



6th Annual UW System Symposium for
Undergraduate Research and Creative Activity

**University of
Wisconsin-Oshkosh
April 29, 2005**



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Schedule of Events

Thursday, April 28

6:00-9:00 p.m.	Registration and Poster Exhibit Set Up	Union Rooms 201-202
6:30-9:00 p.m.	Reception and Entertainment	Union Ballroom 227 B/C

Friday, April 29: All-Day Events

8:30 a.m.-3:30 p.m.	Presentation Practice Room	Union Room 217
	Research Administrators/Campus Rep Room	Union Room 219
	Poster Exhibits	Union Rooms 201-202
	Visual Art Exhibits	Union Room 207
	Exhibitors	Union Room 213

Friday, April 29: Program Events

7:00-8:30 a.m.	Registration and Poster Exhibit Set Up	Union Rooms 201-202
7:00-8:30 a.m.	Continental Breakfast	Union Ballroom 227 B/C
8:30-9:30 a.m.	Faculty Roundtable Dr. John Maliyakal, General Manager, WiSys	Union Board Room 305
8:30-10:00 a.m.	Music Presentations	Union Theatre 307
8:30-10:00 a.m.	Oral Presentations Session I	Union Rooms 214, 215, 220, 221B/C, 306
10:00-10:30 a.m.	Break	Union Ballroom 227 Entry
10:30-11:30 a.m.	Faculty Roundtable Dr. John Maliyakal, General Manager, WiSys	Union Board Room 305
10:30 a.m.-12:00 p.m.	Music/Theatre Arts Presentations Poster Presentations Session I Oral Presentations Session II	Union Theatre 307 Union Rooms 201-202 Union Rooms 214, 215, 220, 221B/C, 306
12:15-1:45 p.m.	Lunch and Keynote Speaker Keynote Speaker: Dr. Rudy C. Gostowski Senior Researcher, Propulsion Research Center Marshall Space Flight Center, Huntsville, AL	Union Ballroom 227
1:50-3:30 p.m.	Chemistry Seminar Dr. Rudy C. Gostowski	Union Theatre 307
2:00-3:30 p.m.	Visual Art Presentations Poster Presentations Session II Oral Presentations Session III	Union Room 207 Union Rooms 201-202 Union Rooms 214, 215, 220, 221B/C, 306

Keynote Speaker

Dr. Rudy C. Gostowski

*Senior Researcher, Propulsion Research Center
Marshall Space Flight Center, Huntsville, AL*

Luncheon Presentation (12:15 – 1:45 p.m.)

Reeve Union Ballroom 227

“Explorers Wanted: Chart Your Career With Opportunities Only NASA Can Provide”

Chemistry Seminar (1:50 – 3:30 p.m.)

Reeve Union Theatre Room 307

“Isothermal Calorimetric Observations of the Effect of Welding on Compatibility of Stainless Steels With High-Test Hydrogen Peroxide Propellant”

RUDY C. GOSTOWSKI joined the Marshall Space Flight Center’s Propulsion Research Center as Senior Researcher in 2002. His research area is surface chemistry. He was appointed to this position after serving for two years as Aerospace Technologist. From 1994 to 2000, he served as Associate Professor of Chemistry at Austin Peay State University in Clarksville, Tennessee.

Gostowski has mentored 25 graduate, undergraduate and high school students in research projects resulting in 31 presentations by students at national and regional professional meetings.

He earned a Ph.D. in Chemistry from Southern Illinois University-Carbondale, as well as a Postdoctoral Research Fellowship.

Currently, he is a member of American Chemical Society and Sigma Xi, The Scientific Research Society.

<u>Student Presenter(s)</u>	<u>Project Title</u>	<u>Discipline</u>
<u>Reeve Union Room 214</u>		
Lindsay O'Brien <i>UW Superior</i>	Mindfulness and Communication: The Relationship of Mindful and Mindless Communication to Interpersonal Communication	<i>Communicating Arts</i>
Mary Schmidt <i>UW Superior</i>	The Dreary Afternoon: Sustaining and Revising Identity in Relation to Intrapersonal and Interpersonal Communication	<i>Communicating Arts</i>
Kristin Schlough <i>UW Stout</i>	The Digital Divide: The Economic Impact on the Greater St. Croix and Chippewa Valleys	<i>Communications, Education and Training</i>
<u>Reeve Union Room 215</u>		
Natalie Ann Moore <i>UW LaCrosse</i>	Examination of Virulence Genes in Community-Acquired Methicillin-Resistant <i>Staphylococcus aureus</i>	<i>Microbiology</i>
Elise Lamont <i>UW Superior</i>	The Effect of Berberine Chloride on <i>Escherichia coli</i> and its Metabolites Using Kirby Bauer and Tissue Culture Methods	<i>Biology and Earth Sciences</i>
Ahmed Cheema <i>UW Parkside</i>	Mapping the Hybrid Incompatibility Gene in <i>Tribolium castaneum</i> Using Genetic Markers and HA (Heteroduplex Analysis)	<i>Biological Sciences</i>
<u>Reeve Union Room 220</u>		
John Cavanaugh <i>UW Superior</i>	Spatial Relationship Between Bars, Schools and Churches in Superior, Wisconsin	<i>Geography</i>
Jennifer Tovar <i>UW Oshkosh</i>	Implications for Petroform Associations Within Fond du Lac County, Wisconsin	<i>Geography and Anthropology</i>

<u>Student Presenter(s)</u>	<u>Project Title</u>	<u>Discipline</u>
<u>Reeve Union Room 221 B/C</u>		
Joseph Braun <i>UW Eau Claire</i>	Stumping for Free Speech: An Examination of Wisconsin's Free Speech Tradition During the Civil War	<i>Philosophy</i>
Andrea Lee Janssen <i>UW Whitewater</i>	"Reader, I Married Him;" From Austen to Fielding: "Chick Lit" and the Modern Answer to the Woman Question	<i>English</i>
Maxwell Davies <i>UW Oshkosh</i>	Self-Conscious Routinization and the Post-Charismatic Fate of the Church of Satan, 1997-Present	<i>Religious Studies</i>
<u>Reeve Union Wisconsin Room 306</u>		
Sean Alexander Reckwerdt <i>UW LaCrosse</i>	Making Men: The Culture of Masculinity at La Crosse State Normal School, 1909-1920	<i>History</i>
Jennifer Westpfahl <i>UW LaCrosse</i>	The Megiddo Expedition: Archaeology and the Bible	<i>History</i>
Steven Messner <i>UW Baraboo</i>	America's Impact on Vietnam's Physical Environment During the Vietnam War	<i>History</i>
<u>Reeve Union Theatre Room 307</u>		
Daniel Mitchell <i>UW Stevens Point</i>	The Dawning of a Soul – Using Musical Composition to Explore the Creative Process	<i>Music</i>
Krista Brusky <i>UW Oshkosh</i>	Making a Musical Investment: Reasons to Upgrade a Flute	<i>Music</i>
Krista Brusky <i>UW Oshkosh</i>	The History and Interpretations of Flute Pieces by Michel Blavet, Cecile Chaminade, Antonín Dvorák, Henryk Milolaj Górecki and Carl Reinecke	<i>Music</i>
Lindsay Albright <i>UW LaCrosse</i>	The Evolution of Traditional Ghanaian Music and Influence From Western Society	<i>Music/History</i>

Oral/Artistic Presentations Session II (10:30 a.m. – 12:00 p.m.)

<u>Student Presenter(s)</u>	<u>Project Title</u>	<u>Discipline</u>
<u>Reeve Union Room 214</u>		
Laurie Turtenwald <i>UW Oshkosh</i>	Skewed Bidding in Wisconsin State Forest Auctions	<i>Economics</i>
Cliff Moll <i>UW Oshkosh</i>	The Disappearing January Effect and the Tax Loss Selling Hypothesis	<i>Economics and Finance</i>
Sofia Castillo <i>UW Oshkosh</i>	Dollarization in Latin America	<i>Economics</i>
<u>Reeve Union Room 215</u>		
Ellen Arena <i>UW Parkside</i>	Characterization of the Nudix Hydrolase, PnhA, and Transmembrane Protein, PnhB, of <i>Pasteurella multocida</i>	<i>Biological Sciences</i>
Rachel Koehler <i>UW Stevens Point</i>	Genetic Analysis of Northern and Southern Strains of North American Yellow Perch (<i>Perca flavescens</i>)	<i>Biology</i>
Ryan Langlois Matt Loth Amanda Wruck <i>UW Stevens Point</i>	Photostimulation of Silver Nanoparticles	<i>Biology, Chemistry and Physics</i>
Mickey Sarto <i>UW Parkside</i>	Examining a Metal-Responsive Transcriptional Regulatory Circuit in <i>Methanosarcina acetivorans</i>	<i>Biological Sciences</i>
<u>Reeve Union Room 220</u>		
Jessica Orlofske Christopher Tyrrell <i>UW Stevens Point</i>	Odonate (Dragonfly and Damselfly) Species Diversity as an Indicator of Human-Induced Wetland Disturbance	<i>Natural Resources</i>
Nicholas Legler <i>UW Stevens Point</i>	Benefits of a Cattle Enclosure and Crossing on a Trout Stream in Northeastern Wisconsin	<i>Natural Resources</i>
Elizabeth Kobus <i>UW Oshkosh</i>	The Fate of Family Dairy Farming: Can Wisconsin Stay “America’s Dairy Land?”	<i>Anthropology</i>
Jon Schubbe <i>UW Green Bay</i>	Environmental Justice: An Examination of TRI Facility Performance in the St. Louis Metropolitan Area	<i>Public and Environmental Affairs</i>

Oral/Artistic Presentations Session II (10:30 a.m. – 12:00 p.m.)

<u><i>Student Presenter(s)</i></u>	<u><i>Project Title</i></u>	<u><i>Discipline</i></u>
<u>Reeve Union Room 221 B/C</u>		
Nicholas Cuccia <i>UW Oshkosh</i>	Eye-Hand Coordination in Video Game Playing Populations	<i>Psychology</i>
Lilliann Paine <i>UW Milwaukee</i>	The Relationship Between Maternal Distress and Youth Distress Among Assaulted Youth	<i>Psychology</i>
John Hoyt <i>UW Superior</i>	Effects on Adolescents Living With a Depressed Parent	<i>Human Behavior and Diversity</i>
Christine Doidge Amy McGuire <i>UW Stevens Point</i>	Adaptive Re-Use for a Residential Care Facility, Nelson Hall	<i>Interior Architecture</i>
<u>Reeve Union Wisconsin Room 306</u>		
Jennifer Caswell <i>UW Oshkosh</i>	Star Wars: A Narrative Analysis of President Reagan’s 1983 Address to the Nation on Defense and National Security	<i>Communication</i>
Steve Coughlin <i>UW Oshkosh</i>	<i>A Ninja, a Squirrel, and a Remote Control Walk Into a Bar</i>	<i>Communication</i>
Mark Keller <i>UW Stevens Point</i>	The Americanization of China Through Consumer Goods	<i>Fine Arts and Communications</i>
<u>Reeve Union Theatre Room 307</u>		
Catherine Tantillo <i>UW Stevens Point</i>	Costume Design for <i>Fiddler on the Roof</i>: An Array of Knowledge	<i>Theatre and Dance</i>
Curtis Smith Jessica McMunn <i>UW LaCrosse</i>	<i>Brooklyn’s Pain</i>	<i>Theatre Arts</i>
Kristine Everson Kerry Kuplic Melissa Stahley Janet Osterberg <i>UW Green Bay</i>	Vocalissimo Florence, Italy	<i>Music</i>

Oral/Artistic Presentations Session III (2:00 – 3:30 p.m.)

<u>Student Presenter(s)</u>	<u>Project Title</u>	<u>Discipline</u>
<u>Reeve Union Room 214</u>		
Akela Brown <i>UW Parkside</i>	Black Males and the Criminal Justice System	<i>Criminal Justice</i>
Angela Beck <i>UW Oshkosh</i>	The Process of Attaining a Victim Identity in a Case of Date Rape: The Impact of Race, Gender, Victim Blame and Victim Precipitation	<i>Public Affairs/ Criminal Justice</i>
<u>Reeve Union Room 215</u>		
Carolyn Otto <i>UW Eau Claire</i>	The Space of Three-Dimensional Lie Algebras	<i>Mathematics</i>
Nathaniel Throckmorton <i>UW Stevens Point</i>	Analysis of Inverted Two Variable Equations With Regard to Integer Solutions	<i>Mathematics</i>
<u>Reeve Union Room 220</u>		
Adam Fornal Anne Sweet Brian Cartledge <i>UW Parkside</i>	Milwaukee Achiever Literacy Services Marketing Plan: Using a Project Management Approach	<i>Business</i>
Jamie Herwald Kevin Boutelle <i>UW Parkside</i>	Intranet Design for Runzheimer International	<i>Business</i>

Oral/Artistic Presentations Session III (2:00 – 3:30 p.m.)

<u>Student Presenter(s)</u>	<u>Project Title</u>	<u>Discipline</u>
<u>Reeve Union Room 221 B/C</u>		
Andrew Bloeser <i>UW Stevens Point</i>	When the Tanks Came Rolling In: Conservative Advocacy Tanks and the Rhetoric of Illegitimacy and Welfare in 1995	<i>Political Science</i>
Adam Hinz <i>UW Eau Claire</i>	Cyber Bullying: An Exploration of Electronic Aggression	<i>Political Science/ Criminal Justice</i>
<u>Reeve Union Wisconsin Room 306</u>		
Michele Rogers Mary Munn <i>UW Superior</i>	Potential Effects of Solid Waste Disposal on Groundwater of the Moccasin Mike Sanitary Landfill	<i>Biology and Earth Sciences</i>
Josh Ziarek <i>UW Milwaukee</i>	Motion Pattern Complexity as a Factor in the Planktivorous Fish – Copepod Relationship	<i>Biology, WATER Institute</i>
David Hooper <i>UW Superior</i>	Radioactive Titium Level in Precipitation and Groundwater in Wisconsin and its Applications in Hydrogeology	<i>Biology and Earth Sciences</i>

Poster Presentations Session I (10:30 a.m. – 12:00 p.m.)

Posters will be displayed throughout the day in Reeve Union Rooms 201-202. Students will be available to answer questions regarding their projects during their assigned poster sessions.

