected to varying intervals of 808 nm laser radiation and comparisons of their their strength and thermal integrity under periods of constant heating and cooling will be made. An ideal composite will trap and maintain a significant amount of heat while retaining favorable physical properties.

O008 Aggressive Images Affect Mood and Cognitive Functioning
Trevor Meyer, Rob Schultz
UW-Stout, Psychology
Advisor: Dr. Peizhong Li
Northwoods Room – 8:30 AM

This study will investigate the effect of aggressive images on mood and cognitive function. Moreover, we will examine how the personality trait of introversion/extroversion influences the effect of aggressive images. Participants will first receive a personality assessment to determine their introversion/extroversion. They will be assigned into two groups according to their scores on the personality assessment. Those who score above the median will be assigned to the “introverts” group, and those below the median the “extroverts” group. All participants will then receive a scale measuring current mood. Next, half of the participants view slides with aggressive images (e.g., weapons). The other half will view images irrelevant to aggression (e.g., furniture). Following the images, they will get the mood measure again, followed by a cognitive functioning test. We predict introverts will have more negative mood after watching aggressive than non-aggressive images. However, extroverts will have more positive mood after watching aggressive than non-aggressive images. We also predict that introverts will score higher on the cognitive test after watching non-aggressive than aggressive images; the high arousal from aggressive images will impair their cognitive functioning. Extroverts will score higher after viewing the aggressive images; their optimum level of arousal is higher than introverts.
Advertisers often emphasize the most unique feature of a product. One automobile may be promoted for its safety, the other for its style or comfort. Consumers’ purchasing decisions may be based on the feature highlighted in the commercial, as well as other features. This research shows that when the information comes from a credible authoritative source, the positive feature emphasized in a commercial influences potential consumers’ impression of the product on dimensions irrelevant to it. Participants received a print commercial about an automobile and rated the product on dimensions irrelevant to it. Participants were given an authoritative source, the others a non-authoritative source of the information. Within the high and low authoritativeness groups, participants received information indicating either strong or weak safety features. Results show that when the information comes from an authoritative source (but not when the source is non-authoritative), strong safety features not only lead people to believe the vehicle is safer, but also more stylish and comfortable. Information from authoritative sources about one of the product’s features influence consumers’ perception of other features.

Human cell culture provides the scientific community with an important tool for identifying and understanding chemicals useful in a variety of biochemical and biomedical applications. This study investigated the growth of human melanocytes; the pigment producing cells of the skin. Methods were first developed to prevent bacterial and fungal contamination and to ensure robust cell growth. Melanocyte cultures were grown for four days at 37 °C, 5% CO2 on a feeder layer (as necessary) of mitomycin-treated 3T3 fibroblasts using MBM-4 melanocyte cell basal medium supplemented with MGM-4 SingleQuots containing growth factors (Cambrex, Walkersville, MD). Cells were then treated with novel small molecules of the Chembridge DiverSet collection from the UW-Madison Small Molecule Screening Facility that had pigment altering potential as identified in a zebrafish chemical screen. Melanin pellets were resuspended, centrifuged, and incubated with 0.5 ml 2N NaOH containing melanin 20% DMSO to assay melanin content using spectrophotometry. Compounds with an impact on zebrafish pigment development were expected to alter the melanin content of human cells as well. Thus, the results of this analysis and its application have potential impact on human skin disorders and the products or therapies commercially available to treat them.

More parents are working in today’s society, most out of economic necessity, therefore, finding childcare becomes essential. Depending on economic status as well as personal preferences, parents will choose either a formal or informal childcare setting. Are there differences in criteria parents are looking for in childcare depending on the type of setting? This study will investigate the attitudes of parents in a small Midwestern town, using both formal and informal childcare settings, and how these parents make decisions about the type of childcare they use. It is hypothesized that quality will override the convenience factor for the parents’ decision of child care. The hypothesis is based on the literature that was researched, as well as the Social Exchange Theory which was chosen to illustrate the research question. The Social Exchange theory supports the hypothesis by representing the parents’ decision to concentrate on the benefits and weigh the costs of care, and choose the most beneficial outcome. Survey data will be statistically analyzed using frequencies, cross-tabulations, mean comparisons, and a reliability analysis. Implications for practitioners and future research will be addressed.

The Tech-195 Honors Technology class will be presenting our research, currently in progress, on technologies for climate change. The class has been working with an agency out of Minneapolis Minnesota that specializes in creating innovative campaigns and marketing initiatives. The class is working with this company to strategically align and promote entertainers to “green” their own operations and activate
fans to effect systemic and individual change in efforts to reduce CO2 emissions. The class of 16 students are doing vigorous research on climate change technologies, creating products to influence entertainers to choose “green” methods and asking fans to join in and make individual choices to reduce their energy usage and join together to make systemic change. This research is being done not only to better the world in which we live by teaching the masses about alternative energy options, but to also learn and understand complex problem solving and critical thinking skills in ambiguous situations. Furthermore, the class is learning skills that will enable them for life: working with a client, working as a team and learning how to teach others.

O013 Student-Directed Distributed Lab Management Solutions
Tony Nelson, Cody Lombard
UW-Stout, Technical Communications
Advisor: Dr. Don Cunningham
Oakwood Room – 10:05 AM

As an intra-campus collaboration between the University of Wisconsin-Stout’s Department of Biology and Department of English and Philosophy to create a student-directed biotechnology open access core facility at UW-Stout, we are developing student-directed workstations (SDW) for education, distributed management, outreach, and professional development. In this novel collaboration between two departments, we, as student workers, will assist and supervise the SDW development by defining an overall content specification; create basic style and format guidelines; design and administer effective usability testing plans, materials, and procedures; and revise and edit the final documents. Students in biotechnology courses (BIO-136, 235, and 370), and ENGL-415 Technical Writing course, will be used as subject material experts and to collect and write the modules. SDW development allows biology students to work independently and gain additional external class experiences by participating in the open access lab, engages students in learning how to use sophisticated biotechnological equipment in a controlled, safe, environment, and provides a continual source of real, hands-on applications as a resource for technical communication students.

O014 Investigating Microbial Diversity in Lake Huron Sinkhole Ecosystems
Joseph Pangborn, Ashley Dillon, Tapesh Joshi, Caleb Meier, Shane Webb
UW-Stout, Applied Science
Advisor: Dr. Stephen Nold
Ballroom B – 9:15 AM

The purpose of this research is to gain insight into the diversity of microorganisms inhabiting sinkholes in Lake Huron. By purifying DNA samples collected from different locations, sequencing the 16S ribosomal RNA region, and comparing them to the GenBank database, we will be able to create a picture of the biodiversity present in the habitats. Our results show a high percentage of Bacteria closely related to cyanobacteria from Antarctica, as well as a large number of Proteobacteria. These results are interesting because the cyanobacteria are found in permanently ice covered lakes with moderate salt concentrations. Other sediment habitats display a high degree of diversity. These findings may be explained by understanding the physical and chemical gradients present in the sinkholes. Ground water migrating through the layers of the Michigan basin sediment picks up nutrients and minerals along the way. This salty anoxic water is discharged through the sinkholes present on the bottom of Lake Huron, creating a unique habitat for microbial growth. By more fully describing the relationship between the microorganisms and their habitats, we can understand the roles that sinkhole habitats play in the larger Lake Huron ecosystem.

O015 ARISA Applications In Freshwater Studies
Mandi Seeger
UW-Stout, Applied Science
Advisor: Dr. Stephen Nold
Ballroom B – 9:50 AM

ARISA (Automated Ribosomal Intergenic Spacer Analysis) is a technique that uses PCR amplification from entire bacterial communities to describe the diversity of microorganisms in natural habitats. Since the intergenic transcribed spacer region between the small (16S) and the large (23S) subunit rRNA genes varies in length, we can exploit these differences to detect species composition. We are using ARISA to study the microbial ecology of groundwater seeps feeding Lake Huron and river periphyton communities in the Muskegon River watershed. In the submerged sinkholes of Lake Huron we hope to use ARISA to determine which microbial communities require further investigation by full DNA sequence analysis. We are also using ARISA to study seasonal changes and the effect of nutrient inputs into samples collected from the Muskegon River. Overall, these data will help us to develop community-specific profiles to compare the relative diversity of bacteria inhabiting the
underwater ecosystems. Ultimately, this knowledge will help us understand the importance of the microbial communities to the larger river and lake ecosystems.

O016 Promoting Watershed Stewardship Through Service Learning and Citizen Science
Jessica Van Der Werff
UW-Stout, Applied Science
Advisor: Krista James
Oakwood Room – 9:00 AM

A change in land use, land cover, and zoning has increased the amount of impervious surfaces in the Galloway Creek watershed. As a result, storm water quickly drains to the creek carrying all the pollutants without possibility for infiltration or treatment. Storm water runoff causes pollution problems such as erosion, soil deposition, an increase in E. coli, little macro-invertebrate diversity, and excess nutrients resulting in algal blooms. The University of Wisconsin-Stout and the city of Menomonie have joined together to study the effects of storm water runoff and pollution in Galloway Creek. The program emphasizes service learning where general education science students (BIO 111; Science, Society and the Environment) learn about the watershed and water pollution while working to improve the current condition of the creek. Students are trained to delineate the watershed, collect and analyze data, and write results for their data. They examine qualities of the creek that include temperature (air and water), water pH, dissolved oxygen, turbidity, and stream flow as well as the diversity of macro-invertebrates and the condition of the habitat. Student research data from 2003 to present indicate that the water quality and overall health of Galloway Creek has not improved over the years.

O017 Potential Pathogens in the School Environment
Zhicong Wang
UW-Stout, Biology
Advisor: Yvonne Nelson
Ballroom A – 9:15 AM

Pathogenic microorganisms are potent threats to school health. In this experiment, Colony Forming Unit (a viable bacterial colony count) samplings were taken, in various regions of a school, of microorganisms (Staphylococcus aureus, various aerobic bacteria, and molds) in order to find a pattern of distribution between the colony count and the environment. Fifteen hall passes were sampled from three regions of a school, and then categorized into groups A, B, and C (each of five hall passes). It was hypothesized that regions near entranceways would contain more molds (Group A), regions in the vicinity of lavatories would contain more mold and yeast (Group B), and regions with most students would contain more Staphylococcus aureus and aerobic bacteria (Group C). Data overall supported the hypothesis: Group A registered a large count of mold, and Group B surpassed all other regions in the count of both mold and yeast colonies. Furthermore, Group C showed significantly more Staphylococcus aureus and other aerobic bacterial colonies than Group A or B.

O018 Demonstrating Eigenvalues and Eigenvectors Using Linear Transformation
KyLynn Whipple
UW-Stout, Applied Mathematics and Computer Science
Advisor: Dr. Mingshen Wu
Oakwood Room – 9:35 AM

Eigenvalues and eigenvectors are heavily used in advanced math and science. However, the concept is often difficult to teach to entry-level math students. I have been working on an application with Dr. Wu to help explain eigenvalues and eigenvectors through a web applet. There will be a discussion of what eigenvalues and eigenvectors are and how they are useful, and an analysis of what parts of eigenvalues and eigenvectors students don’t understand, and what has been built into the program to help explain these things. The applet itself will be demonstrated, and examples given.

O019 Wisconsin Act 31: History and Implementation
Keely Sanderson
UW-Barron County, Anthropology
Advisor: Rene Gralewicz
Ballroom A – 3:35 PM

The U.S. federal court ruling on the Voight Decision of 1983, which granted the Ojibwa Indians their usufruct treaty based rights to spear fish on non-reservation lands in Wisconsin, resulted in racism and violence towards American Indians in Northern Wisconsin. In response, the 1989 Wisconsin Act 31 required all Wisconsin public schools to incorporate culturally sensitive, non-biased, and historically accurate lessons specifically focused on American Indian (Native American) sovereignty. After a brief overview of early American Indian history in Wisconsin focusing on information that can help understand the importance of unbiased education, the paper presents historical information on Act 31. The major focus of the paper is on interviews with current Wisconsin educators and school administration along with samples of American Indian lesson plans to provide an up close look into what is taught to students. Some interesting results include: educators are sincere about American Indian curriculum, but time constraints resulting from other state mandated programs take priority and there is often not very much fiscal and professional support from local school boards and administrators. Based on these
findings, the challenges for educators and other individuals who value unbiased education continue.

**O020 Everyman: Bringing Classical Theatre to Life**
Joe Vande Slunt  
UW-Fond du Lac, Communication & Theatre Arts  
*Advisor: Richard Gustin*  
Ballroom A – 2:00 PM

UW-Fond du Lac student Joe Vande Slunt documents his experience as assistant to the director of UW-FDL’s spring production of Everyman. Part of an independent study course, Joe has worked to try and modernize the classical production. His work, beginning in January, included dramaturgy, publicity, image collection, video production, and an effort to get local schools and community organizations involved in one of theatre’s ultimate "morality plays." More than just a role behind the scenes, come see what goes on in many aspects of academic theatre.

**O021 Verging on Merging or Niftily Shifting?: The Low Vowels of Eau Claire, WI**
Jared Balkman  
UW-Eau Claire, English  
*Advisor: Dr. Erica Benson*  
Ballroom A – 3:05 PM

By investigating low vowel behavior in Eau Claire, this pilot study examines current dialect tension in west-central Wisconsin stemming from the simultaneous geographic approach of two major sound changes. The Northern Cities Shift, a chain shift triggered by the rising of /æ/ (the vowel in hat), occurs in Great Lakes metropolitan areas and is already found in southern Wisconsin. The Low Back Merger, involving the loss in distinction of /ʊ, ʊ/ e.g. Don~Dawn, is a widespread and rapidly moving change currently reigning in Minnesota and trending eastward into Wisconsin. Seven women and 6 men, lifelong Eau Claire residents ages 18-85, took part in sociolinguistic interviews. Acoustic analysis of 564 vowel tokens showed some evidence (strong in one case) of the Low Back Merger among younger speakers. Additionally, rising of /æ/ across all speakers may be a sign of early Northern Cities Shift influence. Patterns suggest both sound changes may be in their preliminary stages in Eau Claire, potentially complicating accounts which describe their co-occurrence as unlikely (e.g. Labov, Ash, & Boberg 2006: 128). These findings warrant further study of speech in west-central Wisconsin, a largely unattended region in dialect research yet a potentially rich resource for understanding what can happen when phonological changes intersect.

**O022 Devolatilization of Kuiper Belt Objects via Collision**
Bryce Cummings, Christopher Thompson, Steven Henke  
UW-Eau Claire, Physics and Astronomy  
*Advisor: Dr. Paul Thomas*  
Northwoods Room – 2:30 PM

The solar system's Kuiper belt is likely to contain many objects similar in size to Pluto. Pluto's composition, based on its mean density (2030 kg/m^3), is 60% rock and 40% ice. This composition is notably more rich in rock than typical outer solar system satellites, which have rock fractions of 40%. This work investigates the possibility that devolatilization (the removal of ice) of typical Kuiper Belt Objects (KBOs) may occur as a byproduct of large impacts. Our target KBO is represented as an object with a 40% rock mass fraction. The impactor is a cometary object composed entirely of ice. We model the collision of the target with a series of impactors, varying the impactor's size and angle. These impacts are simulated using a three-dimensional smoothed-particle hydrodynamics (SPH) code. For each impact, we analyze the fraction of ice thrown off from the target. The impact speed is the escape speed of the target object (~1.5 km/s). Our simulations will constrain the critical impactor size and impact angle ranges required to increase the final rock mass fraction of the target to the 60% value observed for Pluto.

**O023 Evaluation of USDA Fresh Fruit /Vegetable Program in Wisconsin Schools**
Beth Lutz, Emily Brown, John Rodgers, Jason Haluska, Anjali Anand  
UW-Eau Claire, Education/Economics  
*Advisor: Dr. Eric Jamelske, Dr. Lori Bica*  
Oakwood Room – 9:15 AM

In November 2005, Wisconsin was selected to participate in the United States Department of Agriculture (USDA) Fresh Fruit and Vegetable Program. With this program beginning in March 2006, 25 schools in Wisconsin were able to provide daily fresh fruit/vegetable snacks to students for the remainder of the 2005-06 school year and into 2006-07. These schools have also incorporated into their curriculum various educational components designed to promote fresh fruits/vegetables as a healthy food alternative. We are conducting a statewide evaluation of outcomes associated with this program. The 25 program schools and 15 matched control schools are taking part in this study. We are utilizing student surveys, monthly site coordinator reports, teacher surveys, parent surveys, and student/parent focus groups in our evaluation. The focus of this presentation will be to provide a description of the project design and to discuss preliminary information from our surveys of 4th, 7th, and 9th grade students, focusing specifically on program
participants’ attitudes toward, knowledge of, and willingness to try different fruits and vegetables relative to those in the control group.

O024 Analysis of Archaeological Sampling Methods
Elizabeth Green
UW-La Crosse, Archaeology/Sociology
Advisor: Dr. Timothy McAndrews
Ballroom A – 3:20 PM

The use of sampling methods in archaeology is an extremely important and influential aspect of fieldwork and site interpretation. Many archaeological sites, because of financial, labor, or time constraints are only sampled on a portion of their surface, with the results from these samples governing and directing interpretation of the entire site as well as all future research. To test these methods, various experimental sampling situations were carried out against the 100% surface recovery data collected from the Pirque Alto site in Cochabamba, Bolivia. The project addresses the following questions: Do results from the sampling methods equal or come close to the results from 100% surface recovery; what method gives the most accurate results for this site and why; in what way are the methods biased and how can these biases be addressed; and, at what percentage of quadrat (unit) samples taken per each method do the results show validity, (5%, 10%, etc)? Completion of the project yields specific information about how various sampling methods would or would not have affected the interpretation of the Pirque Alto site and can further be applied to a broader study of sampling methods to provide a better understanding of their advantages and limitations.

O025 Ceramic Style and Its Influence on Interpretations of Andean Archaeologists
Beth Haupt
UW-La Crosse, Archaeology
Advisor: Dr. Timothy McAndrews
Ballroom B – 2:50 PM

This paper will be a study of how ceramic style has played a predominant role in the relatively new field of Andean Archaeology. It will focus on the geographic area of the Titicaca basin in Bolivia and Peru as well as surrounding areas such as the Altiplano, and coastal regions and examine the style portrayed in the ceramic remains of the cultures that occupied this land. From the material remains of these cultures, archaeologists have learned very much, and have made different interpretations. This project will evaluate how archaeologists have used ceramics remains to analyze the past lives of cultures such as the Moche or the Tiwanaku. Iconography and style of these vessels often give archaeologists ideas as to what the past lifestyle of Andean cultures- or any culture for that matter may have been like. There is a vast amount of information available that provide evidence as to what approaches archaeologists take to attempt to piece together the past. The outcome will access this methodology and how it has proven effective in Andean Archaeology.

O026 Evaluation of Tiwanaku Presence in the Cochabamba Valley of Bolivia
Elizabeth Plunger
UW-La Crosse, Archaeology
Advisor: Dr. Timothy McAndrews
Ballroom A – 2:15 PM

Some of the most important unanswered questions about Andean prehistory center around the expansive nature of the polities that dominated the area before European contact. The Tiwanaku culture proves to leave an especially puzzling record of how and why it established peripheral settlements in different ecological regions. Relatively little is known about how these settlements were governed, or what constituted their social, political, and economic relationship with the core region. This paper seeks to address these issues as they relate to Tiwanaku settlements in the Cochabamba Valley of central Bolivia. I plan to accomplish this through the systematic analysis and comparison of decorative and structural elements, quantities, and contexts of ceramics from the Pirque Alto site in the Cochabamba Valley, the well-documented Tiwanaku settlements of the Moquegua Valley of Peru, and the Tiwanaku core in the Titicaca Basin.

O027 Geophysical Prospection in the Cade Archaeological District, Vernon County, Wisconsin
Stephanie Sullivan
UW-La Crosse, Archaeological Studies
Advisor: Dr. James Theler
Ballroom A – 2:50 PM

This project undertakes an intensive geophysical survey in order to document potential archaeological features that may aid in future excavations. It also employs a new method of survey in the Cade Archaeological District that may contribute to the understanding of the spatial distribution and expansion of the Late Woodland cultural tradition. The Cade Archaeological District located along the North Fork of the Bad Axe River Valley in Vernon County, Wisconsin has more than 15 documented archaeological sites. The major archaeological research that is being conducted in the area regards the expansion of the Late Woodland tradition into year round settlements in the valley. Although the Bad Axe River Valley is rich in archaeological history, determining the best place to begin excavating can be difficult as many sites lie below post-settlement alluvium.
Geophysical techniques can aid in locating buried archaeological features by detecting anomalous soil signatures among the normal soil background.

0028 The United Nations: Reasons for Success and Failure of Peacemaking
Volodymyr Valkov
UW-La Crosse, Political Science
Advisor: Dr. Curtis Reithel
Ballroom C – 3:05 PM

The effects of decolonization and protracted territorial disputes contributed significantly to the legacy of controversial issues that continue to contest the ability of the United Nations to uphold the ideals to which it has committed itself back in 1945. The organization’s response to a variety of persistent political problems does not seem to meet the expectations of the international community. The criticism, however, is worthless unless it can be used to critically analyze the United Nations’ ability to guarantee peace and security. The bedrock of this project is an extensive literary research. The available data and statistics are interpreted to determine those elements of policymaking that helped to stabilize situations of pronounced conflict. They are also used to offer possible solutions for strategies that failed to provide much-needed relief. The results suggest that numerous bureaucratic barriers as well as costs of uncoordinated effort and chronic indecisiveness constitute serious functional impediments to the object and purpose of the only institutional body representing every nation in the world. These complicated aspects of international politics pose questions addressing the welfare of millions of people, and it is urgent that we discover means of reconciling the possibility of ensuring global safety with reality.

0029 Rethinking Urban Spaces in Developing Countries: A Case Study of a Textile Market in Negombo, Sri Lanka
Brandon Biederman
UW-Milwaukee, Architecture
Advisor: Dr. Kapila Silva
Ballroom C – 10:05 AM

Good urban spaces are important to the livability of a city, but are often inadequate in developing countries. Some common urban issues in developing countries include concerns of legibility, accessibility, structural order, and lack of public realm. Divisions between commercial, industrial and residential are sometimes indistinguishable. Infrastructures lack a common vocabulary. Pedestrians and vehicles are obligated to share the same space. Public parks are virtually nonexistent. Markets are overcrowded and difficult to navigate. Negombo, a city on the western coast of Sri Lanka, suffers from similar problems, and therefore, is an exemplar to investigate solutions for such urban situations. Through a conceptual master plan of the main downtown commercial area of Negombo, this project explores culturally sensitive design methods to enhance the usability of chaotic urban spaces. Based on a design of a new multi-use building containing an open public space, a textile market, and a business class hotel, this project argues that, while some of these urban issues may be cultural constructions and thus important to cultural identity, some sense of order should be and can be nevertheless introduced to make the urban space more livable. Drawings, diagrams and text will be used to present the solutions to the identified problems.

0030 City Image of the World Heritage City of Guanajuato, Mexico
Silvino Castillo
UW-Milwaukee, Architecture
Advisor: Dr. Kapila Silva
Ballroom A – 2:30 PM

The study attempts to define the imageability of the UNESCO World Heritage City of Guanajuato, Mexico and how it is related to the preservation of its cultural heritage. The study attempts to identify various aspects that define Guanajuato’s imageability in terms of (a) overall sense of the city or “city sense”; (b) core-dimensions of the city sense; (c) risk-factors that are detrimental to the city sense; and (d) understanding both significant physical features and symbolic meanings associated with the city and its features. Research followed a qualitative case study since it focused more on the residents’ perceptions of the city. Multiple sources of data that included archival, interview, observation, and photo documentation of the city were also collected. Findings revealed that Guanajuato has definable imageability and a strong city sense, which is derived collectively by the core-dimensions of the city sense, i.e., senses of historic solemnity, scenic serenity, and community. Findings also revealed that these core-dimensions are developed from both tangible and intangible attributes found in the city and its surrounding context. The study argues that this collective sense of the city must be understood and promoted through the city’s development and preservation programs.
O031 Raising Awareness of the UN Millennium Development Goals in Community Settings
Brian Eisold, Heather Baker
UW-Milwaukee, Institute of World Affairs
Advisor: Robert Rizigliano
Ballroom C – 2:00 PM

Background: In September of 2000 every country around the world came together in an act of unprecedented cooperation. They agreed to adopt a vision of a world with an abundance of food, clean water, and medical care as well as a world that cooperated in overcoming environmental issues and ensuring that women have equal access to education, representation in government and prenatal care—the Millennium Development Goals. This vision involves a series of eight areas that significant, measurable progress is to be made in by 2015. Methods: On a local level, we have worked to form a campus United Nations Association dedicated to educating and raising the awareness of our community as to the work of the UN and specifically in the implementation of the MDGs. Results: Although people have generally reacted positively upon introduction to the MDGs, there is still a considerable amount of work to be done in shifting the paradigm so that individuals and governments think in terms of accomplishing these goals while planning their foreign policy and aid work. Conclusions: The Millennium Development Goals Report for 2006 shows that we are not on target to complete many of the goals by 2015.

O032 Effect of Hip Position on Hip External Rotation Strength Measurement
Meghan Geary, Gregory Peckels, Patrick Miller
UW-Milwaukee, Athletic Training
Advisor: Dr. Jennifer Earl
Ballroom A – 9:35 AM

Research indicates hip strength may be related to knee injuries. This study compared isometric hip external rotation strength in different degrees of hip flexion to current testing methods. Hip external rotation strength was measured in three testing positions (0°, 30°, or 90° of hip flexion), and the knee at 90° flexion. A hand-held dynamometer was attached to the medial malleolus and secured with elastic wrap. Three maximal isometric contractions at each angle were conducted bilaterally. Subjects were ten healthy females (Age 20.2±0.9yrs; Height 1.7±0.04m; Weight 71.0±18.2kg) and ten healthy males (Age 21.2±2.1yrs; Height 1.8±0.07m; Weight 82.9±11.1kg). The dependent variable was peak force. Independent variables were hip flexion angle, leg dominance and gender. Repeated measures ANOVA was used to analyze the data (p<.005). There were no differences in peak force at varying hip flexion angles. Males (27.7±4.3kg) were stronger than females (19.7±4.3kg) regardless of hip angle or side (p=.001). The dominant leg (24.7±3.6kg) has greater strength than the non-dominant leg (22.7±2.7kg) regardless of hip angle and gender (p=.003).

Results indicate hip flexion angle does not influence external rotation strength measurement. Due to the ease of the testing procedure we recommend hip external rotation strength be tested at 90° of hip flexion.

O033 Providing Educational and Personal Growth Opportunities to High School Students
Emmett Gross
UW-Milwaukee, Architecture
Advisor: Tammy Taylor
Oakwood Room – 8:45 AM

Background and rationale: This project is an ongoing education program focusing on Milwaukee area high school students. The program will emphasize conceptual development, design, computer, and presentation skills among the students. Methods: The students will develop the above mentioned skills through the process of designing and building custom bicycles. Through this process the students will codify abstract ideas into a tangible product. In order to do this students will use all available tools at their disposal including computer imaging software, sketching, and models. They will also be called upon to present and defend their designs in an open forum. Results: The goal of the program is to provide students with the tools they need in order to succeed in college. Results will be measured by maintaining contact with the students in their future ventures. Conclusions: This program places emphasis on skills that are crucial to success in college but are too often underdeveloped in traditional high school curriculum. It also focuses on personal growth and problem solving which will aid the students throughout life.

O034 If You Teach a Man to Fish: Satellite Development of the Fishing Ministry Organization in Negombo, Sri Lanka
Beth Hanson
UW-Milwaukee, Architecture
Advisor: Dr. Kapila Silva
Ballroom C – 2:50 PM

Under the impact of globalization, Sri Lanka is slowly rising to assess its national need to create economically productive and ecologically sustainable industries. The Sri Lankan Fishing Ministries, located in the coastal city of Negombo, has taken to heart the famous quote saying, ‘if you give a man a fish, you feed him for one day, but if you teach a man to fish, you feed him for his lifetime.’ Their mission is to spread the knowledge about environmentally friendly and economically productive fishing techniques and new technologies in the fishing industry. However, their mission
is not reaching nearly as many people as it could, do to their current location in the city and disconnected outreach to the fishing community. In this design project, to assist in solving the outreach difficulty and the continuation of growth and sustainability in the fishing industry through the Ministry’s resources, satellite developments embedded within the areas of high fishing activity along the coast are proposed. The developments include indoor and outdoor classroom space for adults and children, a fishing museum to educate tourists and further promote the industry, and the creation of a public dock for the use of local fishermen. Overall, the study hypothesizes that through the outreach and growth of the Fishing Ministry through built structure, social and economic problems can be positively affected. The presentation will contain an analysis of the existing problems for the growth of the Fishing Ministry in Negombo, precedent studies, and graphical and architectural solutions of the proposed design.

O035 International Maternal Healthcare
Antwan Jones
UW-Milwaukee, Health Care Administration
Advisor: Nigel Rothfels
Ballroom A – 9:00 AM

Maternal health statistics provide empirical data gauging the effectiveness of obstetric care in international health care systems. Infant mortality, maternal mortality, fertility, and birth rates are important measures enabling world health advocates to discern where their assistance is most needed. In addition, maternal health vital statistics are used as tools to exemplify the welfare and possible prosperity of all the citizens in the nation in which they are prevalent. My presentation will use cross comparison analysis to discuss the disparity of several vital statistics relating to maternal health in the top ten highest GDP per head nations, cohort A, against the lowest GDP per head nations, cohort B. I will also discuss how low literacy rates, coupled with low regard to maternal health, leads to exploitation and oppression of women living in the nations of cohort B. I will encourage international healthcare equity as the key to rectifying many of the obstacles that impede the health of mothers and children around the world. In closing, I will describe current philanthropical efforts occurring in cohort B and how we all can join in this cause in order to benefit the mothers of our world.

O036 A Thermal Model of the Crust of Saturn’s Satellite Enceladus
Joseph Kane, David Kincaid, Steven Henke, Carolyn Otto
UW-Eau Claire, Physics and Astronomy
Advisor: Dr. Marc Goulet, Dr. Alex Smith and Dr. Paul Thomas
Great Hall – Session 1 10:45 AM – 11:45 AM

The icy terrain of the Saturnian moon, Enceladus, suggests a violent history of bombardment—a history which is actively overwritten by geological mechanisms. Thermal imaging of the southern polar region suggests heat flows beneath the ice may be responsible. Furthermore, an early 2006 flyby of NASA’s Cassini spacecraft imaged water ice jetting from Enceladus’ south pole. We investigate the effects of these suggested heat flows by modeling the thickness of Enceladus’ surface ice layer.

O037 Remodeling Industrial Buildings: Vernacular/High Style or Modern?
Devin Little
UW-Milwaukee, Architecture
Advisor: Dr. Kapila Silva
Ballroom C – 8:30 AM

A key theoretical question in the study of vernacular design is the definition of vernacular itself: What buildings can be called vernacular and what are not vernacular or high-style designs. This question gets more complicated when one considers the situation where seemingly vernacular building stock is remodeled into contemporary living through high-style design intervention. Should we now call these buildings ‘non-vernacular’? Do people realize that these buildings were once industrial or office buildings? Based on the newly remodeled industrial vernacular buildings into luxury loft houses in Milwaukee, this study looks into the issue of defining vernacular designs in a modern day context. Some key attributes that I will look at is how these buildings have gone through a process of being used for business/industry into living units and how the architect or developers choose to reuse these buildings in a new unique style of architecture. In addition, it may be useful identify how these buildings are being brought up to standard codes of today. I go through a process of interviews involving developers, architects, and residents to find out the design processes behind the remodeling and understand how people feel towards this reuse of buildings and how they define these buildings in terms of vernacular or high-style or hybrid.
O038 Architecture for the Economically Disadvantaged: Review of Best Design Practices for Housing the Poor in the Context of the Developed World
Andrew Manto
UW-Milwaukee, Architecture and Urban Planning
Advisor: Dr. Kapila Silva
Ballroom C – 9:00 AM

The basic function of architecture is to provide shelter. Why then, is a large amount of the world’s population living in either substandard housing or no housing at all? Causes of this situation are most likely spread across social, political, and physical boundaries and must be looked at and synthesized to have a realistic view on this problem. In my research, I intend to examine issues of quantity vs. quality of space, housing as a verb (process) rather than an object (product), and the difference between house and home in the context of the built environment. Issues of sustainability will reach beyond simply materials and into the realm of location, living practices, the formation and role of community, and the planning process that goes into the development of affordable housing. My particular focus is on the existence of such issues in the developed world. A careful look at precedents in both theory and practice will enable me to obtain a better understanding of planning and housing for the poor. My presentation will include the findings of this research, illustrated with drawings and photos of the best design practices.

O039 Design for the Deprived: Review of Sustainable Practices for Housing the Poor in the Context of Developing Economies
Zachary Nesgoda
UW-Milwaukee, Architecture
Advisor: Dr. Kapila Silva
Ballroom C – 9:35 AM

Accommodating the poor has become increasingly more difficult. There are over 600,000 homeless people in the United States alone. This is even more of an issue throughout the world, and especially in the developing countries. The degree of severity is derived from a variety of things; government policies, quality of life, quality of construction, availability of resources, cultural attitudes, issues of ownership, man-made and natural disaster displacement which has become more of an issue with the tsunamis in Southeast Asia. This study is a critical review of some of the design methods and solutions that are fabricated in response to these issues, primarily in the developing world. Through the use of precedent studies and careful analysis of design practices I hope to generate a more comprehensive view of one of the true world problems from the eyes of who have dealt with the issue most – the designers in the developing world. The presentation will include the findings of this research illustrated with stories of successes, photos and drawings.

O040 Infrared-based Detection of Fish Specimens in Controlled Environment
Aleksandar Plavsic
UW-Milwaukee, Electrical Engineering
Advisor: Dr. Chiu-Tai Law
Ballroom B – 9:00 AM

As a part of an effort to design an electrical system that will automate several fish neurobehavioral experiments performed at Great Lakes Water Institute (Milwaukee, WI), I examined the effectiveness of near-infrared (NIR) light in detecting fish specimens located in a fish tank. This project addressed a fundamental design issue for successful automation of these experiments. A theoretical investigation based on the principles of NIR light emitting diode (LED), photodetector, as well as attenuation effects of water and glass was performed in order to estimate the transmission of NIR power through a fish tank. Results indicated that a photodetector at the receiving end is able to detect any NIR power level fluctuations including those generated by specimen movements. Hence, the movement detection with NIR beams is a very effective technique. However, the power level of NIR beams should be kept low to avoid damaging the specimen’s tissue. Ultimately, the successful demonstration of an automation system based on NIR light detection would tremendously improve the speed and accuracy of neurobehavioral experiments.

O041 St. Clair River Erosion and Decreasing Lake Michigan-Huron Water Level
John Schafer
UW-Milwaukee, Civil Engineering
Advisor: Nigel Rothfels
Ballroom B – 9:35 AM

The Upper Great Lakes are currently experiencing a precipitous water level decline. The December monthly mean water levels for Lakes Superior, Michigan-Huron, and St. Clair were 17, 15, and 2 inches, respectively, below average when compared to long-term (1918-2005) averages. At the same time, Lake Erie and Lake Ontario were 7 and 12 inches above average. Concern about declining Lake Michigan-Huron water level from public and private organizations has lead to increased study of the fluvial geomorphology of the St. Clair River and its contribution to the steep decline of the Lake Michigan-Huron water level. The position of this paper, based upon historical construction and dredging records, is that the increased hydraulic scour rate of the St. Clair River is an anthropogenic effect of riverbed armor layer removal influenced by
navigational and commercial dredging projects. Hydraulic scour increases the outflow capacity of the St. Clair River which results in a water level decline on Lake Michigan-Huron. The goal of this technical paper is to summarize the causal relationship between St. Clair River erosion and decreasing Lake Michigan-Huron water level. An additional concluding section has been added to suggest an economical mitigation measure.