<i>Poster #</i>	<i>Student Presenter(s)</i>	<i>Project Title</i>	<i>Discipline</i>
1	Kelly Neher <i>UW River Falls</i>	Assessing the Archaeological Impacts of the Aswan High Dam	<i>Art</i>
3A	Jody Whitsitt <i>UW Eau Claire</i>	Senior Needs Study	<i>Communication/ Journalism</i>
3B	Jody Whitsitt <i>UW Eau Claire</i>	The Ethics of Undercover Reporting	<i>Communication/ Journalism</i>
5	Darius McCurdy <i>UW Whitewater</i>	The Struggle to Become a Certified Public Accountant	<i>Accounting</i>
7	Amy Kiley <i>UW Green Bay</i>	Perceived Crowding and Territoriality's Effects on College Student Learning: Influences of Classroom Design	<i>Psychology and Women's Studies</i>
9	Richard Draeger Jr. <i>UW Whitewater</i>	The Politics of the German Reformation	<i>Political Science</i>
11	Julie Ackerlund Nicole Zeug <i>UW Eau Claire</i>	Comparing Constant Time Delay and Simultaneous Prompting Procedures on Skill Acquisition for Children With Autism	<i>Psychology</i>
13	Sarah Kriha Tami Thompson Kimberly Fassbender <i>UW Oshkosh</i>	Sad Movies and Emotion Expression: The Effects on Recall	<i>Psychology</i>
15	Michael Miller <i>UW Green Bay</i>	Athlete Performance Coachability	<i>Human Development and Psychology</i>
17	Valerie Rangel <i>UW Whitewater</i>	Mothering From Prison	<i>Sociology</i>
19	Margo Frost <i>UW Parkside</i>	Recovery of Archeological Materials Through Water Screening at the Vieau Fur Trade Post Site, Franksville, Wisconsin	<i>Sociology/ Anthropology</i>
21	Tara Slorby <i>UW Parkside</i>	Analysis of Faunal Remains Recovered From the Vieau Fur Trade Post Site, Franksville, Wisconsin	<i>Sociology/ Anthropology</i>
23	Leann Burrhow <i>UW Parkside</i>	Phylogeny of Andropogoneae (Poaceae): Evidence from Chloroplast <i>ndhF</i> and <i>trnL-F</i> Nucleotide Sequences	<i>Biological Sciences</i>
25	Theresa Dailey <i>UW Parkside</i>	Alternative Splicing of 5'→3' Exoribonuclease mRNAs in <i>Chlamydomonas reinhardtii</i>	<i>Biological Sciences</i>

Poster Presentations Session I (10:30 a.m. – 12:00 p.m.)

Poster #	<u>Student Presenter(s)</u>	<u>Project Title</u>	<u>Discipline</u>
27	Douglas Drury <i>UW Parkside</i>	Radiation of Woot Retrotransposons Across Strains of <i>Tribolium castaneum</i>	<i>Biological Sciences</i>
29	Laura Fischer-Guex <i>UW Oshkosh</i>	A Diatom-Based, Paleolimnological Study of Rush Lake, Wisconsin	<i>Biology and Microbiology</i>
31	Daniel Gustin Tracy Schilder <i>UW Parkside</i>	A Behavioral Study of Two African Primate Species Before, During and After the Establishment of a Mixed Species Exhibit at the Racine Zoological Gardens	<i>Biological Sciences</i>
33	Sarah Orlofske <i>UW Stevens Point</i>	Reserva Amazónica, Peru: Amphibian Population Monitoring and Ecotourism	<i>Biology</i>
35A	Candace Otte <i>UW Oshkosh</i>	Effects of pH on Cadmium Toxicity, Speciation, and Gene Expression in <i>Escherichia coli</i> K-12	<i>Biology and Microbiology</i>
35B	Candace Otte <i>UW Oshkosh</i>	Investigating a Microbiological Mystery: What is the Source of <i>E. coli</i> in the Menominee Park Swimming Beach?	<i>Biology and Microbiology</i>
37	Kyle Meyer <i>UW Milwaukee</i>	Species Status of <i>Anemone Okenyonii</i> (Ranunculaceae) Based on Molecular Sequence Data	<i>Biological Sciences</i>
39	Levi Stodola <i>UW Stout</i>	Morphometric Analysis of Red-Legged Grasshopper, <i>Melanoplus femurrubrum</i> (De Geer), Populations From Relic and Restored Prairies	<i>Biology</i>
41	Heather Herr <i>UW Parkside</i>	Hydrogeologic Investigation of the University of Wisconsin Parkside Campus	<i>Geosciences</i>
43	Christopher Ingram <i>UW Oshkosh</i>	Detailed Geological Mapping at the Neoproterozoic Kam Kotia Volcanogenic Cu-Zn Massive Sulfide Deposit, Timmins, Ontario, Canada	<i>Geology</i>
45	Nicholas Jensen <i>UW Stevens Point</i>	Short-Term Understory Response to Prescribed Fire on Menominee Reservation	<i>Natural Resources</i>
47	Ashley Frohmader Bridget Warren <i>UW LaCrosse</i>	Evaluating the Effectiveness of Clinical Experiences in Accredited Undergraduate Athletic Training Educational Programs	<i>Exercise & Sports Science</i>
49	Kelly Melrose Derek Nichols Alan Schouten Kurtis Olson <i>UW Stout</i>	Pick Interpolation and Control Theory	<i>Mathematics, Statistics and Computer Science</i>
50	Milica Bajagic <i>UW Parkside</i>	Prebiotic Significance of the Maillard Reaction	<i>Chemistry</i>
51	Katherine Campbell Sarah Maliborski <i>UW Platteville</i>	Diagnostic Targets of SEB Induced Human Peripheral Blood Mononuclear Cells	<i>Chemistry and Engineering Physics</i>

Poster Presentations Session I (10:30 a.m. – 12:00 p.m.)

<i>Poster #</i>	<i>Student Presenter(s)</i>	<i>Project Title</i>	<i>Discipline</i>
52	Sarah Effinger <i>UW Platteville</i>	Confirmation of the Gene Expression Profile of a Set of Functionally Relevant Genes and Significance in SEB Induced Symptoms in Human Lymphoid Cells	<i>Chemistry and Engineering Physics</i>
53	Emily Freehauf <i>UW Platteville</i>	Conformational Analysis of a Set of Selectively Screened Apoptotic Related Genes in a SEB Induced Human Lymphoid Cell Module	<i>Chemistry and Engineering Physics</i>
54	Mark Groth <i>UW Platteville</i>	Detection of Substituted PAH Residues by SPME in Arson Debris Analysis	<i>Chemistry and Engineering Physics</i>
55	Jeremy Jorgenson <i>UW LaCrosse</i>	Hemolytic Activity of Truncated Hemolysin A (HpmA265)	<i>Chemistry</i>
56	Jennifer Lochner <i>UW Platteville</i>	Influence of Riparian Environment on Second Order Stream Water Chemistry	<i>Chemistry</i>
57	Trista Pachan <i>UW Platteville</i>	Synthesis and Conformational Study of 1-Arylpiperazine Derivatives	<i>Chemistry and Engineering Physics</i>
58	Kristopher Reimann <i>UW Stout</i>	Development of Nano-Materials Demonstrations for Chemistry Courses	<i>Chemistry</i>
59	Joseph Topczewski <i>UW Parkside</i>	Aerosol Phase Digestion of Sucrose to Bypass Microwave Digestion	<i>Chemistry</i>
60	Sadie Yohnk <i>UW Platteville</i>	Relating Cell Death of Genes to the Symptoms of SEB	<i>Chemistry</i>
61	Benjamin Sykora <i>UW Eau Claire</i>	Micro-Wire Interconnect Fabrication Using Magnetron / DC-Triode Sputtering	<i>Physics and Astronomy</i>
62	Nick Wara <i>UW Oshkosh</i>	Optimal Design of a Two-Stage, High-Powered Sounding Rocket	<i>Physics</i>
63	Matthew Van Duzor <i>UW Milwaukee</i>	Sol-Gel Clad Optical Fiber-Fiber Junctions for Application Within Quasi-Distributed Sensor Arrays	<i>Chemistry</i>
64	Molly Ross Thomas Leitzinger Scott Witkowski <i>UW Platteville</i>	Determination of Pentachlorophenol in a Failure of Pressure-Treated Wood Products	<i>Chemistry</i>
66	Vinthany Souvannarath <i>UW Milwaukee</i>	The Process of Assimilation: Narrative Analysis of Six Lao Women Refugees	<i>Psychology</i>

Poster Presentations Session II (2:00 – 3:30 p.m.)

<i>Poster #</i>	<i>Student Presenter(s)</i>	<i>Project Title</i>	<i>Discipline</i>
2	Sarah Skahan <i>UW Stevens Point</i>	Speech-Language Pathologist's Phonological Assessment Practices: A National Survey	<i>Communicative Disorders</i>
4	Kristin Finkbeiner <i>UW Baraboo</i>	The Colorful World of Frida Kahlo	<i>Spanish</i>
6	Chelsea Nelson <i>UW Oshkosh</i>	Multigenerational Impacts on Educational Choice	<i>Economics</i>
8	Jeremy Treague <i>UW Eau Claire</i>	Searching for the Lost River and Village: An 1805 Lewis and Clark Site Along the Northwest Oregon Coast	<i>Geography and Anthropology</i>
10	Amanda Besner Kelli Capocasa <i>UW Eau Claire</i>	Teaching Vocal Imitation to Children With Autism	<i>Psychology</i>
12	Carol Olson <i>UW Whitewater</i>	Academic Thriving and Coping Skills of Students Who Live Amidst Domestic Violence	<i>Psychology</i>
14	Jennifer Seefelt <i>UW Stevens Point</i>	The Perpetuation of Rape Myths in the Media and the Effects on Attitudes Toward Sexual Assault Victims	<i>Psychology</i>
16	Ebony Evans <i>UW Whitewater</i>	Stay Out, Speak Out and Succeed: Addressing the Needs of African-American Females in the Juvenile Justice System	<i>Criminal Justice</i>
18	Tamara Gaut <i>UW Parkside</i>	Analysis of Square Nails Recovered From the Vieau Fur Trade Post Site, Racine County, Wisconsin	<i>Sociology/ Anthropology</i>
20	Derek Rivers <i>UW Parkside</i>	Identification of Early 19th Century Potawatomi Artifacts in Museum Collections	<i>Sociology/ Anthropology</i>
22	Paul Brantmier <i>UW Oshkosh</i>	Tools for Identification of Redox-Sensing Mechanisms of Photosynthesis in the Cyanobacterium <i>Synechocystis</i> PCC 6803	<i>Biology and Microbiology</i>
24	Bwarenaba Kautu <i>UW River Falls</i>	Investigating Chemotaxis and Formaldehyde Induced Fluorescence in the Neurons of <i>C. elegans</i>	<i>Biology</i>
26	Erin Lee Marion Majeske Andrew Gunderson Sarah Schimmel Nicole Salwasser <i>UW River Falls</i>	Development of a Three-Dimensional Cell Culture System for the Growth and Study of Epithelial "Pseudo-Tissues"	<i>Biology</i>
28	Nicole Salwasser <i>UW River Falls</i>	Biological Testing of Synthetic Organic Compounds for Potential Activity Inducing Apoptosis	<i>Biology</i>

Poster Presentations Session II (2:00 – 3:30 p.m.)

<i>Poster #</i>	<i>Student Presenter(s)</i>	<i>Project Title</i>	<i>Discipline</i>
30	Andrew Gunderson <i>UW River Falls</i>	Establishment of GFP-Tubulin Expressing Stable Epithelial Cell Lines	<i>Biology</i>
32	Sarah Schimmel <i>UW River Falls</i>	Establishment of GFP-ERV env Expression Vector Using Trophoblast Cell Cultures as Target Gene Source	<i>Biology</i>
34	Sarah Schettle <i>UW Oshkosh</i>	Proteomic Investigation of Redox-Regulation in Rieske Iron-Sulfur Protein Mutants of the Cyanobacterium <i>Synechocystis</i> PCC 6803	<i>Biology and Microbiology</i>
36	Kendra Scudder <i>UW River Falls</i>	A Multi-Generation Sublethal Assay of Estrogenic Compounds Using the HIM-5 Strain of the Nematode <i>Caenorhabditis elegans</i>	<i>Biology</i>
38	Stacy Lueck Jessica Orlofske <i>UW Stevens Point</i>	Impact of Early Release of Two Biological Control Agents (<i>Galerucella pusilla</i> and <i>G. calmariensis</i>) on Purple Loosestrife-Infested Wetland Sites	<i>Biology</i>
40	Brady Hurtgen <i>UW Stout</i>	Molecular Analysis of the Red-Legged Grasshopper Within Relic and Restored Prairies	<i>Biology</i>
42	Dan Swosinski Ryan Helgesen <i>UW Parkside</i>	Precambrian Basement Topography in Southeastern Wisconsin from Modeling of Gravity and Aeromagnetic Data	<i>Geosciences</i>
44	Aaron Fonder <i>UW Stout</i>	Nutritional and Fitness Status of UW Stout Students	<i>Food and Nutrition</i>
46	Marion Majeske <i>UW River Falls</i>	Integrating Restriction/Modification and Abortive Infection Bacteriophage Defenses into a Single <i>Lactococcus lactis</i> Strain Through a Starter Culture Rotation Strategy	<i>Animal and Food Science</i>
48	Jenny Faubert <i>UW Green Bay</i>	Pollution Geography and Media Politics	<i>Public and Environmental Affairs</i>
65	Erica Trafton <i>UW Parkside</i>	Gentrification and Socioeconomic Polarization: The “Creation” of Two Milwaukeees	<i>Geography</i>
67	Sherry Berhow <i>UW Superior</i>	A Comprehensive Database of Western Lake Superior Marinas: A Tool for Analyzing Small-Craft Marina Use and Expansion	<i>Business and Economics</i>

Visual Art Presentations (2:00 – 3:30 p.m.)

Visual Art will be displayed throughout the day in Reeve Union Room 207. Students will be available to answer questions regarding their projects from 2:00 – 3:30 p.m.

<u>Student Presenter(s)</u>	<u>Project Title</u>	<u>Discipline</u>
Tony Flanagan <i>UW Oshkosh</i>	Pinhole Photography: A More Comprehensive Understanding of Photography	<i>Art</i>
Erica Millspaugh <i>UW Green Bay</i>	Flower: A Photographic Study	<i>Art</i>

Graduate School Exhibitors

Several University of Wisconsin graduate school representatives will have table set-ups and will be available throughout the day in Reeve Union Room 213.

UW River Falls Poster Exhibit

Student Participation in the Development of an Undergraduate Research, Scholarly and Creative Activities Culture at UW River Falls: SURSCA in its Third Year

Timothy Lyden, Ph.D., William Campbell, Ph.D. and Virginia Coombs, Ph.D.

Although our institution has embraced the concept of undergraduate research, scholarly and creative activities (RSCA) for many years, little progress was made in developing an RSCA culture until 2002. During that year, UW River Falls sponsored the travel of some 35 students and faculty to NCUR. As a direct result of our students' experiences at UW Whitewater, a new student organization was founded to support the enhancement of RSCA throughout our campus community. Several students, together with interested faculty and administrators, formed the Society for Undergraduate Research, Scholarly and Creative Activities (SURSCA). The group quickly established a campus-wide Fall Evening Event to showcase scholarship, built a Web site, and worked to secure continued funding and support from the institutional administration. In part as a result of SURSCA's efforts, UW River Falls has continued to field approximately 30 students at each of the following NCUR meetings. In spring 2004, we were very proud to welcome a sister group into existence as a chapter of SURSCA opened at UW LaCrosse. By supporting and assisting in the founding of SURSCA, UW River Falls has provided its students with a direct investment in the future development of their own scholarly community and fostered wider understanding of and appreciation for an undergraduate RSCA culture.

Pinhole Photography: A More Comprehensive Understanding of Photography

Tony Flanagan (Erin Tapley)

Art, UW Oshkosh

Visual Art Presentation (2:00 – 3:30 p.m.)

In no other form of society in history has there been such a concentration of images. We are constantly involved with still pictures in newspapers, magazines and billboards. However, due to the advanced state of photographic technology, practically the entire process is hidden from the operator. With conventional, “orthodox” cameras, photography is reduced to a single button and a drop off at the local department store. Pinhole, on the other hand, is a relatively inexpensive and very educational way to make photographs. There is nothing “automatic” and there is no dependence upon proprietary film equipment. The most important difference between pinhole photography and modern photography is that a pinhole camera does not use a lens and a conventional camera does. A pinhole camera uses instead a very small, round hole, the pinhole, to form an image that can be captured by light-sensitive materials to make a photograph. Perhaps more important than the differences between pinhole and orthodox photography is the question; why pinhole? People who go through a pinhole photography experience gain a much more comprehensive understanding about photography than any other method of learning about photography. It provides the most hands-on experience of the underlying principles.

Flower: A Photographic Study

Erica Millsbaugh (Sarah Detweiler)

Art, UW Green Bay

Visual Art Presentation (2:00 – 3:30 p.m.)

If I had to give the body of my work one label, it would be solipsistic. Critics might try to classify my work as feministic or queer. Scholars might notice in my work an interest in pop-culture and at the same time a feeling of non-conformism. While these witnesses might be accurate in their observations, my work is not made with any specific political or social agenda in mind. My color photographs, which often include the aesthetically raw insertion of text, are interactive and performative studies of my life. My photos explore all my positions in this world as a

Britney Spears loving, third-wave feminist, broken-hearted, post-structuralist, rebellious, if not destructive, young gay woman artist, and by default become sociological statements. My work is like running down a deserted country road and screaming all my secrets to the wind. My work cries, my work yells, my work is depressed, and my work is romantic. My work is a full orchestra rocking out a bittersweet symphony. My work would chain smoke if it could, but most importantly, just as I am, my work is alive.

Assessing the Archaeological Impacts of the Aswan High Dam

Kelly Neher (Steven Derfler)

Art, UW River Falls

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

During the 1950s, the Egyptian government faced a period of rapid population increase and economic instability. While under intense political pressure, President Nasser began searching for a means to independently increase production of national agriculture, energy and associated manufacturing. In 1960, the Soviet Union aided the country in constructing the Aswan High Dam along the Nile River to regulate agricultural irrigation systems and produce hydroelectric power. What effect has this had on Egypt and its expanse of archaeological treasures? This study witnesses the obliteration of countless artifacts and monuments, the destructive effects of increasing salinity on remaining sites, as well as other social, ecological and agricultural consequences. This impoverished country’s resources are best spent on its current population; therefore, preservation funding has taken a back seat to current issues. The conservation of our ancient past depends on the cooperation of other countries that understand the value of these antiquities and that are willing to make an effort to protect them for future generations.

The Evolution of Traditional Ghanaian Music and Influence From Western Society

Lindsay Albright (Bridget Teboh)

Music/History, UW LaCrosse

Music Presentation (8:30 – 10:00 a.m.)

The research took place in Ghana, a West African nation state, between December 2004 and March 2005. The project consisted of two parts: archival research and oral interviews. I traveled to various villages to

observe the role of music and dance in everyday life, along with interviewing elders and experts about its history, development and meaning. I also studied the musical traditions in Accra, Ghana's capital, by interviewing local Ghanaians on how they learned traditional music. I also wanted to study the influence of Western music and culture on Ghanaian traditional music and traditional culture.

Making a Musical Investment: Reasons to Upgrade a Flute

Krista Brusky (Mihoko Watanabe and Wally Messner)
Music, UW Oshkosh
Music Presentation (8:30 – 10:00 a.m.)

Flute experts realize the difference and importance in sound quality between flutes because overall sound quality is the most important factor in purchasing an advanced flute. This study, however, is intended for parents who are unsure of the reason why a flute player should upgrade to an intermediate model. The study is primarily directed toward parents because most players in need of an upgrade are dependent upon their parents for such an investment. The criteria I selected for the flute comparison are all factors that determine sound quality. The criteria such as C-foot and B-foot, nickel silver and sterling silver and silver-plated, closed-hole (plateau) and open-hole (French), a flute with a gizmo key or no gizmo key, split-E mechanism or no split E mechanism, and felt and fiber or silicon or air pads are examined. After reviewing all the benefits an intermediate model flute has, it is clear that an advanced flute is the best option if a student is excelling at the flute and seems serious about continuing his or her studies.

The History and Interpretations of Flute Pieces by Michel Blavet, Cecile Chaminade, Antonín Dvořák, Henryk Milolaj Górecki and Carl Reinecke

Krista Brusky (Mihoko Watanabe and Wally Messner)
Music, UW Oshkosh
Music Presentation (8:30 – 10:00 a.m.)

Playing a piece of music properly requires considerable research into the history of the composers. Various playing techniques must be observed for a piece to sound as effective as possible. A player should be knowledgeable in performing for each period. Baroque, Romantic, and 20th Century are of interest in this study. Michel Blavet's (1700-1768) *Sonata in d minor, Op.2, No.2* was interpreted as well

as Cecile Chaminade's (1857-1944) composition of the *Concertino op. 107*, which has certain demands in late Romantic French music. Carl Reinecke's (1824-1910) *Ballade for flute and piano, Op. 288* is also examined. Antonín Dvořák (1841-1904) incorporated Slavic folk music into his writings like *Sonatine in D Major for flute and piano, Op. 100*. Twentieth Century flute music explores non-traditional sounds that flutes can create. Mikolaj Górecki (b.1933) established a pattern for music referred to as "sonoristic composition." This relies on the idea that it is better to have more dissonance. His piece, *Trzy Diagramy na flet solo*, is explored in detail.

Vocalissimo Florence, Italy

Kristine Everson, soprano, Kerry Kuplic, baritone, Melissa Stahley, soprano and Janet Osterberg, piano (Sarah Meredith)
Music, UW Green Bay
Music Presentation (10:30 a.m. – 12:00 p.m.)

Vocalissimo is a project of international performance by the Del Bianco Foundation, Florence, Italy, in collaboration with the Academy of Music in Bygdocz, Poland, and the Academy of Music, Banska Bystrica, Slovakia of Eastern Europe. Institutions were invited to send four singers to participate in performance master-classes with Sergej Kopcak, the world-famous bass-baritone and Metropolitan Opera singer. The week culminated in a final concert of singers at the Luigi Cherubini Music Conservatory. During the week, each student had a chance to sing and work on five arias suited for their voice type. They had to do extensive research and intense study on the operas; including interpretation, dramatic elements and diction (the arias are sung in French, Italian and German). In addition to the performance aspect of this project, the students met with other international students to discuss plans for future collaborations. The students also visited Florence museums and galleries. The named performers will sing examples of the work they did in Florence and share experiences.

The Dawning of a Soul – Using Musical Composition to Explore the Creative Process

Daniel Mitchell (Charles Young)
Music, UW Stevens Point
Music Presentation (8:30 – 10:00 a.m.)

There is a creative spirit within each and every human being. When one finds a method to harness this innate energy, it can be put to use, producing results varying

from scientific breakthroughs to artistic masterpieces. Through extensive research of the music compositional process and its relation to my own creative spirit, “The Dawning of a Soul” was conceived. “The Dawning of a Soul” is a seven-minute piece of music, written for wind ensemble (comprised of approx. 30 to 50 musicians), that suggests in an aural language a group of four emotions. Ideally, my audience experiences a soothing, comforting, and peaceful work, while sensing the conflicting yearning element in the piece. In the process of creating “The Dawning of a Soul” as well as the numerous other musical compositions I’ve written, I learned that music became my vehicle for creative expression. My previous knowledge and experience in music allowed me to use a language in which my creative voice could speak without inhibition. It is in demonstrating my research and discoveries through my creation, “The Dawning of a Soul,” that I hope to help others find the creative spirit within them.

Brooklyn’s Pain

Curtis Smith and Jessica McMunn (Beth Cherne)
Theatre Arts, UW LaCrosse
Theatre Arts Presentation (10:30 a.m. – 12:00 p.m.)

I have written a play called *Brooklyn’s Pain* that looks into race and culture in an urban environment. It will be performed on the UW LaCrosse campus. Along with writing and directing the play, I am making a video documentary about this piece of art and how it reflects life – the good along with the bad. I feel that combining two works with the same theme will make my presentation stronger in showing the audience theatre and film are just reflections of our own reality. This performance has the potential to be incredibly powerful and moving; it will make a difference in the lives, opinions and views of the people watching it. There are so many different issues needing to be heard on this campus, especially about Latinos. In the LaCrosse community, Latinos are one of the smallest minority groups. It is my hope that in completing this project I can reach out to both Latinos and non-Latinos, to educate and to create a safe space where questions can be asked after the performance without judgment case upon them. I plan to show most of the members in the audience life but just through a different set of eyes.

Costume Design for *Fiddler on the Roof*: An Array of Knowledge

Catherine Tantillo (Susan Sherwin)
Theatre and Dance, UW Stevens Point
Theatre Arts Presentation (10:30 a.m. – 12:00 p.m.)

The costumes for UW Stevens Point’s production of *Fiddler on the Roof* need to convey the director’s vision of the musical, project a feeling of authenticity, and be theatrical (meaning they are more striking and showy than street clothes). *Fiddler on the Roof* takes place in a small Jewish village in Russia in 1905. The storyline of the musical revolves around the tradition of the people in this village and how the changing world outside of their village affects them. It is crucial to ensure the authenticity of the costumes because there will be audience members who come from the same background and traditions as the villagers in the musical, whom we want to avoid offending. As costume designer, I have used a combination of historical, anthropological, geographical, and psychological research about the people of that time, as well as examining designs for past productions to guide the design process. In addition, I have studied fabric types and textures, as well as colors, to know how to create the right look for each character’s costume. The strategic mixing of all these elements enables the costumes to successfully support the storyline, which in the end enhances the audience’s reaction to the musical.

Star Wars: A Narrative Analysis of President Reagan’s 1983 Address to the Nation on Defense and National Security

Jennifer Caswell (Carmen Heider)
Communication, UW Oshkosh
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

Ronald Reagan’s address to the nation on March 23, 1983, is a provocative and controversial speech that influenced mainstream America to adopt a budget increase for a bold defense program in the midst of the worst economic crisis since the 1930s – a time when Americans were more concerned with their own well-being than superpower relations. In this study, I analyze the rhetorical situation that prompted Reagan’s address and dissect the components of his speech using narrative analysis, a method of rhetorical criticism. Using narrative analysis I was able to analyze Reagan’s speech using eight primary features of narratives: setting, characters, narrator, events, temporal relations, causal relations, audience and theme. The results of this study indicate that Reagan’s

success was determined through the compelling story he created to transform Americans' fear of the future from economic despair to national security distress; thus, he was able to boost national morale and restore public faith in his agenda. This analysis provides important insight into how people in power generate support for radical change. It shows us how language can be used to construct a reality that benefits the agenda of the rhetor and limits the worldview of the audience.

A Ninja, a Squirrel, and a Remote Control Walk Into a Bar

Steve Coughlin (R. Douglas Heil)
Communication, UW Oshkosh
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

I'm always experimenting and coming up with ideas for art. Motion Picture Workshop allowed me to combine different mediums I enjoy working with. Using my artistic skills to design and the film medium to put the designs into motion, I created three animations each promoting Titan TV. The process was cell animation, which is taking a picture of still images that when combined in a series creates an illusion of motion. *How Revealing* is charcoal drawn on individual cells (pieces of paper). The cells were laid down one at a time, and a picture taken of each. *Nothing Happens* is pieces of paper and plastic, cut out, and moved around little by little in a sequence. *Something Better* is drawn with markers and then the same process used as *How Revealing*. The final product is now being used for promotion spots on Titan TV. It was a real world experience because I had clients to deal with, deadlines to make, and needed to be able to rise to the audience's expectations.

The Americanization of China Through Consumer Goods

Mark Keller (Helena Vanhala)
Fine Arts and Communications, UW Stevens Point
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

After Mao Zedong's death in 1978, China's new leadership, led by Deng Xiaoping, created a plan for economic growth. Deng's goal was to allow the Chinese people a "relatively comfortable life" by the year 2000. To achieve this goal, China decided to internationalize its markets. Since then, American consumer goods have entered China's market and have come to dominate the urban China's market. As a result, American cultural products have changed urban China's culture and society. Urban China has moved

from a Maoist society, in which people who showed interest in consumer goods were considered to be bourgeois or materialistic, to a society, which closely resembles the consumer society of the United States. This research analyzes, from a critical studies perspective, the emergence of urban China's consumer society. The work draws on literature on China, dependency theory, cultural studies, and cultural imperialism with a focus on the Americanization of a foreign culture. The method of the study is a qualitative textual analysis, grounded in cultural studies, on published Chinese and Western eyewitness accounts, and news articles on Chinese consumer habits.

Mindfulness and Communication: The Relationship of Mindful and Mindless Communication to Interpersonal Communication

Lindsay O'Brien (Martha Einerson)
Communicating Arts, UW Superior
Oral Presentation I (8:30 – 10:00 a.m.)

This research explores how mindfulness, a new buzzword in business and industry, self-help and medicine, can lead to more clear and distinct communication. The interactive, psychological and meditative aspects of mindfulness are important components in definitions of competent communication in conflict, small groups and intercultural contexts. Specifically, these components of mindfulness are vital in careful listening, communication climate, group leadership, ethnocentrism, verbal language, nonverbal language, and argumentation and persuasion. For this project, these concepts are applied to interpersonal communication in business and professional settings, where mindless and automatic behavior and communication may lead to issues of productivity, morale and job satisfaction. Utilizing psychological research on mindfulness, and meditative practices, together with lived experience, this research explores the various ways by which developing mindful participation in communication processes can lead to more positive and productive experiences in work relationships.

The Digital Divide: The Economic Impact on the Greater St. Croix and Chippewa Valleys

Kristen Schlough, Karl Forsman, Randy Kerr, Thomas Krenn and Ryan Jensen (Steve Schlough)
Communications, Education and Training, UW Stout
Oral Presentation I (8:30 – 10:00 a.m.)

In September 2004, the West Central Wisconsin Synergy 2004 consortium met to discuss different factors pertaining to the economic development in the nine counties of the St. Croix and Chippewa Valleys. Here it was determined the “digital divide” plays a key role in economic development, and thus it was necessary to complete a study on broadband and mobile phone coverage in the nine counties. This project assessed the coverage areas for each of the broadband technologies available in each of the nine counties, as well as mobile phone coverage in the area. The assessment of broadband technologies was necessary in order to develop a realistic representation of the effects of broadband and mobile phone access on economic development. In addition to providing coverage information, the study presents the strengths and weaknesses of the available technology and its effects on economic development. Included are recommendations on how to capitalize on the strengths and improve on the weaknesses of the available technologies to make the St. Croix and Chippewa Valleys an attractive place for business, industry and residential development.

The Dreary Afternoon: Sustaining and Revising Identity in Relation to Intrapersonal and Interpersonal Communication

Mary Schmidt (Martha Einerson)
Communicating Arts, UW Superior
Oral Presentation I (8:30 – 10:00 a.m.)