O043 Comparison of Daphnia Behavior in Winter and Summer Water Temperatures
Josh Ziarek, Ai Nihongi (not attending), Takeyoshi Nagai (not attending), Marco Uttieri (not attending), and Emily Muth (not attending)
UW-Milwaukee, Biology
Advisor: Dr. Rudi Strickler
Ballroom B – 8:30 AM

Our question is: Do Daphnia pulicaria maintain statistically similar swimming behavior between the seasonal temperatures of their environment? Two populations of D. pulicaria were observed in filtered lake water at 3 and 22 degrees Celsius – the respective seasonal ambient water temperature – during winter and summer. Each animal was exposed – for 15 minutes – to four conditions: (a) light/fish kairomone, (b) no light/fish kairomone, (c) light/no fish kairomone and (d) no light/no fish kairomone. All conditions were videotaped in 2D using an infrared camera, illuminated by two near-infrared lights with a wavelength of 980nm, at 30fps for a total of 27000 data points per observation. The velocity and the complexity of the entire swimming trajectory were used to quantify Daphnia swimming behavior. Preliminary results suggest there is no significant difference in the swimming behavior of Daphnia pulicaria at terminal season temperatures. Considering the physical (kinematic viscosity) and physiological (metabolic) effects of temperature this counterintuitive result raises the questions: Why? Could this similar swimming behavior reflect adaptations in energy expenditure, appendage orientation, or carapace volume?

O044 The Importance of Abstinence Education in the Public School System
Amanda Doepke
UW-Oshkosh, Speech Communication Education
Advisor: Dr. Gregory Olson
Ballroom A – 10:20 AM

Abstinence Education at the state level in Wisconsin is based on the Healthiest Wisconsin 2010 Plan. Their mission is to promote, support and encourage youth in every Wisconsin community to choose abstinence. The measurable objective is working toward a 25% decrease—from 39% in 2001 to 30% in 2010—in the proportion of Wisconsin high school youth who report ever having sexual intercourse as measured by the Wisconsin Youth Risk Behavior Survey. I am a certified abstinence motivational speaker and spent the 2005-2006 school year traveling to middle and high schools across this state discussing the importance of abstinence, along with four other members of my team (funded by grants on the state and national government level and employed by the AIDS Resource Center of Wisconsin). We spoke to 12,819 youth over that year, and according to our evaluations, over 48% of youth claim the presentation influenced their decision to be abstinent “very much” and over 42% said it influence their decision to be abstinent “somewhat.” These are simple numbers and not statistical analysis, but it clearly states how the youth felt about the presentations. According to our results, youth are not only open to abstinence education, but also do consider it.

O045 Stellar Distribution in the Fourth Galactic Quadrant
Anthony Kuchera
UW-Oshkosh, Physics and Astronomy
Advisor: Nadejda Katcheva
Northwoods Room – 3:20 PM

The aim of the present study is to contribute to a better understanding of the stellar distribution in the galactic longitude range between l=283° and l=294°. The field we investigate is centered on the galactic cluster IC 2602 and contains the near part of the Gould Belt and the distant spiral structures toward Carina. We present an overall uvby-β photometric investigation of the prominent apparent stellar structures in this part of the Galaxy. Our sample contains more than 550 stars covering a wide range of stellar types and luminosity classes. The uvby-β system chosen here is arguably better suited to the study of individual stars and their groupings in terms of stellar luminosity than any other photometric system in wide use. This allows for reliable distance estimations of the spiral arms’ tracers. The precise photometry and the reliable calibrations enable us to infer accurate individual stellar distances and reddening. Based on these homogeneous estimates for stars that belong to the major groupings in the field and the stellar layers, we present a discussion of the spatial structure and star-forming history of this part of the fourth Galactic quadrant.
**O046 Teacher Comments: An Effective Learning Tool or a Waste of Time?**
Lynn Quillico  
UW-Oshkosh, Mathematics  
Advisor: Dr. Carol Seaman  
Oakwood Room – 9:50 AM

The National Council of Teachers of Mathematics in 2000 advocated that all students of mathematics engage in problem solving and communication, both oral and written. With this in mind, preservice elementary teachers enrolled in Math 211 work collaboratively to solve problems and then provide a written report in which they describe their solution and present a justification for that solution. In the grading process, the instructor provides written comments on students’ use of language (both common and technical) and on the form and logic of their arguments. This project investigates the effectiveness of such writing assignments. Do they improve students’ abilities to talk and write about mathematics? And in particular, do these written comments assist students to develop more sophisticated and mathematically correct written expositions of their mathematical thinking? Data collection and analysis utilized primarily qualitative methods. Students completed two written questionnaires during the semester and the undergraduate researcher conducted hour-long interviews with 10 students chosen to be informants. Samples of student work with comments and student grades were also collected. Analysis of the interview transcriptions is in process. Preliminary results indicate that the teacher comments were used by students to improve the written exposition of their mathematical thinking.

**O047 Economic and Social Factors of Income Inequality**
Ahmed Sharif  
UW-Oshkosh, Economics  
Advisor: Dr. Marianne Johnson  
Ballroom C – 2:30 PM

What determines the income distribution of growing economies around the world? Our study investigates the relationship between income inequality and a number of economic and social variables. All together, our econometric model explains almost 44% of the variation in income inequality in the 36 countries we test. Interestingly, we find that education statistically improves income inequality, while greater international trade decreases income inequality. Other variables that statistically explain income inequality include Gross Domestic Product per capita, inflation rates, and rural population percentages. The study still needs further investigation before the results can be fully interpreted.

**O048 Combating Invisibility: Representations of Older Women in Selected Novels by Toni Morrison and Anita Shreve**
Anna Simeth, Adeline Miller  
UW-Oshkosh, English  
Advisor: Dr. Paul Klemp  
Northwoods Room – 8:45 AM

This essay discusses the difference between television and literary portrayals of middle-aged and older women in the last thirty years of the twentieth century. TV writers rarely included older women in programming and when they did they were often characterized as useless, undesirable, and passive. Our aim is to compare the ways older women are portrayed in popular and academically respected literature in contrast to TV representations. To this end, we have established criteria relating to popularity and academic credibility. Two older, female authors, Toni Morrison and Anita Shreve, meet these criteria. Studying Morrison’s Paradise and Song of Solomon and Shreve’s The Weight of Water and The Pilot’s Wife enhances the understanding of the relationship between women, age, and literature. These novels illuminate that a mother is to the family what a shaman is to his or her community. The goals to preserve their tribe or family and their functions as healer and storyteller are the same even though the methods are different. The authors’ representations create a new paradigm for measuring the value of older women.

**O049 Donnan Dialysis and the Migration of Metal Ions in Organic Solvents**
Adam Barsamian  
UW-Parkside, Chemistry  
Advisor: Lori Allen  
Oakwood Room – 2:15 PM

Donnan dialysis is an extraction technique used to determination the concentration of metal cations in aqueous solutions. The benefits of Donnan dialysis are the large enrichment factors that can be achieved, the relatively short extraction time, the universal nature of the extraction (all cations), and the simplicity of the instrumental set-up. The limitations are that the sample must be available in relatively large quantities, must be of low ionic strength and must be water soluble. This work begins to extend the usage of Donnan dialysis to non-water based samples by measuring enrichment factors in organic solvents and in systems consisting of the organic solvents mixed with water. Lead and copper are the two metals that will be reported and the organic solvents of interest include acetone, acetonitrile, ethanol and methanol. Flame atomic absorption spectroscopy is used for detection. Experimental enrichment factors will be compared to factors predicted from theory as this approach may prove useful to measuring solution
viscosity. As time permits, results will be extended to non-water soluble samples such as edible oils where this technique may provide an alternative analysis approach that is significantly easier to use.

O050 Engaging Students Despite Dissimilar Learning Styles
Mike Bate
UW-Parkside, Communication
Advisor: Dr. Wendy Leeds-Hurwitz
Oakwood Room – 10:20 AM

My research was part of a multiple-disciplinary project at UW-Parkside which utilized a cooperative teaching tool known as a Wiki. Wikis are online databases where participants can share and store information. Students investigated the general question of how teachers construct a context within which learning can occur, using ethnography (direct observation) of actual K-12 classrooms as the method. Each student developed an individual research question, I chose to investigate how teachers ensure engagement from students despite different learning styles. Sharing and storing field notes, transcriptions, videos, and synthesizing past research were just some of the ways our class utilized the Wiki’s versatility. In terms of my individual research question, I found that cooperative learning centers, workshops, and goal oriented projects are the most effective tactics K-12 teachers use to engage students with different learning styles while conveying knowledge. The Wiki served as a vehicle to demonstrate a cooperative teaching tool, transcriptions, videos, and synthesizing past research. As it turned out, the technology added to my own understanding of how teachers can work with multiple learning styles simultaneously.

O051 Survey of Sexual Orientation and the Male Pedophiliac
Mary Pirrello
UW-Parkside, Anthropology/Sociology
Advisor: Anne Statham
Ballroom A – 10:05 AM

Rationale: To investigate and explore causal relationships of pedophilic behavior in men. The sample size for this research is 100. Methods: After selecting offenders on the Registered Sex Offenders list of Lake County, Illinois, the research looked at those who have offended against males under age 17 or females under age 14. The offenders selected were more than 10 years older than their victim. The research was a blind study to protect the identity and assure privacy for the individual respondent. Results: There were seven respondents out of the one hundred questionnaires sent out. One (14.28%) reported homosexual orientation, one (14.28%) reported bi-sexual orientation, and four (57.14%) reported heterosexual orientation. The results indicated a 7% response rate from the population. The most respondents are from ages 40-49 and all but one respondent had education levels beyond high school. More of the respondents indicated that they handled themselves well at social gatherings very often to fairly often as children and that they rarely handled themselves well at social gatherings as adults. A majority of the respondents reported they had experienced physical, emotional or sexual abuse as children. The results of the survey could suggest trends that further research would clarify. Conclusion: Through this research I learned about designing questionnaires, becoming an honest investigator, and which processes are productive. The research experience showed me that there are many reasons for behavior and from an anthropological holistic view, getting out of my own ethnocentric ideas and stretching to consider other options is important.

O052 Aerosol-Phase Assisted Digestion for the Analysis of Lead in Sweeteners
Joseph Topczewski
UW-Parkside, Chemistry
Advisor: Lori Allen
Ballroom C – 3:20 PM

Sucrose, glucose and other sweeteners are high-volume food ingredients that are susceptible to environmental contamination during production and manufacturing. The analysis of these sweeteners for trace metal contamination is important to avoid health risks to the public. The typical analysis procedure involves either microwave or hot-plate digestion followed by atomic spectrometric analysis. These processes are bulky and time-consuming, which hinders routine monitoring on a widespread basis. In this work, the feasibility of using the sample introduction system of a plasma atomic emission spectrometer to digest the samples, essentially in the aerosol-phase, is examined. This report provides background information on trace metal contamination in sweeteners and aerosol phase digestion, illustrates why samples must be digested, and then examines the influence of nitric acid, hydrogen peroxide and temperature on the digestion process in the presence of argon. As part of this study, glucose and glucosamine are used in an independent procedure based on liquid chromatography to evaluate the degree of digestion. In addition, the analyte transport efficiency is determined by the use of FAAS measurements of copper, as the goal is to reduce sample preparation requirements without compromising method detection limits.
O053 Bulgaria and the EU: Economic Prosperity or Europeanization?
Becky Adamski
UW-Platteville, History/Political Science
Advisor: Susan Morris
Ballroom C – 2:15 PM

On January 1, 2007, Bulgaria proudly become a member of the European Union and likewise joined Europe’s thriving economic and social system. To officially become part of the EU, Bulgaria has dramatically restructured itself since 2004, to follow a more Western styled model. I will highlight Bulgaria’s struggles and triumphs as a new member of the EU. Noting on their recent economic success and government improvements, Bulgaria has become more Western minded and akin to Western Europe. However, Bulgaria has traditionally been a poorer State in Central Europe and its citizens are unfamiliar with Lassiez Faire economics and Western political ideologies to hinder their progress over past two years. Research had been conducted through reference to primary documents via the internet (EU, WTO, BBC News) and secondary resources (online scholarly journals, books). Plus, recognition of Bulgaria’s and the EU’s political and economic conditions have allowed me to monitor and analyze the transformation of Bulgaria as part of the EU. Overall, Bulgaria has successfully made the necessary economic and political changes to become part of the EU. Plus, taking into account their rising GDP and real estate development, and enthusiasm for accession, it is likely that Bulgaria will be a valuable and sustainable member of the EU. This information is useful to any consumers as through globalization and high-speed communication; we are all part of the global market and can enjoy prosperous economic and social conditions, on behalf of the EU.

O054 Effects of Breakfast on Memory, Attention, and Satiety
Zabrina Fuller
UW-Platteville, Biology
Advisor: Dr. Amanda Trewin
Ballroom A – 9:50 AM

Abstract: Whether or not you eat breakfast and what you choose to consume influences memory. This study is going to examine the effects of breakfasts high in fiber and breakfasts of refined carbohydrates and high sugar and fats on working memory, attention, and satiety. Volunteers of ten will each be recruited and randomly assigned to one of the groups formed by combining nutritious (fiber versus no breakfast) and refined (carbs versus fiber) and (carbs versus no breakfast) conditions. The volunteers will complete a baseline session between 8:00am and 8:45am. Breakfasts will be provided between 8:45am and 9:15am. The final testing session will take place at 10:30am. Intro: Based on Smith et al (1999), consumption of breakfast was associated with greater satiation, and greater alertness that leads to better scores on memory performance tasks. According to Smith et al, consuming any breakfast will enhance spatial memory. Breakfasts should have no effect on the encoding of information in the categoric search task. According to the Holt (1999), although high-fiber breakfast was the least palatable, it was most filling. This then resulted in reduced food intake throughout the day, especially during morning and lunch hours. Further, test subjects were all alert after breakfast.

O055 Polish Poster Art: An Artistic Response to Communist Politics
Catherine Kutka
UW-Platteville, Art
Advisor: Linda James
Ballroom B – 2:30 PM

With few exceptions, little is taught in the United States about Eastern European art and art movements, likely due to tensions produced by the Cold War. Even now, in a post-Cold War era, a study of European art tends to focus on the Russian avant-garde of the early twentieth century and social realism. Yet artists and their art still flourished in these so-called Eastern Bloc nations, including Poland. One particular movement was that of poster art. Posters were created for many reasons, such as movies, theater, the circus, and politics. Poster art in Poland has a long history, but what interests me in particular are the political posters. In order to understand the motivation behind these works, one must understand the politics in place at the time they were created. My research will include both the history and the political impact of this artistic movement. This will require a study of the artists and artistic styles involved, as well as a greater understanding of the political history of Poland with a focus on the Communist era. I hope to convey the importance of this movement both in terms of its artistic presence as well as its political impact.

O056 Quadrula Metanevra Glochidia Metamorphose on Select Minnows
Andrea Crownhart, Bernard Seitman, Mark Hove, Nissa Rudh
UW-River Falls, Biology
Advisor: Dr. John Wheeler
Oakwood Room – 3:20 PM

The monkeyface (Quadrula metanevra) is broadly distributed in medium and large rivers of the interior basin and highlands of eastern North America, and is classified as threatened in Minnesota and Wisconsin. Many life history details are unknown or poorly resolved; among these are the
identities of glochidial hosts. The closely related rabbit’s foot (Quadrula cylindrica), which is designated as endangered throughout its entire range, has been shown to metamorphose on various minnow species (Cyprinidae) in the laboratory. Based on these results, we tested the suitability of 18 minnow species in 11 genera, in addition to 28 non-minnow species in nine other families, as hosts for Q. metanevra. Glochidia of Q. metanevra metamorphosed on four cyprinid species in the laboratory: spotfin shiner (Cyprinella spiloptera), bluntnose minnow (Pimephales notatus), eastern blacknose dace (Rhinichthys atratulus), and creek chub (Semotilus atromaculatus). The genus Quadrula is composed of three monophyletic species groups: The quadrula, metanevra, and pustulosa species groups. The use of minnows as glochidial hosts by species in the metanevra group is in contrast to the pustulosa and quadrula species groups, which use catfish (Ictaluridae) as hosts. Future research will include testing host suitability of additional minnow species, and identifying juvenile mussels from naturally infested minnows.

**O057 Supply and Demand Relationships in Photosynthesis**
Tyler Fuhrman
UW-Stevens Point, Biology

Advisor: Dr. Eric Singaard
Oakwood Room – 3:35 PM

Experiments have shown increased plant productivity at elevated CO2, others show either no effect or negative effects of increasing CO2 on photosynthesis and productivity. When plants grow slowly they must change the rate of photosynthesis to match the need for photosynthate. Our goal was to apply our model on a large scale to find differences between elevated CO2 areas and normal CO2 (today’s conditions). Tests were done at the F.A.C.E. site in Rhineland, WI using a portable Li-Cor 6400 to measure rates of photosynthesis at differing light levels. In CO2 feeding areas, photosynthesis became depressed in the afternoon whereas the control (normal CO2) areas of the F.A.C.E. site. The light coefficients from these treatments shown that different areas in the photosynthetic pathway were controlling the rate of photosynthesis. In the four different treatments at the F.A.C.E. site, large differences were seen between them. These differences show that feeding of CO2 doesn’t not have the desire effect we believe it did and that the demand for light entering a plant versus the availability of open PSI sites controls photosynthesis not limiting reagents, like CO2, in the environment.

**O058 Deconstructivism in Museum Design – Chicago, Illinois**
Jennifer Hunt
UW-Stevens Point, Interior Architecture

Advisor: Nisha Fernando
Ballroom C – 8:45 AM

The Museum of 20th Century Art in Chicago’s lakefront museum campus showcases works of Max Ernst, Pablo Picasso, and Salvador Dali. A new museum would greatly contribute to the tourism industry in the City of Chicago, as well as the Museum Campus. The design project consisted of extensive research and conceptual development based on various building codes, research on design history and artists, and case studies on museum design. The project included several phases on Conceptual Development, Blueprint Development, and Final Presentation Materials. The final drawing set comprised of several detail drawings, floor plans, furniture, fixtures and equipment plans, reflected ceilings and electrical plans and way finding plans. The final outcome of this project is unique and intriguing because of the conceptual approach of deconstructivism. Deconstructivism is generally found in Europe and not appreciated as much in the United States. This architectural style that has been made famous in recent years by Frank Gehry is a complementary style to the work of Picasso and Dali, it also fits seamlessly into the Museum Campus of Chicago. The end product will contribute to the appreciation of new and unusual architectural styles in the United States.

**O059 The Museum of 20th Century Art: Modern Expressionism**
Crystal Mansfield
UW-Stevens Point, Interior Architecture

Advisor: Nisha Fernando
Ballroom C – 9:15 AM

The proposed Museum of 20th Century Art in Chicago is a multi-use museum facility for art work by renowned artists as Pablo Picasso, Salvador Dali, and Max Ernst. The facility combines several different spaces under one roof, including permanent and temporary exhibit spaces, an entrance lobby, offices, a conference room, a café/restaurant, a gift store, a presentation room, a library, and storage. Through case studies, detailed project analysis, programming, and extensive conceptual development the design language was chosen as Modern Expressionism, with the city of Chicago being the basis of expression. Creating a museum interior that will stand out among other museums reflecting the surroundings was the main focus. Through schematic designs and design development, the final design solution was aesthetically and functionally inspired by its culturally unique public, grand physical surroundings, and the art work themselves.
O060 Atmospherie and Restaurant Design: The Impact of Color and Light
Michelle Niepow
UW-Stevens Point, Interior Architecture
Advisor: Donna Zimmerman
Ballroom C – 10:20 AM

Good restaurant design is dependent on a combination of environmental factors that influence customer perceptions of service quality and performance. This study will explore the impact of color and light on the atmospheres of restaurant spaces. As sensations of color do not exist without light, the two factors are inherently connected and must be considered together. Methodologies that will be employed for this study include research on psychological aspects of color and light, case study analysis, photographic documentation, observation and interviews. This study is in progress and therefore findings are not yet known. The expected results are to determine how color and light affect people, their expectations, perceptions and behaviors in a social atmosphere as well as why certain colors are preferred in restaurant design. Are they specified to illicit certain responses and/or to contribute to a particular image that a restaurant wishes to project? Since color and light play such an important role in the field of design, it is very important to understand how these two factors can affect people. Learning more about color/light psychology and how it is used in restaurants is a significant step to understanding the role of color and light in life.

O061 Analyzing the Performance of the Municipal Water Use in the Palestinian Territories Using GIS
Kamal Alsharif
UW-Superior, Biology/Earth Science
Advisor: Dr. William Bajjali
Northwoods Room – 3:05 PM

The limited water supply in the countries in the Middle East is a challenge to the decision makers. The population is increasing and the water resources are scarce, deteriorating, and declining. Domestic water use in the West Bank and the Gaza Strip was analyzed from 1999 to 2002. Water losses exceeded the 10% level, which is common in the developed countries. The Gaza Strip water situation is considerably worse than the West Bank. The specific water consumption has declined in the West Bank from 1999 to 2002. On the other hand, the specific water consumption has increased in the Gaza Strip and it remained below the 100 liter per capita for the same study period.

O062 Out of Sync in the Mainstream
Ashley Berguson
UW-Superior, Teacher Education
Advisor: Dr. Rhoda Robinson
Ballroom C – 9:50 AM

The purpose of this study is to help identify why some children interpret environmental stimuli in ways that negatively affects their academic success. Research into Sensory Integration Dysfunction provides some clues. However, little research has been completed on this disability. Research to date indicates that a child’s level of Sensory Integration affects ability to focus on typical classroom activities. My study will focus on two elementary age students who have been identified as having emotional and behavioral disorders, and also have demonstrated a difficulty to adapt successfully to traditional classrooms. I will look at the classroom environment of these students and consider modifications of sensory stimuli in the environment such as: lighting, seating, and background noise in order to ascertain what is needed to create a more supportive learning environment. Research and results will be completed by April 20th. The results will form a basis for classroom design and environment. I will use the information to create a learning environment for students with Sensory Integration Dysfunction and to plan goals and objectives for Individualized Education Plans. Additionally, I am planning for further study on Sensory Integration Dysfunction based on the findings of this research.

O063 The Use of GIS to Understand the Earthquakes in America
Reed Coil
UW-Superior, Geographic Information Systems
Advisor: Dr. William Bajjali
Northwoods Room – 2:00 PM

This study is focused in the us use of GIS in understanding the nature of earthquakes mainly in the west coast of the United States. The movement and successive interactions between the three types of plate boundaries: Spreading ridges, transform faults, and subduction zones are responsible for the major geologic activity on Earth, including earthquakes. The analysis revealed that the earthquakes in Alaska and California are due to the interactions between the North American and the Pacific plates. The two plates move differently at different points along their boundary, forming a subduction zone in Alaska and a transform fault in
California. A statistical evaluation of earthquake depths in Alaska and California revealed that earthquakes associated with transform faults generally occur at shallower depths than earthquakes in subduction zones. Earthquakes along transform faults occur closer to the surface, they often cause more damage than deeper earthquakes of similar magnitude.

O065 Potential Earthquakes in Wisconsin and its Influence on the Population and Transportation
Matthew Goodman
UW-Superior, Geographic Information Systems
Advisor: Dr. William Bajjali
Northwoods Room – 2:15 PM

This study is focused on possibilities of large earthquake ever to strike within the North American Plate in Wisconsin, examine the most likely location of the quake, and probable outcome on the population if such an event were to happen at present. The historic earthquakes greater than magnitude 5.0 that have occurred since 1800 and urban centers likely to experience at least intensity VI-related damage were examined. No historic earthquake took place in Wisconsin, but four urban centers in the southeast of Wisconsin would experience at least a VI level of intensity. The total number of people that would be affected in the VI MMI zone is calculated to be around 1.4 millions. Around five major interstate in the southeast with a total length of 227 km will be at risk. A total depth of 522 km railroad in the south along the border of Illinois will be also at risk.

O066 School Spirit: Definition and Measurement with Assessment of Promotional Strategies for Enhancement
Grant Moody
UW-Superior, Business Marketing
Advisor: Dr. Ethan Christensen
Ballroom B – 3:05 PM

School spirit is an integral part of the student experience at a university and can serve to provide students with a sense of pride and belonging, instill student loyalty to the university and serve to promote campus and community unity. While there are many benefits associated with strong school spirit, very little information exists about what school spirit is, how it can be measured and which promotional strategies would best enhance school spirit. This study, undertaken at the University of Wisconsin-Superior, used focus group research and student interviews to discover and identify the components of school spirit. Quantitative measurement scales were then developed to measure school spirit. An experiment also was undertaken to assess whether rational or emotional appeals were more effective in promoting school events and activities. Results indicate the definition of school spirit is broad and not limited to only athletic events and sports teams. Academics, artistic expressions and student organizations were found to be of importance in defining school spirit. While many universities are confronted with dwindling levels of school spirit and struggle to engage students in campus activities, this research moves toward an informed approach to understanding school spirit and developing promotions that will resonate with students.

O067 Racially and Culturally Loaded Humor Within US Culture
Devin Pacheco
UW-Superior, Speech Communication
Advisor: Dr. Keith Berry
Northwoods Room – 9:15 AM

The objective of this project is to demonstrate that humor can be a wonderful facet of life, and can also have very harmful effects on its audience when used in combination with racially loaded and culturally offensive content. This paper, motivated by my first-hand experiences with the topic, examines many examples of hurtful language concerning race and other elements of culture used by top comedians in their comedic performances, and by interpersonal communicators in everyday jokes. I offer several examples of communication through video clips and direct quotations that incorporates charged language and call for the practice of taking perspective, positioning ourselves in the shoes of the groups of people to which the jokes or statements might relate. This paper allows us to learn more about the prevalence of racially loaded language in US culture, and how even the smallest of jokes might have a very damaging outcome on members of different cultural groups. I have learned and continue to learn about how communicators’ perceptions, shaped by our particular cultural standpoints, have an indelible impact on the ways we experience “comedy.” My hope is for this project to remind us that we can have a positive impact on society and on individuals’ lives by stepping in, perhaps halting, and speaking up against racially and culturally disrespectful humor.

O068 Morphological Variation Between Populations of Lake Trout (Salvelinus namaycush) in Northeastern Minnesota
Eric Seidelmann, Katie Aho
UW-Superior, Department of Biology and Earth Sciences
Advisor: Dr. Jeffrey Schuldt
Oakwood Room – 2:50 PM

Historically, lake trout (Salvelinus namaycush) were considered morphologically stable deepwater piscivores, but recent studies have identified several lake trout morphotypes from Lake Superior and Great Bear Lake and shown differences in morphology between piscivorous and...
insectivorous trout. The purpose of this study was to compare the morphology of lake trout from lakes in northeastern Minnesota having different forage communities to investigate the relationship between diet and morphology. Over a three month period, fish were sampled using hook and line techniques. All fish were photographed with an object of known length using 35 mm cameras. Photographs were analyzed using a standard fish truss protocol consisting of thirty-one elements. Truss elements were measured using image analysis software and each element was standardized to fish length to eliminate the effect of fish size. Fish were categorized into two groups: Lakes with pelagic forage fish and those without. T-tests were used to compare the mean values of each truss element between groups. Our results showed significant differences between six truss elements; primarily elements associated with head shape and size. These differences suggest a potential relationship between lake trout morphology and diet.

O069 Analyzing the Potential Flood in USA in GIS Environment: Case Study from Kansas
William Whirry
UW-Superior, Geographic Information Systems
Advisor: Dr. William Bajjali
Northwoods Room – 2:50 PM

There are various areas in USA that are vulnerable for flood, making them a hazardous area in which to live and work. Many factors such as slope, soil type and vegetation affect floods and their intensities. GIS proved to be an excellent tool to be used as a flood model to predict the flooded area for a given river discharge. Using such flood scenarios in a GIS greatly assists in preparing for a flood event in Riley County, Kansas that has a population of around 64,000 persons. In Manhattan city three streams coincide, Kansas River, Big Blue River, and Wildcat Creek. The advance analysis performed identified the flooded segments of long line features along the streets of the city of Manhattan. It also shed the light on the important features in the flood zone such as manholes, hazardous materials, and historical buildings. These steps were essentials to protect historical buildings and prevent contamination.
POSTERS