This research explores the role lived experience plays in shaping individual identity development. More specifically, I examine the self’s process of expectation construction and how our individual expectations come to shape our future encounters and experiences. I explore the role of expectation development to communication in the following three broad areas: Conflict including styles, management, expressions, gender and goals. Persuasion, including reassurance of worth, Aristotle’s *The Good Life*, and nonverbal language. Finally, interpersonal contexts including self and identity, reflected appraisal, power,

control, autonomy, connection and individual perceptions. Utilizing scholarly research in Communication Studies, popular media and literature, and autoethnographic accounts, I examine individual identity development of expectations.

Speech-Language Pathologist’s Phonological Assessment Practices: A National Survey

Sarah Skahan (Maggie Watson)
Communicative Disorders, UW Stevens Point
Poster Presentation II (2:00 – 3:30 p.m.)

A significant aspect of many Speech-Language Pathologists’ (SLPs) workload involves assessing children with phonological disorders. Phonology is the study of speech sounds, sound patterns, and the rules used to combine sounds to create words. Children diagnosed with “phonological disorders” frequently mispronounce words by substituting or omitting sounds. For some preschool and young school-age children, the frequency and consistency of sound errors significantly impacts their ability to be understood by others. This may have an effect on social and language development, as well as the development of early literacy skills. It is imperative that children with phonological disorders receive an early and accurate diagnosis in order to begin effective intervention programs. Thorough and accurate assessments can be time-intensive. SLPs faced with heavy caseloads may have to compromise “ideal” assessment procedures due to time constraints. Thus, the purpose of this study was to determine typical phonological assessment procedures used by SLPs working with preschool and young school-age children. A survey of SLPs working in school-based settings was conducted to determine typical phonological assessment procedures. Data will be presented to show those typical practices as well as variables that affect assessment practices including caseload size, clinical training and availability of support staff.

“Reader, I Married Him;” From Austen to Fielding: “Chick Lit” and the Modern Answer to the Woman Question

Andrea Lee Janssen
(Mary Pinkerton and Rebecca Hogan)
English, UW Whitewater
Oral Presentation I (8:30 – 10:00 a.m.)

In Jane Austen's era, marriage was the only answer for a woman's future, and marriage prescribed their roles in the domestic as well as the social spheres.

Throughout her novels, Austen's biting satire pokes fun at convention and suggests alternatives to marriage for her heroines, before inevitably marrying them off. While some critics argue that Austen was a pioneer feminist writer, she fails to adequately answer the woman question. Contemporaries and later writers (i.e. the Bronte sisters, Gaskell and Chopin) also answer the woman question in the same way: marriage, suicide or ruin for the woman. Modern-day writers such as Fielding, Bushnell, Kinsella, Weisberger and Weine have explored the same topics as their predecessors. Some of their new questions relate to the following issues: female success outside of the confines of marriage and domestic life; using sex to gain power; sexual identity and social ostracism; trying to find contentment with the status quo. This literary analysis addresses these issues, and investigates the authors' intent when writing novels. Preliminary results suggest that writers face the quandary of writing for strictly literary pleasure or writing as a form of social criticism.

The Colorful World of Frida Kahlo

Kristin Finkbeiner (Nancy Waldman)
Spanish, UW Baraboo-Sauk County
Poster Presentation II (2:00 – 3:30 p.m.)

Frida Kahlo, an inspirational and talented artist, "painted her own reality" as she put it. To truly understand an artist's work, one must first gain an understanding of the person behind the paintbrush – what was the "reality" of Frida Kahlo's life? Giving reference to the events in her tragic life that shaped the context of her paintings, one can begin to see that the suffering that she expressed through her paintings was real. In the beginning, painting was a way to fill her lonesome time spent bedridden as a result of health problems. It grew to become her passion, a constant in her rocky marriage and an escape from her failing health.

The Ethics of Undercover Reporting

Jody Whitsitt (Michael Dorsher)
Communications/Journalism, UW Eau Claire
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

The practice of undercover reporting raises many ethical questions. Sometimes, reporters say they cannot obtain the truth without going undercover. However, the use of deception to gather information

erodes credibility. This is the dilemma that was raised in a case involving a North Carolina news station and its investigation of a local assisted-living facility. A reporter entered the establishment and filmed patients without their consent. When the broadcast aired, the owners of the nursing home sued the news station for trespassing, claiming the reporter had no permission to enter. The patients at the nursing home claimed that their privacy was invaded, saying they were filmed without their permission and that the reporter had read their private medical records. Using the Potter Box, a model for ethical decision-making, I will examine the dilemma, values, principles and loyalties involved in this case. After considering all aspects, I will ultimately construct and present an ethical policy on undercover reporting.

Senior Needs Study

Jody Whitsitt (Edward Frederick)
Communications/Journalism, UW Eau Claire
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

The baby boomer generation is on the verge of retirement and organizations that serve senior citizens need to prepare for this new group of retirees. In order to aid the L.E. Phillips Senior Center in preparing to serve these community members, I distributed a questionnaire to adults living in Eau Claire who were between the ages of 55 and 65. We received professional input on our questionnaire structure and content. The survey was then sent to a random sampling of participants who answered questions regarding their lifestyle choices at present and their plans for the future. The random sample was chosen from a mailing list donated by the AARP and names of those who were already members of the senior center were omitted from the list. The questionnaire was created in hopes of gathering information about those community members who plan to retire within the next 10 years. By studying the results of the survey, the L.E. Phillips Senior Center will be able to anticipate the needs of this group and better support them during their retirement. The questionnaire results could be useful to other organizations in the Eau Claire community that work primarily with senior citizens.

Stumping for Free Speech: An Examination of Wisconsin's Free Speech Tradition During the Civil War

Joseph Braun (Timothy Shiell, UW Stout)
Philosophy, UW Eau Claire
Oral Presentation I (8:30 – 10:00 a.m.)

Among other things, the First Amendment of the United States Constitution guarantees freedom of speech. Yet, despite the steps taken by the framers of the Constitution, many people do not understand what free speech is and why it is important. This tradition has only recently begun to be acknowledged by scholars, including the long and proud free speech tradition in Wisconsin. In part, this philosophical and historical oversight is due to the work of Zechariah Chafee, whose influential work implicitly suggests that there was no meaningful discussion of free speech prior to World War I. Examining the history of free speech in Wisconsin is a valuable undertaking because it further exposes the inaccuracies in Chafee's work, while showcasing a previously unnoticed free speech tradition. Carl Schurz, a German immigrant who settled in Watertown, is of particular interest because of his progressive understanding of free speech and its value, and because of his principled advocacy for free speech prior to and during the Civil War. Further research into the history of free speech will undoubtedly continue to demonstrate the inaccuracy of Chafee's claims, while also adding previously undiscovered arguments and events to the history of free speech.

Self-Conscious Routinization and the Post-Charismatic Fate of the Church of Satan, 1997-Present

Maxwell Davies (Jeffrey Kaplan)
Religious Studies, UW Oshkosh
Oral Presentation I (8:30 – 10:00 a.m.)

The Church of Satan is a religious movement that was founded by its charismatic leader, Anton LaVey, in 1966. On October 29th 1997, LaVey died of a heart attack. The fate of the Church of Satan was thus left in the hands of successors, who 'routinized' the organization and reinstated the 'grotto' system – defined as, "an associated subgroup of the Church of Satan which consists of members of the Church of Satan and adhering to its philosophy." This model was created and used by the Church of Satan from the late 1960s to the mid-1970s when the system was dissolved after a serious schism, and affected the trappings of a corporation. This process followed the lines of other new religious movements. The objective of this paper will be to explore these similarities to other religious movements, examine key dissimilarities that unified the movement, and contrast them with how similar attributes splintered other groups to termination. These differences allowed a self-conscious production of charismatic leadership of

its membership to occur, facilitated by charismatic road-maps left by LaVey. Examining the organization's shift of actions and methods controlling the organization will show features that enable a stigmatized ideology to thrive in mainstream society.

Characterization of the Nudix Hydrolase, PnhA, and Transmembrane Protein, PnhB, of *Pasteurella multocida*

Ellen Arena and Tonia Urick (Carmel Ruffolo)
Biological Sciences, UW Parkside
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

Fowl cholera (FC), a highly contagious disease caused by *Pasteurella multocida*, is a significant problem for the poultry industry, and there is an urgent need for a safe attenuated vaccine against the disease. The attenuated live *P. multocida* vaccine strain, the X-73 mutant strain (ACP13), has been developed and preliminary studies have shown that ACP13 is attenuated for virulence. The ACP13 strain contains inactivated *pnhA* and *pnhB* genes, leaving the mutant deficient in PnhA and PnhB proteins. PnhA has been enzymatically characterized as a Nudix hydrolase, and PnhB is a bacterial transmembrane protein. Previous studies indicate that both PnhA and PnhB are required for *P. multocida* virulence. To further characterize the function of PnhA, wild type *P. multocida*, ACP13 and its complimented strain, ACP17, were employed in metabolic and enzymatic assays, using the bioMérieux® API 50 CH and API ZYM tests. It has been speculated that a functional *pnhA* is required for the pathogen to combat external and internal oxidative stress. It was expected that ACP13 was sensitive to oxidative stress, generated by 100-300mM H₂O₂; however, this was not observed. Further studies on the function of PnhA, and how PnhB is linked to this function, are on-going.

Tools for Identification of Redox-Sensing Mechanisms of Photosynthesis in the Cyanobacterium *Synechocystis* PCC 6803

Paul Brantmier (Beatrice Holton and Toivo Kallas)
Biology and Microbiology, UW Oshkosh
Poster Presentation II (2:00 – 3:30 p.m.)

Photosynthesis produces oxygen and energy for life on earth. In photosynthesis, electrons flow from photosystem II (PS II) > plastoquinone (PQ) pool > cytochrome *bc*₁ complex > photosystem I (PS I). In response to changing light intensity or environmental stresses, harvested light energy can be redistributed to

either PS II or PS I. This improves efficiency and minimizes harmful oxygen radicals. The reallocation of light energy ("state transitions") is regulated by the redox (reduction-oxidation) state of the plastoquinone pool. The cytochrome *bf* complex has been implicated in redox sensing of the PQ pool, signaling of state transitions, and in redox-regulation of gene expression. Through random point-mutagenesis and subsequent genetic complementation, we hope to identify the responsible genes and elucidate the redox-sensing/signaling mechanism in *Synechocystis* 6803. This cyanobacterium is a model organism for photosynthesis research, its genome sequence (genetic blueprint) has been determined, and microarrays (gene chips representing the entire genome) are available. We have developed conditions for ethylmethane sulfonate (EMS) mutagenesis of *Synechocystis* cells, which will be screened by fluorescence to detect state-transition mutants. An *Escherichia coli*/*Synechocystis* shuttle expression plasmid (pAUL) has been constructed to allow regulated expression and analysis of complementing genes.

Phylogeny of Andropogoneae (Poaceae): Evidence from Chloroplast *ndhF* and *trnL-F* Nucleotide Sequences

Leann Burrhow and Tracy Waldron
(Elizabeth Skendzic)

Biological Sciences, UW Parkside
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

The Andropogoneae is a group of 85 genera of the family Poaceae that inhabits tropical and temperate regions of the World. It is important both economically and ecologically. Corn, sugarcane and sorghum are important crops, while other species form part of native grasslands or in some instances, become unwelcome weeds. We sampled over 40 species of Andropogoneae and have completed 2114 bp long sequences for ~30 taxa. To amplify the region of interest we use four different sets of primers. PCR products are sequenced and then edited with Sequencher™ to check for ambiguities. Sequences are visually aligned using Se-Al software and parsimony analysis is performed with PAUP to obtain a tree that depicts the phylogenetic relationships of the studied taxa. Single base insertions/deletions occur throughout the region and a noticeable 6 bp deletion is absent in some taxa. The monophyly of the tribe is supported by our data but some clades remain unresolved. However, better resolution of relationships is achieved when *ndhF* data is combined with *trnL-F* sequence data, previously generated in our laboratory.

Mapping the Hybrid Incompatibility Gene in *Tribolium castaneum* Using Genetic Markers and HA (Heteroduplex Analysis)

Ahmed Cheema (Scott Thomson)
Biological Sciences, UW Parkside
Oral Presentation I (8:30 – 10:00 a.m.)

Tribolium castaneum, the red flour beetle, is a major pest of stored products. Understanding its speciation and reproductive isolation can lead us to develop a better method of pest control. Hybrid incompatibility refers to partial reproductive isolation of different strains of beetles, which are unable to produce viable offspring, if any. The phenomenon was observed in crosses between an Indian strain (Tiw-1) and non-Indian strains. It was found out to be dependent on both temperature and cross direction. This trend was associated with a dominant Hybrid incompatibility factor (H-gene), found in the 9th linkage group. Different sets of primers were used to amplify regions in the 9th linkage group to serve as genetic markers. The PCR products were checked for polymorphisms using HA. HA is a gel mobility shift assay that involves denaturing the PCR products, allowing them to anneal back, and then running them in a non-denaturing native polyacrylamide gel. The interactions of multiple alleles alter the secondary structures of the PCR product, thus providing us with a genetic signature in the form of banding patterns. Recombination frequency was used to calculate position of the markers relative to the H-gene.

Alternative Splicing of 5'→3' Exoribonuclease mRNAs in *Chlamydomonas reinhardtii*

Theresa Dailey and Michael Fisher (David Higgs)
Biological Sciences, UW Parkside
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

In eukaryotic organisms, 5'→3' exoribonucleases (exos) are important enzymes that degrade mRNAs and help control RNA metabolism. They are important for processing pre-mRNAs to mature RNAs, regulating RNA abundance, and degrading defective RNAs. In the single-cell green alga *Chlamydomonas reinhardtii*, a 5'→3' exo activity occurs in the chloroplast that degrades photosynthetic mRNAs, but the gene is not present in the chloroplast genome. Previous work from our lab has identified the *CrXrn1* gene in the *C. reinhardtii* nuclear genome that is predicted to encode a 5'→3' exo protein. Recent evidence suggests that alternative splicing of the

CrXrn1 pre- mRNA generates two mature mRNA splice variants (*CrXrn1a* and *CrXrn1b*). Specifically, the extra RNA in *CrXrn1b* includes an alternative in-frame translation start site and coding sequence that adds a predicted 40 amino acid chloroplast targeting peptide. If targeted to chloroplast, then this 5'→3' exo may have a role in controlling expression of photosynthetic genes and ultimately photosynthetic capacity. Using RT-PCR with specific primers and hybridization with a radioactive oligonucleotide probe, we are quantifying the abundance of these transcripts (*CrXrn1a* and *CrXrn1b*), and will analyze their abundance under different growth conditions that affect photosynthesis.

Radiation of Woot Retrotransposons Across Strains of *Tribolium castaneum*

Douglas Drury (M. Scott Thomson)
Biological Sciences, UW Parkside
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Woot is a novel retrotransposon found in the red flour beetle, *Tribolium castaneum*. It is distributed differentially in populations. Woot's novelty stems from its flanking Long Terminal Repeats (LTRs). Previously, it has been shown that the number of woots present in an Indian strain of *T. castaneum* is significantly less than beetles from other regions. It is unknown whether this is unique or true for other Indian strains. To answer this question, a PCR-based technique is being used to detect specific woot locations across strains. Woot primers were created using a previous study involving the GA-1 strain and from sequence generated by the Tribolium genome project. Primer pairs were constructed for six distinctive woot locations. The detection employs a "universal" woot primer created from the LTR sequence paired with a location specific primer created from the sequence down stream of the LTR. Nine strains of *T. castaneum* were used in the woot screening process to determine whether low woot content was a common feature of all Indian strains. This information could help determine the mobility of the element and aid genetic mapping studies.

A Diatom-Based, Paleolimnological Study of Rush Lake, Wisconsin

Laura Fischer-Guex
(Robert Pillsbury and William Mode)
Biology and Microbiology and Geology, UW Oshkosh
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Rush Lake, located in Winnebago County, Wisconsin, is a shallow, eutrophic, lake/wetland dominated by cattails. This system has historically been important for fishing and waterfowl production. But recently the general public view the lake as degraded from increased sedimentation, contamination from lead shot, and perceived reduction in fish and wildlife. A sediment core (374cm) was taken by employing a modified Livingstone piston corer. The core sample was dated with carbon-14 yielding a date at the base of the core of 4110 +/- 40 yr. B.P. The core sediments were sampled for diatoms starting at 5cm for every 10cm after that (37 samples). Diatoms were counted for a total of 300 per sample. Typical of shallow lakes, the core showed signs of being extensively reworked. Despite this, multivariate analysis of diatoms (PCA) suggests that this system has become more eutrophic. This is consistent with a pollen analysis and is likely due to agricultural activities in the watershed. There is no evidence (i.e., increase in % planktonic diatoms) that the lake had ever developed a pelagic zone for an extended period of time. Results of this study may be useful in making future management decisions to restore Rush Lake.

Establishment of GFP-Tubulin Expressing Stable Epithelial Cell Lines

Andrew Gunderson (Timothy Lyden)
Biology, UW River Falls
Poster Presentation II (2:00 – 3:30 p.m.)

The purpose of this project is to develop cell lines that stably express a commercial DNA vector that contains a fusion gene of green fluorescent protein (GFP) and alpha tubulin. The resultant cell lines will then be utilized for ongoing studies in our laboratory focused on the normal development and differentiation of placental trophoblast cells. In that work, the cytoskeletal elements in cells undergoing terminal fusion are monitored to evaluate how tubulin, actin and cytokeratin contribute to differentiation-induced cellular fusion. Currently, this work is done using immunological reagents or transient expression of these vectors in target cells. Such approaches are limiting to the research for a number of technical reasons. Therefore, we are now seeking to introduce the GFP-tubulin "living colors" vector into epithelial (Hela and HEK) cells, followed by selection of transfected cells and growth into sub-lines of cells expressing this important cytoskeletal component. In both cell types, we have generated sub-cultures and begun the isolation of individual cells to develop clones containing only that cell and its descendants.

Qualitative evaluation of the vector expression will be conducted by fluorescent microscopy and then followed with quantitative analysis by flow cytometry at a later date.

A Behavioral Study of Two African Primate Species Before, During and After the Establishment of a Mixed Species Exhibit at the Racine Zoological Gardens

Daniel Gustin and Tracy Schilder
(Greg Mayer and Catherine Mossman)
Biological Sciences, UW Parkside
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

The establishment of mixed species exhibits in zoos can address the issue of limited space availability, and create a more natural ecological environment that provides enrichment for each species involved. In this study, three black and white colobus monkeys (*Colobus guereza*) were introduced to a shared exhibit with three patas monkeys (*Erythrocebus patas*) in a small zoo setting. Intraspecific behaviors for each species were observed and documented two months before and one month after the mixing of the two species, along with interspecific interactions that occurred during three months of cohabitation. An ethogram was constructed from 76 behaviors grouped into seven main categories. Two behaviors, aggression and feeding, became the major focus of the analysis as these exhibited the greatest amount of change between observation periods. During the interspecific observation period, the colobus actively denied the patas access to areas of the enclosure where food was made available. The experiment was terminated by zoo personnel due to a growing concern the patas were not receiving enough nutrition. Although colobus and patas have different habitat requirements that should allow successful cohabitation, additional factors such as enclosure size and group composition may need to be considered.

Radioactive Tritium Level in Precipitation and Groundwater in Wisconsin and its Applications in Hydrogeology

David Hooper (William Bajjali)
Biology and Earth Sciences, UW Superior
Oral Presentation III (2:00 – 3:30 p.m.)

Tritium is a radioactive environmental isotope which occurred naturally at 5 to 10 tritium units (TU) until 1952. After 1952, nuclear weapons testing increased the tritium in our atmosphere. After 1963,

approximately 10,000 TU was common in many regions in the northern hemisphere. In 1963, tritium levels peaked and Madison, WI, and Denver, CO, precipitation contained 4700 and 9620 TU, respectively. Tritium has a half life of 12.43 years and is considered an important parameter in hydrogeological applications. The tritium concentration in groundwater provides information about the travel time of the groundwater. The long-term tritium level in the precipitation in Madison was established by using the tritium data of Ottawa, Canada. The correlation (R^2) between the two records was calculated to be 0.97. The linear equation obtained from the regression allowed for recalculating the missing data before 1963 and after 1981 in Madison. The general trend shows that in both stations the tritium level is decreasing. The tritium level in the shallow aquifer was found to be high which indicates recent recharge and a groundwater residence time of less than 35 years. High concentrations of nitrate in groundwater are associated with tritiated groundwater, which indicates that the rechargeable shallow aquifer is more vulnerable for contamination.

Molecular Analysis of the Red-Legged Grasshopper Within Relic and Restored Prairies

Brady Hurtgen (Charles Bomar and Stephen Nold)
Biology, UW Stout
Poster Presentation II (2:00 – 3:30 p.m.)

The red-legged grasshopper *Melanoplus femurrubrum* (DeGeer) populations from relic and restored prairies were analyzed to determine what remains of the original genetic diversity. Molecular analyses were also performed by PCR amplifying and sequencing of the mitochondrial gene *cytochrome oxidase subunit I* (COI). Neighbor-joining phylogenetic analyses revealed a high degree of relatedness among specimens from all prairie restorations. Interestingly, four specimens to date from relic prairies displayed a high degree of genetic divergence from the others. This divergence suggests the presence of genetically unique individuals within relic prairies and highlights the importance of prairie preservation. Further analysis will be completed using mitochondrial gene *cytochrome b* to increase our understanding of the impact of restoration on insect populations.

Investigating Chemotaxis and Formaldehyde Induced Fluorescence in the Neurons of *C. elegans*

Bwarenaba Kautu (E. Katherine Miller)
Biology, UW River Falls
Poster Presentation II (2:00 – 3:30 p.m.)

C. elegans is an attractive model for studying the sensory behaviors and the nervous system. *C. elegans* possess many sensory receptors in the head that coordinate sensory behaviors such as chemotaxis towards attractant compounds and away from repellent compounds. It is well established that ethanol is a strong chemo-attractant compound for *C. elegans*. Our results demonstrated that formaldehyde is a more potent chemoattractant than ethanol in the wild type (N2) *C. elegans*. Formaldehyde has been used to induce fluorescence in dopaminergic neurons in the head neurons of *C. elegans* hermaphrodites and in six additional dopaminergic cells of the male tail. Uncoordinated mutants (*unc*) of *C. elegans* have mutations in movement phenotype that result from mutations in a number of different genes. Some phenotypes are the results of defective muscles while others are due to defective neurons. The purpose of this project was to investigate the chemotactic properties of formaldehyde and formaldehyde induced fluorescence in the neurons of N2 *C. elegans* and several *unc* mutations.

Genetic Analysis of Northern and Southern Strains of North American Yellow Perch (*Perca flavescens*)

Rachel Koehler (Chris Hartleb and Brian Sloss)
Biology, UW Stevens Point
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

The North American yellow perch (*Perca flavescens*) has a wide distribution across the United States and is a commercially valuable species that is common in aquaculture settings. Within the aquaculture community it is believed that there are northern and southern strains of perch. Southern perch tend to grow larger, but it is unknown if this difference in growth is due to a longer growing season in the southern U.S. or to genetic differences between northern and southern fish. To determine if different strains of perch exist, DNA samples from a northern culture population, a southern culture population, and a wild population from Green Bay were collected. Genetic variability was examined at microsatellite loci from the different populations. Allelic diversity was significantly higher

for the southern strain of yellow perch. Measures of genetic differentiation between the three populations suggest minor to no difference between the northern strain and Green Bay population with significant divergence between the northern group and the southern strain.

The Effect of Berberine Chloride on *Escherichia coli* and its Metabolites Using Kirby Bauer and Tissue Culture Methods

Elise Lamont (M. Reza-ul Karim, Department of Biology, University of Minnesota-Duluth)
Biology and Earth Sciences, UW Superior
Oral Presentation I (8:30 – 10:00 a.m.)

Berberine Chloride (BC), an ammonium alkaloid found in the *Coptis chinensis* and *Berberis aristata* plants, has been used as a dietary supplement, and may be useful in the treatment of HIV, cancer and microbial infections. While the effects of BC against Gram-positive bacteria are well documented, its effects upon Gram-negatives such as pathogenic *E. coli* are not as well understood. The effectiveness of BC was tested against several common (non-pathogenic) strains of *E. coli* via the Kirby Bauer Antibacterial Sensitivity Test. Five *E. coli* strains were tested while *Staphylococcus aureus* 4651 served as a control. African Green Monkey Kidney (vero) cells and Human Epitheloid Fibroblasts (HEP-2) were also tested for 1) toxicity to BC and 2) protection from *E. coli* metabolites by BC. *E. coli* and *S. aureus* were most affected by 25mM BC, while lower amounts had little impact. The largest zones of inhibition occurred in the B 3379 and C strains. Vero and HEP-2 cells were both protected from *E. coli* and *S. aureus* by BC at non-toxic levels, although the protective concentration appears to be species dependent. Further research will be needed to determine the exact role of BC in the protection of cell lines and the inhibition of bacteria.

Development of a Three-Dimensional Cell Culture System for the Growth and Study of Epithelial “Pseudo-Tissues”

Erin Lee, Tracey Nelson, Marion Majeske, Andrew Gunderson, Sarah Schimmel and Nicole Salwasser (Timothy Lyden)
Biology, UW River Falls
Poster Presentation II (2:00 – 3:30 p.m.)

The development of cell culture methods during the early 1900s ushered in a revolution in cell biology. By

the 1950s, cell culture was a widely utilized laboratory tool for studies of cellular behavior, growth and differentiation. However, extrapolation of standard cell culture data to a whole tissue or organism is fraught with complications. During summer 2004, studies were begun at UW River Falls to evaluate the application of a basic and easily available natural scaffolding material as a three-dimensional cell culture matrix. Although many laboratories in clinical research are exploring 3D culture methods in an area called “tissue engineering,” none have yet reported the use of simple sea sponges as a matrix for growing epithelial cells. There is, however, one recent report using a similar method for growth of bone-forming cells. In these studies four human epithelial cell lines were used to evaluate the scaffolding potential of marine sponges. In the case of Hela, HEK, JEG and BeWo cells we consistently established tissue-like cultures which were maintained for more than a month and displayed evidence of epithelial differentiation. These samples were evaluated by phase contrast and fluorescent microscopy to determine the tissue structure and cellular differentiation characteristics of the cultures.

Impact of Early Release of Two Biological Control Agents (*Galerucella pusilla* and *G. californiensis*) on Purple Loosestrife-Infested Wetland Sites

Stacy Lueck and Jessica Orlofske (Kama Almasi)
Biology, UW Stevens Point
Poster Presentation II (2:00 – 3:30 p.m.)

Purple Loosestrife (*Lythrum salicaria*) is an invasive, exotic plant species in the United States that has had detrimental effects on Wisconsin wetlands since its establishment here. In its native European environment, two herbivorous beetles (*Galerucella californiensis* and *G. pusilla*) parasitize purple loosestrife and when released in the U.S. on purple loosestrife-infested wetlands, these beetles have been found to provide the most effective long-term control strategy. The initial stage of the study examines the success of rearing beetles on purple loosestrife in a thermal controlled greenhouse, forcing earlier onset of reproduction by warming them out of dormancy about 1.5 months earlier than normal. Stage two involves releasing these advanced beetles into loosestrife-infested field sites and comparing the impact of the advanced beetles with the impact of beetles raised along a normal reproduction timeline and released at similar field sites. The poster will present the results of the initial stage along with the unique experimental

design of the field portion of the study. Specific roadside sites have been identified in Marathon County, Wisconsin, for release of the beetles. The results of this study will provide insight to experimental raising techniques of biological control insects and will be applicable to biological control efforts worldwide.

Species Status of *Anemone Okennonii* (Ranunculaceae) Based on Molecular Sequence Data

Kyle Meyer (Sara Hoot)
Biological Sciences, UW Milwaukee
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

In the southwestern United States, five tuberous species of *Anemone* (Ranunculaceae) occur: *A. berlandieri*, *A. caroliniana*, *A. edwardsiana*, *A. okennonii*, and *A. tuberosa*. Recently there has been some debate over whether *A. okennonii* is a good species. The goals of our work are to 1) attempt to resolve the species status of *A. okennonii* and 2) determine to which of the southwestern tuberous anemones *A. okennonii* is most closely related. Our preliminary work using DNA sequence data indicate that *A. okennonii* is most closely related to *A. berlandieri* and one species of *A. edwardsiana*. We have been able to locate two unique substitutions found only in *A. okennonii* and no other southwestern tuberous anemone, suggesting that it may be a good species. Because our results are based on DNA regions with little variation and therefore few characters, more work is now in progress. This finding is promising considering that *A. berlandieri*, *A. okennonii*'s closest relative, has only one unique character in that region.

Examination of Virulence Genes in Community-Acquired Methicillin-Resistant *Staphylococcus aureus*

Natalie Ann Moore (William Schwan)
Microbiology, UW LaCrosse
Oral Presentation I (8:30 – 10:00 a.m.)

Community-acquired strains of *Staphylococcus aureus* (CASA) infections are emerging as a health problem in Wisconsin, particularly those CASA strain that are resistant to the antibiotic methicillin (CA-MRSA). Bacteria such as *S. aureus* create products that allow the organism to infect a host called virulence factors. There are potentially numerous virulence factors that could contribute to CA-MRSA strains causing infections in humans, but little is presently known

about whether those strains carry the genes for the potential virulence factors. This study will investigate a few of those virulence factors in order to ascertain the genetic differences between CA-MRSA strains and hospital-acquired *S. aureus* strains or natural *S. aureus* isolates from the nasal passages of healthy people. The information gained from this study will give a better understanding as to how CA-MRSA bacteria strains infect humans and will facilitate in the creation of better treatments.