A QUICK GUIDE TO POSTER NUMBER
WITH SESSION ASSIGNMENT
<table>
<thead>
<tr>
<th>AB NO</th>
<th>Abstract Title</th>
<th>School</th>
<th>Program</th>
<th>Presenters</th>
<th>Advisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>P003</td>
<td>The Pinellas County Project: Planning for Sustainable Living</td>
<td>UW-Fox Valley</td>
<td>Geology/ComArts</td>
<td>Amanda Hoffman, Jillian Kasdorf, Timothy Olson, Samantha Robinson, Louise Ebben</td>
<td>Kristin Range, Dr. James Brey</td>
</tr>
<tr>
<td>P005</td>
<td>Hydrogeologic Investigation of the Willow Swamp - University of Wisconsin-Parkside</td>
<td>UW-Parkside</td>
<td>Geosciences</td>
<td>Zoe McManama</td>
<td>Dr. Zhaohui Li</td>
</tr>
<tr>
<td>P009</td>
<td>Making Campus Safer: Research and Recommendations on Campus Bicycle Safety</td>
<td>UW-Stevens Point</td>
<td>Health Promotion and Wellness</td>
<td>Matthew Oversich</td>
<td>Dr. Marty Lay</td>
</tr>
<tr>
<td>P011</td>
<td>Evaluation of Football Face-Mask Removal Using Two Power Tools</td>
<td>UW-Oshkosh</td>
<td>Kinesiology &amp; Health</td>
<td>Traci Smet, Tiffany Shaddick</td>
<td>Dr. Hal Strough</td>
</tr>
<tr>
<td>P013</td>
<td>Vitamin C Concentration in Ice Tea: Effects of Packaging and Storage</td>
<td>UW-Stout</td>
<td>Food &amp; Nutrition</td>
<td>Katelyn Filbrandt</td>
<td>Dr. Cynthia Rohrer</td>
</tr>
<tr>
<td>P015</td>
<td>Healthcare Barriers and Stigma Amongst HIV-Infected African-American Men</td>
<td>UW-Milwaukee</td>
<td>Nursing</td>
<td>Katayon Tabatabai</td>
<td>Aaron Buseh</td>
</tr>
<tr>
<td>P017</td>
<td>What's the Buzz? Caffeine and Visual Reaction Time</td>
<td>UW-Manitowoc</td>
<td>Physiology</td>
<td>Lindsay Lorenz, Alissa Emond</td>
<td>Dr. Richard Hein</td>
</tr>
<tr>
<td>P019</td>
<td>Effects of Proprioceptive Neuromuscular Facilitation on 10-M Sprint and T-Test</td>
<td>UW-Oshkosh</td>
<td>Kinesiology &amp; Health</td>
<td>Bryan Schreiber, Luke Garreau</td>
<td>Dr. Dan Schmidt</td>
</tr>
<tr>
<td>P021</td>
<td>Evolution of Cycling Pacing Strategy in Non-athletes</td>
<td>UW-La Crosse</td>
<td>Exercise and Sport Science</td>
<td>Kirsten Hendrickson, Car Foster</td>
<td>Dr. Rebecca Battista</td>
</tr>
<tr>
<td>P023</td>
<td>Evaluation of Salt Damage in Native Perennial Seed Germination and Plant Growth</td>
<td>UW-Stout</td>
<td>Biology</td>
<td>Troy Reichstadt</td>
<td>Dr. Katrina Carlson</td>
</tr>
<tr>
<td>P025</td>
<td>The Species Diversity of Moss Parasite Eocronartium muscicola</td>
<td>UW-Platteville</td>
<td>Biology - Botany emphasis</td>
<td>Alicia Knudson</td>
<td>Dr. Elizabeth Frieders</td>
</tr>
<tr>
<td>P027</td>
<td>Mutational Studies of the Type III Secretion System</td>
<td>UW-Whitewater</td>
<td>Biological Sciences</td>
<td>Meghan Moll</td>
<td>Dr. John Pritchard</td>
</tr>
<tr>
<td>P029</td>
<td>Health Effects of Mercury on the Embryonic Development of the Heart and Neurons</td>
<td>UW-Milwaukee</td>
<td>Clinical Lab Sciences</td>
<td>Lisa Ring, Kavita Smits</td>
<td>Dr. John Dellinger</td>
</tr>
<tr>
<td>P031</td>
<td>Identification of Bacterial Communities in Near Shore Waters of Lake Michigan</td>
<td>UW-Milwaukee</td>
<td>Biological Sciences</td>
<td>Caitlin Carlson, Sabrina Mueller-Spitzi</td>
<td>Dr. Sandra McLellan</td>
</tr>
<tr>
<td>P034</td>
<td>Biological Illustration: Creating Scientific Drawings for Dissections</td>
<td>UW-Eau Claire</td>
<td>Biology and Art</td>
<td>Jeffrey Hornung</td>
<td>Dr. Todd Wellnitz</td>
</tr>
<tr>
<td>P036</td>
<td>Phenotypic Analysis of MBP1 Null Mutant Strains of Candida albicans</td>
<td>UW-Eau Claire</td>
<td>Biology</td>
<td>Ryan Hettpas, Ann Rentschler</td>
<td>Dr. Daniel Herman</td>
</tr>
<tr>
<td>P038</td>
<td>Links Between Climate Change and Cyclotella Abundance in Alpine Lakes</td>
<td>UW-La Crosse</td>
<td>Biology</td>
<td>Audra De Vault</td>
<td>Dr. Jasmine Sarns</td>
</tr>
<tr>
<td>P040</td>
<td>Characterization of Erwinia Species Isolated From Bean and Radish Sprouts</td>
<td>UW-River Falls</td>
<td>Biology</td>
<td>Mitra Naseri</td>
<td>Dr. Kim Mogen</td>
</tr>
<tr>
<td>P042</td>
<td>Evidence of the “Mitotic Catastrophe” Programmed Cell Death Pathway in Testing of Synthetic Compounds.</td>
<td>UW-River Falls</td>
<td>Biology</td>
<td>Danielle Tucker, Amanda Miller, Tracy Nelson, Caroline Martin, Nicole Salmassier, Brianna Zemke</td>
<td>Dr. Timothy Lyden</td>
</tr>
<tr>
<td>P044</td>
<td>The Culture of Early Avian Embryonic Lung Samples in 3-D Artificial Tissue (ATs) Cultures</td>
<td>UW-River Falls</td>
<td>Biology</td>
<td>Michelle Willette</td>
<td>Dr. Timothy Lyden</td>
</tr>
<tr>
<td>AB NO</td>
<td>Abstract Title</td>
<td>School</td>
<td>Program</td>
<td>Presenters</td>
<td>Advisor</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>-----------------------</td>
<td>------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>P046</td>
<td>Genetic Linkage Mapping a Gene Involved in Soybean Chromosome Pairing</td>
<td>UW-Stevens Point</td>
<td>Biology</td>
<td>Kyle Curran, Lauren Muhr</td>
<td>Dr. Devinder Sandhu</td>
</tr>
<tr>
<td>P048</td>
<td>Molecular Disease Diagnostics Using SSCP Technology</td>
<td>UW-Stout</td>
<td>Biology</td>
<td>Kiran K.C.</td>
<td>Dr. Kittina Carlson</td>
</tr>
<tr>
<td>P050</td>
<td>Tissue Culture and DNA Extraction in a Threatened Plant Species, Opuntia fragilis</td>
<td>UW-Stout</td>
<td>Biotechnology</td>
<td>Archana Shrestha, Nichole Jenness</td>
<td>Dr. Kittina Carlson</td>
</tr>
<tr>
<td>P052</td>
<td>Purification of Human Parainfluenza Virus Matrix Protein for Antibody Generation</td>
<td>UW-La Crosse</td>
<td>Microbiology</td>
<td>Martina Comstock, Michelle Schweitzer</td>
<td>Dr. Michael Hoffman</td>
</tr>
<tr>
<td>P055</td>
<td>Stable Carbon Isotope Analysis of Lake Huron Sinkhole Habitats</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Michael Bellecourt</td>
<td>Dr. Stephen Nold</td>
</tr>
<tr>
<td>P057</td>
<td>Study of Genetic Diversity in Sediments of Lake Huron Sinkholes</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Tapish Joshi, Caleb Meier</td>
<td>Dr. Stephen Nold</td>
</tr>
<tr>
<td>P059</td>
<td>The Faunal Analysis of the Vieau Fur Trade Post Site</td>
<td>UW-Parkside</td>
<td>Sociology/Anthropology</td>
<td>Mary Perrone, Julia Ann King</td>
<td>Dr. Robert Sasso</td>
</tr>
<tr>
<td>P060</td>
<td>Analysis of Stone Tool Butchery in an Odocoileus virginianus Specimen</td>
<td>UW-Milwaukee</td>
<td>Anthropology/Biochemistry</td>
<td>Alison Marziniak</td>
<td>Dr. Jean Hudson</td>
</tr>
<tr>
<td>P062</td>
<td>Analysis of Ceramics from the Vieau Trade Post, Franksville, Wisconsin</td>
<td>UW-Parkside</td>
<td>Anthropology</td>
<td>Rick Edwards</td>
<td>Dr. Robert Sasso</td>
</tr>
<tr>
<td>P064</td>
<td>Alcohol-Based Organosilicates as Potential Biosignatures</td>
<td>UW-Parkside</td>
<td>Chemistry and Biological Sciences</td>
<td>Patrick Liesch</td>
<td>Dr. Vera Kolb</td>
</tr>
<tr>
<td>P066</td>
<td>Visual Survey Method for Detection of the Emerald Ash Borer</td>
<td>UW-Parkside</td>
<td>Biological Sciences</td>
<td>Patrick Liesch</td>
<td>Dr. M. Scott Thomson</td>
</tr>
<tr>
<td>P068</td>
<td>Synthesis and Characterization of Tellurium Complexes with Bulky Thioureas</td>
<td>UW-Fox Valley</td>
<td>Chemistry</td>
<td>Gregory Kokko, Sergey Linderman N/A</td>
<td>Dr. Martin Radd</td>
</tr>
<tr>
<td>P070</td>
<td>Heavy Metals in Whole Blood</td>
<td>UW-Platteville</td>
<td>Chemistry</td>
<td>Sarah Riley</td>
<td>Dr. Charles Cornett</td>
</tr>
<tr>
<td>P072</td>
<td>The Oxidative Degradation of Select Azo Dyes by the Horseradish Peroxidase Enzyme</td>
<td>UW-Stout</td>
<td>Chemistry</td>
<td>James Lekken, Heather Patrone</td>
<td>Dr. Marcia Miller-Radeberg</td>
</tr>
<tr>
<td>P074</td>
<td>Blocking SEB Induced Signaling Events Using Pathway Interconnectors</td>
<td>UW-Platteville</td>
<td>Chemistry and Engineering Physics</td>
<td>Katherine Campbell, Emily McLean</td>
<td>Dr. Chunaka Mondis</td>
</tr>
<tr>
<td>P075</td>
<td>River Heights Elementary School Project</td>
<td>UW-Stout</td>
<td>Design</td>
<td>Amelia Troytou, Melanie Middl</td>
<td>Glendali Rodriguez</td>
</tr>
<tr>
<td>P076</td>
<td>Redesigning a Fish Market as a Catalyst for Improving Quality of Life</td>
<td>UW-Milwaukee</td>
<td>Architecture</td>
<td>Amanda Greens</td>
<td>Dr. Kapila Silva</td>
</tr>
<tr>
<td>P078</td>
<td>Rethinking Urban Spaces In Developing Countries: A Case Study of a Textile Market in Negombo, Sri Lanka</td>
<td>UW-Milwaukee</td>
<td>Architecture</td>
<td>Brandon Biendorman</td>
<td>Dr. Kapila Silva</td>
</tr>
<tr>
<td>P080</td>
<td>Will the Internet Transform Contemporary Campaigning or Sustain the Status Quo?</td>
<td>UW-Green Bay</td>
<td>Political Science</td>
<td>Aaron Weinschen</td>
<td>Dr. Terri Johnson</td>
</tr>
<tr>
<td>P082</td>
<td>Nantucket Quaker Women: Prelude to American Freedoms and Women’s Rights</td>
<td>UW-Green Bay</td>
<td>History</td>
<td>Elizabeth Limburg</td>
<td>Dr. David Voelker</td>
</tr>
<tr>
<td>AB NO</td>
<td>Abstract Title</td>
<td>School</td>
<td>Program</td>
<td>Presenters</td>
<td>Advisor</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------------</td>
<td>----------------------</td>
<td>----------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>P084</td>
<td>Quantitative Analysis of MySpace and the Changing Domain of Adolescent Social Development</td>
<td>UW-Eau Claire</td>
<td>Criminal Justice</td>
<td>Rebecca Mathias</td>
<td>Dr. Justin Patchin</td>
</tr>
<tr>
<td>P086</td>
<td>Abraham Lincoln’s Relationship with His Civil War Generals</td>
<td>UW-Oshkosh</td>
<td>Political Science</td>
<td>Shannon Doty</td>
<td>Dr. David Siemers</td>
</tr>
<tr>
<td>P088</td>
<td>City Image of the World Heritage City of Guanajuato, Mexico</td>
<td>UW-Milwaukee</td>
<td>Architecture</td>
<td>Silvino Castillo</td>
<td>Dr. Kapila Silva</td>
</tr>
<tr>
<td>P089</td>
<td>Modine Military Vehicle Market Study</td>
<td>UW-Parkside</td>
<td>Business</td>
<td>Zak Smith, Sabha Musettei, Eric Schultz, Nicole Norris, Thad Gabron,</td>
<td>Brad Piazza</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Olawubukola (Harrison) Idown</td>
<td></td>
</tr>
<tr>
<td>P091</td>
<td>Potential Consumers Over-Generalize Product Information from Authoritative Sources</td>
<td>UW-Stout</td>
<td>Psychology</td>
<td>Grant Michelsen-Pierce</td>
<td>Dr. Peizhong Li</td>
</tr>
<tr>
<td>P093</td>
<td>College Student’s Attitudes About Cohabitation: From an Intact or Divorced Family of Origin</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Kathryn Allen, Brittany Evert</td>
<td>Dr. Susan Wolfgram</td>
</tr>
<tr>
<td>P095</td>
<td>What Are The Attitudes of College Males Toward The Shift in Traditional Female Gender Roles?</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Danielle Larson, Alyson Jesch</td>
<td>Dr. Susan Wolfgram</td>
</tr>
<tr>
<td>P097</td>
<td>Adventure Girls: A Holistic After-School Program for Vulnerable Pre-Adolescent Girls</td>
<td>UW-Eau Claire</td>
<td>Sociology</td>
<td>Hannah Jones, Anne Marie Wilhelmy, Pam Forman, co-Advisor Dept. of Sociology</td>
<td>Dr. Deb Pattee</td>
</tr>
<tr>
<td>P099</td>
<td>Discounting of Gains and Losses in College-aged Gamblers and Non-gamblers</td>
<td>UW-Eau Claire</td>
<td>Psychology</td>
<td>Matt Newquist, Kira Sabloff, Daniel Holt, Sara Estle</td>
<td>Dr. Daniel Holt</td>
</tr>
<tr>
<td>P101</td>
<td>Comparison of Psychosocial and Biological Approaches to Stigma Reduction for Depression</td>
<td>UW-Milwaukee</td>
<td>Psychology</td>
<td>Dana Hrn, Laura Rausch (not attending), Jonathan Kanter (not attending)</td>
<td>Nigel Rothfels</td>
</tr>
<tr>
<td>P103</td>
<td>A Single-Subject Application of FAP Enhanced Behavioral Activation (FEBA) to Non-clinical Relationship Difficulties</td>
<td>UW-Milwaukee</td>
<td>Psychology</td>
<td>Laura Turner</td>
<td>Dr. Jonathan Kanter</td>
</tr>
<tr>
<td>P105</td>
<td>Scent Effectiveness on Relaxation, with Limited Forewarning, on ‘Test Performance’</td>
<td>UW-Oshkosh</td>
<td>Psychology</td>
<td>Frank Buehlow, Patricia Wood</td>
<td>Tammy Kadab-Ammeter</td>
</tr>
<tr>
<td>P107</td>
<td>On- and Off-Campus Social Support as Depression Mediators in College Students</td>
<td>UW-Parkside</td>
<td>Psychology</td>
<td>Amy Shemberger</td>
<td>Dr. Herbert Colston</td>
</tr>
<tr>
<td>P109</td>
<td>Desensitization to Violence: Do Violent Video Games Have an Effect?</td>
<td>UW-Stout</td>
<td>Psychology</td>
<td>Matthew Jenks, Chelsea Treiber, Justin Aoki, Veronica Sweeney</td>
<td>Dr. Richard Tafalla</td>
</tr>
<tr>
<td>P111</td>
<td>Children’s Comprehension of Kinship Terms for Blended Families</td>
<td>UW-Eau Claire</td>
<td>Communication Sciences and Disorders</td>
<td>Adie Presto, Emily Knabn</td>
<td>Dr. Kristine Rutherford</td>
</tr>
<tr>
<td>P113</td>
<td>International Adoption: Adoptive Parent Challenges</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Dana Moore, Katherine McKeveit</td>
<td>Dr. Susan Wolfgram</td>
</tr>
<tr>
<td>P115</td>
<td>Relationships Between Children and Their Non-Custodial Parent</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Melissa Schumann</td>
<td>Dr. Susan Wolfgram</td>
</tr>
<tr>
<td>AB NO</td>
<td>Abstract Title</td>
<td>School</td>
<td>Program</td>
<td>Presenters</td>
<td>Advisor</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------</td>
<td>----------------------------------------------</td>
<td>-----------------------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>P117</td>
<td>College Students Attitudes Regarding Divorce Custody Arrangements</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Amy Siemback</td>
<td>Dr. Susan Wolfgram</td>
</tr>
<tr>
<td>P119</td>
<td>Correlation Between Information Technology Implementation and Non-Profit Organization Contributions</td>
<td>UW-Eau Claire</td>
<td>Information Systems</td>
<td>Rachel Glinski</td>
<td>Dr. Jean Pratt</td>
</tr>
<tr>
<td>P121</td>
<td>Danish American Home Web-Site Construction Project</td>
<td>UW-Parkside</td>
<td>Management of Information Systems</td>
<td>Ozon Bogovac</td>
<td>Suresh Chalasani</td>
</tr>
<tr>
<td>P123</td>
<td>Accurate Calculation of Critical Loads using the Geometric Stiffness Method</td>
<td>UW-Platteville</td>
<td>Civil Engineering</td>
<td>Daniel Zielinski</td>
<td>Dr. Matthew Roberts</td>
</tr>
<tr>
<td>P125</td>
<td>Student-Directed Distributed Lab Management Solutions</td>
<td>UW-Stout</td>
<td>Technical Communications</td>
<td>Tony Nelson, Cody Lombard</td>
<td>Dr. Don Cunningham</td>
</tr>
<tr>
<td>P127</td>
<td>Aggressive Images Affect Mood and Cognitive Functioning</td>
<td>UW-Stout</td>
<td>Psychology</td>
<td>Trevor Meyer, Rob Schultz</td>
<td>Dr. Peizhong Li</td>
</tr>
<tr>
<td>P129</td>
<td>Lasting Memories: Emotional Arousal and Memory for Specific Details</td>
<td>UW-Stout</td>
<td>Psychology</td>
<td>Justin Aoki, Laura Harstad, Chad Johnson, Randy McCarthy, Heidi Gajda</td>
<td>Dr. Desiree Budd</td>
</tr>
<tr>
<td>P131</td>
<td>Lie Algebra Cohomology</td>
<td>UW-Stout</td>
<td>Applied Mathematics and Computer Science</td>
<td>Benedict Matern, Andrew Mielke, Matthew Van Dierendonck</td>
<td>Dr. Christopher Bendel</td>
</tr>
<tr>
<td>AB NO</td>
<td>Abstract Title</td>
<td>School</td>
<td>Program</td>
<td>Presenters</td>
<td>Advisor</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>------------------------------</td>
<td>-------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>P001</td>
<td>Can Keystroke Biometrics Be Implemented Reliably?</td>
<td>UW-Superior</td>
<td>Computer Science</td>
<td>Jon Karna</td>
<td>Dr. Victor Piotrowski</td>
</tr>
<tr>
<td>P002</td>
<td>Afghanistan’s Opium: a Quintessential Illicit Economy</td>
<td>UW-La Crosse</td>
<td>Geography</td>
<td>John Lauermann</td>
<td>Dr. Dean Wilder</td>
</tr>
<tr>
<td>P004</td>
<td>Estimating Precambrian Basement Using Coupled 3D Model of Gravity and Aeromagnetic Data</td>
<td>UW-Parkside</td>
<td>Geosciences</td>
<td>Stephan Kurdas</td>
<td>Dr. John Skalback</td>
</tr>
<tr>
<td>P006</td>
<td>Causes of Deformation in the Baraboo Hills Region</td>
<td>UW-Milwaukee</td>
<td>Geosciences</td>
<td>Victoria Robison, Dyanna Czeck</td>
<td>Dr. Dyanna Czeck</td>
</tr>
<tr>
<td>P008</td>
<td>Efforts to Analysis Nutrient Management without the Use of Fertilizer</td>
<td>UW-River Falls</td>
<td>Plant and Earth Science</td>
<td>Amy Robak</td>
<td>Dan Martens</td>
</tr>
<tr>
<td>P010</td>
<td>Use of Rating of Perceived Exertion (RPE) to Determine Exercise Intensity in Athletes</td>
<td>UW-Milwaukee</td>
<td>Human Movement Sciences</td>
<td>Daniel S. Lark, Robert W. Wilson</td>
<td>Ann C. Snyder</td>
</tr>
<tr>
<td>P012</td>
<td>Wisconsin Students Secure Scientific Evidence for Nursing Practice in Alaska</td>
<td>UW-Eau Claire</td>
<td>Family Health Nursing</td>
<td>Sarah Anderson, Patrizia Elliot, Jerry</td>
<td>Dr. Susan Moch</td>
</tr>
<tr>
<td>P014</td>
<td>Grief and Personal Growth in Caregivers of Persons with Dementia</td>
<td>UW-Milwaukee</td>
<td>Nursing</td>
<td>Carrie Schauer</td>
<td>Dr. Carol Ott</td>
</tr>
<tr>
<td>P016</td>
<td>The Effects of Redbull/Caffeine on Mean Arterial Pressure</td>
<td>UW-Manitowoc</td>
<td>Physiology</td>
<td>Jacob DeMelle, Allison Wallander, Travis</td>
<td>Dr. Richard Hein</td>
</tr>
<tr>
<td>P018</td>
<td>Cannabinoid Agonist WIN55, 212-2 on Anxiety-like Behavior in Various Mouse Strains</td>
<td>UW-Milwaukee</td>
<td>Nursing</td>
<td>Farah Fatupaito</td>
<td>Dr. Linda K. Vaughn</td>
</tr>
<tr>
<td>P022</td>
<td>Impact of an After School Running Program on Physical Fitness and Self-Motivation in 3rd to 5th Grade Girls</td>
<td>UW-La Crosse</td>
<td>Exercise and Sports Science</td>
<td>Brooke Tenpas</td>
<td>Dr. Rebecca Battista</td>
</tr>
<tr>
<td>P024</td>
<td>Evaluation of Medicinal Plants in the Local Hmong Community</td>
<td>UW-Stout</td>
<td>Biology</td>
<td>Christina Luke, Chad Deines</td>
<td>Dr. Kitrina Carlson</td>
</tr>
<tr>
<td>P026</td>
<td>Using Comparative Osteology to Determine Cervus elaphus canadensis</td>
<td>UW-Milwaukee</td>
<td>Biology</td>
<td>Katherine Nontwicher</td>
<td>Nigel Rathjels</td>
</tr>
<tr>
<td>P028</td>
<td>Characterization of a 5’-3’ Exoribonuclease in the alga Chlamydomonas reinhardii</td>
<td>UW-Parkside</td>
<td>Biological Sciences</td>
<td>Edward Mantenfel, Ashley Gebrand</td>
<td>Dr. David Higge</td>
</tr>
<tr>
<td>P030</td>
<td>Fecal Indicators—Transient Members of Beach Communities?</td>
<td>UW-Milwaukee</td>
<td>Biological Sciences</td>
<td>Jessica VandWalle, Sabrina Mueller-</td>
<td>Dr. Sandra McLellan</td>
</tr>
<tr>
<td>P032</td>
<td>Prince Rupert to Twin Cities: the Potential Value of a New Intermodal Freight Service</td>
<td>UW-Superior</td>
<td>Transportation &amp; Logistics</td>
<td>Eldon Eagle, Varnini Gunasekara</td>
<td>Dr. Richard Stewart</td>
</tr>
<tr>
<td>P033</td>
<td>The Evolution of UV Tolerance in Plants</td>
<td>UW-Oshkosh</td>
<td>Biology &amp; Microbiology</td>
<td>Mohamed Yakah, Megan Nelson, Matthew</td>
<td>Dr. Lisa Dorn</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rubin</td>
<td></td>
</tr>
</tbody>
</table>
Great Hall PM  (12:55pm-1:55pm)

<table>
<thead>
<tr>
<th>AB NO</th>
<th>Abstract Title</th>
<th>School</th>
<th>Program</th>
<th>Presenters</th>
<th>Advisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>P035</td>
<td>Microbial Community Composition in Fresh Water Sinkholes of Lake Huron</td>
<td>UW-Stout</td>
<td>Biology Department</td>
<td>Heidi Zajack</td>
<td>Dr. Stephen Nold</td>
</tr>
<tr>
<td>P037</td>
<td>MethamphetamineInduces Nonphotic-like Resetting of the Circadian Clock in Hamsters</td>
<td>UW-Eau Claire</td>
<td>Biology</td>
<td>Andy Leung</td>
<td>Dr. Janik Daniel</td>
</tr>
<tr>
<td>P039</td>
<td>Development of Artificial-Tissues (ATs) from Early Avian Embryonic Cardiac Tissues Strongly Implies a Contribution from Fetal Stem Cell Populations</td>
<td>UW-River Falls</td>
<td>Biology</td>
<td>Travis Cordie</td>
<td>Dr. Timothy Lyden</td>
</tr>
<tr>
<td>P041</td>
<td>Artificial-tissues (ATs) from Early Avian Embryonic Neural Tissues</td>
<td>UW-River Falls</td>
<td>Biology</td>
<td>Tory Shaaf</td>
<td>Dr. Timothy Lyden</td>
</tr>
<tr>
<td>P043</td>
<td>The Study of Early Avian Thoracic Neural Crest Cells and Neural Tube Region Tissues in 3-D Artificial Tissue (ATs) Cultures</td>
<td>UW-River Falls</td>
<td>Biology</td>
<td>Chris Wenig</td>
<td>Dr. Timothy Lyden</td>
</tr>
<tr>
<td>P045</td>
<td>Characterization of Avian Embryonic Artificial-Tissues (ATs) and Monolayer cultures of Mesenchymal Origin Derived from Early Long Bone Rudiments</td>
<td>UW-River Falls</td>
<td>Biology</td>
<td>Erik Wood</td>
<td>Dr. Timothy Lyden</td>
</tr>
<tr>
<td>P047</td>
<td>Exploring Photosynthetic Bacteria in Lake Huron Sinkhole Ecosystems</td>
<td>UW-Stout</td>
<td>Biology</td>
<td>Shane Webb, Ashley Dillon</td>
<td>Dr. Stephen Nold</td>
</tr>
<tr>
<td>P049</td>
<td>Potential Pathogens in the School Environment</td>
<td>UW-Stout</td>
<td>Biology</td>
<td>Zhiqong Wang</td>
<td>Yronnie Nelson</td>
</tr>
<tr>
<td>P051</td>
<td>Gene Detection in Staphylococcus aureus</td>
<td>UW-La Crosse</td>
<td>Microbiology</td>
<td>Rebecca Bickford</td>
<td>Dr. William Schwan</td>
</tr>
<tr>
<td>P053</td>
<td>Identifying Trans-Regulatory Factors of the Yellow Fever Mosquito RNR2 gene</td>
<td>UW-Parkside</td>
<td>Molecular Biology and Bioinformatics</td>
<td>Erica Berzin</td>
<td>Dr. Daphne Pham</td>
</tr>
<tr>
<td>P054</td>
<td>Promoting Watershed Stewardship Through Service Learning and Citizen Science</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Jessica Van Der Werff</td>
<td>Krista James</td>
</tr>
<tr>
<td>P056</td>
<td>Nanocomposite Materials for Novel Heating Applications</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Marc Hannum, Tim Larvey</td>
<td>Dr. Christopher Latz</td>
</tr>
<tr>
<td>P058</td>
<td>Effects of Anthropogenic Eutrophication on the Muskegon River Watershed</td>
<td>UW-Stout</td>
<td>Applied Science</td>
<td>Nathan Maier</td>
<td>Dr. Stephen Nold</td>
</tr>
<tr>
<td>P061</td>
<td>Cleaning and Identification of Square Nails from the Vieau Fur Trade Post Site, Racine County</td>
<td>UW-Parkside</td>
<td>Anthropology</td>
<td>Derek Rivers</td>
<td>Dr. Robert Sasso</td>
</tr>
<tr>
<td>P063</td>
<td>Mammal Bone Identification and Analysis of the Archeological Bell Site (47-Wn-9)</td>
<td>UW-Milwauke</td>
<td>Anthropology</td>
<td>Elizabeth McCarthy</td>
<td>Dr. Jean Hudson</td>
</tr>
<tr>
<td>P065</td>
<td>Reactions of a Telluroheterocycle with Sulfur and Selenium Donating Ligands</td>
<td>UW-Fox Valley</td>
<td>Chemistry</td>
<td>Nathan Edeker, Emily Ricks, Sergey Lindeman (not attending)</td>
<td>Dr. Martin Rudd</td>
</tr>
<tr>
<td>P067</td>
<td>Cleaning Up the Land: Phytoremediation of Lead and Chromium</td>
<td>UW-Parkside</td>
<td>Chemistry</td>
<td>Jon Stebliek</td>
<td>Lori Allen</td>
</tr>
<tr>
<td>P069</td>
<td>Exchange of Labile &quot;Helmet&quot; Phthalocyanine Methanol with Lewis Bases</td>
<td>UW-La Crosse</td>
<td>Chemistry</td>
<td>Heidi Kieler</td>
<td>Dr. Robert McGaff</td>
</tr>
<tr>
<td>AB NO</td>
<td>Abstract Title</td>
<td>School</td>
<td>Program</td>
<td>Presenters</td>
<td>Advisor</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------</td>
<td>------------------------</td>
<td>----------------------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>P071</td>
<td>Differentiation of Distilled Turpentine from Terpenes in Building Materials by Inductively Coupled Plasma – Optical Emission Analysis</td>
<td>UW-Platteville</td>
<td>Chemistry</td>
<td>Laura Schweitzer, Larissa Larsen</td>
<td>Dr. Charles Cornett</td>
</tr>
<tr>
<td>P073</td>
<td>The Determination of Indoor Atmospheric Mercury Levels using Sunflowers</td>
<td>UW-Parkside</td>
<td>Chemistry</td>
<td>Steven Kopitzke</td>
<td>Lori Allen</td>
</tr>
<tr>
<td>P077</td>
<td>The Marketplace as a Community Gathering Generator: A Design Study in Sri Lanka</td>
<td>UW-Milwaukee</td>
<td>Architecture</td>
<td>Abicar Cruz</td>
<td>Dr. Kapila Silva</td>
</tr>
<tr>
<td>P079</td>
<td>Historic Preservation of Local Architecture – Stevens Point, Wisconsin</td>
<td>UW-Stevens Point</td>
<td>Interior Architecture</td>
<td>Jennifer Hunt, Jamie Kanses</td>
<td>Donna Zimmerman</td>
</tr>
<tr>
<td>P081</td>
<td>Colonial Influence on Civic Values in Post-colonial Africa</td>
<td>UW-Eau Claire</td>
<td>Political Science</td>
<td>Stephen Hilger</td>
<td>Dr. Olika Gray</td>
</tr>
<tr>
<td>P083</td>
<td>Hmong Americans and Politics: A Community Project to Increase Political Participation</td>
<td>UW-Marathon County</td>
<td>Political Science</td>
<td>Jim Lee, Cheng Lee, Xue Lee, Chia Xiong, David Her</td>
<td>Dr. Eric Giordano</td>
</tr>
<tr>
<td>P085</td>
<td>The Effects of Youth Bullying on Depression and Suicidal Ideation</td>
<td>UW-Eau Claire</td>
<td>Criminal Justice</td>
<td>Joseph Bohmbach</td>
<td>Dr. Justin Patchin</td>
</tr>
<tr>
<td>P087</td>
<td>Remodeling Industrial Buildings; Vernacular/ High Style or Modern?</td>
<td>UW-Milwaukee</td>
<td>Architecture</td>
<td>Devin Little</td>
<td>Dr. Kapila Silva</td>
</tr>
<tr>
<td>P090</td>
<td>Self-Assessment Tool For Choosing A Major in Health and Aging Service Administration</td>
<td>UW-Eau Claire</td>
<td>Health Care Administration</td>
<td>Rebecca Westbrink, Douglas Olson</td>
<td>Dr. Jennifer Johns-Artisensi</td>
</tr>
<tr>
<td>P092</td>
<td>“I can't refuse to help you, but we can”</td>
<td>UW-Stout</td>
<td>Psychology</td>
<td>Jordan Wheeler</td>
<td>Dr. Peizhong Li</td>
</tr>
<tr>
<td>P094</td>
<td>Offender Perspectives on Being Able to Access Rehabilitation Services</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Nicholas Kohl, Katelynn Rindahl</td>
<td>Dr. Susan Wolfram</td>
</tr>
<tr>
<td>P096</td>
<td>College Students Attitudes on the Causes of Infidelity</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Kaisa Lee, Jamie Koss</td>
<td>Dr. Susan Wolfram</td>
</tr>
<tr>
<td>P098</td>
<td>Reading Between the Lines: a Non-linear Model for Examining How Personality Shapes Cultural Identity Across Different Social Groups</td>
<td>UW-Green Bay</td>
<td>Psychology</td>
<td>Victoria Oxendine</td>
<td>Dr. Regan Gurnung</td>
</tr>
<tr>
<td>P100</td>
<td>Effects of FDA Warnings on Teachers’ Attitudes and Referrals for Stimulant Medications</td>
<td>UW-Eau Claire</td>
<td>Psychology</td>
<td>Courtney Wood</td>
<td>Dr. William Frankenberger</td>
</tr>
<tr>
<td>P102</td>
<td>Behavioral Consequences of Dexamethasone Administration in a Rodent Model of ADHD</td>
<td>UW-Milwaukee</td>
<td>Psychology</td>
<td>Vera Puclarar, Briana Schuler-Tomkins, Dan LeTendre</td>
<td>Dr. Rodney Swain</td>
</tr>
<tr>
<td>P104</td>
<td>Affiliation: Our View Others Compared to Our View of Selves</td>
<td>UW-Oshkosh</td>
<td>Psychology</td>
<td>Amanda Bohn, Jennifer Kobs, Jennifer Eilnner, Kyle King</td>
<td>Kathleen Stetter</td>
</tr>
<tr>
<td>P106</td>
<td>Attitudes Toward Sexual Permissiveness, Relationships, and the Opposite Sex</td>
<td>UW-Oshkosh</td>
<td>Psychology</td>
<td>Shannon Wienandt, Amber Salzwedel</td>
<td>Dr. David Lishner</td>
</tr>
<tr>
<td>P108</td>
<td>The Perception of Race: Black vs. White</td>
<td>UW-Platteville</td>
<td>Psychology</td>
<td>Mallorie McDaniel</td>
<td>Dr. Theron Parsons</td>
</tr>
<tr>
<td>P110</td>
<td>Recycle Mania at the University of Wisconsin-Stout</td>
<td>UW-Stout</td>
<td>Psychology</td>
<td>Jenna Haraldson</td>
<td>Krista James</td>
</tr>
<tr>
<td>AB NO</td>
<td>Abstract Title</td>
<td>School</td>
<td>Program</td>
<td>Presenters</td>
<td>Advisor</td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>----------------------------------------------</td>
<td>-------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>P112</td>
<td>Student Perspectives on Childbearing and Impact on Marriage: Gendered Differences?</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Michelle Lopes-Serrao, Ann Haas</td>
<td>Dr. Susan Wolfgram</td>
</tr>
<tr>
<td>P114</td>
<td>Optimistic Outlook on Reducing Juvenile Crime</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Amanda Plourde, Brittany Bohte</td>
<td>Dr. Susan Wolfgram</td>
</tr>
<tr>
<td>P116</td>
<td>College Students’ Attitudes on Conflict Resolution in Romantic Relationships</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Brittany Weisenbeck, Stephanie Smith</td>
<td>Dr. Susan Wolfgram</td>
</tr>
<tr>
<td>P118</td>
<td>Attitudes of College Students Toward Employed Mothers</td>
<td>UW-Stout</td>
<td>Human Development and Family Studies</td>
<td>Jillian Teigen Katie, Cannon</td>
<td>Dr. Susan Wolfgram</td>
</tr>
<tr>
<td>P120</td>
<td>802.11n Wireless Throughput Capabilities</td>
<td>UW-Stout</td>
<td>Information Technology Management</td>
<td>Joseph Waggoner, Edward Simson</td>
<td>Renee Gunderson</td>
</tr>
<tr>
<td>P122</td>
<td>Hmong Professionals in Wisconsin: Connections and Pathways</td>
<td>UW-Whitewater</td>
<td>Management</td>
<td>Mai Chue Xiong</td>
<td>Susan Huss-Lederman</td>
</tr>
<tr>
<td>P124</td>
<td>Radio Direction Finding System for Small Hobby Crafts</td>
<td>UW-Milwaukee</td>
<td>Electrical Engineering</td>
<td>Josh Zagorski, David Worden</td>
<td>David McClanahan</td>
</tr>
<tr>
<td>P126</td>
<td>A Lesson in Teaching</td>
<td>UW-Stout</td>
<td>Technology Education</td>
<td>Cathy Durski</td>
<td>Dr. Brian McAlister</td>
</tr>
<tr>
<td>P128</td>
<td>The Imagery of False Memory</td>
<td>UW-Stout</td>
<td>Psychology</td>
<td>Sarah Grossman, Chelsie Knoll</td>
<td>Dr. Desiree Budd</td>
</tr>
<tr>
<td>P130</td>
<td>Lasting Memories: Post-Event Stress and Memory for Emotional Pictures</td>
<td>UW-Stout</td>
<td>Psychology</td>
<td>Courtney Oelkers</td>
<td>Dr. Desiree Budd</td>
</tr>
</tbody>
</table>
POSTER ABSTRACTS
WITH ROOM ASSIGNMENT AND SESSION TIME
P001 Can Keystroke Biometrics Be Implemented Reliably?
Jon Karna
UW-Superior, Computer Science
Advisor: Dr. Victor Piotrowski
Great Hall – Session 1 10:45 AM – 11:45 AM

Biometrics is the ability to recognize an individual based on physical or behavioral characteristics. Keystroke biometrics is the ability to recognize an individual based on the analysis of their typing patterns. Biometric authentication is the most secure and convenient type of authentication because the person need not remember anything or carry anything with them. We developed an application for applying an enhanced user authentication method. It is enhanced by the presence of a keyboard biometric element in addition to the traditional username and password. We first authenticated a user by their username and password. We then authenticate the user again based on their keystrokes statistics. We gather keystroke statistics by having the user type a pass phrase that contains every letter of the alphabet. We completed the implementation of an operational multifactor user authentication using a username, password, and keystroke statistics. We noticed keystroke techniques and efficiency change drastically based on many factors associated with the user. Several false negatives and false positives occurred based on the keystroke biometric element of the user authentication. We concluded that keystroke biometrics is inadequate as a primary source of authentication. However, we still see keystroke biometrics as a possible secondary form of authentication in a multifactor authentication method.

P002 Afghanistan's Opium: a Quintessential Illicit Economy
John Lauermann
UW-La Crosse, Geography
Advisor: Dr. Dean Wilder
Great Hall – Session 2 12:55 PM — 1:55 PM

Illicit industries are a universal phenomenon in mountain regions. Rugged, isolated mountain environments are ideal for sheltering illegitimate economic activities like narcotics production and trafficking. The poverty and social marginalization of mountain peoples makes them especially prone to turn to illicit industries for survival, while the inaccessibility of the mountains often limit the law enforcement power of lowland governments. Afghanistan is one of the world’s poorest, most politically unstable, and most mountainous countries, and is also home to one of the world’s largest prohibited industries: that of opium production. In fact, Afghanistan is home to 87% of the world’s illicit opium cultivation and grows 92% of global supplies. This project explores the geography of the opium production and trafficking in Afghanistan. The cultural, economic, and political landscapes of opium production in this region are examined. Overall this project finds that opium production is a major part of Afghanistan’s economy and any attempts to shut down the industry without providing an adequate replacement will have disastrous results.

P003 The Pinellas County Project: Planning for Sustainable Living
Amanda Hoffman, Jillian Kasdorf, Timothy Olson, Samantha Robinson, Louise Ebben
UW-Fox Valley, Geology/ComArts
Advisor: Kristin Rungy, Dr. James Brey
Great Hall – Session 1 10:45 AM – 11:45 AM

This poster illustrates a project-based science activity where we demonstrated knowledge of earth science, land planning and hazard mitigation. We integrated concepts learned from Environmental Geology and Public Speaking and used a Geographic Information System and other tools to create a plan for the reconstruction of a hurricane devastated Pinellas County. Plans for rebuilding included efforts to produce an environmentally sustainable community free of serious hurricane risk. The results of the project were then formally presented by our group in a format similar to a public hearing on a plan proposal.