Reserva Amazónica, Peru: Amphibian Population Monitoring and Ecotourism

Sarah Orlofske (Erik Wild)

Biology, UW Stevens Point

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Loss of biodiversity, particularly amphibians, is a global concern illustrated by numerous threatened species in Latin America, the most species-diverse area of the world, and the importance of amphibians as indicators of ecosystem health (Global Amphibian Assessment, Duellman & Koechlin 1991). Long-term monitoring of species occurrence, abundance and local distributions is continuing at Reserva Amazónica, Peru, a research and tourist center. Efforts to improve ecotourism as a means to support further research, educate local people to continue monitoring, and conserve amphibians have also been evolving. The first of two objectives involves monitoring amphibian populations over time following the Neotropical Biological Diversity Program (BIOTROP) established in 1988. Data collected from this research will be used to identify areas in need of further protection and study, and to establish baseline data by which changes in economic development and climate change can be referenced. Amphibians will be collected by researchers conducting systematic searches, both during daylight and at night in the permanently marked quadrat system. Data collected from all observed animals includes quadrat number, association with permanently numbered tree, height above ground, date, hour and activity. Results will be combined with previous data to obtain a long-term perspective on amphibian populations. The second objective is a contribution practical solutions to socioeconomic issues of the region. Development of educational programs, training for tour guides and revisions of educational materials are potential applications of the amphibian research. Contributions to Reserva Amazónica will unite scientific research with original educational materials tailored to their needs and disseminated to guides, visitors and residents

(<http://www.globalamphibians.org/> GAA, 14OCT2004).

Effects of pH on Cadmium Toxicity, Speciation, and Gene Expression in *Escherichia coli* K-12

Candace Otte (Todd Sandrin)

Biology and Microbiology, UW Oshkosh

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Metals are necessary for essential life processes. Reactions involved in the carbon and nitrogen cycles as well as free radical detoxification are all metal-mediated. Many metals, however, become toxic at high concentrations. Metal toxicity has been reported to be affected by several environmental parameters, such as pH. The effect of pH on the toxicity of a model metal, cadmium, to *Escherichia coli* was investigated. *E. coli* was grown in a chemically defined mineral salts medium (MSM) at values of pH of 4, 5, 6 and 7 in the presence of cadmium. Cadmium-free controls were included for each pH. Cadmium toxicity was assessed by comparing growth curves, while metal speciation was predicted using metal speciation software. Cadmium was more inhibitory at pH 7 than 6, but growth in the absence of cadmium at both values of pH were similar. To determine effects of pH-mediated cadmium speciation on gene expression, bacterial cells in cadmium-containing and cadmium-free treatments were harvested in log phase. RNA was isolated, reverse transcribed to cDNA, and fluorescently labeled. cDNA was then hybridized to microarrays. Our data suggest that pH mediates the toxicity of cadmium to *E. coli*; however, the importance of metal speciation and gene expression in the mechanism by which pH mediates cadmium toxicity remains unclear.

Investigating a Microbiological Mystery: What is the Source of *E. coli* in the Menominee Park Swimming Beach?

Candace Otte and Phillip Anderson

(Todd Sandrin)

Biology and Microbiology, UW Oshkosh

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Microbial contamination of recreational waters is a widespread problem that Wisconsin beaches have not escaped. DNA fingerprinting was used to investigate the presence of the indicator organism *E. coli* at the Menominee Park swimming beach in Oshkosh. To investigate potential sources of this contamination,

repetitive element PCR (using the BOXA1R primer) was used to obtain DNA fingerprints of *E. coli* isolates obtained from water as well as from avian waste samples. DNA fingerprints were compared by calculating Dice similarity coefficients and constructing cladograms using the Unweighted Pair Group Method with Arithmetic Mean (UPGMA). Our results suggest that the addition of more water and waste isolates to the fingerprint database would enhance the ability of this approach to determine the source of *E. coli* at the swimming beach at Menominee Park and that DNA fingerprinting may serve as an important complement to other methods of microbial source-tracking.

Potential Effects of Solid Waste Disposal on Groundwater of the Moccasin Mike Sanitary Landfill

Michele Rogers and Mary Munn (William Bajjali)
Biology and Earth Sciences, UW Superior
Oral Presentation III (2:00 – 3:30 p.m.)

The Moccasin Mike Sanitary Landfill (MMSL) of Superior, Wisconsin, is of particular ecological interest and concern. This is due to its proximity to Lake Superior and because it is situated above one of the two major shallow aquifers of Douglas County, both of which are major sources of drinking water for the surrounding region. The hydrogeological setting shows that the flow system of the groundwater radiates toward the Lake Superior. Any potential contaminant generated from the landfill leachate will eventually affect the quality of the water. A three-dimensional Digital Elevation Model (DEM) was created using GPS points to characterize the general relief of the landfill area. The current project compiled, analyzed and evaluated the hydrochemical data of the monitoring wells at the MMSL. Various potential maps of different chemicals were created in a GIS environment. The maps show that the distributions of the chemicals in the groundwater are heterogeneous and indicate that they could originate from the landfill leachate.

Biological Testing of Synthetic Organic Compounds for Potential Activity Inducing Apoptosis

Nicole Salwasser (Timothy Lyden)
(Collaborators: Karl Peterson and Brianna Zemke)
Biology, UW River Falls
Poster Presentation II (2:00 – 3:30 p.m.)

In collaboration with the UW River Falls Department of Chemistry, these studies have been undertaken to evaluate the potential apoptosis-inducing effect of a library of synthetic compounds (N-Phenethylpyridinecarboxamides). These substances have been designed to test their potential as inducers of cellular apoptosis. Although not identical, these are closely related to others that have previously been reported to induce apoptosis in leukemic cell lines and primary spleen cells of mice. The selective activity reported for those compounds suggests a direct and specific interaction with one or more players in the overall apoptotic pathway. It is hypothesized that our compounds may also induce specific components of that pathway and lead to programmed cell death and that these may be selectively expressed in cancer cells. Apoptosis is the term given to an organized and programmed self-destruction of cells that is distinct from cellular necrosis. Apoptosis is actually a very common process within the body and is associated with both development of tissues and organs as well as routine maintenance of those tissues. Our current studies are evaluating phenotypic changes caused by timed exposure of HeLa cells to 100 μ M concentrations of the test compounds. Resultant effects are evaluated with phase contrast and fluorescent microscopy.

Examining a Metal-Responsive Transcriptional Regulatory Circuit in *Methanosarcina acetivorans*

Mickey Sarto, Michael Bose and David Slick
(Robert Barber)
Biological Sciences, UW Parkside
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

Homeostasis of metal concentrations in prokaryotic cells is maintained through detoxification systems. Genes encoding these mechanisms are often organized in operons together with a gene, *arsR*, encoding a transcriptional regulator. Studies have shown methanogenesis is sensitive to different concentrations of metals such as nickel, zinc and copper. Using the methane-producing archaeal species *Methanosarcina acetivorans*, insight has been generated on how these microbes respond to metals at a molecular level. This study focuses on a *M. acetivorans* genetic locus with *arsR* linked to genes that encode an ATP-dependent efflux pump. Identification of similarly organized genes in diverse microbes, together with the identification of a putative *cis*-acting regulatory element, illustrates an autoregulatory function of *ArsR*. In this model, *ArsR* binds to an operator sequence upstream of the operon in the absence of

metals, blocking transcription. Under elevated metal concentrations, ArsR binds metals, which causes dissociation from the DNA and transcription to remove the metal from the cell. To test this model, this *M. acetivorans arsR* has been cloned into an expression vector and heterologously induced in *E. coli* cells. The DNA binding activity and the metal-dependence of this ArsR activity using purified protein are currently being assessed by gel mobility shift assays.

Proteomic Investigation of Redox-Regulation in Rieske Iron-Sulfur Protein Mutants of the Cyanobacterium *Synechocystis* PCC 6803

Sarah Schettle (Toivo Kallas and Beatrice Holton)
Biology and Microbiology, UW Oshkosh
Poster Presentation II (2:00 – 3:30 p.m.)

Efficient photosynthesis (biological conversion of sunlight energy) requires balanced redox (oxidation-reduction) levels in different parts of the electron transport chain. Environmental stresses (such as high light intensity, high salt, or temperature extremes) may provoke imbalances in redox levels leading to production of damaging, reactive oxygen species. Thus it is crucial for photosynthetic organisms to detect redox imbalances and make corresponding adjustments to their photosynthetic machinery. The mechanism of redox detection and signaling is not understood in detail. However, the cytochrome *bf* complex and the movement of its Rieske protein subunit have been implicated. The cyanobacterium *Synechocystis* carries three genes (*petC1*, *petC2*, and *petC3*) for Rieske iron-sulfur proteins and mutants lacking each are available. We have initiated a proteomic investigation of the Rieske protein regulatory hypothesis in the Δ PetC1 Rieske mutant. Our strategy involves two-dimensional (2D) electrophoretic separation of proteins from the Δ PetC1 and wild type *Synechocystis* cells, followed by immunological detection of Rieske proteins, and MALDI (matrix assisted laser desorption ionization) mass spectrometric characterization of differentially expressed proteins. Data will be presented on 2D protein separations and immunodetection of Rieske proteins. These data indicate different iso-forms of the PetC1 Rieske protein which may have significance for the redox regulation mechanism.

Establishment of GFP-ERV env Expression Vector Using Trophoblast Cell Cultures as Target Gene Source

Sarah Schimmel (Timothy Lyden)
Biology, UW River Falls
Poster Presentation II (2:00 – 3:30 p.m.)

The purpose of this project is to clone the envelope gene of human endogenous retrovirus-W (HERV-W) into a commercial GFP containing expression vector. This is being pursued in order to generate a fusion gene for use as a marker in several of our placental studies. This gene, HERV-W, was reported and subsequently confirmed to be the protein which mediates developmental cellular fusion in the trophoblast of normal human placenta. As the protein mediator of cellular fusion, our lab is very interested to construct this vector to aid in studies focused on cytoskeletal changes in the normal placental trophoblast. The gene will be cloned by PCR from BeWo cells and then inserted into a GFP-containing commercial vector backbone.

A Multi-Generation Sublethal Assay of Estrogenic Compounds Using the HIM-5 Strain of the Nematode *Caenorhabditis elegans*

Kendra Scudder (E. Katherine Miller)
Biology, UW River Falls
Poster Presentation II (2:00 – 3:30 p.m.)

It is necessary to study the effects of both natural estrogens and xenoestrogens due to alarmingly high numbers of Endocrine Disrupting Chemicals (EDCs) currently being exuded into water systems. The High Incidence of Males (HIM-5) strain of *C. elegans* will be used for a multi-generation bioassay of the estrogenic compounds 17 β -estradiol (E2), 17-ethynyl estradiol (EE2), and bisphenol A (BisA). Fecundity, reproduction (in particular, changes in male to hermaphrodite population ratio), and physical abnormalities will be used as toxicity endpoints. The sublethal effects of E2, EE2, and BisA on a HIM-5 population will be analyzed over five generations using a Nematode Growth Medium (NGM) agar plate containing 0.5 μ M cholesterol. HIM-5 *C. elegans* will be exposed to concentrations of 1 nM, 10 nM, and 100 nM E2, EE2, and BisA (concentrations over 10000-fold lower than the median lethal concentration (LC₅₀) of BisA). It is expected that exposed HIM-5 will exhibit lower fecundity, reproduction, and male to hermaphrodite ratios after multiple generations.

Morphometric Analysis of Red-Legged Grasshopper, *Melanoplus femurrubrum* (De Geer), Populations From Relic and Restored Prairies

Levi Stodola (Charles Bomar)

Biology, UW Stout

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

The Wisconsin Department of Natural Resources and other non-government organizations have invested greatly in prairie restoration over the past decade. Little effort has been made to evaluate the dynamics of the insect species that inhabit these projects. One species that is a common inhabitant of most relic and restored grasslands is the red-legged grasshopper, *Melanoplus femurrubrum* (De Geer). This species was morphometrically evaluated from three relic and four restored grasslands. Fifteen separate measurements were taken from each of 75 specimens. Using a General Linear Model (GLM), we observed significant differences ($p < 0.05$) in 10 of the 15 measurements, including pronotum length, anterior femur, middle femur, vertical eye diameter, length of prozona, length of metazona, minimum and maximum pronotum width, maximum head width, and width of mesosternum. A Tukey post-ANOVA Analysis showed differences between one very isolated relic prairie in Dunn Cty. and an old field grassland in Wood Cty. This same relic was significantly different at six measurements with a newly restored grassland in Buffalo Cty. The continuum of variation between relic and reconstructed sites suggest that population greatly differ at many levels, and these differences need to be considered in site management.

Motion Pattern Complexity as a Factor in the Planktivorous Fish – Copepod Relationship

Josh Ziarek (J. Rudi Strickler)

Biology, WATER Institute, UW Milwaukee

Oral Presentation III (2:00 – 3:30 p.m.)

The relationship between planktivorous fish and their prey, zooplankton, has been extensively studied for the latter half of the past century. Refined predation models describe the importance of prey shape, size, color, and motion pattern – characteristics that distinguish an object from its background – in selection of plankton by fish. From the prey's perspective it is important to minimize these factors in order to avoid predation; therefore, survival of the zooplankton may depend on matching the visual

complexity of their environment. Planktonic copepods and daphnia – the prey – are virtually transparent and behave like suspended abiotic particles. Planktivorous fish must be able to distinguish such prey from non-prey without pursuing every object encountered. For coral reef fish – where the water speed exceeds one meter per second – energy efficiency is critical. How do the fish decide what is food and what is not in the very short time interval between the prey entering the encounter range and consequently being attacked? We hypothesize fish perceive temporal visual patterns to select prey. In our lab, utilizing computer-generated virtual plankton, we tested bluegill sunfish (*Lepomis macrochirus*) selection by displaying plankton moving in two different patterns on a TV screen. Results support our hypothesis and suggest fish select their preferred target after two to 10 seconds observing the two virtual plankton. Using an equation that calculates random motion patterns with a specific complexity, we now investigate the range of fractal patterns fish can perceive.

Prebiotic Significance of the Maillard Reaction

Milica Bajagic (Vera Kolb)

Chemistry, UW Parkside

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

We are studying the reaction between the sugars and amino acids, so-called the Maillard reaction, from the prebiotic perspective. We carried out the reaction between the sugar ribose and the common amino acids, and are now working on isolation and identification of the products, which are high-melting, polymeric, black and insoluble in water. They all showed a distinct infra red spectrum. Various compounds with similar characteristics have been previously isolated from meteorites, but their origin was never fully explained. If some of the compounds we make in the lab by the Maillard reaction match those isolated from meteorites, it could be that the Maillard reaction also occurs in space. This work is sponsored by the Wisconsin Space Grant Consortium. Thanks to Vera Kolb and UW Parkside's Undergraduate Research Assistantship to Milica Bajagic.

Diagnostic Targets of SEB Induced Human Peripheral Blood Mononuclear Cells

Katherine Campbell and Sarah Maliborski

(Chanaka Mendis)

Chemistry and Engineering Physics, UW Platteville

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Staphylococcal Enterotoxin B (SEB) is one of several exotoxins produced by *staphylococcus aureus* that may be used as a biological warfare-agent due to its stability and fatality if inhaled. Prior work done in our lab has identified p-38 and 5-LO as key signal transduction components of multiple signal transduction pathways induced by SEB in human PBMCs. Here we try to assess the effectiveness of these two key components as diagnostic markers by utilizing specific inhibitors of p38 and 5-LO (SB203580 and MK591 respectively) by investigating the effect of a set of known SEB gene profiles. Our research will not only track the crucial pathway that are induced by SEB, but also will 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 two targets (SB203580 and MK591) by using Reverse transcription polymerase chain reactions (RT-PCR).