P004 Estimating Precambrian Basement using Coupled 3D Model of Gravity and Aeromagnetic Data
Stephan Kurdas
UW-Parkside, Geosciences
Advisor: Dr. John Skalbeck
Great Hall – Session 2 12:55 PM – 1:55 PM

Current understanding of the Precambrian basement in Fond du Lac County based on well logs indicates the surface is complex. This complex surface leads to difficulties for sighting future groundwater wells for drinking water supply and for developing groundwater models to investigate groundwater flow patterns. Coupled 3-dimensional modeling of aeromagnetic and gravity data improves the estimate of the Precambrian basement surface elevation. Basement depths at ninety-three wells from the Wisconsin Geologic and Natural History Survey WiscLith database are used to constrain the modeling results and to evaluate model fit. We divided the well data into two sets (A and B) such that neighboring well pairs could be used for control (set A) and for evaluating model fit (set B). The control set data constrains the possible non-unique model solutions that are encountered in any geophysical modeling. The evaluation set data allows for assessing how well the model predicts
P005 Hydrogeologic Investigation of the Willow Swamp - University of Wisconsin-Parkside
Zoe McManama
UW-Parkside, Geosciences
Advisor: Dr. Zhaohui Li
Great Hall – Session 1 10:45 AM – 11:45 AM

The Willow Swamp is a man-made depression created during the University of Wisconsin-Parkside campus construction in the late 1960s as an aesthetically pleasing holding pond for excess storm water runoff from campus buildings. In Fall 2005 the area was investigated to determine the extent of wetland features that may have developed within the depression and to establish if the area could be classified as a wetland through routine onsite delineation. Results showed sufficient evidence of classification criteria for the area to be designated a constructed wetland, however movement of water in and out of the system was unknown. Input was provided by a diverted drainage pipe to the depression, supplying water to sustain the wetland system which had been struggling in dry years. After a year of the altered water regime, static water levels have been observed possibly indicating that the Swamp is not recharging the local shallow aquifer vertically, but laterally via the adjacent prairie. Soil sampling revealed that the soil textures may be the reason for this movement, but further investigations and microtopographic surveys are required. Once known, the properties and construction of the Willow Swamp may possibly be used as a model for functional artificial wetland construction.

P006 Causes of Deformation in the Baraboo Hills Region
Victoria Robison, Dyanna Czeck
UW-Milwaukee, Geosciences
Advisor: Dr. Dyanna Czeck
Great Hall – Session 2 12:55 PM – 1:55 PM

The rocks located in the area near Baraboo, Wisconsin were metamorphosed and deformed approximately 1.6 billion years ago as a result of a tectonic plate collision known as the Mazatzal Orogeny. The rock layers deformed into a large syncline (a “U” shaped fold structure) which can be observed over an area approximately 40 km x 15 km. Small-scale structures within this syncline include boudinage, a structure formed by strain, in which layers of the stronger quartzite form a succession of sausage-shaped structures encapsulated within surrounding layers of softer phyllite. We are analyzing the boudinage in an attempt to quantify aspects of the area’s unique deformation. Close study of boudins reveals a connection between the stress applied to the rocks and the apparent observed strain. In particular, there is a correlation between a boudin’s shape (including width and maximum height), which is useful for determining the stress coefficient necessary for the structure’s formation. Our methods for constraining the relationship between stress and strain involve photographing prominent boudinaged sections, tracing the boudins using computer software, taking height and width measurements from these scaled down images, and comparing the measurements to mathematical predictions for stress exponent ratios between the boudins and surrounding rocks.

P008 Efforts to Analysis Nutrient Management without the Use of Fertilizer
Amy Robak
UW-River Falls, Plant and Earth Science
Advisor: Dan Martens
Great Hall – Session 2 12:55 PM – 1:55 PM

The purpose of this project for the past year has been to research how corn will perform without the use of commercial fertilizer. This is being pursued in order to help American farmers realize that past legume credits and past and current manure credits can be enough nutrients, especially nitrogen, to support a corn crop throughout a growing season. This approach is also expected to produce no difference in the harvested yield. The project also consisted of researching and comparing the new and old nutrient management recommendations prepared by the University of Minnesota. Throughout the growing season, various scouting procedures and tests were conducted to help test our hypothesis. Replicated test plot areas were set up to help compare and contrast yield calculations in the fall. Analysis of the resultant data are on-going.

P009 Making Campus Safer: Research and Recommendations on Campus Bicycle Safety
Matthew Overesch
UW-Stevens Point, Health Promotion and Wellness
Advisor: Dr. Marty Loy
Great Hall – Session 1 10:45 AM – 11:45 AM

Bicycle accidents are an area of concern at campuses throughout the nation. It is also a concern at UW-Stevens Point. According to the National Center of Statistics and Analysis, there were 784 bicycle deaths nationally and 14 in Wisconsin, which accounted for 2 percent of traffic deaths...
P010 Use of Rating of Perceived Exertion (RPE) to Determine Exercise Intensity in Athletes
Daniel S. Lark, Robert W. Wilson
UW-Milwaukee, Human Movement Sciences
Advisor: Ann C. Snyder
Great Hall – Session 2 12:55 PM – 1:55 PM
In the Human Performance Lab at UWM, we seek to maximize sports performance by optimizing exercise and training. The use of the ratings of perceived exertion scale (RPE) has been commonly used in exercise testing to gauge a subject’s level of effort based on their perception. While there is some information available that relates the RPE scale to exercise performance for sedentary or moderately trained individuals, there is no information available that would relate the RPE scale to percentage of Maximal Oxygen Uptake (%VO2 max) and percentage of maximal heart rate (%MHR) in the athlete. This study will provide a model by which the RPE scale can be use in the field with athletes. Data from submaximal and maximal exercise tests of speed skaters, tri-athletes, runners and cyclists will be used and the relationship between RPE and %VO2 max and %MHR determined. Beyond displaying a trend, this study will allow for general markers to be distinguished at given points across the scale and allow for a general model to be formed. This model will allow professionals to better quantify the level of exertion an athlete is performing in the field without having to measure heart rate and oxygen uptake.

P011 Evaluation of Football Face-Mask Removal Using Two Power Tools
Traci Smet, Tiffany Shaddick
UW-Oshkosh, Kinesiology & Health
Advisor: Dr. Hal Strough
Great Hall – Session 1 10:45 AM – 11:45 AM
The efficiency of removing a football helmet face-mask using a power screwdriver and Dremel rotary tool was examined. The subjects removed a face-mask three times with each tool. Five certified athletic trainers and five athletic training students served as subjects and were recruited from the local sports medicine community. Three-dimensional video analysis techniques were used to examine motion created by the tool during the removal process. Time required for facemask removal was also measured. All results were analyzed with two-way multivariate analysis of variance and post-hoc tests. The power screwdriver allowed for faster face-mask removal and with the least amount of motion. However, the power screwdriver failed once during the experiment because the screw socket was stripped. Face-mask removal took approximately one minute longer with the Dremel rotary tool, however this tool never failed. Magnitude of head motion varied widely between subjects and tools. Generally the subjects performed the face-mask removal task in the least amount of time and with the least motion with the power screwdriver. Yet, the Dremel rotary tool never failed, possibly making it safer for the injured athlete.

P012 Wisconsin Students Secure Scientific Evidence for Nursing Practice in Alaska
Sarah Anderson, Patricia Elliot, Jerry Thao, Touger Thao, Tiffany Swenby
UW-Eau Claire, Family Health Nursing
Advisor: Dr. Susan Moch
Great Hall – Session 2 12:55 PM – 1:55 PM
A partnership for learning has been established through Wisconsin nursing students traveling to learn with patients and staff at the Alaska Native Medical Center (ANMC). This project extends the partnership by having students in Wisconsin work directly with three ANMC staff members in obtaining important scientific literature for evidence-based practice. This application research study involves a diverse research team including students of nursing/non-nursing, older/younger, freshmen-senior, men/women, and culturally diverse backgrounds. The team works together to communicate and provide information to the staff. Initially, ANMC administrators identified projects and requested student assistance in obtaining and summarizing scientific evidence for use in possible policy changes in three areas. The project areas are palliative care, stroke care in rural areas, and an online journal club. The application research study will be evaluated through a staff, student, and administrative survey. The team collaborates with each other through planning the projects and connecting with the staff members at ANMC. Thus far, the team collected evidence on the topics, planned the evaluation process for the projects, and communicated with staff. This project has potential for encouraging interest in evidence-based practice among students, assisting ANMC staff in using evidence in practice, and identifying strategies for effective research teamwork.
P013 Vitamin C Concentration in Ice Tea: Effects of Packaging and Storage
Katelyn Filbrandt
UW-Stout, Food & Nutrition
Advisor: Dr. Cynthia Rahrer
Great Hall – Session 1 10:45 AM – 11:45 AM

Vitamin C, ascorbic acid is easily destroyed by heat, light, and oxygen. The objective of this research was to analyze and compare the Vitamin C content in one brand of commercial ice tea (Arizona Green Ice Tea with ginseng and honey) packaged in three different type of containers (glass; brown-colored Polyethylene Terephthalate-PET; and aluminum can) that were stored in light at room temperature (25°C) and under no light in refrigeration at 4°C. On storage days 0, 15, and 30, samples were tested by titration for Vitamin C content to determine optimum storage and packaging conditions. Overall, the Vitamin C content among the three types of packaging was greater in the brown colored PET container (>3.5 mg/mL) compared to the partially covered glass (>

P014 Grief and Personal Growth in Caregivers of Persons with Dementia
Carrie Schauer
UW-Milwaukee, Nursing
Advisor: Dr. Carol Ott
Great Hall – Session 2 12:55 PM – 1:55 PM

The study’s purpose was to describe grief and personal growth experiences of spouses and adult children of persons with dementia and contributing factors. The Marwit and Meuser caregiver grief model is the framework for the study. Participants, 90 spouses and 111 adult children, were recruited from Alzheimer’s support groups and community agencies. Data was collected through standardized questionnaires along with a semi-structured interview, and analyzed via descriptive and inferential methods. Results showed grief increased as the severity of the disease increased, and high grief was associated with decreased health. More spouses than adult children exceeded grief cutoff scores, placing them at risk. Venting of emotions contributed to increased grief, while acceptance of the disease, positive states of mind, and reframing decreased grief. When persons with dementia lived in a nursing home, spouses experienced more grief while adult children experienced decreased burden. Caregivers experienced personal growth from caregiving experience. The grief inventory in this study could be used to target supportive interventions or referrals for high griever. Healthcare providers should be sensitive to increased grief in spouses when the patient is in a nursing home. Communication interventions should balance emotional disclosure with positive reframing and assisting caregivers to accept the situation.

P015 Healthcare Barriers and Stigma Amongst HIV-Infected African-American Men
Katayon Tabatabaei
UW-Milwaukee, Nursing
Advisor: Aaron Busch
Great Hall – Session 1 10:45 AM – 11:45 AM

Purpose: The objectives of this study are to: (a) describe the personal and structural barriers to healthcare, (b) describe the participants’ perceptions of stigma and (c) examine the relationships between the contextual characteristics, barriers to healthcare and social stigma. Subjects: The sample consisted of (n=55) African American men in an urban setting who self-identified as having HIV/AIDS. Participants ranged from 23- 63 years old (M = 48.84; SD = 7.7) and the average length of diagnosis of 10.79 years (SD = 6.4). Methods: Data were collected through cross-sectional surveys. Participants completed a questionnaire on socio-demographic indicators, healthcare barriers and social stigma. Specific to this analysis are the following factors: age, education, income, length of years since diagnosis and clinical status. Results: Major personal barriers included: transportation problems, lack of energy, family responsibilities, and shame. Structural barriers included: expensive healthcare, healthcare dissatisfaction, and confidentiality issues. Age, years with HIV, and clinical status were significantly correlated with barriers to healthcare and social stigma. Conclusions: Social stigma must be addressed at personal and structural levels. Transportation vouchers and overall support may improve the healthcare and quality of life of HIV-infected African American men.

P016 The Effects of Redbull/Caffeine on Mean Arterial Pressure
Jacob DeMelle, Allison Wallander, Travis Ouradnik
UW-Manitowoc, Physiology
Advisor: Dr. Richard Hein
Great Hall – Session 2 12:55 PM – 1:55 PM

Caffeine: The Affective Ingredient in Energy Drinks? Energy drinks have been introduced as a new way to market caffeine but often claim to have effects beyond that of caffeine. This study attempted to determine whether one of the leading energy drinks, Red Bull, produces physiological effects other than that due to caffeine alone. In order to accomplish this, we found 18 volunteers and divided them into three groups: one drank 625 ml of Red Bull, one drank 625 ml of water with an equivalent amount of caffeine, and one drank 625 ml of water without caffeine.
of plain water. Heart rate and blood pressure were measured every 10 min for an hour and mean arterial pressure (MAP) was calculated to estimate systemic pressure. The control group exhibited no change in MAP while it increased in both the caffeine and Red Bull group. MAP, however, peaked later and increased to a greater extent in the Red Bull group compared to that of the caffeine group. No noticeable pattern existed in the heart rate data for the caffeine or control group. Heart rate increased slightly in the Red Bull group beginning around 40 min. Overall then, Red bull does seem to have stimulatory effects beyond that of caffeine alone.

P017 What's the Buzz? Caffeine and Visual Reaction Time
Lindsay Lorenz, Alissa Emond
UW-Manitowoc, Physiology
Advisor: Dr. Richard Hein
Great Hall – Session 1 10:45 AM – 11:45 AM

Caffeine is perceived to be the most consumed psychoactive stimulant (Deslandes, A.C., 2004), which speeds up the central nervous system (CNS) and affects the peripheral nervous system (PNS). The primary objective of this research project was to measure caffeine's effects on the visual reaction time of human subjects. A subject pool of 14 people was divided into a placebo group and an experimental group, whose members' ingested 2.06 x10-3 Molarity of caffeinated water. In the placebo group and experimental group subjects were categorized as regular or non-caffeine users. Visual reactions times were measured using iWorx hardware and software. The average visual reaction time decreased in both the placebo and caffeine group after ingesting caffeine. The magnitude of change for the regular caffeine users was greater than that of the non-caffeine users. Another interesting finding was that the placebo effect was observed in the regular caffeine users who were administered the placebo and that withdrawal was seen. After ingestion of the caffeine solution, the average reaction time decreased more in regular caffeine users compared to the non-caffeine users. These findings demonstrate caffeine's impact on regular caffeine users and non-users.

P018 Cannabinoid Agonist WIN55, 212-2 on Anxiety-like Behavior in Various Mouse Strains
Farah Fatupaito
UW-Milwaukee, Nursing
Advisor: Dr. Linda K. Vaughn
Great Hall – Session 2 12:55 PM – 1:55 PM

Research shows cannabinoid (CB) drugs may provide treatment alternatives for anxiety, a significant medical concern. In order to develop a working model to test mechanisms of CB drugs on anxiety, several mouse strains were tested with WIN55,212-2, a CB agonist, in the elevated plus-maze test. WIN55,212-2 had no effect on Swiss Webster mice, an anxiogenic effect on the ICR mice, and an anxiolytic effect on CD-1 mice. These data open new doors for the research and treatment of anxiety; providing new evidence for a better animal model of anxiety.

P019 Effects of Proprioceptive Neuromuscular Facilitation on 10-M Sprint and T-Test
Bryan Schwebke, Luke Garceau
UW-Oshkosh, Kinesiology & Health
Advisor: Dr. Dan Schmidt
Great Hall – Session 1 10:45 AM – 11:45 AM

The purpose of this study is to determine the effects of Proprioceptive Neuromuscular Facilitation (PNF) stretching on anaerobic speed and agility tests. It is hypothesized that increased plasticity and decreased muscle spindle activity from stretching will be detrimental to performance. Both male and female participants volunteered from the Active Lifestyle (PE 105) classes at the University of Wisconsin-Oshkosh. Data was collected on four consecutive days using the independent variables of PNF stretching (PS) versus no stretching (NS), and the dependant variables of a 10-m sprint and agility T-test. Subjects first completed a 5-minute warm up, followed by either a PNF stretch or 3-minutes of active rest with no stretching. They then complete that day’s activity with either the 10-m sprint or T-test. Analysis of the results has shown no significant difference between stretching protocols and 10-m sprint and T-test times. However, the protocol of no stretch did show to be the faster of the two.

P020 Effects of Static Stretching on a 10-meter Sprint and T-test
Luke Garceau, Bryan Schwebke
UW-Oshkosh, Kinesiology & Health
Advisor: Dr. Leigh Ann Mrotek
Great Hall – Session 2 12:55 PM – 1:55 PM

The aim of this study is to determine if there is a detrimental or positive effect of static stretching on the performance of a speed test and an agility test. The subjects will be tested on four consecutive days. Two methods will be evaluated consisting of a general warm-up with no stretching (NS) and a general warm-up with static stretching (SS). The SS protocol will consist of a seated hamstrings stretch along with a lying quadriceps stretch. Stretches will be held for thirty seconds on each leg and will follow the National Strength and Conditioning Association’s (NSCA) protocol. It is suspected that performance will decrease post stretching, decreased performance would involve an increase in the time
required to perform both tests. The rationale for the predicted change in performance is the effect of the stretching on the muscle spindles. These proprioceptors are normally involved in increasing muscle activity and it is suspected that stretching will reduce their effectiveness, thus decreasing the capability of the muscle to create large amount of force quickly. Results have indicated no significant effect of the static stretching on the sprint or agility test. However, the NS protocol did show slightly faster times.

P021 Evolution of Cycling Pacing Strategy in Non-athletes
Kirsten Hendrickson, Car Foster
UW-La Crosse, Exercise and Sport Science
Advisor: Dr. Rebecca Battista
Great Hall – Session 1 10:45 AM – 11:45 AM

Well-trained athletes employ pacing strategies to best utilize energy expenditure and optimize performance in tasks such as cycling and distance running. It has been suggested these patterns are based on past experiences, which develop a “performance template.” However, little is known about how the performance template is learned. Therefore, the purpose of this study was to observe the distribution of power output (pacing strategy) in novice, non-athletic individuals during cycling time trials. Subjects included physically active students (aged 20-23 years) with no previous purpose of this study was to observe the distribution of power output (164 ± 36 Watts to 179 ± 63 Watts to 188 ± 71 Watts) across trials, compared to 296 ± 7 sec and 262 ± 14 sec in the experienced cyclists. In addition, large changes in the pattern of power output at all phases of the time trial was seen in the novices’ %PO. Even after 3 trials the novice pattern did not match the typical U shaped pattern in experienced cyclists. This suggests that there is evidence of a rapid learning of a performance template during cycling time trials. However, it takes more than three trials to achieve a pattern similar to experienced cyclists.

P022 Impact of an After School Running Program on Physical Fitness and Self-Motivation in 3rd to 5th Grade Girls
Brooke Tenpas
UW-La Crosse, Exercise and Sports Science
Advisor: Dr. Rebecca Battista
Great Hall – Session 2 12:55 PM – 1:55 PM

The purpose of this project was to evaluate physical fitness and motivation in girls participating in an after school running program. Third to fifth grade girls participated in a 10-week program focused on running related activities. Pre and post tests included a paced 20m shuttle run and the Self Motivation for Children (SM-C) questionnaire. A 3-day physical activity recall (PDAR) was administered to determine amount and intensity of activity. Descriptive statistics were performed and a paired samples t-test (P < 0.05) was used to detect differences over time. Results revealed no difference in the number of laps completed in the shuttle run. However, observations from the PDAR suggested participants increased the total number of 30-minute blocks of time spent in activity. Of the SM-C, one question showed a significant change. Responses to the statement “I don’t often let myself down” significantly decreased suggesting participants may have gained confidence. Overall, results reveal the intervention was minimally successful in increasing physical activity levels and self-motivation for physical activity. Although total number of laps didn’t significantly increase, most participants did improve. Nonetheless, further information regarding programs targeted at educating young girls about the benefits of physical activity to improve physical fitness are warranted.

P023 Evaluation of Salt Damage in Native Perennial Seed Germination and Plant Growth
Troy Reichstadt
UW-Stout, Biology
Advisor: Dr. Kitrina Carlson
Great Hall – Session 1 10:45 AM – 11:45 AM

Beginning Fall 2005, students in UW-Stout's biology 242 class (Botany) began the Rain Garden Project in an effort to prevent further water pollution caused by storm water runoff. Students designed and installed functional rain gardens for private residents and for public use areas in the city of Menomonie. Many of these gardens are planted in driveways. The intent of this research is to study the affect of road salt on seedling germination and plant growth and development using two common rain garden plants; Bee Balm, Monarda fistulosa Fam. Lamiaceae and Big Blue Stem, Andropogon gerardii, Fam. Poaceae. The plants will be exposed to varying salt concentrations during both the germination phase and during the growing period. Scanning
electron microscopy (SEM) will also be used to investigate how root structures are impacted by high salt environments. The results from these experiments will help to establish protocols for identification of salt tolerant plant varieties for use in rain gardens.

**P024 Evaluation of Medicinal Plants in the Local Hmong Community**
Christina Lake, Chad Deines
UW-Stout, Biology
Advisor: Dr. Kitrina Carlson
Great Hall – Session 2 12:55 PM – 1:55 PM

The Hmong community has a long history of using plants for medicinal purposes. Surveying this population gave us great insight into what plants are commonly used for medicine. While there is already significant research into the plants grown and consumed in this culture, knowledge of the specific bioactive molecules, particularly alkaloids, present in the medicinal plants is limited. Alkaloids are highly reactive molecules that are present in some plants. Numerous important medicines are derived from plant alkaloids, such as quinine and morphine. The aims of this work include: identification of plants used by the local Hmong population for medicinal purposes; isolation and extraction of alkaloids from Hmong medicinal plants that synthesize alkaloids; and development of protocols for alkaloid isolation and extraction using plants. The zebra fish embryo assay will be used to screen alkaloids for medicinal potential. The assay is currently being developed using plants with known alkaloids, caffeine and nicotine but will be adapted for use to screen all unknown alkaloids extracted from the medicinal plants. Isolation and identification of these potential novel alkaloids may lead to development of new sources of medicine in the future.

**P025 The Species Diversity of Moss Parasite Eocronartium muscicola**
Alicia Knudson
UW-Platteville, Biology - Botany emphasis
Advisor: Dr. Elizabeth Frieders
Great Hall – Session 1 10:45 AM – 11:45 AM

The genus Eocronartium contains a single described species of parasitic fungus on moss plants but character observations suggest that there may be more than one. Various specimens of moss from numerous geographic regions were examined for comparable features. Light microscopy was performed to identify shape and form differences of the fungus in different portions of the moss plant. Molecular sequencing was carried out on two genes in the fungal DNA to reveal genetic similarities. The fungus was found to inhabit two distinct sections of moss plants: the reproductive structure and the vegetative body of the plant. These regions are dissimilar enough that the fungus would need to behave drastically different in each section. The two regions of DNA examined were used to build relationship trees to determine if there was enough of a genetic difference to consider the fungus two species. This experiment serves to catalogue the biodiversity of fungal pathogens and the study of Eocronartium will also help to better understand plant/fungal relationships especially those related to crop pathogens.

**P026 Using Comparative Osteology to Determine Cervus elaphus canadensis**
Katherine Nonweiler
UW-Milwaukee, Biology
Advisor: Nigel Rothfels
Great Hall – Session 2 12:55 PM – 1:55 PM

The primary component of my UROP research for spring 2007, will be to correctly identify the sub-species of the Silver Beach Elk and Moeller Pond Elk remains found at two isolated archeological sites in southern and northern Wisconsin. Preliminary literary research reveals no documented methods using osteological analysis to determine the actual sub-species of either the Silver Beach Elk or the Moeller Pond Elk. Carbon dating processes have revealed that the Silver Beach Elk specimen is 400-600 years old, which would have been the era when the now extinct Cervus elaphus canadensis (Eastern Elk) was known to be roaming across the eastern part of the United States. In order to determine whether or not the sub-species of both the Moeller Pond Elk and the Silver Beach Elk are consistent with that of the extinct Eastern Elk, I will use comparative osteology. Applying Angela Von Den Driesch's standardized osteological measurements and comparing the metrics of both the Silver Beach Elk and Moeller Pond Elk to bone measurements of identified Eastern Elk specimens that may exist in museum osteological reference collections will lead to a better understanding of whether or not the elk in question are actually Eastern Elk.

**P027 Mutational Studies of the Type III Secretion System**
Meghan Moll
UW-Whitewater, Biological Sciences
Advisor: Dr. John Pritchard
Great Hall – Session 1 10:45 AM – 11:45 AM

The gram-negative bacteria Erwinia carotovora infects many significant crops using the Type III Secretion System (TTSS). Pathogenic (wild type) strains can be selected out of a population by confirming their ability to form pellicles in liquid media. In an effort to isolate and characterize genes
involved in the TTSS, a series of mutant E. carotovora strains were developed by random Tn-5 insertions into the bacterial genome. The first objective was to screen these mutants and eliminate any that formed pellicles. Over the past few months we have identified approximately forty pellicle minus mutants from the initial Tn-5 mutant pool. To make sure failure to produce pellicles is not a result of flagellar defects, a series of motility assays, including swimming and swarming studies, will be done. Growth rate comparisons to wild-type and other studies will help eliminate other strains that appear to carry non-TTSS mutations. Eventually, we should be able to narrow our mutant pool to only a few, highly likely TTSS mutants. The sequences of the Tn-5 transposon and the published sequence of the E. carotovora genome should allow us to clone, sequence, and identify the genomic regions in these strains that were disrupted by the Tn-5 insertion.

P028 Characterization of a 5'-3' Exoribonuclease in the Alga Chlamydomonas Reinhardtii
Edward Manteufel, Ashley Gehrand
UW-Parkside, Biological Sciences
Advisor: Dr. David Higgs
Great Hall – Session 2 12:55 PM – 1:55 PM

Gene expression is regulated at many steps, including the degradation of mRNAs. In eukaryotes, 5'-3' exoribonuclease (Xrn) proteins are critical to RNA processing and degradation. We are investigating a nucleus-encoded CrXrn1 gene in the single-celled alga Chlamydomonas reinhardtii to determine if it is responsible for the known 5'-3' exoribonuclease activity in the chloroplast. This is thought to have a role in regulating photosynthesis. For CrXrn1 to degrade chloroplast mRNAs, it must be localized to this organelle. Predicted amino acid sequence analysis suggests that the CrXrn1b, an alternatively spliced variant protein, may in fact be chloroplast targeted. To directly test this hypothesis, we will use the green fluorescent protein (GFP) tag on CrXrn1b. Reporter genes with different CrXrn1-GFP fusion proteins will be transformed into Chlamydomonas. Sub-cellular location of these GFPs will be determined using fluorescent microscopy. Currently, we are testing two nuclear transformation systems. The first system will use the zeocin antibiotic resistance gene (ble) fused to GFP, and the second system will use Arginine complementation to introduce the chimeric CrXrn1-GFP reporter genes. We will present data on the transformation methods, and, if available, sub-cellular location of GFP proteins.

P029 Health Effects of Mercury on the Embryonic Development of the Heart and Neurons
Lisa Ring, Kavita Smits
UW-Milwaukee, Clinical Lab Sciences
Advisor: Dr. John Dellinger
Great Hall – Session 1 10:45 AM – 11:45 AM

Heavy metals such as mercury have been polluting lakes and streams affecting the natural wildlife. Native fish and foreign species of fish can be used as models to study the effects of environmental contaminants. Ultimately, this data can be applied to humans who live near polluted water systems. Zebrfish, Danio rerio, and fathead minnow, Pimephales promelas, models were used to evaluate the effects of methyl mercury on vagal tone as well as the induced physical effects of environmental chemical contaminants. Histochemistry was used to analyze the possible physical effects of exposure. In this study, fish embryos were collected at 24, 48, 72, and 144 hours of early development. Embryos were embedded in paraffin, sectioned onto slides and analyzed under a microscope—specifically looking at the heart and neuropathways to the brain. Preliminary results show no significant effect of environmental toxins on fathead minnow embryonic development. No experimental results have been collected on mercury exposed zebrafish.

P030 Fecal Indicators—Transient Members of Beach Communities?
Jessica VandeWalle, Sabrina Mueller-Spitz
UW-Milwaukee, Biological Sciences
Advisor: Dr. Sandra McLellan
Great Hall – Session 2 12:55 PM – 1:55 PM

There is a growing concern about the number of beach closings in Milwaukee. Human and stormwater impacts are believed to be introducing pathogenic microbes to the beach habitat. It is unknown whether these transient organisms become permanent members of the community. Microbial diversity was characterized through cloning of the 16s rDNA gene, and phylogenetic analysis used to identify fecal indicator bacteria. Culturing techniques were also employed. The clone libraries from a Wisconsin and Michigan beach yielded similar diversity using the Shannon index (4.91 and 5.01, respectively). Proteobacteria were dominant at both sites composing 52% and 63.8% of the cloned sequences. Escherichia coli was not detected in the cloned library. However, E.coli was recovered from sand samples using culture techniques. The highest numbers were recovered with an average of 30 cfu/g from the bern sand, which is constantly wet. The ability to recover E.coli from the sand suggests that some fecal indicator bacteria become integral members of the beach community leading to human infection and beach closings. No pathogenic fecal bacteria.
have been detected in the current sequencing data which suggests they are minor members of the community.

**P031 Identification of Bacterial Communities in Near Shore Waters of Lake Michigan**
Caitlin Carlson, Sabrina Mueller-Spitz
UW-Milwaukee, Biological Sciences
*Advisor: Dr. Sandra McLellan*
*Great Hall – Session 1 10:45 AM – 11:45 AM*

Characterization of the indigenous microbial community is a starting point for assessing ecosystem health. Actinobacteria are prevalent in oligotrophic freshwater lakes globally. However, diversity of the Actinobacterial community of Lake Michigan is unknown. In the present study, identification of the bacterial community was carried out by cloning the 16s rDNA gene from collective environmental DNA of a near shore site in Lake Michigan. Using culture based techniques dominant bacteria were isolated. These isolates were then screened for Actinobacteria using specific primers followed by sequence analysis to determine their identity. Our data revealed the near shore clone library to be dominated by Actinobacteria (64%) and Proteobacteria and Bacteriodetes were the other dominant phyla present (23.5% and 8.1% respectively). The four distinct lineages of Actinobacteria present in other freshwater lakes were detected in the near shore clone library. Bacteria from near shore water samples were isolated on R2A media, leading to pure cultures for further analysis. Actinobacteria isolated from Lake Michigan can be used to understand why these organisms appear to dominate bacterial diversity. Furthermore, our data suggests members of this phylum may be used as indicators for ecosystem health.

**P032 Prince Rupert to Twin Cities: The Potential Value of a New Intermodal Freight Service**
Eldon Eagle, Varuni Gunasekara
UW-Superior, Transportation & Logistics
*Advisor: Dr. Richard Stewart*
*Great Hall – Session 2 12:55 PM – 1:55 PM*

A new Canadian container port being developed in Prince Rupert, British Columbia opens a new intermodal freight corridor operated by the Canadian National Railroad (CN) to serve the Midwest United States for trade with East Asian countries. Our research explores new potential intermodal services to the Twin Cities region. The new Prince Rupert route has potential to serve the Twin Cities through two gateways; Chicago, Illinois and the Twin Ports of Duluth, Minnesota and Superior, Wisconsin. The advantages and disadvantages of using each gateway are discussed. On both routes, specific issues are examined: transit time, terminal availability, drayage, corridor congestion, asset utilization, interest inventory costs, freight rates, growth potential, circuitry and transloading. It provides a basis for more studies in the future on this new freight corridor of significant economic values.

**P033 The Evolution of UV Tolerance in Plants**
Mohamed Yakub, Megan Nelson, Matthew Rubin
UW-Oshkosh, Biology & Microbiology
*Advisor: Dr. Lisa Dorn*
*Great Hall – Session 2 12:55 PM – 1:55 PM*

My project tested for variation in tolerance to UV exposure among populations of the weedy annual plant Arabidopsis thaliana. If UV levels rise, only those plants that have a genetic composition that provides tolerance to increased UV will survive and reproduce. To determine if genetic variation for UV tolerance is present in this plant I examined the responses of A. thaliana plants from populations distributed along a latitudinal gradient across Europe to a burst of UV radiation. Elevated UV radiation may be an unusual event for these plants, but I tested their UV responses in combination with a more typical environmental cue (cold). Following their treatments, I kept track of the timing of important life stages: number of days to appearance of flowering stalk (bolting), number of days to opening first flower, lifespan and total number of fruits. I found that UV treatments affected important life stages and those effects were dependent on genetic composition and the cold treatment with some populations completely unaffected by UV. This means that there is genetic variation among current plant populations for tolerance to UV but there were strong interactions between elevated UV and environments these plants have always and will continue to experience.

**P034 Biological Illustration: Creating Scientific Drawings for Dissections**
Jeffrey Hornung
UW-Eau Claire, Biology and Art
*Advisor: Dr. Todd Wellnitz*
*Great Hall – Session 2 12:55 PM – 1:55 PM*

Commercially available laboratory manuals used for teaching zoology are overpriced, contain unnecessary text, and are often poorly illustrated. Poor illustrations hamper the learning of animal form and function and make dissections difficult. I set out to create an affordable, concise, accurately illustrated manual for teaching invertebrate zoology that focuses on internal structures for guiding student dissections. By creating new illustrations made directly from dissected animals, and then transferring these illustrations to a computer using Adobe Illustrator, I am assembling a library of high-quality digitized illustrations to be used in teaching invertebrate zoology at UW-Eau Claire. This project has
provided me with hands-on experience as a biological illustrator and taught me that the discipline requires feedback from the users of the final product as well as an ability to draw well. Peer interaction with students enrolled in Invertebrate Zoology has helped me to make the illustrations more effective for learning animal structures and more useful to the students. This project has allowed me to combine my passion for science with my skills as an illustrator and graphic designer to produce a product that effectively teaches others.

**P035 Microbial Community Composition in Fresh Water Sinkholes of Lake Huron**
Heidi Zajack  
UW-Stout, Biology Department  
*Advisor: Dr. Stephen Nold*  
*Great Hall – Session 2 12:55 PM – 1:55 PM*

The work I am conducting is to determine the microbial community composition in the fresh water sinkholes of Lake Huron, Michigan. To analyze microbial species diversity, I extracted the DNA from the original sample, amplified the DNA with the Polymerase Chain Reaction (PCR), and assessed the diversity using length polymorphisms of the spacer region between the 16S and 23S rRNA genes. This technique, called Automated Ribosomal Intergenic Spacer Analysis (ARISA), results in a specific "fingerprint" related to microbial community composition. The results indicate successful extraction, purification, and amplification of the original DNA, as well as ARISA profiles. The microbial communities appear to vary with sampling location, and a large number of ARISA peaks within the communities suggest high microbial diversity in some samples. Ultimately, the ARISA data will allow us to determine the relative diversity of species within the communities as a whole. This is important for understanding the roles sinkholes play in the larger Lake Huron ecosystem.

**P036 Phenotypic Analysis of MBP1 Null Mutant Strains of Candida albicans**
Ryan Hietpas, Ann Rentschler  
UW-Eau Claire, Biology  
*Advisor: Dr. Daniel Herman*  
*Great Hall – Session 1 10:45 AM – 11:45 AM*

We have recently cloned the MBP1 gene of Candida albicans. A BLAST analysis revealed that the Mbp1 protein of C. albicans is 28% identical and 45% similar to the Mbp1 protein of the yeast Saccharomyces cerevisiae. The Mbp1 protein of S. cerevisiae is a known transcription factor, suggesting the homologous protein in C. albicans may also function in the same capacity. To begin elucidating the function of the Mbp1 protein in C. albicans, we have constructed MBP1 null mutant strains using the “URA-blower” technique. The role of the Mbp1 protein in morphogenesis was determined by inoculating null mutant strains onto SLAD, 10% FBS, and M199 (pH 7.5) agars and comparing filamentation to MBP1 heterozygous and wild-type strains. While no difference in filamentation between the strains was observed when grown on 10% FBS or M199 agars, a significant difference was observed between the strains when grown on SLAD. The MBP1 heterozygous strains showed reduced levels of filamentation on SLAD compared to the wild-type strain, while the MBP1 null mutant strains exhibited little to no filamentation. These results suggest that the Mbp1 protein of C. albicans may function in regulating gene expression necessary for morphogenesis in response to nitrogen limiting growth conditions.

**P037 Methamphetamine Induces Nonphotic-like Resetting of the Circadian Clock in Hamsters**
Andy Leung  
UW-Eau Claire, Biology  
*Advisor: Dr. Janik Daniel*  
*Great Hall – Session 2 12:55 PM – 1:55 PM*

Two major classes of stimulation can reset circadian clocks – photic and nonphotic. Nonphotic stimuli, such as exercise and gentle handling, are thought to induce arousal in animals and are most effective during an animal's normal sleep phase. Such stimulation usually causes resetting in the range of 2-4 hours. Earlier work has shown that the beta-adrenergic antagonist propranolol blocks nonphotic-like clock resetting. To further test the idea that adrenergic receptors are involved in nonphotically induced clock resetting, we have sought adrenergic agonists that induce resetting in the absence of behavioral stimulation. We found that the catecholiminergic agonist methamphetamine caused dose-specific clock resetting in male hamsters with maximal resetting of about 3 hr at 40 mg/kg. Methamphetamine is a powerful releaser of both dopamine and noradrenaline, so we cannot rule out the possibility that it has this effect through its action on dopaminergic neurons. Nevertheless, our data are consistent with the idea that stimulation of adrenergic receptors is necessary for nonphotic resetting of the circadian clock to occur.
P038 Links Between Climate Change and Cyclotella Abundance in Alpine Lakes
Audra De Vault
UW-La Crosse, Biology
Advisor: Dr. Jasmine Sams
Great Hall – Session 1 10:45 AM – 11:45 AM

Alpine lakes are sensitive to changes in precipitation and temperature, which have significant effects on nutrient loading and the delivery of dissolved organic material (DOM). Previous research has shown that the diatom Cyclotella stelligera experienced rapid fluctuations in abundance in sediment cores, with these fluctuations correlating with a period of drier than average summers. Decreases in precipitation may lower nutrient availability and increase ultraviolet radiation (UVR) exposure by causing a decline in DOM. Based on patterns in the sediment records, we hypothesized that C. stelligera would thrive under high UVR levels and a low Si:P ratio, which are conditions that would result from decreased precipitation. The study was conducted on Emerald Lake, WY, to determine the effects of nutrients and UVR on C. stelligera. A factorial experiment was established, in which UVR exposure, phosphorus, and silica were varied, and the effects of these treatments on the abundance of C. stelligera were measured. We found that C. stelligera grew equally well under all conditions tested, indicating that, unlike most other alpine phytoplankton, this species can do well when UVR levels are high. This tolerance to UVR may partially explain the patterns observed in the sediment records.

P039 Development of Artificial-tissues (ATs) from Early Avian Embryonic Cardiac Tissues Strongly Implies a Contribution from Fetal Stem Cell Populations
Travis Cordie
UW-River Falls, Biology
Advisor: Dr. Timothy Lyden
Great Hall – Session 2 12:55 PM – 1:55 PM

In this project the application of a unique new natural scaffolding material was made to generate long-term 3-D cultures of early embryonic cardiac tissue harvested from 2-7 day stage chicken embryos. Samples were harvested and surgically cleared of non-cardiac tissues before introduction the scaffolding material. Cultures were continuously maintained for up to 3 months. During this period, significant expansion and development of cardiac ATs were observed and monitored morphologically. These cultures began with tissue adhering to the scaffolds within the first 24-48 hours, followed by expansion onto the scaffold form. Initially and for at least 1.5-2 weeks following explant to scaffolds, tissue fragments maintained a regular and organized beat. These contractions continued as the tissue shifted its shape to fit the scaffolding and then resolved into what appeared to be a continuous state of contraction which eventually compressed the architecture of the scaffolding itself. Given the expansion of these tissue fragments to 5-10 times of their original volume, it is evident that fetal stem cell populations were transferred within the tissue fragments. Further studies are continuing to address this question by employing BuDr to detect “stem-like” populations and to identify potential stem cell “niches” associated with our scaffolds.

P040 Characterization of Erwinia Species Isolated from Bean and Radish Sprouts
Mitra Naseri
UW-River Falls, Biology
Advisor: Dr. Kim Mogen
Great Hall – Session 1 10:45 AM – 11:45 AM

Erwinia caratovora, a bacterium, causes soft-rot on many vegetables. Use of phage therapy to control Erwinia infections on sprouts may be effective and is the ultimate aim of this research project. Soil, bean sprouts, and rinse-water samples from radish and alfalfa sprouts were collected from a local sprout producing facility. Bacteria were isolated from the samples and possible Erwinia isolates were further characterized using Crystal Violet Pectate (CVP) media, biochemical tests, and PCR. Three isolates from the radish rinse-water and one isolate from the bean sprouts made pits in CVP agar (a diagnostic test for Erwinia). None were found in bacteria from the alfalfa sprout rinse-water or from soil. Biochemical tests show each of the four isolates are different from each other. PCR results are forthcoming. The Erwinia bacteria isolated from the sprout producing facility appear to be different species or strains. Effective phage therapy may require more than one type of phage.

P041 Artificial-tissues (ATs) from Early Avian Embryonic Neural Tissues
Tory Shaaf
UW-River Falls, Biology
Advisor: Dr. Timothy Lyden
Great Hall – Session 2 12:55 PM – 1:55 PM

In this project we harvested fore, mid and hind brain samples from 2-7 day chicken embryos. These were then introduced to 3-D scaffolds and cultured for extended periods, in some cases for as much as 6+ months. These results have been repeated in at least 5 independent studies. However, tissues harvested from various brain regions have shown a distinctly different pattern of behavior once explanted to the scaffolds. Basically, samples from the hindbrain attach and survive with some minor expansion while forebrain samples display a variable capacity to expand onto the scaffolds. In contrast to both of these, midbrain...
samples normally attach and spread rapidly onto the scaffolds, eventually encasing the entire structure. In addition to prolific expansion, midbrain cultures also display a tendency to produce additional developmental features. These include complex surface extensions and structures with stalk-like connections to the main ATs. Midbrain ATs also tend to establish monolayers in the bottom of the culture wells, which often contain a sub-population with stem cell characteristics. Current studies are seeking to refine our understanding of the nature of these cells.

**P042 Evidence of the “Mitotic Catastrophe” Programmed Cell Death Pathway in Testing of Synthetic Compounds.**
Danielle Tucker, Amanda Miller, Tracy Nelson, Caroline Martin, Nicole Salwasser, Brianna Zemke, Karl Peterson
UW-River Falls, Biology
Advisor: Dr. Timothy Lyden
Great Hall – Session 1 10:45 AM – 11:45 AM

In collaboration with the UWRF Department of Chemistry, studies have been ongoing to evaluate the potential “apoptosis-inducing” effect of a library of synthetic N-Phenethylpyridinecarboxamides. Based on our preliminary data from earlier studies, it is hypothesized that our compounds induce cellular components that lead to a specific form of programmed cell death and that these may be selectively expressed in cancer cells. However, our early data also suggested that the form of cell death observed is somewhat distinct from classical apoptosis. As a result, new studies have been conducted to qualify the nature of the effects produced by our compounds on cervical carcinoma (HeLa) cell cultures and to contrast these with a non-tumor derived cell line (HEK-293) as well as primary avian embryonic cultures. To date, we have established that these compounds induce significant programmed cell death but that the majority of these effects are not classic apoptosis. Data generated in recent studies strongly suggest that the induced pathway is a recently defined form of programmed cell death called “mitotic catastrophe”. In this form, the process of mitosis essentially stalls and is followed by a restructuring that eventually leads to more classic apoptosis or renewed cell cycling following DNA repair.

**P043 The Study of Early Avian Thoracic Neural Crest Cells and Neural Tube Region Tissues in 3-D Artificial Tissue (ATs) Cultures**
Chris Wenig
UW-River Falls, Biology
Advisor: Dr. Timothy Lyden
Great Hall – Session 2 12:55 PM – 1:55 PM

In this presentation, we report on the development of complex composite ATs from the dorsal mid-thoracic region of early chick embryos. Our specific target in these studies is to examine the migration and/or differentiation of neural crest cells within engineered ATs. In a series of studies, we have successfully produced complex thoracic ATs that often contained populations of neural crest cells. However, given the mixed nature of our target regions and our relative inexperience in the surgical harvesting of neural tube tissues, these results have only been sporadically repeated. When successful, the samples have presented populations of neural crest cells which engage in classic migration, penetration and induction events related to this region of the embryo. In one such study, these cells expanded out from localized nodes of pigmented tissue near the neural tube and eventually penetrated adjacent ectodermal tissues with a network of cells that extended from deep inside the presumptive tissue to near the actual surface. During this period the adjacent ectodermal cells clearly underwent differentiation-related morphological changes. Further studies are ongoing to examine the stem cell populations present in these complex ATs as well as to better define the nature of the secondary structures observed.

**P044 The Culture of Early Avian Embryonic Lung Samples in 3-D Artificial Tissue (ATs) Cultures**
Michelle Willette
UW-River Falls, Biology
Advisor: Dr. Timothy Lyden
Great Hall – Session 1 10:45 AM – 11:45 AM

In these studies, the growth capacity of embryonic avian lung tissue on 3-D matrices was examined. Our working hypothesis was that the growth and differentiation of both mesenchymal and ectodermal cellular components of lung rudiments will occur under these culture conditions. In these studies, developing lung rudiment tissues were harvested from chicken embryos between days 2-11 of gestation. After being introduced to our natural 3-dimensional scaffolding matrix, the tissue fragments were monitored for adherence to the matrix as well as the ability and propensity to grow and expand. In each case, during repeated experiments the tissues expanded, completely covering and filling the available scaffolding material. In addition to growing on the scaffolding, cells from lung rudiments were also observed shedding onto the floor of the culture wells and these then
formed patchy monolayers. Given the relative expansion of the ATs from fragments less than 0.1 mm³ to ATs between 0.4-0.8 mm³, coupled with an extremely slow rate of growth in the long monolayer cultures, it seems likely that a population of fetal stem cells are present within the growing ATs but not the monolayer cultures. To test this concept, we are continuing these studies using BuDr to examine the ATs and qualify the presence or absence of “stem-like” cells within these structures.

P045 Characterization of Avian Embryonic Artificial-Tissues (ATs) and Monolayer Cultures of Mesenchymal Origin Derived from Early Long Bone Rudiments
Erik Wood
UW-River Falls, Biology
Advisor: Dr. Timothy Lyden
Great Hall – Session 2 12:55 PM – 1:55 PM

In this project, long bone rudiments from 2-7 day stage chicken embryos were harvested and cleared of attached mesenchymal tissues. These were then placed onto natural scaffolds and although adherence was rapid and formed a strong connection between the scaffold and the bone rudiment, the main tissue fragment remained intact while attached to the scaffold. Eventually cells grew out and incorporated large portions of the scaffold into very large overall artificial tissues. As the culture period extended, the original rudiment underwent significant growth and restructuring but retained its distinctive position relative to the scaffold. During the early culture period and continuously thereafter, the rudiment shed very large numbers of rounded, fast growing cells which eventually formed monolayers. These monolayer cultures contained two major populations of cells. The first population was the originally shed very rounded and smooth cells that adhere, but do not spread following attachment. This population is extremely active mitotically with large clusters of newly grown cells forming colonies throughout the monolayers. The cells of the second population are relatively flat and fairly epithelial in morphology. These cells tend to cluster around the outer perimeter of colonies containing the first cells and may be differentiated derivatives.

P046 Genetic Linkage Mapping a Gene Involved in Soybean Chromosome Pairing
Kyle Curran, Lauren Muhr
UW-Stevens Point, Biology
Advisor: Dr. Devinder Sandhu
Great Hall – Session 1 10:45 AM – 11:45 AM

Micogametogenesis and megagametogenesis are two very important biological processes in life cycle of plants. During meiosis I two sets of chromosomes pair and then separate into separate cells. This process is highly regulated. Mutations in genes involved in this important process lead to male sterility and female sterility. Several male sterile female sterile mutants have previously been identified in soybean. A new male sterile female sterile mutant has recently been identified. Objectives of this study are i) to determine if this new mutant gene is the same as already identified male sterile female sterile genes or it is a unique gene ii) to make genetic linkage map of the region where this new gene is located. To accomplish our objectives we used Bulk Segregant Analysis, where we pooled 10 fertile F2 plants and 10 sterile F2 plants. These bulks were tested using 350 SSR markers from whole soybean genome. The BSA showed that this new male sterile female sterile mutant gene is a unique gene and closely associated with SSR marker Satt309, which is located on Molecular Linkage Group G. A fine map of the region is being done using polymorphic SSR markers from MLG G on an F2 population.

P047 Exploring Photosynthetic Bacteria in Lake Huron Sinkhole Ecosystems
Shane Webb, Ashley Dillon
UW-Stout, Biology
Advisor: Dr. Stephen Nold
Great Hall – Session 2 12:55 PM – 1:55 PM

The goal of our research is to measure the diversity of microorganisms found in Lake Huron Sinkhole Ecosystems. We harvested cyanobacterial mat material from surfaces near regions of groundwater effluent, extracted community DNA, amplified the 16S rRNA genes, cloned the products, made DNA libraries, and sequenced representatives of the clone libraries. Our results suggest that the filamentous mat-forming cyanobacteria are closely related to cyanobacteria living in antarctic lakes. These results are surprising because Lake Huron is a fresh water body and their nearest relatives are found in permanently ice covered, slightly saline lakes. We are also studying the microorganisms inhabiting organic-rich sinkhole sediments. Combined, these studies provide a comprehensive view of sinkhole species diversity. These data will help us understand the larger role sinkholes play in the Lake Huron ecosystem.

P048 Molecular Disease Diagnostics using SSCP Technology
Kiran K.C.
UW-Stout, Biology
Advisor: Dr. Kitrina Carlson
Great Hall – Session 1 10:45 AM – 11:45 AM

Phytoplasmas are bacteria that infect various plant species including potatoes. These pathogens are obligate parasites and therefore DNA extraction has to be directly from infected plant tissue. Although the infected plants show
various signs and symptoms and a decreased crop yield, it is impossible to positively identify these pathogens without molecular diagnostic tools such as PCR. The objective of this work was to develop an SSCP diagnostic tool for the rapid identification of Phytoplasma pathogens using potato as a model organism. In developing a diagnostic tool for the detection of Phytoplasma in symptomatic potato plants, we used PCR to amplify the 16S ribosomal RNA genes. DNA amplifications were done using these sets of Phytoplasma universal primer pairs: P1/Tint, P1/P7 followed by nested PCR with primer pairs R16R2/R16F2n. Amplifications were obtained from these primers. Direct PCR with primer pair R16R2/R16F2n with PCR beads amplified the positive control for all of our 11 samples. PCR products were visualized under UV- Trans-illuminator after staining with Ethidium Bromide. In the next phase of research we will use Single Stranded Conformation Polymorphism (SSCP) to see the distinctive banding patterns. The PCR amplified products will be analyzed with SSCP to see distinctive banding patterns of a specific Phytoplasma species.

P049 Potential Pathogens in the School Environment
Zhicong Wang
UW-Strout, Biology
Advisor: Yvonne Nelson
Great Hall – Session 2 12:55 PM – 1:55 PM

Pathogenic microorganisms are potent threats to school health. In this experiment, Colony Forming Unit (a viable bacterial colony count) samplings were taken, in various regions of a school, of microorganisms (Staphylococcus aureus, various aerobic bacteria, and molds) in order to find a pattern of distribution between the colony count and the environment. Fifteen hall passes were sampled from three regions of a school, and then categorized into groups A, B, and C (each of five hall passes). It was hypothesized that regions near entranceways would contain more molds (Group A), regions in the vicinity of lavatories would contain more mold and yeast (Group B), and regions with most students would contain more Staphylococcus aureus and aerobic bacteria (Group C). Data overall supported the hypothesis: Group A registered a large count of mold, and Group B surpassed all other regions in the count of both mold and yeast colonies. Furthermore, Group C showed significantly more Staphylococcus aureus and other aerobic bacterial colonies than Group A or B.

P050 Tissue Culture and DNA Extraction in a Threatened Plant Species, Opuntia fragilis
Archana Shrestha, Nicholle Jenness
UW-Strout, Biotechnology
Advisor: Dr. Kitrina Carlson
Great Hall – Session 1 10:45 AM – 11:45 AM

The Fragile Prickly Pear (Opuntia fragilis) is a geographically wide ranging cactus that has isolated populations in Wisconsin. Research efforts to determine genetic diversity of this threatened population have been hampered by the inability to extract DNA from cactus cladodes due to high levels of extra-cellular polysaccharides. Historically researchers have collected plant tissue samples from roots in order to assess plant genetic diversity in this species. The objective of this work was to develop a less invasive and less destructive method for analysis of genetic diversity by using plant tissue culture to generate callous tissue from the Opuntia cladodes. Callous tissue is an undifferentiated mass of cells that theoretically should not contain high levels of extra-cellular polysaccharides. In this work cactus callous was successfully generated in basic Murishage and Skoog (MS) media containing NAA and BPA. These cells will be harvested for DNA extraction. The results of this project could lead to a more ecologically friendly way to determine genetic diversity in threatened or endangered plant species.

P051 Gene Detection in Staphylococcus aureus
Rebecca Bickford
UW-La Crosse, Microbiology
Advisor: Dr. William Schwan
Great Hall – Session 2 12:55 PM – 1:55 PM

Staphylococcus aureus is a ubiquitous bacterium that exists in up to 66% of humans, mainly residing in the nose, ear, and skin; but it can also be an opportunistic pathogen responsible for up to 50,000 deaths per year. Strains from this species have been divided into two main categories: methicillin-sensitive S. aureus (MSSA) and methicillin-resistant S. aureus (MRSA). The MRSA strains can be further subdivided into community-acquired (CA) and hospital-acquired. The CA-MRSA strains strike healthy individuals who have not been recently hospitalized. In this study, we tested for the presence of nine virulence factor genes (hla, hlb, hld, hlgB, sdrC-E, fnbA, fnbB) in two MSSA populations compared to a CA-MRSA population using a polymerase chain reaction (PCR)-based technology. Three cohorts were examined: a group of 77 CA-MRSA strains, one population of 75 commensal MSSA strains, and one group of 75 early clinical MSSA strains. We found that 100% of all MSSA and CA-MRSA strains possessed the hla, hld, and hlgB genes. One hundred percent of the CA-MRSA strains were also positive for the hlb gene, but only 93.3-96% of MSSA strains had this gene. The results also showed 100%
of the CA-MRSA strains were positive for the sdrC, sdrD, and sdrE genes. However, the MSSA cohorts had sdrC-sdrE detected in just 90.7-96% of these populations. On the other hand, the MSSA groups had higher rates for the fnbB gene compared to the CA-MRSA population, but lower frequencies of the fnbA gene. Differences in the hlb and adherence genes may play a role in the spread of CA-MRSA isolates through the general human population.

P052 Purification of Human Parainfluenza Virus Matrix Protein for Antibody Generation
Marisa Comstock, Michelle Schweitzer
UW-La Crosse, Microbiology
Advisor: Dr. Michael Hoffman
Great Hall – Session 1 10:45 AM – 11:45 AM

Human parainfluenza virus type 3 (HPIV3) is a single-stranded, negative sense, RNA virus in the Paramyxoviridae family. HPIV3 causes lower respiratory tract diseases, such as pneumonia and bronchiolitis, most often in young children, immunocompromised and elderly individuals. No protective HPIV3 vaccines or anti-viral drugs are available, making research on this virus essential. Previous research has suggested that viral matrix (M) protein binds to other viral proteins to facilitate virus particle assembly and release. To study HPIV3 virus assembly, we need to generate antibodies against the M protein. The antibodies will be used in immunoprecipitation and immunofluorescence assays to study M localization and protein-protein interactions. Isolation of significant amounts of pure M protein is necessary for antibody production. However, several different expression systems we tried yielded little full-length M protein. Recently, we successfully used a bacterial expression system to generate His-tagged N terminal and C terminal M protein fragments. The fragments were bound in inclusion bodies, allowing us to purify our protein from many other cellular proteins. The fragments were solubilized in denaturing conditions, further purified by nickel sepharose chromatography, and then extracted from an SDS-PAGE gel. These fragments are now being used as immunogens to generate polyclonal and monoclonal antibodies.

P053 Identifying Trans-Regulatory Factors of the Yellow Fever Mosquito RNR2 gene
Erica Berzin
UW-Parkside, Molecular Biology and Bioinformatics
Advisor: Dr. Daphne Pham
Great Hall – Session 2 12:55 PM – 1:55 PM

Ribonucleotide reductase (RNR) is an enzyme that catalyzes the synthesis of deoxyribonucleotides (dNTPs), the building blocks of DNA. The transcription of RNR’s two subunits (R1 and R2) is crucial to cellular dNTP levels. Prior experiments have demonstrated that expression of the R2 subunit is high in the S phase of cell cycle and significantly higher in the ovaries of Aedes aegypti, the yellow fever mosquito, after a blood meal. This conclusion suggests that the regulation of the R2 protein, and thus DNA synthesis, is induced by blood feeding. This characteristic makes this molecule a strong candidate for possible inhibition of disease transmission. Characterization experiments have been conducted on the Ribonucleotide reductase 2 (RNR2) gene and its promoter. In order to identify the trans-regulatory factors involved in gene control, an ovary specific cDNA library was constructed. This library serves as the prey in a yeast one-hybrid assay. Three small segments of the promoter, integrated into a yeast chromosome, serve as the bait. This approach hopes to isolate the basal factors of regulation. Once identified, these molecules will serve as bait for a yeast two-hybrid system that will function to identify the blood-meal inducible elements of transcription.

P054 Promoting Watershed Stewardship Through Service Learning and Citizen Science
Jessica Van Der Werff
UW-Stout, Applied Science
Advisor: Krista James
Great Hall – Session 2 12:55 PM – 1:55 PM

A change in land use, land cover, and zoning has increased the amount of impervious surfaces in the Galloway Creek watershed. As a result, storm water quickly drains to the creek carrying all the pollutants without possibility for infiltration or treatment. Storm water runoff causes pollution problems such as erosion, soil deposition, an increase in E. coli, little macro-invertebrate diversity, and excess nutrients resulting in algal blooms. The University of Wisconsin-Stout and the city of Menomonie have joined together to study the effects of storm water runoff and pollution in Galloway Creek. The program emphasizes service learning where general education science students (BIO 111; Science, Society and the Environment) learn about the watershed and water pollution while working to improve the current condition of the creek. Students are trained to delineate the watershed, collect and analyze data, and write results for their data. They examine qualities of the creek that include temperature (air and water), water pH, dissolved oxygen, turbidity, and stream flow as well as the diversity of macro-invertebrates and the condition of the habitat. Student research data from 2003 to present indicate that the water quality and overall health of Galloway Creek has not improved over the years.
P055 Stable Carbon Isotope Analysis of Lake Huron Sinkhole Habitats
Michael Bellecourt
UW-Stout, Applied Science
Advisor: Dr. Stephen Nold
Great Hall – Session 1 10:45 AM – 11:45 AM

Underwater anoxic sinkhole habitats discovered in Lake Huron exhibit unique microbial activity of which there is little current understanding, including the nature of carbon cycling. There are two competing hypotheses to explain carbon deposition in this habitat: that the primary producers in the sediments fix their own carbon, or that fixation occurs in the water column by phytoplankton, which is deposited into the sediments in the sinkhole habitats. We will use 13C to study carbon flow through this ecosystem. Dissolved inorganic carbon, suspended particulate organic matter, and sedimentary organic matter will be analyzed through sample collection, preparation and isotope analysis using an Elemental Analyzer Isotope Ratio Mass Spectrometer. Although our analyses are ongoing, we expect that 13C analysis will reveal the source of massive carbon accumulation in these habitats. Our new knowledge of carbon flow will help to better understand the impact Lake Huron sinkholes have on the greater lake ecosystem.

P056 Nanocomposite Materials for Novel Heating Applications
Marc Hannum, Tim Lurvey
UW-Stout, Applied Science
Advisor: Dr. Christopher Lutz
Great Hall – Session 2 12:55 PM – 1:55 PM

It is known that single-walled carbon nanotubes (SWNT) exhibit very unique thermal properties upon exposure to coherent electromagnetic radiation within the range of 800 to 1200 nm (NIR), and such exposure causes SWNTs to heat to temperatures of at least 80ºC. With this property in mind we intend to fabricate new polymeric composites containing SWNTs that will be capable of trapping monochromatic near-infrared radiation at 808 nm as broadband infrared energy, or heat, and then distributing that energy throughout the polymer composite. SWNTs will be synthesized according to an established chemical vapor deposition (CVD) procedure and cast in methyl methacrylate, high-density polyethylene, and polyvinylchloride polymer membranes. Composite membranes and control samples will then be subjected to varying intervals of 808 nm laser radiation and comparisons of their strength and thermal integrity under periods of constant heating and cooling will be made. An ideal composite will trap and maintain a significant amount of heat while retaining favorable physical properties.

P057 Study of Genetic Diversity in Sediments of Lake Huron Sinkholes
Tapesh Joshi, Caleb Meier
UW-Stout, Applied Science
Advisor: Dr. Stephen Nold
Great Hall – Session 1 10:45 AM – 11:45 AM

We are using ribosomal RNA sequence surveys to identify the genetic diversity of bacterial populations found in Lake Huron Sinkholes. By employing DNA extraction, PCR amplification, clone library construction, and DNA sequence analysis, we were able to compare our sequences to matching DNA sequences found in GenBank. We attained highly diverse sequences from sediment samples, some of which were unrelated to known lineages. We are also sequencing DNA from photosynthetic communities and sinkhole habitats to provide a comprehensive view of species diversity. One of the outcomes of this research is the possibility of identifying these new species of bacteria and learning their origins.

P058 Effects of Anthropogenic Eutrophication on the Muskegon River Watershed
Nathan Maier
UW-Stout, Applied Science
Advisor: Dr. Stephen Nold
Great Hall – Session 2 12:55 PM – 1:55 PM

The goal of our research is to characterize the identity and abundance of phospholipids on tiles treated with nitrogen and phosphorus amendments that were placed in the Muskegon River Watershed. This research will be used to classify the microorganisms affected by the nutrient amendment into their natural environment through anthropogenic eutrophication. We used a modified Bligh/Dyer method for lipid extraction, silicic acid chromatography to separate the total lipid into lipid classes, mild alkaline methanolysis to prepare the fatty acid methyl esters, and the FAMEs were analyzed on a gas chromatograph with a flame ionization detector. Gas chromatography was initially successful and we anticipate the rest of the samples to produce quality results. The conclusions that I expect to make from these data are the total lipid content and lipid type of each tile. We expect the results to vary with initial treatment and downstream versus upstream samples. Through these conclusions I hope to determine what types of organisms are living in the Muskegon Watershed and if they are affected by nitrogen and phosphorus amendments.
The Vieau Fur Trade Post was established sometime in the 1820s and operated until its sale around the time of the Native American removal in 1837. The site was located in Franksville, Wisconsin, near a Potawatomi village known as Skunk Grove. The Vieau trading house, along with several other buildings on the site, formed an important center of trade between Euro-Americans and the Potawatomi in Racine County. Since that time, the trade post along with the Vieau residences and related buildings have disappeared. Once such wooden structures decay or otherwise disappear they often leave high concentrations of nails. Square nails, when cleaned of rust, can be identified by type, where the types relate to specific periods of manufacture. Electrolytic cleaning and identification of square nails used during the fur trade post period will allow us to conduct a distribution analysis at the site. That, in turn, may allow us to locate and recover other remains of the Vieau Fur Trade Post building and of other buildings at the site. These data will help us to better understand the interaction and relationship between Euro-Americans and Native Americans in Racine County prior to their forced removal.

P062 Analysis of Ceramics from the Vieau Trade Post, Franksville, Wisconsin
Rick Edwards
UW-Parkside, Anthropology
Advisor: Dr. Robert Sass
Great Hall – Session 1 10:45 AM – 11:45 AM

The Vieau Fur Trade Post was located in modern-day Franksville, Racine County, Wisconsin. Run by Jacques Vieau, Jr., and his brother Louis, it was an important point of cultural interaction and exchange between Euro-Americans and Native Americans. The trade post was active from the 1820s until 1837. This was the year the nearby Potawatomi village, located in Skunk Grove, relocated according to the terms of the Treaty of Chicago. Archaeological excavation of the site has recovered a significant amount of ceramic material dating from the early 1800s until the present era.
Careful inspection of the ceramics’ traits can reveal the type, and in some cases the manufacturer and date of production. Analysis of these artifacts provide greater insight to an important aspect of the archeology of the site, namely ceramic container technology.

P063 Mammal Bone Identification and Analysis of the Archeological Bell Site (47-Wn-9)
Elizabeth McCarthy
UW-Milwaukee, Anthropology
Advisor: Dr. Jean Hudson
Great Hall – Session 2 12:55 PM – 1:55 PM

During the 18th century, a Native American tribe called the Meskwaki inhabited an area near modern day Oshkosh, Wisconsin, known as the Bell Site (47-Wn-9). They left behind artifacts and food remains telling about their daily life and rituals. By studying what they left behind, in this case animal bones and bone fragments, we can discover how life was lived 300 years ago. There are hundreds of thousands of bones and bone fragments that remain to be identified and analyzed. The species of the animal and any modifications (cut marks, burn marks, gnawing, or worked into a tool) must be identified so the reasons behind the death of the animal or the use of the bones can be discovered. During this project, the main concentration will be on identifying a sample of some 4000 mammal bones. Past research suggests that two mammals held special meaning for the Meskwaki, the bear and the dog. Special attention will be given to the analysis of the bones of these two animals, and a comparison of their use to that of deer, a dietary staple for the Meskwaki.

P064 Alcohol-Based Organosilicates as Potential Biosignatures
Patrick Liesch
UW-Parkside, Chemistry and Biological Sciences
Advisor: Dr. Vera Kolb
Great Hall – Session 1 10:45 AM – 11:45 AM

While our previous research observed the polymerization of silicic acid to silica gel upon the addition of amino acids, our recent work has found a similar polymerization upon the addition of various alcohols. Like amino acids, alcohols could be preserved in these gels by two mechanisms, which are being investigated by infrared (IR) spectroscopy. In the first mechanism, these alcohols would cause polymerization of silicic acid and merely become entombed in the silica gel. In this case, only Si-O-Si bonds would be expected. In the second mechanism, the alcohols would make chemical bonds with the silicic acid, to create organosilicates. In this case, Si-O-C bonds would be present. In addition, we are investigating alcohols for their interaction with dried silica gel, as research by Azrak and Angell (1973) suggest that Si-O-C bonds can be formed with alcohols under certain conditions. Alcohols play an important role in many biological pathways, and could serve as biosignatures in extreme environments including meteorites and other planets. Our knowledge of these organosilicates would lead to a better understanding of biosignatures in general, and would be applicable to NASA’s future missions to Mars, in which a robotic IR unit could detect organosilicates on the Martian surface.

P065 Reactions of a Telluroheterocycle with Sulfur and Selenium Donating Ligands
Nathan Edeler, Emily Ricks, Sergey Lindeman
UW-Fox Valley, Chemistry
Advisor: Dr. Martin Rudd
Great Hall – Session 2 12:55 PM – 1:55 PM

The air-stable telluroheterocycle, 1,1-diiodo-3,4-benzo-1-telluracylopentane can be readily prepared in good yield from 1,2-di(chloromethyl) benzene, tellurium metal and excess sodium iodide in 2-methoxyethanol. We have used this starting material for a systematic investigation into the coordination chemistry of neutral ligands and anionic metal fragments towards the heterocycle. Typically, we react 1 equivalent of heterocycle with 2 equivalents of ligand in a suitable solvent (dichloromethane or tetrahydrofuran) in an inert argon atmosphere. In its reactions, we have observed that the tellurium containing heterocycle can retain its +4 oxidation state in forming the novel dicaticonic tetramethylthio urea complex [(C8H8Te{S=C(NMe2)2}] [BF4]2 or become reduced and act as a ligand itself. For instance, the reaction of C8H8TeI2 with 2 eq of AgBF4 and 2 eq of tetramethylthiourea in dichloromethane gives a good yield (70%) of the product whose structure was determined by multinuclear NMR spectroscopy and a single crystal X-ray diffraction experiment. Additionally, we found that in some cases a redox reaction occurred resulting in the formation of a neutral C8H8Te heterocycle that itself coordinated to silver ions, resulting in the isolation of [Ag(TeC8H8)4][BF4]. We are using this methodology to widen the scope of tellurium containing heterocycles that are reactive towards sulfur/selenium donating ligands.

P066 Visual Survey Method for Detection of the Emerald Ash Borer
Patrick Liesch
UW-Parkside, Biological Sciences
Advisor: Dr. M. Scott Thomson
Great Hall – Session 1 10:45 AM – 11:45 AM

The Emerald Ash Borer (Agrilus planipennis) is an aggressive exotic pest of ash trees (Fraxinus spp.). Since being discovered in the U.S. in 2002, the larvae of the
Emerald Ash Borer (EAB) have been responsible for the deaths of as many as 25 million ash trees. To date, these exotic beetles are known to be present in Michigan, Ohio, Indiana, Illinois, Maryland, and parts of Ontario. To help control this pest, the Cooperative Emerald Ash Borer Project helps coordinate the efforts of local, state, and federal organizations. Groups currently involved with the project include: private landscaping contractors, university extension organizations, the DNR, and the USDA. As of yet, the Emerald Ash Borer has not been found in Wisconsin. However, with this exotic pest so close to the state borders, Wisconsin is taking an aggressive stance. As part of a preemptive measure to monitor EAB, visual inspections of trees in high-risk areas are commonly conducted. This work illustrates the results of the visual inspections conducted by myself as part of my work for the UW-Extension organization during the summers of 2005 and 2006.

P067 Cleaning Up the Land: Phytoremediation of Lead and Chromium
Jon Stehlik
UW-Parkside, Chemistry
Advisor: Lori Allen
Great Hall – Session 2 12:55 PM – 1:55 PM

Lead and chromium are toxic heavy metals. There is no known physiological value to lead and lead presents itself as more toxic to children than adults. The toxicity of chromium varies with its oxidation state and it is not known if children are more susceptible to chromium than adults. In this work, we report on the usage of Canada Rye grass and the fungus, Glomus Intraradices, to facilitate the removal of both lead and chromium from soil at a site that is earmarked for usage as a public park. Canada Rye grass was selected for this project because of its rapid growth and its ability to grow in shady regions. Canada Rye grass is not typically employed in phytoremediation efforts so this work is somewhat unique in that regard. The ability of the fungus to facilitate plant pickup of metals from the soil is known. The site was surveyed in summer 2006 and soil lead levels were found to range from 20 to 500 ppm while the soil chromium levels ranged from 20 to 100 ppm. Grass planting was completed in early November and process sampling is scheduled for late January and mid-March. This presentation will document these results and compare the results to control plots.

P068 Synthesis and Characterization of Tellurium Complexes with Bulky Thioureas
Gregory Kokke, Sergey Linderman
UW-Fox Valley, Chemistry
Advisor: Dr. Martin Rudd
Great Hall – Session 1 10:45 AM – 11:45 AM

We have been investigating the reactions of tellurium with bulky thioureas to better understand the coordination of the central Te atom. In our research laboratory, we set up reactions of tellurium (IV) oxide in methanol/hydrobromic acid with an 4 molar excess of thiourea (L) [(1-naphthyl)-2-thiourea or 1-cyclohexyl-3-(2-morpholinoethyl)-2-thiourea]. The reaction was stirred for 2 hours and filtered. When we cooled the solutions, it resulted in the isolation of the square planar Te(II) complexes, TeBr2L2, whose identities have been confirmed by X-ray diffraction, NMR spectroscopy and elemental analysis. Recrystallization of one of the compounds from acetone resulted in an unusual condensation reaction between the coordinated thiourea and the solvent together with the subsequent oxidation of the tellurium (II) to tellurium (IV). We have confirmed the identity of this unique molecule using spectroscopy and and X-ray diffraction. From our literature review, we are aware of this type of condensation occurring between thioureas and carbonyl compounds but this has not been observed before with a ligand coordinated to a main group element. We are pursuing further experiments to determine if other coordinated thioureas are able to undergo the same type of reaction.