Confirmation of the Gene Expression Profile of a Set of Functionally Relevant Genes and Significance in SEB Induced Symptoms in Human Lymphoid Cells

Sarah Effinger (Chanaka Mendis)

Chemistry and Engineering Physics, UW Platteville
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

SEB (Staphylococcol Enterotoxin B) is one of the many exotoxins produced by *Staphylococcus aureus* and is most commonly found in unrefrigerated food products. When consumed, SEB stimulates the proliferation of T cell lymphocytes and trigger the production and secretion of multiple cytokines, ultimately leading to septic shock. The main purpose of this research is to better understand the SEB-induced symptoms in human lymphoid cells through gene expression analysis. Four genes that have been never implicated with SEB-related symptoms such as F-box, protein kinase H1, adenylate kinase 3 and metallothionein 2A were analyzed. Some functions of these genes include control of degradative proteins, energy metabolism, cell proliferation and induction of apoptosis. We have observed the expression of these genes in our investigative module through DD-PCR (differential display polymerase chain reaction) and this study will further investigate the time dependence of the set of genes using RT-PCR (Reverse Transcriptase-Polymerase Chain Reaction).

Conformational Analysis of a Set of Selectively Screened Apoptotic Related Genes in a SEB Induced Human Lymphoid Cell Module

Emily Freehauf (Chanaka Mendis)

Chemistry and Engineering Physics, UW Platteville
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Here we attempt to characterize the various genes implicated in SEB-induced apoptotic events in human lymphoid cells. We have identified and verified a set of genes that are important in the pathogenesis of Staphylococcal Enterotoxin B-(SEB) induced lethal shock. Using a set of genes previously identified through differential display (DD), we carried out a conformational study using reverse transcription polymerase chain reaction (RT-PCR). We first did an extensive literature search to characterize apoptosis-related genes identified by DD. Primers were then designed using stringent parameters. Gene expression pattern was confirmed using RT-PCR. We confirmed the previously observed gene expression pattern (from DD-PCR) for the genes of interest, and also correlated the functions of heparanase precursor, Caspase 3, Caspase 8, Ubiquitin specific protease, SOD genes to SEB induced apoptosis related events. SEB is thought to induce cascades of events that may ultimately lead to apoptosis, but since the exact mechanisms are poorly understood, this study will help contribute to future understanding of the events.

Detection of Substituted PAH Residues by SPME in Arson Debris Analysis

Jenni Braman, Mark Groth and Heather Robers

(Charles Cornett)

(Joseph Wermeling, Wisconsin State Crime Laboratory-Madison)

Chemistry and Engineering Physics, UW Platteville
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

This project demonstrates how headspace SPME using a 7 μm PDMS fiber can provide enhanced detection of gasoline residues in arson debris that may contain contaminants due to the pyrolytic decomposition of polymeric materials. Initial studies suggest SPME has the potential for use in an accredited crime lab as a sensitive, simple replacement for the activated carbon strip method. Screening applications of SPME analysis for PAH (ie. anthracene) are assessed in four series of evaporated gasolines. GC-MS data from evaporated standards, along with sampling procedure, is

presented. Further studies include the determination of a partition coefficient for these compounds.

Hemolytic Activity of Truncated Hemolysin A (HpmA265)

Jeremy Jorgenson (Todd Weaver)
Chemistry, UW LaCrosse
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Proteus species are second only to *Escherichia coli* as the most common causative agent of urinary tract infections and many harbor several virulence factors that provide inherent uropathogenicity. One of the virulence factors is a hemA from the periplasmic space where it resides in an inactive state, through the outer membrane into the surrounding extracellular environment. Upon hemolysin B dependent secretion, hemolysin A functions as a hemolysin and disrupts neighboring host cell membranes. In order to describe the mechanism by which hemolysin A is activated for pore formation, we have constructed, expressed, purified and crystallized a series of amino terminal truncates and cysteine mutants of hemolysin A capable of complementing the non-secreted full length hemolysin A restoring hemolytic activity. The results describe the hemolytic activity for each of the mutants and the lack of importance of the cysteines at positions 144 and 147.

Photostimulation of Silver Nanoparticles

Ryan Langlois, Matt Loth and Amanda Wruck
(Jim Brummer, Alexander Popov, Robert Schmitz,
Greg Taft and Robin Tank)
Biology, Chemistry, and Physics, UW Stevens Point
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

We investigated the process of silver nanoparticle aggregation and the properties of the aggregates. In the presence of stabilizing agents, the nanoparticles were created by two methods resulting in the reduction of AgNO₃. The initial aggregation in the colloid can be controlled by amount of stabilizer used during synthesis. Further aggregation was enhanced by irradiation from various light sources (i.e. Mercury, UV, fluorescent lamps and an Argon-Ion Laser). The size and shape of these aggregates, as well as the constituent nanoparticles, was determined by using absorption spectra and transmission electron microscopy. Irradiating the colloidal nanoparticles leads to increased aggregation rates and larger aggregates. Our objective is to show that the way in which the aggregates cluster together is dependent on the source of irradiation. Irradiation has resulted in the

creation of fractal clusters and allows for their manipulation. With further investigation we plan to study the optical properties of the fractal aggregates of nanoparticles and extend our research to gold nanoparticles as well. This has expected applications in nano-sensors and nano-lasers. (Electron Microscopy support for this project provided by an L&S UEI grant to Robert J. Schmitz)

Influence of Riparian Environment on Second Order Stream Water Chemistry

Jennifer Lochner (Charles Cornett)
Chemistry, UW Platteville
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

The influence of riparian vegetation on second order streams in southwest Wisconsin is determined using water chemistry. The methods developed for the parameters in the chemical analysis of water are precise and easy to use. Testing for dissolved oxygen, conductivity, pH, temperature, turbidity, nitrates, and phosphates in three different types of riparian vegetation can determine the impact, whether good or bad, on the quality of the water. By using different methods and instruments, developing methods for all the parameters was documented. Due to time constraints, the methods were not developed enough to ensure precision and accuracy, but can be dependable if properly maintained and used.

Synthesis and Conformational Study of 1-Arylpiperazine Derivatives

Trista Pachan and David Dotzauer (Qiong Li)
Chemistry and Engineering Physics, UW Platteville
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

For 1-arylpiperazine derivatives, the conformations can be greatly affected by the electronic and steric effects of the aryl substituents. A series of 1-arylpiperazines with a systematic variation of the substituents was chosen. Once a compound is successfully synthesized and purified, its conformations are determined through the use of ¹³C NMR. ¹³C chemical shifts are very sensitive to electronic effects and steric interactions, and several rules can be used to predict the chemical shifts on each carbon. In the case of 1-arylpiperazines, a weaker conjugation between the nitrogen lone pair and aryl ring results in a downfield deviation of chemical shifts because there is less electron donation from the nitrogen. In contrast, a stronger conjugation would result in upfield deviations of chemical shifts. Through studying the deviations of observed chemical shifts

from the expected values, a better understanding of the molecular kinetics can be reached.

Development of Nano-Materials Demonstrations for Chemistry Courses

Kristopher Reimann (Forrest Schultz)
Chemistry, UW Stout
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

At the University of Wisconsin Stout, we have recognized the critical importance of infusing nanoscience and nanotechnology topics into our Chemistry and Materials Science curriculum. A strong effort is being made to develop classroom demonstrations of nano-characteristics of materials which can be observed in a large classroom setting. This project not only involves “scale-up” of nano-characteristics of materials but also development of corresponding multimedia to present specific happenings at the nano-scale.

Determination of Pentachlorophenol in a Failure of Pressure-Treated Wood Products

Molly Ross, Thomas Leitzinger and Scott Witkowski (Charles Cornett)
Chemistry, UW Platteville
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

This research investigates a novel extraction and quantitation technique for determining pentachlorophenol in pressure-treated wood products. Extraction is performed by solid phase micro extraction and quantitation is completed by GC-MS. This procedure is used in a specific case in study involving the failure of pentachlorophenol treated fence posts installed in a limestone substrate. Questions of warranties have led to the need for a quantitation of pentachlorophenol, and the current American Wood Preservers Association methods involve time-consuming, classic isolation techniques. Our lab has developed a rapid, sensitive, and reliable protocol to investigate our hypothesis that a reaction between the pentachlorophenol and the alkaline environment of limestone rock results in a neutralization of the pentachlorophenol which leads to failure of the pressure treated wood from the ground down in a short amount of time. Results, including a comparison of techniques, will be presented.

Aerosol Phase Digestion of Sucrose to Bypass Microwave Digestion

Joseph Topczewski (Lori Allen)
Chemistry, UW Parkside
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Sucrose and other sweeteners are high-volume food ingredients that are susceptible to environmental contamination during manufacturing and processing. The analysis of these sweeteners for trace metal contamination is important. The allowable lead level in many sweeteners is 100 ng/g and even lower levels are desired. The typical analysis procedure involves either microwave or hot-plate digestion followed by atomic spectroscopic analysis. Hot plate procedures are prone to errors due to variation in heating and microwave procedures are typically limited in the allowed sample size which in turn sets the detection limit. Both digestion procedures require sample transfers that can increase the analysis time and limit the precision. 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. An aerosol-phase collection procedure was established and analysis accomplished by HPLC with RI detection, which provides an independent measure of the digestion efficiency versus estimating the efficiency by monitoring an analytical line with the spectrometer. This poster will illustrate the need for the digestion, describe the collection and analysis procedure, and report results for sucrose using nitric acid and hydrogen peroxide.

Sol-Gel Clad Optical Fiber-Fiber Junctions for Application Within Quasi-Distributed Sensor Arrays

Matthew Van Duzor (Peter Geissinger)
Chemistry, UW Milwaukee
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

The utility of sol-gel clad fiber-fiber junctions as sensor regions within a quasi-distributed optical fiber sensor array is to be examined. In its simplest form the system is composed of an excitation fiber through which a laser excitation pulse propagates, and a detection fiber, which captures evanescently the sensor fluorescence pulses that are triggered by the excitation pulses. Placement of a series of fiber-fiber junctions along the excitation fiber thereby allows for a spatially resolved measurement of analytes in close proximity of the junctions. Depending on the chemical nature of the sensor, properties of the chemical and physical

environment as well as the presence of the specific species can be monitored. The application of a sol-gel cladding at the fiber junctions has the dual benefit of maintaining and protecting the fiber-fiber coupling interface, while also allowing for the diffusion of analyte to and from the evanescent field of the excitation fiber *via* the porous structure of the sol-gel glass. In this work, we investigate the suitability of sol-gel cladding synthesized under various reaction conditions. In particular, varying the pH of the initial solution is expected to have significant impact on the size distribution of the pores of the glass.

Relating Cell Death of Genes to the Symptoms of SEB

Sadie Yohnk (Chanaka Mendis)

Chemistry, UW Platteville

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Staphylococcal enterotoxin B (SEB) is a family member of superantigen protein that is produced by strains of *Staphylococcus aureus* and cause fever, severe respiratory distress, headache, nausea, vomiting and sometimes even septic shock. Even though SEB is thought to induce cascades of events that may ultimately lead to apoptosis, the exact events or mechanisms are poorly understood. Here we make an attempt to understand SEB-induced apoptotic events using human lymphoid cells as a prototype module. We are investigating a set of genes that has been previously identified through differential display (DD), such as scar protein gene, TSC-22-like protein, inhibitor of apoptosis protein-1 (MIHC), protein associated with Myc, T11 surface antigen (CD2), and T-cell gamma receptor. Some of these proteins indirectly induce apoptosis in multiple cell types such as HepG2 cells and IL-2-primed lymphocytes and some of the genes directly regulate apoptosis by effectively regulating events associated directly with apoptosis, such as TNF- α inductor. We believe that the present work will provide mechanistic insights to better understand the SEB-induced apoptotic events.

Hydrogeologic Investigation of the University of Wisconsin Parkside Campus

Heather Herr, Jamie Lambert, Heather Olson and Ryan Beachner (John Skalbeck)

Geosciences, UW Parkside

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

A hydrogeologic investigation was conducted on the UW Parkside (UWP) campus, located in southeastern Wisconsin, within the Pike River watershed and

underlain by the Oak Creek Till and Silurian Niagara Dolomite. A network of nine shallow (30 ft deep in till) and one deep (100 ft deep in dolomite) monitoring wells were used to perform well development, measure water level fluctuations, conduct aquifer testing (slug and pump tests), and collect groundwater samples. Soil samples collected during well installation were examined and well drilling records were reviewed to prepare logs of borings for each well. Cross sections were constructed to develop a conceptual model of the local hydrogeologic setting that suggests the shallow wells are screened in a thin continuous sand lense, confined above and below by lean clay, which generally follows surface topography. The potentiometric surface of the shallow water zone shows a groundwater mound beneath the topographic high coincident with the central campus that indicates radial flow. Slug test results show considerable scatter suggesting influence from the coarse sand pack of the wells. A pump test provides good drawdown, recovery, and distance versus drawdown data yielding hydraulic conductivity values consistent with sand and storativity values consistent with confined conditions.

Detailed Geological Mapping at the Neoproterozoic Kam Kotia Volcanogenic Cu-Zn Massive Sulfide Deposit, Timmins, Ontario, Canada

Christopher Ingram (George Hudak)

Geology, UW Oshkosh

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

The Neoproterozoic (~2.7 billion year old) Kam Kotia volcanogenic Cu-Zn massive sulfide deposit produced approximately 6.5 million tons of ore grading 1.11% Cu and 1.21% Zn between 1940 and 1980. We performed detailed geological mapping at scales ranging from 1:5000 to 1:1000 to better understand the relationships between volcanic stratigraphy, hydrothermal alteration, and ore deposition at this deposit as part of the Discover Abitibi regional mapping program, a collaborative project involving numerous geoscientists from the Geological Survey of Canada, the Ontario Geological Survey, and the Mineral Exploration Research Centre at Laurentian University. Our detailed mapping indicates that the ore deposit is hosted in a steeply northeast dipping, north younging sequence of submarine volcanic and volcanoclastic rocks which have been strongly chlorite- and sericite-altered. The massive sulfide ores appear to have formed when hot (>300°C) ore fluids deposited Cu- and Zn-sulfide minerals as they mixed with cooler seawater in flow breccias associated with felsic lava

flows. Our work has also shown that the Kam Kotia and Canadian Jamieson orebodies were formed simultaneously near submarine hot springs located approximately 5km apart on the ancient seafloor. These results have significant implications for future Cu-Zn mineral deposits exploration in the Timmins area.

Precambrian Basement Topography in Southeastern Wisconsin from Modeling of Gravity and Aeromagnetic Data

Dan Swosinski and Ryan Helgesen (John Skalbeck)
Geosciences, UW Parkside
Poster Presentation II (2:00 – 3:30 p.m.)