P069 Exchange of Labile "Helmet" Phthalocyanine Methanol with Lewis Bases
Heidi Kieler
UW-La Crosse, Chemistry
Advisor: Dr. Robert McGaff
Great Hall – Session 2 12:55 PM – 1:55 PM

Classical metallophthalocyanines are planar molecules that often exhibit catalytic properties. Utilizing solvothermal synthesis, the phthalocyanine structure has been modified in the formation of a chiral "helmet phthalocyaninato" ligand. Attachment of a fifth coordinating nitrogen and a labile methanol ligand created the modified metallophthalocyanine (14,28-[1,3-diminoisindolino]phthalocyaninato), which is non-planar. In this study, we were interested in the exchange of the labile methanol from a cobalt(III) complex and an iron(III) complex, for other Lewis base ligands. The exchange reaction occurred through direction addition of a Lewis base to the solvothermal reaction mixture or addition of a Lewis base to the phthalocyanine complex purified through flash column chromatography. Pyridine, triphenylphosphine, triethylamine, and 4-hydroxy pyrididine were four ligands selected for the exchange reactions.
Verified by x-ray crystallography, 4-hydroxyypyridine was the only ligand to irreversibly exchange with the labile methanol of the iron(III) complex. Further studies conducted with a chiral ligand exhibiting structural similarities to 4-hydroxyypyridine, (R)-(−)-α-Methyl-4-pyridinemethanol (MPM), have proven inconclusive. Ultimately, modified “helmet” phthalocyanines could exhibit enantioselective catalytic properties.

P070 Heavy Metals in Whole Blood
Sarah Riley
UW-Platteville, Chemistry
Advisor: Dr. Charles Cornett
Great Hall – Session 1 10:45 AM – 11:45 AM

The forensic investigation of toxicological cases involving acute intoxication, poisoning and death investigations is heavily focused on the analysis of organic and pharmaceutical analytes of interest. The determination of inorganic analytes, especially heavy metals, is often limited to a few metals, using relatively insensitive wet chemical techniques or single-element methods employing atomic absorption or graphite furnace methods. This project addresses the need for the development of rapid, sensitive multi-elemental methods for the analysis of metal toxins in whole blood, which expands the range of inorganic analysis in toxicological investigations. The optical emission spectroscopy and mass spectrometry measurements will be compared for a suite of trace elements.

P071 Differentiation of Distilled Turpentine from Terpenes in Building Materials by Inductively Coupled Plasma – Optical Emission Analysis
Laura Schweitzer, Larissa Larsen
UW-Platteville, Chemistry
Advisor: Dr. Charles Cornett
Great Hall – Session 2 12:55 PM – 1:55 PM

The differentiation of distilled turpentine from a matrix containing naturally occurring terpenes, such as soft wood construction materials, using gas chromatography - mass spectrometry is not an effective analytical technique for the arson analyst. The National Institutes of Justice have identified ignitable liquid identification as a major need of the forensic community. This research investigates the use of inductively coupled plasma – optical emission spectroscopy (ICP-OES) to identify the trace amounts of different metals in the distilled turpentine and the softwood building materials. A comparison of trace element profiles of these samples assesses the potential of using metal profiling for identifying turpentine as an ignitable liquid in a complex matrix. Trace element concentrations of iron, zinc, cobalt, lead, and copper constitute the compared profiles. These profile comparisons and the potential of the technique as a tool in arson investigation will be discussed.

P072 The Oxidative Degradation of Select Azo Dyes by the Horseradish Peroxidase Enzyme
James Lokken, Heather Patnode
UW-Stout, Chemistry
Advisor: Dr. Marcia Miller-Radeberg
Great Hall – Session 1 10:45 AM – 11:45 AM

Azo dyes are a highly colored and chemically stable class of compounds extensively used in the paper, textile and printing industries. These dyes account for more than half the annual dye production worldwide and approximately 10% to 15% of these industrial colorants are released into waste streams. Water pollution and waste treatment issues arise due to the chromophoric nature and stability of these dyes. Moreover, once released into the environment, anaerobic microbes have been shown to reduce azo dyes into recalcitrant carcinogenic benzyl amine compounds. Previous research has shown that anilinic azo dyes are also susceptible to oxidative decolorization by peroxidase enzymes, such as the archetypal enzyme, horseradish peroxidase (HRP). HRP catalyzes the oxidation of a wide range of aromatic compounds, including some azo dyes, with the concomitant reduction of H2O2 to water. The goal of this research is to determine the chemical mechanism for oxidative decolorization of anilinic azo dyes via kinetic studies and product analyses. The results from steady state and transient kinetic studies and preliminary HPLC product analyses studies for the 5 anilinic azo dyes, Orange IV, Mordant Yellow 12, Metanil Yellow, Methyl Orange, and Methyl Red will be presented.

P073 The Determination of Indoor Atmospheric Mercury Levels Using Sunflowers
Steven Kopitzke
UW-Parkside, Chemistry
Advisor: Lori Allen
Great Hall – Session 2 12:55 PM – 1:55 PM

While there are instruments which are designed to analyze mercury levels in the atmosphere these are quite costly to obtain. In order to avoid this purchase and maximize the usefulness of instruments already on campus a method using sunflowers (Helianthus Giganteus) as a means to capture indoor atmospheric mercury shall be examined. The rationale is that if sunflowers, like most plants, do not transmit mercury through the roots into the leaves then that means that all the mercury on the leaf would be indoor atmospheric mercury. In order to complete the testing the leaves will be collected and then captured into a liquid sample and analyzed using cold vapor atomic fluorescence spectrometry. This is an ongoing study with data still being gathered at this point.
The proposed method will be evaluated in terms of reproducibility, accuracy and as time permits results will identify the working range and interferences. There is an opportunity, if the study proves successful, that this method can translate into a means of testing outdoor atmospheric levels of mercury.

P074 Blocking SEB Induced Signaling Events Using Pathway Interconnectors
Katherine Campbell, Emily McLean
UW-Platteville, Chemistry and Engineering Physics
Advisor: Dr. Chanaka Mendis
Great Hall – Session 1 10:45 AM – 11:45 AM

Staphylococcal Enterotoxin B (SEB) is one of several exotoxins produced by staphylococcus aureus which is associated with more than 30% of food poisoning cases. Prior work done in our lab has identified p38 as a key signal transduction component of multiple signal transduction pathways induced by SEB in human Peripheral Blood Mononuclear Cells (PBMCs). Here we try to assess the effectiveness of the specific inhibitor of p38 as a diagnostic marker by investigating alterations to the known SEB gene and protein profiles. Our research will also allow us to evaluate the efficacy of the components in a time dependent manner. Our strategy is to compare gene expression profile of SEB to the p-38 inhibitor (SB203580) by using Reverse Transcription Polymerase Chain Reactions (RT-PCR). We will also utilize Enzyme linked ImmunoSorbent assays (ELISA) to confirm the effect of p-38 inhibitor on the set of genes by analyzing the protein expression pattern. Comparison of the two gene profiles (with and without the inhibitor) together with the protein profiles will allow us to validate the effectiveness of the p38 inhibitor as a potential diagnostic marker in SEB induced human PBMCs.

P075 River Heights Elementary School Project
Amelia Treptow, Melanie Meidl
UW-Stout, Design
Advisor: Glendali Rodriguez
Great Hall – Session 1 10:45 AM – 11:45 AM

As students of an Architectural Design I class, we started researching and participating in the schematic design of a playground for a local elementary school. Our class met with the parents a few times to figure out specifically what they wanted and then we took that information, researched it, and presented our findings to them. When the class ended we knew that we wanted to see the project to the end. Originally, our goal was simply to write a few grants for an Honor’s Contract. After we attended another school board meeting, we learned that our goal was going to be much larger! The School Board had found a company, Leathers and Associates, to help us out. The company told us that we would have a design done in February and it would be built in October. We are now continuing with the project by helping design brochures, come up with fundraising ideas, coordinate food for volunteers, along with writing a few grants. Through this process, we will be researching effective ways of fundraising, motivating, and coordinating people, along with how to properly write grants. When we present at the Symposium this project will still be in process.

P076 Designing a Fish Market as a Catalyst for Improving Quality of Life
Amanda Gresen
UW-Milwaukee, Architecture
Advisor: Dr. Kapila Silva
Great Hall – Session 1 10:45 AM – 11:45 AM

The current fish market located on the beach/land border in the ancient Dutch Fort of Negombo, Sri Lanka is an important node for social gatherings and a necessary food source. The condition of the architecture for the market isn’t being developed as an additional area of beauty to the coastline but is a collection of small shanties littered on the beach. This has negative implications for the tourist industry, which is the next most significant economic activity of the town. The economy based on integrated tourism and fisheries would have the likelihood to bloom into something that would improve the living quality within the town. With the intention of achieving this goal through design means, this design study investigates how to create an environment that is interactive in many respects – tourism and fisheries; live, work and recreation; sea and land; local and global; and traditional but contemporary. The lengthy process of moving the fish from the boat, auctioning them off, and then selling them within the market can be enhanced through architecture and become a tourist highlight. This presentation will include the theoretical approach adopted in the design inquiry along with illustrations.

P077 The Marketplace as a Community Gathering
Generator: A Design Study in Sri Lanka
Ahicar Cruz
UW-Milwaukee, Architecture
Advisor: Dr. Kapila Silva
Great Hall – Session 2 12:35 PM – 1:35 PM

The city of Negombo in Sri Lanka is facing issues of rapid growth which is aggravated by a lack of a proper master plan. Some areas of town are left as forgotten pockets by the city administration. For example, the three outdoor markets located at the edge of the Old Dutch town are disconnected and marginal. Here, there is a need to create a more solidified place definition and in turn a place of gathering for the
P079 Historic Preservation of Local Architecture – Stevens Point, Wisconsin
Jennifer Hunt, Jamie Karoses
UW-Stevens Point, Interior Architecture
Advisor: Donna Zimmerman
Great Hall – Session 2 12:55 PM – 1:55 PM

The historic Downtown of Stevens Point, Wisconsin was accepted into the Main Street program in 2005. This program sets the stage for improvement through architectural preservation and small business development. As a part of this program, a tourism brochure for the city was developed. The brochure is an improved version of a previous brochure created in 1973 and includes an extensive assessment and documentation of the architecture of selected historic buildings. The project brought together several organizations within the university and the city towards a common goal. The assessment was accomplished through photograph documentation, historical research, interviews, and archival work. The brochure hopes to generate a new appreciation of architecture and history of the city while attracting more visitors to the historic downtown area. It will also promote local independent businesses as another avenue for advertising and may even encourage new businesses. The brochure is distributed for the use of many residents and visitors in Stevens Point as well. Overall, this project will create a positive impact by attracting attention and generating revenue to the downtown district that struggles like many Main Streets in the United States.

P080 Will the Internet Transform Contemporary Campaigning or Sustain the Status Quo?
Aaron Weinschenk
UW-Green Bay, Political Science
Advisor: Dr. Terri Johnson
Great Hall – Session 1 10:45 AM – 11:45 AM

In the United States, elections are the cornerstone of the democratic process. It is through elections that people have the opportunity to evaluate and select those who will best represent them. During elections, candidates use the tools of campaigning to shape voters' decisions. If democracy rests on elections and elections are about campaigning, one must understand campaigning in order to understand democracy. Since the inception of the American republic, political candidates have campaigned in some form. In the beginning, candidates often wrote letters to voters or published articles in newspapers. Later, when the television became more commonplace, it became the centerpiece of political campaigns. Today, a new medium for candidates has emerged—the Internet. The Internet offers political candidates a new way to communicate with people; however, research regarding its impact on campaigning is still in its
infancy. This project will present a summation of works that have examined campaigning via the Internet and will answer the questions: Why does the use of Internet technology fit into political campaigns? and What impact will the Internet have on modern campaigning? It will also identify trends regarding online campaigning, consider online campaigning in the context of the democratic process and American political culture, and speculate where future research and online campaigning might be headed.

P081 Colonial Influence on Civic Values in Post-colonial Africa
Stephen Hilger
UW-Eau Claire, Political Science
Advisor: Dr. Obika Gray
Great Hall – Session 2 12:55 PM – 1:55 PM

The post-colonial state, regardless of efforts made by the native citizenry to change in the contrary, has been deeply affected by the policies of their previous colonial power. This paper investigates the intangible effects that the former colonial power’s administrative policy has implemented onto the held values and beliefs in contemporary African civic society. Three different colonial policies are investigated, French colonial policy in Mali, traditional British African colonial policy in Nigeria, and British Dominion policy in South Africa. Six questions that cover a wide array of civic society subject matter and corresponding data provided by the Afrobarometer Research Group are tested with quantitative formulas, such as Cramer’s V for relationships between prior colonial power and African civic opinion. The results of the research advocate that relationships between African opinion and prior colonial policy do exist, particularly in the rejection of traditional rule, and who is thought to be responsible for providing housing in society. The findings of this paper assist in identifying the causes of problems facing democratization and development in contemporary post-colonial Africa.

P082 Nantucket Quaker Women: Prelude to American Freedoms and Women’s Rights
Elizabeth Limburg
UW-Green Bay, History
Advisor: Dr. David Voelker
Great Hall – Session 1 10:45 AM – 11:45 AM

While interning for the Maria Mitchell Association in Nantucket, Massachusetts, I had the opportunity to carry out research on the Quakers’ significant growth and impact on the island. My research developed into an independent study on “Nantucket Quaker Women: Prelude to American Freedoms and Women’s Rights,” for which I used numerous primary source journal entries, archival research, historical journals, and a significant numbers of scholarly secondary sources. Quaker women epitomized the values and actions needed for the future development of individual freedoms and respect, arguing for the equality of all individuals regardless of gender or race. More specifically, Nantucket Quaker women relied on their faith and beliefs for the self-confidence they needed to pursue gender equality, women’s rights, and abolition of slavery. Elizabeth Hooton, George Fox, Margaret Fell, and William Penn initiated the rise of Quakerism in England and the American colonies by creating a set of morals and beliefs that empowered women and influenced the individualistic confidence needed to shape the nature of American rights. The Quaker inner-light ideology laid the foundation that Mary Starbuck, Maria Mitchell, and Lucretia Mott relied on for strength and encouragement. These prominent Quaker women influenced women’s movements that solidified numerous rights women freely practice today.

P083 Hmong Americans and Politics: A Community Project to Increase Political Participation
Jim Lee, Cheng Lee, Xue Lee, Chia Xiong, David Her
UW-Marathon County, Political Science
Advisor: Dr. Eric Giordano
Great Hall – Session 2 12:55 PM – 1:55 PM

Many Hmong Americans who have arrived in the United States in the last few decades have had a difficult time becoming actively involved in political processes due to language barriers, difficulties obtaining citizenship, and a general belief of not being able to make a difference politically. As a result, they may be less likely to vote and participate in political activities generally. Our presentation will explore Asian American political participation nationally and compare findings with a local survey of Hmong American participation in the 2004-2006 elections. The "Marathon County South East Asian Political Participation Survey," completed in October 2006 by Kids Voting USA - Wisconsin, will serve as the local benchmark. Based on an analysis of the data, we present a community-based initiative to increase the political participation of the target Hmong population. The project involves a collaborative effort by university students, researchers, government leaders, Hmong community leaders, businesses and non-profit organizations, and others to help design and implement future programming. Our presentation will explain the design and rationale of the proposed program, which will be implemented prior to the 2008 elections.
**P084 Quantitative Analysis of MySpace and the Changing Domain of Adolescent Social Development**
Rebecca Mathias  
UW-Eau Claire, Criminal Justice  
*Advisor: Dr. Justin Patchin*  
*Great Hall – Session 1 10:45 AM – 11:45 AM*

Online social networking has exploded into popularity in recent years. Adolescents and young adults have flocked to these sites, such as MySpace.com, and embraced the technology into their social lives. With adolescence being such a crucial time in the development of personality this sudden change in social networking has led to many questions about how it may influence social development. MySpace profiles were randomly selected and adolescent profiles were analyzed for certain information. The information sought after included, but was not limited to, first names, last names, birthdates, telephone numbers, addresses, and any indications of adult-like behaviors. The information gathered from approximately 1500 adolescent MySpace profiles indicated that many adolescents divulged gender, pictures, and adult-like behaviors on their public profiles. These findings were compared with classical social and personality development theories, coming to a conclusion about the changing trends in the development of today’s adolescents. These results may help explain why youth tend to flock to online social networking sites, and give answers, information, and advice for parents to protect their children, while still allowing them to use this new form of social interaction.

**P085 The Effects of Youth Bullying on Depression and Suicidal Ideation**
Joseph Bohmbach  
UW-Eau Claire, Criminal Justice  
*Advisor: Dr. Justin Patchin*  
*Great Hall – Session 2 12:55 PM – 1:55 PM*

A fair amount of research has been conducted to explore the linkages between youth bullying involvement and its effects on depression and suicidal ideation. This presentation organizes the relevant data, forms some general conclusions regarding the stronger relationships in the research and hypothesizes about what the implications will be for bullying in cyberspace, a new method of choice for juveniles who desire to victimize their peers.

**P086 Abraham Lincoln's Relationship with His Civil War Generals**
Shannon Doty  
UW-Oshkosh, Political Science  
*Advisor: Dr. David Siemers*  
*Great Hall – Session 1 10:45 AM – 11:45 AM*

Long considered one of America's greatest presidents, Abraham Lincoln's political ideals were that of a hands off Executive. Were his Whig ideals upheld during the civil war and can we see evidence supporting or not supporting this idea through his correspondence with his generals? Studying the correspondence between President Lincoln and the Union generals I will hope to show the type of relationship he had with his military leaders. This research is still in progress. The questions I am looking to answer are: Was he a Commander in Chief that listened to his generals or dictated to them? Did they have an open and two way communicative relationships or did one side dictate how the relationship was? My conclusion will focus on whether Lincoln had to abandon his Whig ideals to conduct a successful military campaign, or was he able to hold to his political ideals during the hard war.

**P087 Remodeling Industrial Buildings: Vernacular/High Style or Modern?**
Devin Little  
UW-Milwaukee, Architecture  
*Advisor: Dr. Kapila Silva*  
*Great Hall – Session 2 12:55 PM – 1:55 PM*

A key theoretical question in the study of vernacular design is the definition of vernacular itself; what buildings can be called vernacular and what are not vernacular or high-style designs. This question gets more complicated when one considers the situation where seemingly vernacular building stock is remodeled into contemporary living through high-style design intervention. Should we now call these buildings ‘non-vernacular’? Do people realize that these buildings were once industrial or office buildings? Based on the newly remodeled industrial vernacular buildings into luxury loft houses in Milwaukee, this study looks into the issue of defining vernacular designs in a modern day context. Some key attributes that I will look at is how these buildings have gone through a process of being used for business/industry into living units and how the architect or developers choose to reuse these buildings in a new unique style of architecture. In addition, it may be useful identify how these buildings are being brought up to standard codes of today. I go through a process of interviews involving developers, architects, and residents to find out the design processes behind the remodeling and understand how people feel towards this reuse of buildings and how they define these buildings in terms of vernacular or high-style or hybrid.
The study attempts to define the imageability of the UNESCO World Heritage City of Guanajuato, Mexico and how it is related to the preservation of its cultural heritage. The study attempts to identify various aspects that define Guanajuato’s imageability in terms of (a) overall sense of the city or “city sense”; (b) core-dimensions of the city sense; (c) risk-factors that are detrimental to the city sense; and (d) understanding both significant physical features and symbolic meanings associated with the city and its features. Research followed a qualitative case study since it focused more on the residents’ perceptions of the city. Multiple sources of data that included archival, interview, observation, and photo documentation of the city were also collected. Findings revealed that Guanajuato has definable imageability and a strong city sense, which is derived collectively by the core-dimensions of the city sense, i.e., senses of historic solemnity, scenic serenity, and community. Findings also revealed that these core-dimensions are developed from both tangible and intangible attributes found in the city and its surrounding context. The study argues that this collective sense of the city must be understood and promoted through the city’s development and preservation programs.

P089 Modine Military Vehicle Market Study
Zak Smith, Sabha Museteif, Eric Schultz, Nicole Norris, Thad Gabron, Oluwabukola (Harrison) Idowu
UW-Parkside, Business
Advisor: Brad Piazza
Great Hall – Session 1 10:45 AM – 11:45 AM

Modine Manufacturing Company (Modine) is a for profit organization that has been in business for 90 years. The North American headquarters of Modine is located in Racine, Wisconsin. They are world leaders in thermal management, and their products are related to heating and cooling equipment for commercial and home usage. Modine designs, tests, engineers, and manufactures heat transfer products for a wide range of markets. Though Modine’s products are widely used in the commercial and home sectors, Modine has very limited presence in the military market. The primary business driver for this project is for Modine to understand the opportunities in the global military vehicle market by locating the key customers, competitors and performing extensive market analysis. The main objective for this project was to identify potential customers and competitors around the world in the military vehicle market as well as determining the market size and segments.

The objective was accomplished by: 1) identifying the military vehicle market size and segments produced by different global regions, 2) identifying the powertrain cooling, engine cooling, passenger thermal cooling needs for the military vehicle market, 3) identifying the heat-transfer competitors and products being offered and their market share for each segment and 4) performing a market analysis using the data gathered from the research.

P090 Self-Assessment Tool For Choosing A Major in Health and Aging Service Administration
Rebecca Westbrock, Douglas Olson
UW-Eau Claire, Health Care Administration
Advisor: Dr. Jennifer Johns-Artiseni
Great Hall – Session 2 12:55 PM – 1:55 PM

Health and Aging Services Administrators must have a broad base of knowledge, skills and interests to provide leadership and be successful in managing a fiscally responsible, quality health care organization. Researchers developed a self-assessment tool to help determine whether a health and aging services administration major is a compatible fit for someone. With input from professionals in the field and in context with the literature, an initial tool has been developed that focuses on the following 10 characteristics necessary for effective leadership: Organization, Critical Thinking, People Skills, Attitude, Confidence, Communication, Visionary Leadership, Sense of Caring, Change Agent, and Business Sense.

P091 Potential Consumers Over-Generalize Product Information from Authoritative Sources
Grant Michelsen-Pierce
UW-Stout, Psychology
Advisor: Dr. Peizhong Li
Great Hall – Session 1 10:45 AM – 11:45 AM

Advertisers often emphasize the most unique feature of a product. One automobile may be promoted for its safety, the other for its style or comfort. Consumers’ purchasing decisions may be based on the feature highlighted in the commercial, as well as other features. This research shows that when the information comes from a credible authoritative source, the positive feature emphasized in a commercial influences potential consumers’ impression of the product on dimensions irrelevant to it. Participants received a print commercial about an automobile and rated the product’s safety, style and comfort. Some participants were given an authoritative source, the others a non-authoritative source of the information. Within the high and low authoritativeness groups, participants received information indicating either strong or weak safety features. Results show that when the information comes from an...
authoritative source (but not when the source is non-authoritative), strong safety features not only lead people to believe the vehicle is safer, but also more stylish and comfortable. Information from authoritative sources about one of the product’s features influence consumers’ perception of other features.

**P092 “I can't refuse to help you, but we can”**
Jordan Wheeler
UW-Stout, Psychology
Advisor: Dr. Peizhong Li
Great Hall – Session 2 12:55 PM – 1:55 PM

People frequently receive requests for help from those in need and distress. Sometimes these requests appeal to one’s individual identity. At other times, they appeal to one’s group (e.g., as a compassionate community). How do group and individual identities influence people’s willingness to help? This research demonstrates that refusing to help is more readily adopted as a group attitude than an individual attitude. Group and individual identities are important aspects of the self. It is difficult for one to dissociate from one’s individual identity, simply because of lack of alternatives. However, as a member of multiple groups (e.g., gender, race, organizational affiliation and etc.), one is capable of strategically identifying with and dissociating from each group. If a particular group membership is associated with lack of altruism (or any other negative characteristic), one can protect one’s personal identity by dissociating from it. In the experiment (N = 79), college students expressed stronger intention to refuse to help victims of a natural disaster when the request was directed to their group (the student body) than to themselves individually.

**P093 College Student’s Attitudes About Cohabitation: From an Intact or Divorced Family of Origin**
Kathryn Allen, Brittany Evert
UW-Stout, Human Development and Family Studies
Advisor: Dr. Susan Wolfgram
Great Hall – Session 1 10:45 AM – 11:45 AM

Cohabitation is on the rise in the United States. According to the U.S. Census Bureau the number of non-married households has risen by 2.3 million from 1990 to 2000 and continues to grow (Simmons & O’Neill, 2001). This study investigated attitudes of college students from a small Midwestern university who come from either a divorced family of origin or an intact family of origin on the subject of cohabitation. It is hypothesized that both groups will have similar attitudes about cohabitation based on Family Ecological theory. Cohabitation has become almost mainstream for many Americans due to it being such an influential societal trend. Survey data will be statistically analyzed using frequencies, cross-tabulations, mean comparisons, and a reliability analysis. Implications for practitioners and future research will be addressed.

**P094 Offender Perspectives on Being Able to Access Rehabilitation Services**
Nicholas Kohl, Katelynn Rindahl
UW-Stout, Human Development and Family Studies
Advisor: Dr. Susan Wolfgram
Great Hall – Session 2 12:55 PM – 1:55 PM

Recidivism is high in this country regarding repeat criminal offenders. The literature found on this subject supported our idea of the need for rehabilitation in and out of the jail system. To prevent recidivism there needs to be more rehabilitation services available to inmates while they are incarcerated and after they are released. This study investigated the attitudes of offenders in a northwest Wisconsin county jail regarding their perspectives on the accessibility of rehabilitation services both in and outside of jail. Based on the literature it is shown that there are steps being made to implement rehabilitation services into inmate’s jail time, but there still isn’t enough being done to help this delicate population. It is hypothesized that to prevent offenders from re-offending there needs to be rehabilitation services in place. Currently there are not many services and that is why there is so much recidivism among criminals. Based on the Family Ecology Theory many of these offenders don’t have the means or funds to provide themselves with rehabilitation services after they are released. Survey data will be statistically analyzed using frequencies and a reliability analysis. Implications for practitioners and future research will be addressed.

**P095 What Are The Attitudes of College Males Toward The Shift in Traditional Female Gender Roles?**
Danielle Larson, Alyson Jensch
UW-Stout, Human Development and Family Studies
Advisor: Dr. Susan Wolfgram
Great Hall – Session 1 10:45 AM – 11:45 AM

Gender roles among women and men are rapidly changing in society; how are young adult males accepting the changing female gender roles? In the past, individuals chose a mate based on the assumptions that they would fulfill certain roles to compliment their own strengths in a relationship. Males would generally be the breadwinner and females would occupy the role of homemaker. This study investigated attitudes about changing female gender roles by surveying male college students at a small, Midwestern college. It is hypothesized that those males surveyed will have negative attitudes toward the shift in traditional female gender roles. Survey data will be statistically analyzed using frequencies
and a reliability analysis. Implications for practitioners and future research will be addressed.

P096 College Students Attitudes on the Causes of Infidelity
Kaisa Lee, Jamie Koss
UW-Stout, Human Development and Family Studies
Advisor: Dr. Susan Wolfgram
Great Hall – Session 2 12:55 PM – 1:55 PM

Infidelity is a problem in today’s society associated with instability in relationships and the high divorce rates. The study consisted of 23 male and female students at University of Wisconsin Stout. It was hypothesized that males would perceive sexual attraction as a primary cause of infidelity while females would perceive relationship dissatisfaction as a primary cause. Survey data was statistically analyzed using frequencies, cross-tabulations and a reliability analysis. The results show similarities and differences significant to our hypothesis. Our findings supported the literature and hypothesis in that more males viewed sexual attraction as a primary cause of infidelity and more females viewed relationship dissatisfaction as a primary cause. It is hoped that the problematic issue of infidelity will be looked into further and taken into account when working with couples in committed relationships. It is important for practitioners to be aware of the problems infidelity causes in relationships and further researchers could investigate root causes for preventative and proactive actions.

P097 Adventure Girls: A Holistic After-School Program for Vulnerable Pre-Adolescent Girls
Hannah Jones, Anne Marie Wilhelmy
UW-Eau Claire, Sociology
Advisor: Dr. Deb Pattee, Pam Forman(co-Advisor)
Great Hall – Session 1 10:45 AM – 11:45 AM

This after school program provides an intervention for vulnerable 5th-7th grade girls at Longfellow Elementary School and DeLong Middle School, each which serves the largest percentage of low income families and English Language Learners in the school district. The program offers a holistic approach to their physical, intellectual, emotional, and social needs. We also emphasized building self-esteem, teaming, and leadership skills. Our qualitative research consisted of participant observation, which involved field notes based on observations and a concluding focus group with the girls, which were videotaped and transcribed. Through the observations and focus groups, we found that the students increased self-esteem, cooperation, and leadership skills. Additionally, the girls noted making new friends, taking more chances, becoming aware of their own strengths and weaknesses, and challenging themselves through their weekly “adventures.” The use of after-school programs with vulnerable, pre-adolescent girls positively enhanced their self-esteem, cooperation, and leadership skills. The positive outcomes of this program have motivated us to continue to work with the same group as they move through their middle school experience. This curriculum will continue to grow with them, targeting alcohol awareness, peer pressure, bullying, and body image.

P098 Reading Between the Lines: a Non-linear Model for Examining How Personality Shapes Cultural Identity Across Different Social Groups
Victoria Oxendine
UW-Green Bay, Psychology
Advisor: Dr. Regan Gurung
Great Hall – Session 2 12:55 PM – 1:55 PM

This study proposes a non-linear model for examining cultural identity. While we acknowledge that multiple influences on identity development occur, such as genetics and environment, current studies do not explain the fluctuation of identity and its variance by context. We believe that, while fluctuation in identity over the lifespan takes place, the fluctuation exists within a relatively confined framework, shaped by one’s personality traits. In other words, we see cultural and self-identity as ever adapting, yet existing within the parameters of the individual’s persona.

P099 Discounting of Gains and Losses in College-aged Gamblers and Non-gamblers
Matt Newquist, Kira Sahlhoff, Daniel Holt, Sara Estle
UW-Eau Claire, Psychology
Advisor: Dr. Daniel Holt
Great Hall – Session 1 10:45 AM – 11:45 AM

Using a decision-making task, previous research has found that college-aged gamblers treat probabilistic outcomes differently than their non-gambling peers. That is, the gamblers were more risk-taking (Holt, Green, & Myerson, 2003). That same research found that college-aged gamblers and their non-gambling peers’ choices were indistinguishable in terms of delayed outcomes. Taken together, these findings suggest that ‘impulse control’ problems do not necessarily include both an inability to delay gratification and a tendency to take more risk. The current study extends this research to choices involving losses as outcomes. Both gambling and non-gambling college students completed a computer-based decision-making task where they chose between hypothetical monetary payments that differed with respect to delay or probability. Results from the current study (losses) will be compared to results from the previously published research (gains) with regard to our understanding of ‘impulse control’ problems.
P100 Effects of FDA Warnings on Teachers’ Attitudes and Referrals for Stimulant Medications
Courtney Wood
UW-Eau Claire, Psychology
Advisor: Dr. William Frankenberger
Great Hall – Session 2 12:55 PM – 1:55 PM

The purpose of this study is to examine information related to 1) determination of the effectiveness of warnings about sudden death, cardiovascular problems, and psychotic effects for stimulant medications recommended by the FDA, 2) identification of teachers’ attitudes about stimulant medication in light of the warnings, and 3) determine if warnings related to side effects have an impact on teachers’ willingness to recommend stimulant medication as an initial treatment for ADHD. Participants were preservice teachers from a midwestern university.

P101 Comparison of Psychosocial and Biological Approaches to Stigma Reduction for Depression
Dana Hirn, Laura Rusch (not attending), Jonathan Kanter (not attending)
UW-Milwaukee, Psychology
Advisor: Nigel Rothfels
Great Hall – Session 1 10:45 AM – 11:45 AM

The majority of stigma reduction programs for depression are based on the biological model of depression. Alternately, a psychosocial model suggests that depression is predominately a function of how one interacts with the environment. Research suggests that the latter may be a more effective approach to reduce stigma. It was hypothesized that a stigma reduction program for depression based on the psychosocial model would be more effective in reducing stigma than would a program based on the biological model. The results from the current study partially supported this hypothesis. Specifically, these models have a differential effect in that perceived causes of depression influenced the effectiveness of the programs, especially the biological presentation. Additional research is necessary to examine this phenomenon.

P102 Behavioral Consequences of Dexamethasone Administration in a Rodent Model of ADHD
Vera Pochtarev, Briana Schuler-Tompkins, Dan LeTendre
UW-Milwaukee, Psychology
Advisor: Dr. Rodney Swain
Great Hall – Session 2 12:55 PM – 1:55 PM

Attention Deficit Hyperactivity Disorder (ADHD) affects 5-10% of all children in the United States. Unfortunately, our attempts to treat this condition are hampered by our poor understanding of the brain abnormalities that underlie this condition. Recently, several animal models have been developed which display neurological features of ADHD. However, it is still unknown if these model systems yield behavioral symptoms commonly observed in humans with ADHD. The purpose of the present experiment is to measure behavioral changes in one ADHD model known as cerebellar stunting. Cerebellar stunting is induced by injection of the synthetic glucocorticoid, dexamethasone. When administered to rat pups seven days after birth, this drug actively targets and destroys migrating neurons in the cerebellum and hippocampus. Thirty days after injection with dexamethasone or saline (both drugs administered subcutaneously in the morning and afternoon at a dosage of 1.5 mg/kg), 24 rats will be tested for spatial learning deficits on the Morris Water Maze, hyperactivity on running wheels, and alterations in social interactivity in an open field environment. We hypothesize that animals that receive dexamethasone during early postnatal development will acquire spatial knowledge more slowly, will be more active on running wheels, and will interact less with litter mates than will animals that receive saline injections. Our experiment will provide valuable information regarding the viability of cerebellar stunting as a model system for ADHD.

P103 A Single-Subject Application of FAP Enhanced Behavioral Activation (FEBA) to Non-clinical Relationship Difficulties
Laura Turner
UW-Milwaukee, Psychology
Advisor: Dr. Jonathan Kanter
Great Hall – Session 1 10:45 AM – 11:45 AM

Behavioral Activation (BA) is a well known treatment for depression seeking to actively engage individuals in their lives and to resist avoidance. Functional Analytic Psychotherapy (FAP) is another treatment focusing on interpersonal relationships and therapist in-vivo contingent responding to client behavior. FAP Enhanced Behavioral Activation (FEBA) is a combination of these two treatments and is applied to relationship difficulties. To study this treatment, couples of at least 6 months were recruited through undergraduate classes. Participants chose one member of the couple to receive 8 50-minute sessions of relationship coaching (i.e., FEBA). Prior to and following treatment, both members of the couple completed self-report measures of emotion, psychological distress and relationship functioning, and were measured on physiological arousal during a conversation with each other’s romantic partner. Session by session data from one member of the couple along with pre-and post-treatment physiological arousal and questionnaire data from both members will be presented. This innovative design allows for a test of generalization of improvements from the member of the couple attending coaching to the member who did not attend.
P104 Affiliation: Our View of Others Compared to Our View of Selves
Amanda Bohn, Jennifer Kohls, Jennifer Ellner, Kyle Klug
UW-Oshkosh, Psychology
Advisor: Kathleen Stetter
Great Hall – Session 2 12:55 PM – 1:55 PM

Self-perceived body image and likelihood of affiliation with people of different or similar body types is a combination of ideas from previous studies. Former studies were examined the positive and/or negative affect from viewing images of varying models, not affiliation itself. Thirty-eight women rated 12 various sized models, 6 being targets, on affiliation preference, attractiveness, health, and wealth. Pictures were then grouped into 3: 1 thin, 1 medium, and 1 heavy, and participants selected with whom they would rather affiliate. Finally, participants completed a self-esteem/body image survey. Analysis of variance indicated that participants rated smaller models as more attractive, healthier, wealthier, and more preferred for affiliation (p < .05). A significant positive correlation between self-body score and forced choice indicated that larger women preferred to affiliate with larger models. A significant positive correlation between self-body score and body-image score indicated that persons with a smaller perceived body score had a better body-image score and higher self-esteem. The overall results confirmed that the thin-ideal in American society not only relates to attractiveness, as others have previously supported, but also to preference for affiliation.

P105 Scent Effectiveness on Relaxation, with Limited Forewarning, on Test Performance
Frank Buelow, Patricia Wood
UW-Oshkosh, Psychology
Advisor: Tammy Kadah-Ammeter
Great Hall – Session 1 10:45 AM – 11:45 AM

Research has been performed on varying levels of anxiety and test performance, as well as scent effects on mood. Our study combined these areas to determine if scent alleviates anxiety during testing with limited forewarning. Experimentation was performed on 72 undergraduates using a 2 x 2 x 3 (Scent x Trait x Instruction) design. Participants’ materials were investigated. Their state and trait anxiety levels were measured and they completed 10 logic questions from a previously administered GRE. Data was analyzed with the completely randomized factorial analysis of variance with an alpha level of .05. There was a significant difference between participant’s trait anxiety level for mean GRE test score. There was also a significant difference in trait anxiety level for mean state anxiety level, but scent had limited effect. With these findings, we conclude that a person’s trait anxiety and state anxiety are congruent and have an effect on a person’s performance.

P106 Attitudes Toward Sexual Permissiveness, Relationships, and the Opposite Sex
Shannon Wienen, Amber Salzwedel
UW-Oshkosh, Psychology
Advisor: Dr. David Lishner
Great Hall – Session 2 12:55 PM – 1:55 PM

Attitudes toward sexual permissiveness after exposure to explicit and non-explicit materials were investigated. Undergraduates ranging from ages 18-38 years were tested. Data was analyzed using a 2 x 2 (Vignette x Prime) completely randomized factorial analysis of variance for mean attitude scores. Data was compared to participants’ results of the Bem Androgyny Test. Participants who read non-explicit vignettes about committed couples were expected to have overall lower Sexual Attitudes Scale mean scores. This hypothesis was not supported. Overall, the non-committed story prime means were significantly higher for the sexual attitudes scale than the committed story prime. In the future violence could be an additional independent variable that may be import to this research.

P107 On- and Off-Campus Social Support as Depression Mediators in College Students
Amy Shemberger
UW-Parkside, Psychology
Advisor: Dr. Herbert Calston
Great Hall – Session 1 10:45 AM – 11:45 AM

College students commonly experience generalized depression symptoms during their studies. Depression of this sort can often be mediated, at least in part, by social support. Less is known, however, about the relative ability of on-campus versus off-campus social support for mediating depression in college students. The following study sought to evaluate the relative ability of these two kinds of social support to mediate depression. Thirty-four University of Wisconsin-Parkside undergraduates completed a battery of tests that evaluated, 1) their degree of social support both on- and off-campus, and 2) their degree of generalized depression symptoms. Both constructs were evaluated with multiple converging measures. The results revealed a moderate degree of mediation from the two sources of social support, with the on-campus support emerging as the stronger of the two. The results are considered in terms of several possible causal connections, 1) college life typically involving a transition from more family-based social support to that based upon friends, 2) the shared experiences among fellow college students, and 3) a growing sense of continuity and self-esteem.
independence among college aged individuals. Suggestions for further research are offered.

P108 The Perception of Race: Black vs. White
Mallorie McDowell
UW-Platteville, Psychology
Advisor: Dr. Theresa Parsons

Great Hall – Session 2 12:55 PM – 1:55 PM

Society bases its implications of others largely on appearance, and race is one of the most perceptible cues in terms of physical exterior. It is evident that one’s race plays a major role in how they are perceived. Unfortunately, society tends to depict certain races very differently. Due to strong historical negative implications towards certain races the development of stereotyping has occurred as a way of connecting certain characteristics with certain skin colors. Due to the implications of past research and current concerns about the influence and amount of negative attitudes directed towards African Americans, an investigation examining whether skin color affects perception has occurred. Participants were asked to complete a 25 question original survey. Each survey was paired with one picture of an African American or a Caucasian individual. In order to analyze the data an ANOVA was conducted. A significant main effect for race was obtained. This can be contributed to racism and negative stereotypes that still exist. It is obvious that this is a vast problem in today’s society that enables people of color from receiving the same respect, cooperation, and opportunities that others are able to receive.

P109 Desensitization to Violence: Do Violent Video Games Have an Effect?
Matthew Jenks, Chelsea Treiber, Justin Aoki, Veronica Sweeney
UW-Stout, Psychology
Advisor: Dr. Richard Tafalla

Great Hall – Session 1 10:45 AM – 11:45 AM

Previous correlational research has shown greater desensitization to violence with those who play more violent video games (Funk, Baldacci, Pasold, Baumgardner, 2003). This study was conducted to determine whether more realistic violent video games produce greater physiological, emotional and behavioral desensitization than less realistic games. Subjects played either a new version of a violent video game (DOOM3) an old version (Doom) a non-violent video game or no game control. Behavioral desensitization was determined by subject’s performance on a second violent video game and self-reported violence. Emotional desensitization was determined by self-report of empathy and physiology was determined by blood pressure, heart rate, respiration and galvanic skin response. Data collection is in progress, but it is hypothesized that the newer more realistic game will produce the greatest behavioral, emotional and physiological desensitization.

P110 Recycle Mania at the University of Wisconsin-Stout
Jenna Haroldson
UW-Stout, Psychology
Advisor: Krista James

Great Hall – Session 2 12:55 PM – 1:55 PM

Recycle Mania is a competition among college and university programs in the United States that provides campus communities with a creative opportunity to promote recycling awareness. It is organized and operated by university recycling coordinators and endorsed by the U.S. Environmental Protection Agency's Waste Wise program, the National Recycling Coalition’s College and University Recycling Council (CURC), and the National Wildlife Federation’s Campus Ecology Program. Over a 10-week period, the UW-Stout campus competed against other registered college campuses across the nation to determine which institution collected the largest amount of recyclables per capita, the largest amount of total recyclables, or had the highest recycling rate. Each week during the competition, recycling statistics were submitted online to the Recycle Mania competition coordinator. In order to promote this competition at UW-Stout, an inter-campus student committee was formed. Committee members recruited volunteers from each residence hall to increase the awareness of this event. Creative advertising and inter-residence hall competitions were among the tools used to accomplish this goal.

P111 Children's Comprehension of Kinship Terms for Blended Families
Adie Presto, Emily Krahm
UW-Eau Claire, Communication Sciences and Disorders
Advisor: Dr. Kristine Retherford

Great Hall – Session 1 10:45 AM – 11:45 AM

The purpose of this study is to examine children's comprehension of kinship terms relating to blended families. Specifically, this data will determine when children acquire the following blended-family kinship terms: step-mother, step-father, step-sister, step-brother, step-daughter, step-son, half-brother, and half-sister. Children, ages four to eight, first will be pre-tested on their knowledge of the following nuclear family kinship terms: mother, father, sister, brother, daughter, and son. Then they will be tested on their knowledge of blended-family kinship terms. A combination of a cloze procedure responses and open-ended questions
with visual support of doll families will be used for both inventories. Lastly, a questionnaire will be completed to determine participants’ family compositions.

P112 Student Perspectives on Childbearing and Impact on Marriage: Gendered Differences?
Michelle Lopes-Serrao, Ann Haas
UW-Stout, Human Development and Family Studies
Advisor: Dr. Susan Wolfgram
Great Hall – Session 2 12:55 PM – 1:55 PM

Abstract Research has demonstrated that students of both genders wanted to have children by the age of twenty nine (Kaufman, 2002). This study investigated the attitudes of male and female college students on a small Midwestern campus about the impact of early or late childbearing on a marriage. Based on the literature it is hypothesized that no gender differences will be found. Survey data will be statistically analyzed using frequencies, cross-tabulations, mean comparisons, and a reliability analysis. Implications for practitioners and future research will be addressed. *Key Words: Child-bearing: The act of producing or bringing forth children (Webster’s Third New International Dictionary, 2003). Family Development Theory: Emphasizes pattern changes that occur in families through stages and across time (Cohen, T., DeVault, C., Strong, B.,(2005).

P113 International Adoption: Adoptive Parent Challenges
Dena Moore, Katherine McKevitt
UW-Stout, Human Development and Family Studies
Advisor: Dr. Susan Wolfgram
Great Hall – Session 1 10:45 AM – 11:45 AM

Since the early 1970’s, over 300,000 children have been adopted internationally (Lee, Grotevant, Hellerstedt, Gunnar, and The Minnesota International Adoption Project Team, 2006). This study investigates attitudes of adopting parents from a small Midwestern sample, all of whom have adopted internationally. The sample will be surveyed about their unique challenges. Based on the Social Exchange theory, it is hypothesized that the benefits of adopting internationally will outweigh the challenges or the costs. Survey data will be statistically analyzed using frequencies and a reliability analysis. Implications for practitioners and future research will be addressed.

P114 Optimistic Outlook on Reducing Juvenile Crime
Amanda Plourde, Brittany Bohle
UW-Stout, Human Development and Family Studies
Advisor: Dr. Susan Wolfgram
Great Hall – Session 2 12:55 PM – 1:55 PM

Juvenile delinquency is on the rise with alarming rates. This study investigated the attitudes of resident counselors at a residential treatment center for juveniles in Northwestern Wisconsin regarding what factors contribute to the delinquency of a juvenile. Based on the literature it is hypothesized that group home workers will agree when saying that adolescents who spend leisure time in structured activities, who have a role model, have authoritative parents or parent and have respect for authority are less likely commit crime. Survey data will be statistically analyzed using frequencies and a reliability analysis. Implications for practitioners and future research will be addressed.

P115 Relationships Between Children and Their Non-Custodial Parent
Melissa Schamens
UW-Stout, Human Development and Family Studies
Advisor: Dr. Susan Wolfgram
Great Hall – Session 1 10:45 AM – 11:45 AM

For most children, divorce brings a dramatic change to their lives, and the most painful of these changes is the lack of their father in their daily lives (Ahrons & Tanner, 2003). This study investigated attitudes of college students on a small Midwestern campus who come from divorced families, about the relationship with their non-custodial parent. Based on the Social Exchange Theory it is hypothesized that the younger a child is at the time of divorce, the greater chance of having a strained relationship with the non-custodial parent, because for some non-custodial parents, the costs of caring for that child on a part-time basis will outweigh the benefits. Survey data will be statistically analyzed using frequencies, cross-tabulations, mean comparisons, and a reliability analysis. Implications for practitioners and future research will be addressed.
P116 College Students’ Attitudes on Conflict Resolution in Romantic Relationships
Brittany Weisenbeck, Stephanie Smith
UW-Stout, Human Development and Family Studies
Advisor: Dr. Susan Wolfgram
Great Hall – Session 2 12:55 PM – 1:55 PM

Divorce in our society is becoming an ever increasing problem. This study investigated college students’ attitudes on conflict resolution in their romantic relationships by surveying 65 male and female college students at a small Midwestern university. It was hypothesized that males will tend to have more of a competitive and unyielding attitude with conflict resolution, while women will have more peacekeeping and tactful attitudes. Survey data was statistically analyzed using frequencies, cross-tabulations, and mean comparisons and a reliability analysis. Results indicate that males went against our hypothesis in that over half of males wanted to talk about their feelings, which is more than originally assumed. Female participants in our study did agree with our hypothesis. The majority of females surveyed either agreed or strongly agreed that they want to talk about their feelings. Implications for practitioners and future researchers are that men in our society are becoming expressive with their emotions.

P117 College Students Attitudes Regarding Divorce Custody Arrangements
Amy Siemback
UW-Stout, Human Development and Family Studies
Advisor: Dr. Susan Wolfgram
Great Hall – Session 1 10:45 AM – 11:45 AM

One of the most crucial issues following a divorce is deciding where and with whom the child/children should be placed. Coexisting with the guilt that most children endure following a divorce, the sudden change in their living and visitation arrangements can bring about additional stressors and have serious consequences (Derevensky & Deschamps 1997). This study investigated attitudes of college students coming out of divorced homes on a small Midwestern campus. Based on the literature and the Feminist theory, it is hypothesized that college student attitudes regarding divorce custody arrangements would be in favor of the woman and less in favor of men and LGBT parents due to the entrenched traditional societal gender roles. Survey data will be statistically analyzed using frequencies and a reliability analysis. Implications for practitioners and future research will be addressed.

P118 Attitudes of College Students Toward Employed Mothers
Jillian Teigen, Katie Cannon
UW-Stout, Human Development and Family Studies
Advisor: Dr. Susan Wolfgram
Great Hall – Session 2 12:55 PM – 1:55 PM

Beginning in the later 20th century, women with children have been increasingly active participants in the U.S. workforce, with about 75% of mothers of minor children working outside of the home (U.S. Bureau of Labor Statistics, 2000; Desrochers & Riggio, 2006). What are college students’ attitudes about working mothers and how do they differ depending upon whether a student’s mother worked or not? This study investigated attitudes about working mothers by surveying male and female college students at a small, Midwestern college, those whose mothers worked and those whose mothers stayed at home. It is hypothesized that based on the Family Ecological theory this research will reveal that college students have an opposing social bias towards working mothers. Survey data will be statistically analyzed using frequencies and a reliability analysis. Implications for practitioners and future research will be addressed.

P119 Correlation Between Information Technology Implementation and Non-Profit Organization Contributions
Rachel Glinski
UW-Eau Claire, Information Systems
Advisor: Dr. Jean Pratt
Great Hall – Session 1 10:45 AM – 11:45 AM

Background and Rationale: Non-profit organizations are starting to recognize the Internet as a powerful outreach medium. (Fundraisers know that those who volunteer are more likely to donate. Of those who volunteered, the largest percentage (34.5%), were persons aged 35 – 44—the same age category that comprises the largest percentage of Internet users. Methods: Visual inspection of SIC 8641 non-profit organizations according to five levels of information technology implementation. Further analysis of non-profit contributions reported to IRS. Results: (Research in progress) We think we will find a high correlation between information technology implementation and magnitude of contributions reported. Conclusions: Although correlation research precludes cause and effect results, we think we will be able to recommend the implementation of web-based information technology as a means to connect organizations to stakeholders.
P120 802.11n Wireless Throughput Capabilities
Joseph Waggoner, Edward Simson
UW-Stout, Information Technology Management
Advisor: Renee Gunderson
Great Hall – Session 2 12:55 PM – 1:55 PM

This research will attempt to confirm the new standards set by the IEEE 802.11n wireless connectivity standards. Testing will be based on bandwidth throughput. This project will examine the effects of concurrent connections, wireless security, and power output.

P121 Danish American Home Web-Site Construction Project
Ozren Bogovac
UW-Parkside, Management of Information Systems
Advisor: Suresh Chalasani
Great Hall – Session 1 10:45 AM – 11:45 AM

This project involved design, construction and implementation of a web-site for the Danish American Home (DAH). DAH is an elderly citizen home in Racine, WI. Prior to this project, DAH did not have a web-site. The project team gathered site requirements, designed and implemented http://www.danishamericanhome.com. The team also designed a logo for DAH. The project was conducted under the Ralph Jaeschke Solutions for Economic Growth Center of UW-Parkside.

P122 Hmong Professionals in Wisconsin: Connections and Pathways
Mai Chue Xiong
UW-Whitewater, Management
Advisor: Susan Huss-Lederman
Great Hall – Session 2 12:55 PM – 1:55 PM

To date, 36,809 Hmong people have resettled in Wisconsin, and approximately 4,000 more arrived in 2005 as the last refugee camp in Thailand closes. Currently, Hmong professionals are increasing in number and venturing into new professional fields. Stories of their struggles and successes, however, have been vaguely documented. The experiences of these pioneers are for important educators to understand as this ethnic group transitions into full participation in American life. Therefore, this study addresses three research questions. First, what influences choice of fields Hmong professionals enter? Second, how do incumbent professionals create pathways for future professionals? Third, what is important in guiding Hmong youth to choose a particular career? This study utilizes focus group research to gather personal narratives to determine themes across experiences. Ultimately, complete interviews of three focus groups of 8-12 participants will occur during the Spring 2005 semester. The groups will include business owners, university-educated professionals, and job counselors. It is anticipated that interviewees’ reflections will demonstrate the importance of mentorship by teachers and family members. Preliminary research on Hmong college students indicated the importance of guidance from parents, siblings, and teachers in pursuing higher education.

P123 Accurate Calculation of Critical Loads Using the Geometric Stiffness Method
Daniel Zielinski
UW-Platteville, Civil Engineering
Advisor: Dr. Matthew Roberts
Great Hall – Session 1 10:45 AM – 11:45 AM

Structural stability is a major design concern for structural engineers because any instability could result in failure of the structure, costing money and possibly lives. Due to this, engineers perform calculations to determine the critical buckling load that will cause the structure to become unstable. This research will determine the accuracy of the geometric stiffness method, a simplified method to solve for the critical buckling loads. The first step of research will be to find the actual critical buckling load of a simple structure using Algor, a 3-D Finite Element Method analysis program capable of calculating the buckling load with high accuracy. The program MATLAB is utilized to complete buckling calculations using the geometric stiffness method. Comparison of the different methods reveals that the geometric stiffness method does not accurately calculate the lowest buckling load. The ability for the geometric stiffness method to calculate the lowest buckling load is highly dependant on the number of nodes considered. Accurate results using the geometric stiffness method are achieved by breaking the structure into several members. Expansion makes calculations difficult without computers, but can provide approximate buckling loads without advanced computer programs.

P124 Radio Direction Finding System for Small Hobby Crafts
Josh Zagorski, David Worden
UW-Milwaukee, Electrical Engineering
Advisor: David McClanahan
Great Hall – Session 2 12:55 PM – 1:55 PM

The Radio Direction Finding System (RDFS) was developed for radio controlled aircraft and model rocket hobbyists as a way to locate their downed aircraft in case visual tracking proved unsuitable. The RDFS was designed and built by five students for the UW-Milwaukee’s Electrical Engineering program’s Senior Design Capstone course, and was designed around five sections; power supplies, transmitter, receiver,
antenna, and user interface. Simulations of sections of the RDFS and multiple stages of prototyping were the main methods of testing. Each section of the RDFS when functioning individually was then tested in conjunction with adjacent sections. Some errors in the power supply design, specifically ripple, caused the transmitter to broadcast at a lower frequency and caused minor problems with the user interface. Each individual block worked as intended but when integrated as a whole, the RDFS had some functionality issues. Given more design time for our project, the power supply issues and printed circuit board design mistakes would have been corrected.

**P125 Student-Directed Distributed Lab Management Solutions**
Tony Nelson, Cody Lombard
UW-Stout, Technical Communications
*Advisor: Dr. Don Cunningham*
*Great Hall – Session 1 10:45 AM – 11:45 AM*

As an intra-campus collaboration between the University of Wisconsin-Stout’s Department of Biology and Department of English and Philosophy to create a student-directed biotechnology open access core facility at UW-Stout, we are developing student-directed workstations (SDW) for education, distributed management, outreach, and professional development. In this novel collaboration between two departments, we, as student workers, will assist and supervise the SDW development by defining an overall content specification; create basic style and format guidelines; design and administer effective usability testing plans, materials, and procedures; and revise and edit the final documents. Students in biotechnology courses (BIO-136, 235, and 370), and ENGL-415 Technical Writing course, will be used as subject material experts and to collect and write the modules. SDW development allows biology students to work independently and gain additional external class experiences by participating in the open access lab, engages students in learning how to use sophisticated biotechnological equipment in a controlled, safe, environment, and provides a continual source of real, hands-on applications as a resource for technical communication students.

**P126 A Lesson in Teaching**
Cathy Durski
UW-Stout, Technology Education
*Advisor: Dr. Brian McAlister*
*Great Hall – Session 2 12:55 PM – 1:55 PM*

Teaching is a career where the results are not always concrete. Teachers work with the mind. They struggle to determine if they have succeeded. In my best practice unit I worked to make visual what was occurring in the mind. I set out to prove that learning did occur. Curriculum development is a circular process which takes much planning and time to perfect. Through the process I identified objectives for the students to meet. I went on to develop lessons and all of the activities to teach students the content and skills necessary to master the objectives. The most critical part comes in designing assessments and rubrics. My assessments are the tools used to reflect whether or not students had met my desired objectives. If students met the objectives then learning did occur. Earlier I described curriculum development as circular. It is such because often times once everything is developed you find yourself going back to modify an objective, or a lesson, or an assessment to make everything truly align. It must be near perfect to objectify what is occurring in the minds of children.

**P127 Aggressive Images Affect Mood and Cognitive Functioning**
Trevor Meyer, Rob Schultz
UW-Stout, Psychology
*Advisor: Dr. Peizhong Li*
*Great Hall – Session 1 10:45 AM – 11:45 AM*

This study will investigate the effect of aggressive images on mood and cognitive function. Moreover, we will examine how the personality trait of introversion/extroversion influences the effect of aggressive images. Participants will first receive a personality assessment to determine their introversion/extroversion. They will be assigned into two groups according to their scores on the personality assessment. Those who score above the median will be assigned to the “introverts” group, and those below the median the “extroverts” group. All participants will then receive a scale measuring current mood. Next, half of the participants view slides with aggressive images (e.g., weapons). The other half will view images irrelevant to aggression (e.g., furniture). Following the images, they will get the mood measure again, followed by a cognitive functioning test. We predict introverts will have more negative mood after watching aggressive than non-aggressive images. However, extroverts will have more positive mood after watching aggressive than non-aggressive images. We also predict that introverts will score higher on the cognitive test after watching non-aggressive than aggressive images; the high arousal from aggressive images will impair their cognitive functioning. Extroverts will score higher after viewing the aggressive images; their optimum level of arousal is higher than introverts.
P128 The Imagery of False Memory
Sarah Grossman, Chelsie Knoll
UW-Stout, Psychology
Advisor: Dr. Desiree Budd
Great Hall – Session 2 12:55 PM – 1:55 PM

People shown lists of words (e.g., sink, refrigerator, plate) related to a theme (e.g., kitchen), but in which a highly stereotypical word (e.g., stove) is not present, often falsely remember seeing the highly stereotypical word (e.g., stove). Thus, they create a false memory for the item stove. This study looked at the effect of different types of imagery instructions on the creation of false memories. All participants were shown lists of words related to a theme (e.g., kitchen) in which some highly stereotypical items were missing (e.g., stove). Half the participants were given item-specific imagery instructions "create an image of the item named and then rate the vividness of the image you created." The other half were given relational imagery instructions "create an image of how each of the items named might look within a typical kitchen." They were then given a recognition test containing words from the original list (e.g., refrigerator), new related words (e.g., stove), and new unrelated words (e.g., couch). Preliminary findings indicate that people given the relational imagery instructions are more likely to falsely create false memories than people given the item-specific imagery instructions.

P129 Lasting Memories: Emotional Arousal and Memory for Specific Details
Justin Aoki, Laura Harstad, Chad Johnson, Randy McCarthy, Heidi Gajda
UW-Stout, Psychology
Advisor: Dr. Desiree Budd
Great Hall – Session 1 10:45 AM – 11:45 AM

People often claim to have remarkably vivid memories for emotional events. Previous research has shown that people have especially good memory for specific details of emotionally charged negative pictures compared to neutral ones. However, less is known about the vividness of memories for emotionally charged positive pictures. The present study investigated how the emotional content of an object in a picture (negative, positive, or neutral) affected a person's ability to remember the specific visual details about that object. Participants studied pictures of negative objects (e.g., a gun), positive objects (e.g., a flower) and neutral items (e.g., an airplane) while physiological indexes of their emotional response to the objects were measured using Galvanic Skin Response. Later their memory for the specific details of the objects was tested by showing them the identical object or a different picture of the same object. Preliminary results show that emotional arousal enhances memory for specific details.

P130 Lasting Memories: Post-Event Stress and Memory for Emotional Pictures
Courtney Oelkers
UW-Stout, Psychology
Advisor: Dr. Desiree Budd
Great Hall – Session 2 12:55 PM – 1:55 PM

People often report experiencing clearer and more detailed memories for emotional events than for neutral events. Previous studies have shown that post-event stress enhances memory for arousing, unpleasant pictures but not neutral pictures. The present study investigated how post-event stress influenced memory for emotional pictures that varied along the dimensions of arousal (high versus low), as well as pleasantness (high versus low). Participants answered questions about pictures that varied on dimensions of arousal and pleasantness, while physiological indexes of their emotional response to the pictures were measured using Galvanic Skin Response. After the initial encoding of the pictures, participants were exposed to cold pressor stress in which they had to keep their hand in ice water for as long as possible, or a control procedure. Forty-eight hours later their memory for the pictures was tested. Preliminary results show participants who received the cold-pressor stress had the greatest memory retention, but only for the highly arousing pictures.

P131 Lie Algebra Cohomology
Benedict Matern, Andrew Mielke, Matthew Van Dierendonck
UW-Stout, Applied Mathematics and Computer Science
Advisor: Dr. Christopher Bendel
Great Hall – Session 1 10:45 AM – 11:45 AM

Lie algebras are mathematical structures that have been well-studied and seen significant application in various areas of mathematics and physics. A fundamental unsolved mathematical problem is to compute the cohomology of certain types of Lie algebras. The goal of the project, which is sponsored by the National Science Foundation, is to compute these unknown cohomology groups. Some computations have been made by using mathematical software (MAGMA) and writing computer programs to aid with the computations.
List of Student Participants by University

**UW Colleges**

**UW-Barron County**
- Keely Sanderson

**UW-Fond du Lac**
- Joe Vande Slunt

**UW-Fox Valley**
- Timothy Olson
- Louise Ebben
- Nathan Edeler
- Amanda Hoffman
- Jillian Kasdorf
- Gregory Kokke
- Emily Ricks
- Samantha Robinson

**UW-Manitowoc**
- Jacob DeMelle
- Alissa Emond
- Lindsay Lorenz
- Travis Ouradnik
- Allison Wallander

**UW-Marathon County**
- Cheng Lee
- Xue Lee
- Jim Lee
- Chia Xiong

**UW-Eau Claire**
- Joseph Kane
- David Kincaid
- Emily Krahn
- Andy Leung
- Beth Lutz
- Rebecca Mathias
- Matt Newquist
- Douglas Olson
- Carolyn Otto
- Adie Presto
- Ann Rentschler
- John Rodgers
- Kira Sahlhoff
- Tiffeny Sweny
- Jerry Thao
- Touger Thao
- Christopher Thompson
- Rebecca Westbrook
- Anne Marie Wilhelmy
- Courtney Wood

**UW-Green Bay**
- Elizabeth Limburg
- Victoria Oxendine
- Aaron Weinschenk

**UW-La Crosse**
- Rebecca Bickford
- Marisa Comstock
- Audra De Vault
- Car Foster
- Elizabeth Green
- Beth Haupt
- Kirsten Hendrickson
- Heidi Kieler
- John Lauermann
- Elizabeth Plunger
- Michelle Schweitzer
- Stephanie Sullivan
- Brooke Tenpas
- Volodymyr Valkov

**UW-Milwaukee**
- Terry Dassow
- Brian Eisold
- Farah Fatupaito
- Meghan Geary
- Amanda Gresen
- Emmett Gross
- Beth Hanson
- Dana Him
- Antwan Jones
- Daniel S. Lark
- Dan LeTendre
- Devin Little
- Andrew Manto
- Alison Marciniak
- Elizabeth McCarthy
- Patrick Miller
- Zachary Nesgoda
- Katherine Nonweiler
- Gregory Peckels
- Aleksandar Plavsic
- Vera Pochtarev
- Lisa Ring
- Victoria Robison
- John Schafer
- Carrie Sehauer
- Briana Schuler-Tompkins
- Kavita Smits
- Greg Surges
- Katayon Tabatabaie
- Laura Turner
- Jessica VandeWalle
- David Worden
- Josh Zagorski
- Josh Ziarek

**UW-Oshkosh**
- Amanda Bohn
- Frank Buelow
- Amanda Doepke
- Shannon Doty
- Jennifer Ellner
- Luke Garreau
- Kyle Klug
- Jennifer Kohls
- Anthony Kuchera
- Adeline Miller
- Megan Nelson
- Lynn Quillico
- Matthew Rubin

**UW-Eau Claire**
- Joseph Kane
- David Kincaid
- Emily Krahn
- Andy Leung
- Beth Lutz
- Rebecca Mathias
- Matt Newquist
- Douglas Olson
- Carolyn Otto
- Adie Presto
- Ann Rentschler
- John Rodgers
- Kira Sahlhoff
- Tiffeny Sweny
- Jerry Thao
- Touger Thao
- Christopher Thompson
- Rebecca Westbrook
- Anne Marie Wilhelmy
- Courtney Wood

**UW-Green Bay**
- Elizabeth Limburg
- Victoria Oxendine
- Aaron Weinschenk

**UW-La Crosse**
- Rebecca Bickford
- Marisa Comstock
- Audra De Vault
- Car Foster
- Elizabeth Green
- Beth Haupt
- Kirsten Hendrickson
- Heidi Kieler
- John Lauermann
- Elizabeth Plunger
- Michelle Schweitzer
- Stephanie Sullivan
- Brooke Tenpas
- Volodymyr Valkov

**UW-Milwaukee**
- Terry Dassow
- Brian Eisold
- Farah Fatupaito
- Meghan Geary
- Amanda Gresen
- Emmett Gross
- Beth Hanson
- Dana Him
- Antwan Jones
- Daniel S. Lark
- Dan LeTendre
- Devin Little
- Andrew Manto
- Alison Marciniak
- Elizabeth McCarthy
- Patrick Miller
- Zachary Nesgoda
- Katherine Nonweiler
- Gregory Peckels
- Aleksandar Plavsic
- Vera Pochtarev
- Lisa Ring
- Victoria Robison
- John Schafer
- Carrie Sehauer
- Briana Schuler-Tompkins
- Kavita Smits
- Greg Surges
- Katayon Tabatabaie
- Laura Turner
- Jessica VandeWalle
- David Worden
- Josh Zagorski
- Josh Ziarek

**UW-Oshkosh**
- Amanda Bohn
- Frank Buelow
- Amanda Doepke
- Shannon Doty
- Jennifer Ellner
- Luke Garreau
- Kyle Klug
- Jennifer Kohls
- Anthony Kuchera
- Adeline Miller
- Megan Nelson
- Lynn Quillico
- Matthew Rubin
UW-Oshkosh
Amber Salzwedel
Bryan Schwewke
Tiffany Shadlick
Ahmed Sharif
Anna Simeth
Traci Smet
Shannon Wienandt
Patricia Wood
Mohamed Yakub

UW-Parkside
Adam Barsamian
Mike Bate
Erica Berzin
Ozren Bogovac
Rick Edwards
Thad Gabron
Ashley Gehrand
Oluwabukola Idowu
Juliana King
Steven Kopitzke
Stephan Kurdas
Patrick Liesch
Edward Manteufel
Zoe McManama
Sahba Museteif
Nicole Norris
Mary Pirrello
Derek Rivers
Eric Schultz
Amy Shemberger
Zak Smith
Jon Stelhik
Carly-Anne Surber
Joseph Topczewski

UW-Platteville
Becky Adamski
Katherine Campbell
Zabrina Fuller
Alicia Knudson
Catherine Kutka
Larissa Larsen
Mallorie McDowell
Sarah Riley
Laura Schweitzer
Daniel Zielinski

UW-River Falls
Travis Cordie
Andrea Crownhart
Mark Hove
Caroline Martin
Amanda Miller
Mitra Naseri
Tracy Nelson
Amy Robak
Nissa Rudh
Nicole Salwasser
Bernard Seitman
Tory Shaaf
Danielle Tucker
Chris Wenig
Michelle Willette
Erik Wood
Bianna Zemek

UW-Stevens Point
Kyle Curran
Tyler Fuhrman
Jennifer Hunt
Jamie Karoses
Crystal Mansfield
Lauren Muhr
Michelle Niepow
Matthew Overesch

UW-Stout
Matthew Jenks
Nicholle Jenness
Alyson Jensch
Chad Johnson
Tapesh Joshi
Kiran K.C.
Sarah Klick
Chelsie Knoll
Nicholas Kohl
Jamie Koss
Danielle Larson
Kaisa Lee
James Lokken
Cody Lombard
Michelle Lopes-Serrao
Christina Luke
Tim Lurvey
Nathan Maier
Benedict Matern
Randy McCarthy
Katherine McKevitt
Melanie Meidl
Caleb Meier
Heather Mersh
Trevor Meyer
Grant Michelsen-Pierce
Andrew Mielke
Rebecca Mijal
Crystal Miller
Lauren Moeger
Dena Moore
Tony Nelson
Courtney Oelkers
Joseph Pangborn
Heather Patnode
Lynsey Petersen
Amanda Plourde
Troy Reichstadt
Katelynn Rindahl
Melissa Schamens
Jamie Schoeneck
Andrea Schultz
Rob Schultz
Mandi Seeger
Cole Segerstrom
Archana Shrestha
Amy Siemback
Edward Simson
Stephanie Smith
Veronica Sweeney
Jillian Teigen
Chelsea Treiber
List of Student Participants by University (continued)

UW-Stout
- Amelia Treptow
- Jessica Van Der Werff
- Matthew Van Dierendonck
- Joseph Waggoner
- Zhicong Wang
- Shane Webb
- Brittany Weisebeck
- Jordan Wheeler
- KyLynn Whipple
- Heidi Zajack

UW-Superior
- Katie Aho
- Kamal Alsharif
- Ashley Berguson
- Reed Coil
- Eldon Eagle
- Matthew Goodman
- Varuni Gunasekara
- Aaron Hoffmeister
- Jon Karna
- Grant Moody

UW-Superior
- Devin Pacheco
- Eric Seidelmann
- William Whirry

UW-Whitewater
- Meghan Moll
- Mai Chue Xiong
ACKNOWLEDGEMENTS

University of Wisconsin System and Administration

Campus Representatives

  Wava Haney        UW-Colleges
  Karen Havholm    UW-Eau Claire
  Regan A. R. Gurung UW-Green Bay
  William Gresens  UW-La Crosse
  Vijendra K. Agarwal UW-La Crosse
  Laurie Mayberry  UW-Madison
  Nigel Rothfels   UW-Milwaukee
  Susan Surendonk  UW-Oshkosh
  David Higgs       UW-Parkside
  Kathy Lomax       UW-Platteville
  William Campbell  UW-River Falls
  Cindy Marczak     UW-Stevens Point
  Sue Foxwell       UW-Stout
  Christopher Markwood UW-Superior
  Richard McGregory UW-Whitewater

Symposium Steering Committee

  Joy Becker     Amanda Brown
  Mayia Corcoran Sue Foxwell
  Bridget Hanson Susan McClelland
  Levi Stodola

University of Wisconsin-Stout

  Chancellor’s Office
  Provost’s Office
  Research Services
  Outreach Services
  University Relations
  Memorial Student Center
## Index of Students and Abstract Titles

### A

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>802.11n Wireless Throughput Capabilities</td>
<td>85</td>
</tr>
<tr>
<td>A Lesson in Teaching</td>
<td>86</td>
</tr>
<tr>
<td>A Single-Subject Application of FAP Enhanced Behavioral Activation (FEBA) to Non-clinical Relationship Difficulties</td>
<td>80</td>
</tr>
<tr>
<td>A Thermal Model of the Crust of Saturn's Satellite Enceladus</td>
<td>30</td>
</tr>
<tr>
<td>Abraham Lincoln's Relationship with His Civil War</td>
<td>76</td>
</tr>
<tr>
<td>Accurate Calculation of Critical Loads using the Geometric Stiffness Method</td>
<td>85</td>
</tr>
<tr>
<td>Adamski, Becky</td>
<td>35</td>
</tr>
<tr>
<td>Adventure Girls</td>
<td></td>
</tr>
<tr>
<td>An Analysis of Ceramics from the Vieau Trade Post</td>
<td>34</td>
</tr>
<tr>
<td>Analyzing the Performance of the Municipal Water Use in the Palestinian Territories Using GIS</td>
<td>37</td>
</tr>
<tr>
<td>Analyzing the Potential Flood in USA in GIS Environment Case Study from Kansas</td>
<td>39</td>
</tr>
<tr>
<td>Anand, Anjali</td>
<td>26</td>
</tr>
<tr>
<td>Anderson, Sarah</td>
<td>55</td>
</tr>
<tr>
<td>Aoki, Justin</td>
<td>82, 87</td>
</tr>
<tr>
<td>Architecture for the Economically Disadvantaged</td>
<td></td>
</tr>
<tr>
<td>Attributions and Restaurant Design</td>
<td></td>
</tr>
<tr>
<td>The Impact of Color and Light</td>
<td>37</td>
</tr>
<tr>
<td>Attitudes of College Students Toward Employed Mothers84</td>
<td></td>
</tr>
<tr>
<td>Attitudes Toward Sexual Permissiveness, Relationships, and the Opposite Sex</td>
<td>81</td>
</tr>
<tr>
<td>Bisky, Jared</td>
<td>69</td>
</tr>
<tr>
<td>Bittner, Adam</td>
<td>33</td>
</tr>
<tr>
<td>Bland, Mike</td>
<td>34</td>
</tr>
<tr>
<td>Behavioral Consequences of Dexamethasone</td>
<td>80</td>
</tr>
<tr>
<td>Administration in a Rodent Model of ADHD</td>
<td></td>
</tr>
<tr>
<td>Bells, Matthew</td>
<td>21</td>
</tr>
<tr>
<td>Biological Illustration</td>
<td>61</td>
</tr>
<tr>
<td>Creating Scientific Drawings for Dissections</td>
<td></td>
</tr>
<tr>
<td>Blocking SEB Induced Signaling Events Using Pathway Interconnectors</td>
<td>73</td>
</tr>
<tr>
<td>Boe, Andrew</td>
<td>23</td>
</tr>
<tr>
<td>Bogovac, Ozren</td>
<td>85</td>
</tr>
<tr>
<td>Bohmbach, Joseph</td>
<td>76</td>
</tr>
<tr>
<td>Bohn, Amanda</td>
<td>81</td>
</tr>
<tr>
<td>Bohne, Brittany</td>
<td>83</td>
</tr>
<tr>
<td>Brown, Emily</td>
<td>26</td>
</tr>
<tr>
<td>Brown, Tyson</td>
<td>21</td>
</tr>
<tr>
<td>Buell, Frank</td>
<td>81</td>
</tr>
<tr>
<td>Bulgaria and the EU</td>
<td></td>
</tr>
<tr>
<td>Economic Prosperity or Europeanization?</td>
<td>35</td>
</tr>
<tr>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Campbell, Katherine</td>
<td>73</td>
</tr>
<tr>
<td>Can Keystroke Biometrics Be Implemented Reliably?</td>
<td>53</td>
</tr>
<tr>
<td>Cannabinoid Agonist WIN55, 212-2 on Anxiety-like</td>
<td>57</td>
</tr>
<tr>
<td>Behavior in Various Mouse Strains</td>
<td></td>
</tr>
<tr>
<td>Cannon, Katie</td>
<td>84</td>
</tr>
</tbody>
</table>
Carlson, Caitlin .......................................................... 61
Carrier, Lindsay .......................................................... 23
Castillo, Silvino .......................................................... 28, 77
Causes of Deformation in the Baraboo Hills Region........... 54
Ceramic Style and Its Influence on Interpretations of Andean Archaeologists .................................................. 27
Challenges of RoHS Compliant Printed Circuit Board Assembly .......................................................... 21
Characterization of a 5’-3’ Exoribonuclease in the Alga Chlamydomonas Reinhardtii ......................................... 60
Characterization of Avian Embryonic Artificial-Tissues (ATs) and Monolayer Cultures of Mesenchymal Origin Derived from Early Long Bone Radiments............... 65
Characterization of E. coli Species Isolated From Bean and Radish Sprouts ..................................................... 63
Children's Comprehension of Kinship Terms for Blended Families .......................................................... 82
City Image of the World Heritage City of Guanajuato, Mexico .................................................................. 28, 77
Cleaning and Identification of Square Nails from the Vieux Fur Trade Post Site, Racine County ......................... 69
Cleaning Up the Land
Phytoremediation of Lead and Chromium ......................... 71
Climate change technologies for the music industry ............ 23
Coil, Reed .................................................................. 37
College Student's Attitudes About Cohabitation From an Intact or Divorced Family of Origin .......................... 78
College Students’ Attitudes on the Causes of Infidelity .... 79
College Students’ Attitudes Regarding Divorce Custody Arrangements .......................................................... 84
College Students’ Attitudes on Conflict Resolution in Romantic Relationships ............................................. 84
Colonial Influence on Civic Values in Post-colonial Africa ............................................................................. 75
Combating Invisibility
Representations of Older Women in Selected Novels by Toni Morrison and Anita Shreve .......................... 33
Community Healing Through Oral Tradition .................... 17
Comparison of Daphnia Behavior in Winter and Summer Water Temperatures .............................................. 32
Comparison of Psychosocial and Biological Approaches to Stigma Reduction for Depression ....................... 80
Comstock, Marisa ......................................................... 67
Cordic, Travis ............................................................... 63
Correlation Between Information Technology Implementation and Non-Profit Organization Contributions .......................................................... 84
Crownhart, Andrea ........................................................ 35
Cruz, Abicar .................................................................. 73
Cummings, Bryce .......................................................... 26
Curran, Kyle ................................................................. 65
Czech, Dyanna ............................................................... 54

D

Danish American Home Web-Site Construction Project...85

Dassow, Terry ................................................................. 17
De Vault, Audra ............................................................ 63
Deciding Factors of Child Care .................................... 23
Deconstructivism in Museum Design – Chicago Illinois... 36
Deines, Chad ................................................................. 59
DeMelle, Jacob ............................................................... 56
Demonstrating Eigenvalues and Eigenvectors Using Linear Transformation .................................................. 25
Desensitization to violence
Do Violent Video Games Have an Effect? ......................... 82
Design for the Deprived
Review of Sustainable Practices for Housing the Poor in the Context of Developing Economies ............................ 31
Designing a Fish Market as a Catalyst for Improving Quality of Life ........................................................ 73
Development of Artificial-Tissues (ATs) from Early Avian Embryonic Cardiac Tissues Strongly Implies a Contribution from Fetal Stem Cell Populations ............................... 63
Devolatilization of Kuiper Belt Objects via Collision .......... 26
Differentiation of Distilled Turpentine from Terpenes in Building Materials by Inductively Coupled Plasma – Optical Emission Analysis ......................................................... 72
Dillon, Ashley ................................................................. 24, 65
Discounting of Gains and Losses in College-aged Gamblers and Non-gamblers ............................................. 79
Doepke, Amanda ............................................................ 32
Donnan Dialysis and the Migration of Metal Ions in Organic Solvents .......................................................... 33
Dotsy, Shannon .............................................................. 76
Durski, Cathy ................................................................. 86

E

Eagle, Eldon ................................................................. 61
Ebben, Louise ................................................................. 53
Economic and Social Factors of Income Inequality ............ 33
Edeler, Nathan ............................................................... 70
Editor or Analyst?
A Phenomenological Representation of Memory in Form ............................................................................. 17
Edwards, Rick ................................................................. 69
Effect of Hip Position on Hip External Rotation Strength Measurement .......................................................... 29
Effects of Anthropogenic Eutrophication on the Muskegon River Watershed .................................................. 68
Effects of Breakfast on Memory, Attention, and Satiety .... 35
Effects of FDA Warnings on Teachers’ Attitudes and Referrals for Stimulant Medications ............................. 80
Effects of Proprioceptive Neuromuscular Facilitation on 10-M Sprint and 1-T Test ............................................. 57
Effects of Static Stretching on a 10-meter Sprint and T-test ............................................................................. 57
Efforts to Analysis Nutrient Management without the Use of Fertilizer .......................................................... 54
Eisold, Brian ................................................................. 29
Ekenstedt, Matthew ........................................................ 22
Emond, Patricia ................................................................. 17, 55
Elliot, Jennifer................................................................. 81
Emond, Alissa................................................................. 57
Engaging Students Despite Dissimilar Learning Styles........... 34
Estle, Sara ......................................................................... 79
Evaluation of Football Face-Mask Removal Using Two Power Tools ................................................................. 55
Evaluation of Medicinal Plants in the Local Hmong Community ........................................................................... 59
Evaluation of Salt Damage in Native Perennial Seed Germination and Plant Growth .................................................... 58
Evaluation of Twanaku Presence in the Cochabamba Valley of Bolivia ................................................................. 27
Evaluation of USDA Fresh Fruit /Vegetable Program in Wisconsin Schools ................................................................. 26
Evert, Brittany ..................................................................... 78
Everyman
Bringing Classical Theatre to Life ........................................ 26
Evidence of the ..................................................................... 64
Evolution of Cycling Pacing Strategy in Non-athletes .......... 58
Exchange of Labile ................................................................ 71
Exploring Photosynthetic Bacteria in Lake Huron Sinkhole Ecosystems ................................................................. 65
Fatupaito, Farah ..................................................................... 57
Fecal Indicators—Transient Members of Beach Communities? ............................................................................. 60
Filbrandt, Katelyn ............................................................... 56
Foster, Car ........................................................................... 58
Fuhrman, Tyler ..................................................................... 36
Fuller, Zabrina ....................................................................... 35
Gabron, Thad ....................................................................... 77
Gajda, Heidi ......................................................................... 87
Garceau, Luke ........................................................................ 57
Gates (No. 1) - A Laptop Instrument for Improvised Electronic Music ................................................................. 18
Geary, Meghan ..................................................................... 29
Gehrand, Ashley .................................................................... 60
Gene Detection in Staphylococcus aureus ................................ 66
Genetic Linkage Mapping a Gene Involved in Soybean Chromosome Pairing .......................................................... 65
Geophysical Prospection in the Cade Archaeological District, Vernon County, Wisconsin ............................................. 27
Glinski, Rachel ....................................................................... 84
Goodman, Matthew ................................................................ 38
Green, Elizabeth .................................................................... 27
Gresen, Amanda ..................................................................... 73
Grief and Personal Growth in Caregivers of Persons with Dementia ................................................................. 56

Gross, Emmett ....................................................................... 29
Grossman, Sarah .................................................................... 87
Gunasekara, Varuni ............................................................... 61

H
Haas, Ann ............................................................................. 83
Haluska, Jason ....................................................................... 26
Hannum, Marc ....................................................................... 22, 68
Hanson, Beth ........................................................................... 29
Haroldson, Jenna .................................................................... 82
Harstad, Laura ........................................................................ 87
Haupt, Beth ............................................................................. 27
Health Effects of Mercury on the Embryonic Development of the Heart and Neurons ......................................................... 60
Healthcare Barriers and Stigma Among HIV-Infected African-American Men ................................................................. 56
Heavy Metals in Whole Blood ................................................... 72
Hendrickson, Kirsten ................................................................ 58
Henke, Steven ........................................................................ 26, 30
Her, David .............................................................................. 75
Hietpas, Ryan .......................................................................... 62
Hilger, Stephen ....................................................................... 75
Him, Dana .............................................................................. 80
Historic Preservation of Local Architecture – Stevens Point, Wisconsin ................................................................. 74
Hmong Americans and Politics
A Community Project to Increase Political Participation ............................................................................................... 75
Hmong Professionals in Wisconsin Connections and Pathways ................................................................................. 85
Hoffman, Amanda .................................................................... 53
Hoffmeister, Aaron ................................................................... 17
Holt, Daniel ............................................................................. 79
Hornung, Jeffrey ....................................................................... 61
Hove, Mark .............................................................................. 35
Hunt, Jennifer .......................................................................... 36, 74
Hydrogeologic Investigation of the Willow Swamp - University of Wisconsin-Parkside .................................................... 54

I
I can’t refuse to help you, but we can ........................................... 21, 78
Identification of bacterial communities in near shore waters of Lake Michigan ................................................................. 61
Identifying Trans-Regulatory Factors of the Yellow Fever Mosquito RNR2 gene ................................................................. 67
If You Teach a Man to Fish
Satellite Development of the Fishing Ministry Organization in Negombo, Sri Lanka ............................................................. 29
Impact of an After School Running Program on Physical Fitness and Self-Motivation in 3rd to 5th Grade Girls . 58
Infrared-based Detection of Fish Specimens in Controlled Environment ........................................................................ 31
International Adoption
Adoptive Parent Challenges .......................................................... 83
International Maternal Healthcare ............................................. 30
Investigating Microbial Diversity in Lake Huron Sinkhole
Ecosystems ............................................................................... 24

J
Jenks, Matthew ........................................................................... 82
Jennex, Nicholle ................................................................ .......... 66
Jensch, Alyson ........................................................................... 78
Johnson, Chad ........................................................................... 87
Jones, Anwan ............................................................................ 30
Jones, Hannah ........................................................................... 79
Joshi, Tapesh ............................................................................ 24, 68

K
Kane, Joseph ............................................................................... 30
Karna, Jon .................................................................................. 53
Karoses, Jamie .......................................................................... 74
Kasdorf, Jillian ........................................................................... 53
KC, Kiran .................................................................................... 65
Kieler, Heidi ............................................................................... 71
Kineaid, David ........................................................................... 30
King, Julianna ........................................................................... 69
Klick, Sarah ................................................................................ 23
Klug, Kyle .................................................................................. 81
Knoll, Chelsie ............................................................................ 87
Knudson, Alicia ......................................................................... 59
Kohl, Nicholas ........................................................................... 78
Kohls, Jennifer .......................................................................... 81
Kokke, Gregory ......................................................................... 71
Kopitzke, Steven ........................................................................ 72
Koss, Jamie ................................................................................ 79
Krahn, Emily ............................................................................. 82
Kuchera, Anthony ..................................................................... 32
Kurdas, Stephen ......................................................................... 53
Kutka, Catherine ....................................................................... 35

L
Lark, Daniel S. ............................................................................. 55
Larsen, Larissa ........................................................................... 72
Larson, Danielle ......................................................................... 78
Lasting Memories
Emotional Arousal and Memory for Specific Details.............. 87
Post-Event Stress and Memory for Emotional Pictures87
Lauermann, John ....................................................................... 53
Lee, Cheng .................................................................................. 75
Lee, Jim ....................................................................................... 75
Lee, Kaisa ................................................................................... 79
Lee, Xue ....................................................................................... 75
LeTendre, Dan ........................................................................... 80
Leung, Andy ............................................................................... 62
Lie Algebra Cohomology .......................................................... 87
Liesch, Patrick ........................................................................... 70
Limburg, Elizabeth ................................................................... 75
Links Between Climate Change and Cyclotella Abundance
in Alpine Lakes .......................................................................... 63
Little, Devin ................................................................................ 30, 76
Lokken, James ........................................................................... 72
Lombard, Cody .......................................................................... 24, 86
Lopes-Serrao, Michelle ................................................................ 83
Lorenz, Lindsay .......................................................................... 57
Luke, Christina .......................................................................... 59
Lurvey, Tim ............................................................................... 22, 68
Lutz, Beth ................................................................................... 26

M
Maier, Nathan ........................................................................... 68
Making Campus Safer
Research and Recommendations on Campus Bicycle
Safety ............................................................................................ 54
Mammal Bone Identification and Analysis of the
Archaeological Bell Site (47-Wn-9) ............................................ 70
Mansfield, Crystal ....................................................................... 36
Manteufel, Edward .................................................................... 60
Manto, Andrew .......................................................................... 31
Marciniak, Alison ....................................................................... 69
Martin, Caroline .......................................................................... 64
Matern, Benedikt ........................................................................ 87
Mathias, Rebecca ........................................................................ 76
McCarthy, Elizabeth ................................................................... 70
McCarthy, Randy ......................................................................... 87
McDowell, Mallorie ..................................................................... 82
McKevitt, Katherine ................................................................... 83
McLean, Emily ........................................................................... 73
McManama, Zoe ......................................................................... 54
Meidl, Melanie ........................................................................... 73
Meier, Caleb ............................................................................... 24, 68
Membrane Lipids of Bacteria in Muskegon River Watershed
................................................................................................. 21
Mersch, Heather ......................................................................... 23
Methamphetamine Induces Nonphotic-like Resetting of the
Circadian Clock in Hamsters ...................................................... 62
Meyer, Trevor ............................................................................ 22, 86
Michelsen-Pierce, Grant ............................................................ 23, 77
Microbial Community Composition in Fresh Water
Sinkholes of Lake Huron ............................................................ 62
Mielke, Andrew .......................................................................... 87
Mijal, Rebecca ............................................................................. 23
Miller, Adeline ........................................................................... 33
Miller, Amanda .......................................................................... 64
Miller, Crystal ............................................................................ 23
Miller, Patrick ............................................................................. 29
Modine Military Vehicle Market Study ...................................... 77
Moeger, Lauren .......................................................................... 23
Molecular Disease Diagnostics Using SSCP Technology ....... 65
Moll, Meghan ............................................................................. 59
Moody, Grant ............................................................................. 38
Moore, Dena ............................................................................... 83
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphological Variation Between Populations of Lake Trout (Salvelinus namaycush) in Northeastern Minnesota</td>
<td></td>
</tr>
<tr>
<td>Oelkers, Courtney</td>
<td>87</td>
</tr>
<tr>
<td>Offender Perspectives on Being Able to Access</td>
<td>78</td>
</tr>
<tr>
<td>Rehabilitation Services</td>
<td></td>
</tr>
<tr>
<td>Olson, Douglass</td>
<td>77</td>
</tr>
<tr>
<td>Olson, Timothy</td>
<td>53</td>
</tr>
<tr>
<td>On- and Off-Campus Social Support as Depression</td>
<td></td>
</tr>
<tr>
<td>Mediators in College Students</td>
<td>81</td>
</tr>
<tr>
<td>Optimistic Outlook on Reducing Juvenile Crime</td>
<td>83</td>
</tr>
<tr>
<td>Otto, Carolyn</td>
<td>30</td>
</tr>
<tr>
<td>Ouradnik, Travis</td>
<td>56</td>
</tr>
<tr>
<td>Out of Sync in the Mainstream</td>
<td>37</td>
</tr>
<tr>
<td>Oversch, Matthew</td>
<td>54</td>
</tr>
<tr>
<td>Oxendine, Victoria</td>
<td>79</td>
</tr>
<tr>
<td>Pochteray, Vera</td>
<td>80</td>
</tr>
<tr>
<td>Polish Poster Art</td>
<td>35</td>
</tr>
<tr>
<td>An Artistic Response to Communist Politics</td>
<td></td>
</tr>
<tr>
<td>Potential Consumers Over-Generalize Product Information from Authoritative Sources</td>
<td>23, 77</td>
</tr>
<tr>
<td>Potential Earthquakes in Wisconsin and its influence on the Population and Transportation</td>
<td>38</td>
</tr>
<tr>
<td>Potential Pathogens in the School Environment</td>
<td>25, 66</td>
</tr>
<tr>
<td>Presto, Adie</td>
<td>82</td>
</tr>
<tr>
<td>Prince Rupert to Twin Cities</td>
<td></td>
</tr>
<tr>
<td>the Potential Value of a New Intermodal Freight Service</td>
<td>61</td>
</tr>
<tr>
<td>Promoting watershed stewardship through service learning and citizen science</td>
<td>25</td>
</tr>
<tr>
<td>Promoting Watershed Stewardship Through Service Learning and Citizen Science</td>
<td>67</td>
</tr>
<tr>
<td>Providing Educational and Personal Growth Opportunities to High School Students</td>
<td>29</td>
</tr>
<tr>
<td>Purification of Human Parainfluenza Virus Matrix Protein for Antibody Generation</td>
<td>67</td>
</tr>
<tr>
<td>Quadrula Metanevra Glochidia Metamorphose on Select Minnows</td>
<td>35</td>
</tr>
<tr>
<td>Quantitative Analysis of MySpace and the Changing Domain of Adolescent Social Development</td>
<td>76</td>
</tr>
<tr>
<td>Quillico, Lynn</td>
<td>33</td>
</tr>
<tr>
<td>Raciably and Culturally Loaded Humor Within U.S. Culture</td>
<td>38</td>
</tr>
<tr>
<td>Radio Direction Finding System for Small Hobby Crafts</td>
<td>85</td>
</tr>
<tr>
<td>Raising Awareness of the UN Millennium Development Goals in Community Settings</td>
<td>29</td>
</tr>
<tr>
<td>Reactions of a Telluroheterocycle with Sulfur and Selenium Donating Ligands</td>
<td>70</td>
</tr>
<tr>
<td>Reading Between the Lines</td>
<td></td>
</tr>
<tr>
<td>a Non-linear Model for Examining How Personality Shapes Cultural Identity across Different Social Groups</td>
<td>79</td>
</tr>
<tr>
<td>Recycle Mania at the University of Wisconsin-Stout</td>
<td>82</td>
</tr>
<tr>
<td>Reichstadt, Troy</td>
<td>58</td>
</tr>
<tr>
<td>Relationships Between Children and Their Non-Custodial Parent</td>
<td>83</td>
</tr>
<tr>
<td>Remodeling Industrial Buildings</td>
<td></td>
</tr>
<tr>
<td>Vernacular/High Style or Modern?</td>
<td>30, 76</td>
</tr>
<tr>
<td>Rentschler, Ann</td>
<td>62</td>
</tr>
<tr>
<td>Rethinking Urban Spaces In Developing Countries</td>
<td></td>
</tr>
<tr>
<td>A Case Study of a Textile Market in Negombo, Sri Lanka</td>
<td></td>
</tr>
<tr>
<td>Ricks, Emily</td>
<td>70</td>
</tr>
<tr>
<td>Riley, Sarah</td>
<td>72</td>
</tr>
<tr>
<td>Rindahl, Katelynn</td>
<td>78</td>
</tr>
<tr>
<td>Ring, Lisa</td>
<td>60</td>
</tr>
<tr>
<td>River Heights Elementary School Project</td>
<td>73</td>
</tr>
<tr>
<td>Nagai, Takeyoshi</td>
<td>32</td>
</tr>
<tr>
<td>Nanocomposite Materials for Novel Heating Applications</td>
<td>22, 68</td>
</tr>
<tr>
<td>Nantucket Quaker Women</td>
<td></td>
</tr>
<tr>
<td>Prelude to American Freedoms and Women’s Rights</td>
<td>75</td>
</tr>
<tr>
<td>Naseri, Mitra</td>
<td>63</td>
</tr>
<tr>
<td>Nelson, Megan</td>
<td>61</td>
</tr>
<tr>
<td>Nelson, Tony</td>
<td>24, 86</td>
</tr>
<tr>
<td>Nelson, Tracy</td>
<td>64</td>
</tr>
<tr>
<td>Niegoda, Zachary</td>
<td>31</td>
</tr>
<tr>
<td>Newquist, Matt</td>
<td>79</td>
</tr>
<tr>
<td>Niepow, Michelle</td>
<td>37</td>
</tr>
<tr>
<td>Nishongi, Al</td>
<td>32</td>
</tr>
<tr>
<td>Nonweiler, Katherine</td>
<td>59</td>
</tr>
<tr>
<td>Norris, Nicole</td>
<td>77</td>
</tr>
<tr>
<td>Pacheco, Devin</td>
<td>38</td>
</tr>
<tr>
<td>Pangborn, Joseph</td>
<td>24</td>
</tr>
<tr>
<td>Patnode, Heather</td>
<td>72</td>
</tr>
<tr>
<td>Peckels, Gregory</td>
<td>29</td>
</tr>
<tr>
<td>Petersen, Lynsey</td>
<td>23</td>
</tr>
<tr>
<td>Peterson, Karl</td>
<td>64</td>
</tr>
<tr>
<td>Phenotypic Analysis of MBP1 Null Mutant Strains of Candida albicans</td>
<td>62</td>
</tr>
<tr>
<td>Pirrello, Mary</td>
<td>34, 69</td>
</tr>
<tr>
<td>Plavsic, Aleksandar</td>
<td>31</td>
</tr>
<tr>
<td>Plourde, Amanda</td>
<td>83</td>
</tr>
<tr>
<td>Plunder, Elizabeth</td>
<td>27</td>
</tr>
<tr>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Scent Effectiveness on Relaxation, with Limited Forewarning, on Test Performance</td>
<td>81</td>
</tr>
<tr>
<td>Sceif, John</td>
<td>31</td>
</tr>
<tr>
<td>Schamens, Melissa</td>
<td>83</td>
</tr>
<tr>
<td>Schauer, Carrie</td>
<td>56</td>
</tr>
<tr>
<td>Schoeneck, Jamie</td>
<td>23</td>
</tr>
<tr>
<td>School Spirit</td>
<td></td>
</tr>
<tr>
<td>Definition and Measurement with Assessment of Promotional Strategies for Enhancement</td>
<td>38</td>
</tr>
<tr>
<td>Schulz, Andrea</td>
<td>23</td>
</tr>
<tr>
<td>Schultz, Eric</td>
<td>77</td>
</tr>
<tr>
<td>Schultz, Rob</td>
<td>22, 86</td>
</tr>
<tr>
<td>Schwebeke, Bryan</td>
<td>57</td>
</tr>
<tr>
<td>Schweitzer, Laura</td>
<td>72</td>
</tr>
<tr>
<td>Secreted Protein Screen for Zebrafish Pigment Formation Using Antisense Morpholinos</td>
<td>21</td>
</tr>
<tr>
<td>Seeger, Mandi</td>
<td>24</td>
</tr>
<tr>
<td>Segerstrom, Cole</td>
<td>23</td>
</tr>
<tr>
<td>Seidellmer, Eric</td>
<td>38</td>
</tr>
<tr>
<td>Seittman, Bernard</td>
<td>35</td>
</tr>
<tr>
<td>Sekiel</td>
<td>17</td>
</tr>
<tr>
<td>Self-Assessment Tool For Choosing A Major in Health and Aging Service Administration</td>
<td>77</td>
</tr>
<tr>
<td>Shaffer, Tony</td>
<td>63</td>
</tr>
<tr>
<td>Shaddick, Tiffany</td>
<td>55</td>
</tr>
<tr>
<td>Sharif, Ahmed</td>
<td>33</td>
</tr>
<tr>
<td>Shemberger, Amy</td>
<td>81</td>
</tr>
<tr>
<td>Shrestha, Archana</td>
<td>66</td>
</tr>
<tr>
<td>Siembald, Amy</td>
<td>84</td>
</tr>
<tr>
<td>Simeth, Anna</td>
<td>33</td>
</tr>
<tr>
<td>Simson, Edward</td>
<td>85</td>
</tr>
<tr>
<td>Smit, Traci</td>
<td>55</td>
</tr>
<tr>
<td>Smith, Stephanie</td>
<td>84</td>
</tr>
<tr>
<td>Smith, Zak</td>
<td>77</td>
</tr>
<tr>
<td>Smits, Kavita</td>
<td>60</td>
</tr>
<tr>
<td>St. Clair River Erosion and Decreasing Lake Michigan-Huron Water Level</td>
<td></td>
</tr>
<tr>
<td>Stable Carbon Isotope Analysis of Lake Huron Sinkhole Habits</td>
<td>68</td>
</tr>
<tr>
<td>Stehlisk, Jon</td>
<td>71</td>
</tr>
<tr>
<td>Stellar Distribution in the Fourth Galactic Quadrant</td>
<td>32</td>
</tr>
<tr>
<td>Student Perspectives on Childbearing and Impact on Marriage Gendered Differences</td>
<td>83</td>
</tr>
<tr>
<td>Student-Directed Distributed Lab Management Solutions, 24, 86</td>
<td></td>
</tr>
<tr>
<td>Study of Genetic Diversity in Sediments of Lake Huron Sinkholes</td>
<td>68</td>
</tr>
<tr>
<td>Sullivan, Stephanie</td>
<td>27</td>
</tr>
<tr>
<td>Supply and Demand Relationships In Photosynthesis</td>
<td>36</td>
</tr>
<tr>
<td>Surber, Carly-Anne</td>
<td>17</td>
</tr>
<tr>
<td>Survey of Sexual Orientation and the Male Pedophilia</td>
<td>34</td>
</tr>
<tr>
<td>Sweeney, Veronica</td>
<td>82</td>
</tr>
<tr>
<td>Swenby, Tiffany</td>
<td>55</td>
</tr>
<tr>
<td>Synthesis and Characterization of Tellurium Complexes with Bulky Thioureas</td>
<td>71</td>
</tr>
<tr>
<td>Tabatabací, Katayon</td>
<td>56</td>
</tr>
<tr>
<td>Teacher Comments</td>
<td></td>
</tr>
<tr>
<td>An Effective Learning Tool or a Waste of Time?</td>
<td>33</td>
</tr>
<tr>
<td>Teigen, Jillian</td>
<td>84</td>
</tr>
<tr>
<td>Tenpas, Brooke</td>
<td>58</td>
</tr>
<tr>
<td>Thao, Jerry</td>
<td>55</td>
</tr>
<tr>
<td>Thao, Touger</td>
<td>55</td>
</tr>
<tr>
<td>The Culture of Early Avian Embryonic Lung Samples in 3-D Artificial Tissue (ATs) Cultures</td>
<td>64</td>
</tr>
<tr>
<td>The Determination of Indoor Atmospheric Mercury Levels using Sunflowers</td>
<td>72</td>
</tr>
<tr>
<td>The Effects of Redbull/Caffeine on Mean Arterial Pressure</td>
<td>56</td>
</tr>
<tr>
<td>The Effects of Youth Bullying on Depression and Suicidal Ideation</td>
<td>76</td>
</tr>
<tr>
<td>The Evolution of UV tolerance in plants</td>
<td>61</td>
</tr>
<tr>
<td>The Faunal Analysis of the Vieu Fur Trade Post Site</td>
<td>69</td>
</tr>
<tr>
<td>The Imagery of False Memory</td>
<td>87</td>
</tr>
<tr>
<td>The Importance of Abstinence Education in the Public School System</td>
<td>32</td>
</tr>
<tr>
<td>The Marketplace as a Community Gathering Generator</td>
<td></td>
</tr>
<tr>
<td>A Design Study in Sri Lanka</td>
<td>73</td>
</tr>
<tr>
<td>The Museum of 20th Century Art</td>
<td></td>
</tr>
<tr>
<td>Modern Expressionism</td>
<td>36</td>
</tr>
<tr>
<td>The Oxidative Degradation of Select Azo Dyes by the Horse-radish Peroxidase Enzyme</td>
<td>72</td>
</tr>
<tr>
<td>The Perception of Race Black vs. White</td>
<td>82</td>
</tr>
<tr>
<td>The Pinellas County Project Planning for Sustainable Living</td>
<td>53</td>
</tr>
<tr>
<td>The Species Diversity of Moss Parasite Eocronartium muscicola</td>
<td>59</td>
</tr>
<tr>
<td>The Study of Early Avian Thoracic Neural Crest Cells and Neural Tube Region Tissues in 3-D Artificial Tissue (ATs) Cultures</td>
<td>64</td>
</tr>
<tr>
<td>The United Nations</td>
<td></td>
</tr>
</tbody>
</table>
Reasons for Success and Failure of Peacemaking .................................28
The Use of GIS to Understand the Earthquakes in America .........................37
Thompson, Christopher ............................................................................26
Three Letters (One Woman’s Experience with Human Papillomavirus) ..............17
Tissue Culture and DNA extraction in a threatened plant species, Opuntia fragilis ..............................66
Tissue Culture of Human melanocytes for use in the validation of pigment altering chemicals ........23
Topezewski, Joseph ..................................................................................34
Treiber, Chelsea.........................................................................................82
Treptow, Amelia .......................................................................................73
Tucker, Danielle .........................................................................................64
Turner, Laura ............................................................................................80

U

Use of Rating of Perceived Exertion (RPE) to Determine Exercise Intensity in Athletes ..........................................................55
Using Comparative Osteology to Determine Cervus elaphus canadensis ............59
Uttieri, Marco ............................................................................................32

V

Valkov, Volodymyr ....................................................................................28
Van Der Werff, Jessica ............................................................................25, 67
Van Dierendonck, Matthew ........................................................................87
Vande Slunt, Joe .........................................................................................26
VandeWalle, Jessica ....................................................................................60
Verging on Merging or Niftily Shifting? The Low Vowels of Eau Claire, WI ..................26
Visual Survey Method for Detection of the Emerald Ash Borer .............................70
Vitamin C Concentration in Ice Tea Effects of Packaging and Storage .................56

W

Waggoner, Joseph .....................................................................................85
Wallander, Allison ....................................................................................56
Wang, Zhicong ..........................................................................................25, 66
Webb, Shane ...........................................................................................24, 65
Weinschenk, Aaron ..................................................................................74
Weisenbeck, Brittany ...............................................................................84
Wenig, Chris ............................................................................................64
Westbrook, Rebecca ..................................................................................77
What Are The Attitudes of College Males Toward The Shift in Traditional Female Gender Roles? .... 78
What’s the Buzz? Caffeine and Visual Reaction Time ........................................ 57
Wheeler, Jordan .......................................................................................21, 78
Whipple, KyLynn .....................................................................................25
Whirry, William .......................................................................................39
Wienandt, Shannon ..................................................................................81
Wilhelm, Anne Marie ..............................................................................79
Will the Internet Transform Contemporary Campaigning or Sustain the Status Quo? .... 74
Willette, Michelle .....................................................................................64
Wilson, Robert W. ...................................................................................55
Wisconsin Act 31 History and Implementation ................................................ 25
Wisconsin Students Secure Scientific Evidence for Nursing Practice in Alaska ..........55
Wood, Courtney .......................................................................................80
Wood, Erik ...............................................................................................65
Wood, Patricia .........................................................................................81
Worden, David ..........................................................................................85

X

Xiong, Chia ...............................................................................................75
Xiong, Mai Chue ....................................................................................85

Y

Yakub, Mohamed ...................................................................................61

Z

Zagorski, Josh ..........................................................................................85
Zajack, Heidi ...........................................................................................62
Zemke, Brianna .......................................................................................64
Ziarek, Josh ..............................................................................................32
Zielinski, Daniel ......................................................................................85