Depth to Precambrian crystalline basement rock southeast of the Waukesha Fault (down-thrown block) exceeds the total depth of water wells with one exception (a USGS well in Zion, IL) due to normal vertical displacement along the fault. Unknown basement depths in this area increases uncertainty of groundwater flow models built to address numerous groundwater resource issues in southeastern Wisconsin. Coupled modeling of gravity and aeromagnetic data was performed to estimate subsurface structure along eight NE-SW profiles (perpendicular to the fault) and one N-S profile (Tie Line). Well log data constrains depth to basement for the profile portions northwest of the fault on the up-thrown block and depth to Cambrian Mount Simon Formation on the down-thrown block. Only the southern most profile (A-A') contains data to constrain the depth to basement on the down-thrown block. Subsurface models units were assigned density and magnetic susceptibility values based on published data and values calibrated from Profile A-A'. Model fits were judged acceptable when the cumulative error between observed and calculated values divided by the anomaly range was <5% for gravity and <10% for aeromagnetic. Basement depths from the profile models were used to obtain a 3D representation of the Precambrian basement topography.

Pick Interpolation and Control Theory

Kelly Melrose, Derek Nichols, Alan Schouten and Kurtis Olson (Steve Deckelman)
Mathematics, Statistics, and Computer Science
UW Stout
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

In 1916 the renowned German mathematician Georg Pick published his celebrated interpolation theorem for bounded analytic functions in the unit disc. Pick's

result was extended by the equally renowned Finnish mathematician Rolf Nevanlinna in 1929 who also gave an alternative proof of Pick's result. This problem, along with its variants, has come to be known as Nevanlinna-Pick Interpolation and is currently the center of a tremendous amount of research activity with over 300 articles being published on the subject during the last decade. This project studies applications of the classical Pick Interpolation result to problems in Control Theory, a discipline within engineering concerned with the study and modeling of physical systems.

The Space of Three-Dimensional Lie Algebras

Carolyn Otto (Michael Penkava)
Mathematics, UW Eau Claire
Oral Presentation III (2:00 – 3:30 p.m.)

In problems arising in both mathematics and physics, an algebraic structure may change over time; in mathematical language, the algebraic structure deforms. To understand the deformations, we study the space of all such structures, which is called a moduli space, and ask how the elements of the moduli space fit together. To answer this question, we first classify the space of all structures, and then study their deformations. The classification of three-dimensional Lie algebras has been known for a long time, but only recently has attention been focused on studying how the deformations glue the space together. In this talk, I will give a description of the moduli space of three-dimensional Lie algebras, and discuss the picture of this space that is assembled by deformation theory. It turns out that a simple geometric description of this space can be given, which illustrates many of the general features of moduli spaces of Lie algebras.

Analysis of Inverted Two Variable Equations With Regard to Integer Solutions

Nathaniel Throckmorton (Robert Kreczner)
Mathematics, UW Stevens Point
Oral Presentation III (2:00 – 3:30 p.m.)

My research is about diophantine equations, which are named after the 3rd century Greek mathematician Diophantus. As with many Greek works, his remaining books were preserved by the Arabs, and in the 16th century they were translated to Latin. Diophantine equations can take the form of any equation; however, only integer solutions are allowed. They have been a challenging riddle since antiquity – almost every

mathematician has tried to solve them. Perhaps the best example of such an equation is the one known as Fermat's Last Theorem, which was also the most famous unsolved problem for the last three centuries. My research, more specifically, was about the equation $1/x+1/y=1/z$. We found that this equation has only a finite number of solutions, which is in contrast to a linear Diophantine equation, which has either an infinite number of solutions or none. In addition, we found a formula for producing these solutions. Further, we considered generalized versions of this equation, and obtained many interesting results about the nature of their solutions.

Pollution Geography and Media Politics

Jenny Faubert (Troy Abel)

Public and Environmental Affairs, UW Green Bay
Poster Presentation II (2:00 – 3:30 p.m.)

Do you live in a community engulfed by a foul stench? Are you afraid that your children are in danger due to toxic emissions in the air? Where does one go to find answers to these questions? The Toxic Release Inventory (TRI) is a useful tool for local communities to find out about facilities emission releases in that area. TRI is a database that has information regarding toxic chemicals and waste management; it can be accessed through the EPA Web site. The following research on TRI facilities was based on a content analysis of 41 newspapers throughout the Northeast, Southwest and South. Additionally two categories, brown and green, of facilities were analyzed. The brown facilities had indications that emission releases have increased while green facilities had indications that emissions have decreased. Our hypothesis was that newspapers located in brown counties would have less media coverage on TRI facilities than green counties due to the homogeneity of that county. Through our research we found that newspaper coverage of TRI facilities is actually similar in both counties, it is practically nonexistent. Further research could be done to find out why there is not a great deal of coverage on TRI facilities.

Short-Term Understory Response to Prescribed Fire on Menominee Reservation

Nicholas Jensen (James Cook)

Natural Resources, UW Stevens Point
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Vegetation cover under an eastern white pine (*Pinus strobus*)/ northern hardwood forest type was measured on the Menominee Reservation in central Wisconsin during the summers of 2002 and 2003. Sample units two acres in size were set up on separate areas of the reservation. In April 2003, four units were treated with a low intensity prescribed fire, while five other units received no treatment and were used as controls. Twice each summer, understory flora were identified and measured in micro-plots arranged in grids across each unit. The data show that in May following the fires, treated units' understory richness and herbaceous cover decreased 18% and 31%, respectively, from the previous year. In contrast, the control units in May experienced no change in richness and increased in herbaceous cover by 91%. Later that summer, burned units showed only an 8% reduction in richness and cover, where the controls dropped 15% in richness and 48% in cover, from 2002 sampling. These outcomes suggest that the summer vegetation show a fair amount of resilience to the prescribed fires.

Benefits of a Cattle Enclosure and Crossing on a Trout Stream in Northeastern Wisconsin

Nicholas Legler (Stanley Szczytko)

Natural Resources, UW Stevens Point

Oral Presentation II (10:30 a.m. – 12:00 p.m.)

The U.S. Fish and Wildlife Service's Green Bay Fishery Resources Office, with the Marinette County Land and Water Conservation Department and the Wisconsin Department of Natural Resources, built a fence and cattle crossing on a grazing pasture surrounding a degraded stretch of a trout stream located in Marinette County, Wisconsin. Grazing caused erosion, widening of the channel, elimination of substantial buffer area and declines in streamside vegetation. Stream electroshocking surveys and temperature monitoring was conducted in 2002, 2003 and 2004 to identify changes in species composition and temperature. Current results indicate that limiting access of cattle to the creek and surrounding riparian habitat resulted in improvements in Index of Biotic Integrity scores and water temperatures.

Odonate (Dragonfly and Damselfly) Species Diversity as an Indicator of Human-Induced Wetland Disturbance

Jessica Orlofske and Christopher Tyrrell
(Eric Anderson)

Natural Resources, UW Stevens Point
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

Human manipulations of wetlands for development and agriculture have varied effects on the structure and function of the biotic and abiotic components of the ecosystem. Aquatic insects can be used to characterize the health of aquatic ecosystems. Eight wetland areas were chosen based on specific site characteristics to compare species diversity of odonates (dragonflies and damselflies) between anthropogenically altered wetlands of different ages. The alteration of these sites affected the soil, hydrology, and vegetation, which could change both larval and adult odonate species presence and abundance. Odonates were collected and identified at all sites from May to August 2004 along with chemical and physical water analysis, vegetation surveys and environmental characteristics. We could not show odonates to be affected or not affected by the time since human disturbance. Site similarity had corresponding similarity in nymphal diversity among sites. However, we found differences in adult odonate diversity and site pH to be correlated to habitat morphology (pond vs. non-pond). Since humans are altering unique wetlands to create homogenous retention ponds, this is still the indirect result of human influence.

Environmental Justice: An Examination of TRI Facility Performance in the St. Louis Metropolitan Area

Jon Schubbe (Troy Abel)
Public and Environmental Affairs, UW Green Bay
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

The purpose of this project is to test the hypothesis that struggling facilities, as judged by their TRI reports which are made public by the EPA, will be located in near minority, or impoverished neighborhoods. The facilities in the St. Louis metro area were ranked according to whether they had increased or decreased the amount of pollution they produce and also on the risk association with the amount of pollution released for years 1995 and 2000. The facilities were assigned a performance ranking from two to eight. A facility ranked as a two or a three is considered to be a performer and a facility ranked as a seven or eight is

considered to be struggling. The locations of all the facilities in St. Louis ranked 2, 3, 7 or 8 were mapped and the characteristics of neighborhoods in close proximity to the facilities were also examined. The three different demographic traits of the neighborhoods that were selected were mean percentage of minorities, people in poverty and high school graduates. The demographic information is broken down into census block groups. The demographic data has also been mapped for areas within 1 km, 2 km, 3 km, 4 km, 5 km and 6 km of the facilities. Preliminary findings support the hypothesis and previous examinations of environmental justice issues.

Micro-Wire Interconnect Fabrication Using Magnetron / DC-Triode Sputtering

Benjamin Sykora (Kim Pierson)
Physics and Astronomy, UW Eau Claire
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Micro-wire interconnect technology has become a limiting component of modern Integrated Circuit fabrication. As Integrated Circuits become more advanced and the number of components placed on each Integrated Circuit gets larger, the space allotted for micro-wire interconnects becomes very limited. The limited space available for micro-wires has brought forth many new problems in interconnect fabrication that must now be solved. By modifying a Magnetron thin film deposition system to include a DC-Triode ion source, we are able to investigate fabrication techniques not possible with other systems. Preliminary experimentation shows that the DC-Triode makes a significant impact on the quality of thin film deposited during the micro-wire interconnect fabrication process. The DC-Triode bombards the deposited metal film with ions and prevents the formation of voids in the micro-wires, thus preventing open circuits. During further experimentation, we intend to devise a procedure by which the Magnetron and DC-Triode can be simultaneously used to make Micro-Wire Interconnects most efficiently. If successful, this technique will make production of Integrated Circuits cheaper and less complex.

Optimal Design of a Two-Stage, High-Powered Sounding Rocket

Nick Wara and Kevin Gross (Michael Umlor)
Physics, UW Oshkosh
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

A team of physics students design and construct a two-stage, high-powered sounding rocket to compete against several teams throughout Wisconsin for the highest attained altitude. This engineering project, funded by the Wisconsin Space Grant Consortium, places several constraints on design to include type and size of rocket motors. A payload of several sensors and electronic devices will be on board, including a barometric altimeter and a longitudinal-axis accelerometer. Data will be recorded electronically throughout the flight and analyzed upon recovery. Analysis of the data will be compared with the rocket's predicted performance. Prior to launch, the team conducts several experiments, tests and simulations to optimize their design. The team investigates computation and measurement of aerodynamic drag; sustainer stage timing and initiation; motor ignition response; ejection charge optimization; sensor placement, orientation, and calibration; computational models; and, strengths of materials. Findings of this investigation are used to justify design decisions. Competition launch will be on April 30, 2005.

Nutritional and Fitness Status of UW Stout Students

Aaron Fonder, Karen Mamath, Jared Campbell and Katie Burdick (Esther Fahm)
Food and Nutrition, UW Stout
Poster Presentation II (2:00 – 3:30 p.m.)

One of the growing nutritional health issues of concern is the rate of obesity of Americans. According to a national health survey conducted in 2003, there was significant drop between 2001 and 2002 of the number of persons who were in "excellent" or "good" health, mostly as a result of poor eating habits and/or becoming overweight. The purpose of this study was to assess the physical activity and nutritional status of UW Stout students. Data was collected on 65 students (males and females), using a 24-hour food recall to determine their nutritional intakes, and physical activity questionnaire to estimate activity level. Also, secondary data was collected from UW Stout faculty and staff to determine their perceptions about the nutritional health of students. Results indicated that 21.5% of UW Stout students consumed a healthful diet, which was comparable to national average of 20%. The majority UW Stout students studied skipped meals and made poor food choices. Their meal/snack choices consisted mostly of low nutrient-dense, high fat foods. Moderate and vigorous exercise exceeded the national average.

Evaluating the Effectiveness of Clinical Experiences in Accredited Undergraduate Athletic Training Educational Programs

Ashley Frohmader and Bridget Warren
(Brian Udermann)

Exercise and Sports Science, UW LaCrosse
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Research was conducted to determine the effectiveness of the hours spent by athletic training students in clinical settings. The method of collecting data consisted of a brief survey sent to accredited athletic programs in the state of Wisconsin. The survey included both qualitative and quantitative questions that pertain to the amount of time spent on educational instruction as well as carrying out specific duties during clinical rotations. The subjects were program directors as well as athletic training students who had been accepted into the institution's degree program.

Integrating Restriction/Modification and Abortive Infection Bacteriophage Defenses into a Single *Lactococcus lactis* Strain Through a Starter Culture Rotation Strategy

Marion Majeske (Julie Yang, Purnendu Vasavada and Daniel O'Sullivan, Food Science and Nutrition, University of Minnesota-St. Paul)
Animal and Food Science, UW River Falls
Poster Presentation II (2:00 – 3:30 p.m.)

The homo-fermentative lactic acid bacterium, *Lactococcus lactis* subspecies *lactis* C2, was transformed separately with two divert-native lactococcal plasmids: Plasmid pDOT64 (capable of restriction/modification (R/M) and abortive infection (Abi) phage defense systems) and the high-copying plasmid, pSRQ707, (only capable of restriction/modification (R/M)). The transformed cell strains (*L. lactis* C2 x pDOT64 & *L. lactis* C2 x pSRQ707) were constructed and then rotated in repeated cycles of milk starter culture activity tests (SAT). Two separate SAT were performed at each attempt for long-term rotations: One SAT began with *L. lactis* C2 x pDOT64 and alternated with *L. lactis* C2 x pSRQ707. The second SAT was designed via versa of the first SAT. Each *Lactococcus* strain was challenged separately with phage lysate øc2, and øsk1. Both sets of SATs, containing various R/M and Abi combinations, were evaluated for their level of phage resistance and effectiveness in milk coagulation and fermentation. A number of rotations proceeded semi-

successfully through three SATs in the presence of phage and whey containing phage from the previous cycle. Early starter culture failure was experienced at low phage titers in both SAT series #1 and series #2. A number of theories were forecasted to explain the SAT failure. However, due to human error, and lack of time and data, this study is inconclusive in being able to predict the phage resistance potential of each *L. lactis* C2 derivative. Additional studies are needed to draw any sound knowledge from this experiment.

* Research conducted as a part of the McNair Scholarship program.

The Struggle to Become a Certified Public Accountant

Darius McCurdy (Linda Holmes)

Accounting, UW Whitewater

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

As we move into the twenty-first century, we see that there are more and more African-American Certified Public Accountants starting to emerge. However, we tend to forget about the hard struggle that the pioneers of Certified Public Accountancy had to endure. As we conduct our research we will be touching on the different struggles that our pioneers had to endure in order to make this profession open for not only African-Americans, but all other ethnicities as well.

A Comprehensive Database of Western Lake Superior Marinas: A Tool for Analyzing Small-Craft Marina Use and Expansion

Sherry Berhow (Richard Stewart)

Business and Economics, UW Superior

Poster Presentation II (2:00 – 3:30 p.m.)

With the rise in popularity of recreational boating, communities along navigable waters are often faced with weighing the economic benefits and potential environmental impact of building small-craft marina facilities. This study will provide a comprehensive database of marinas located on western Lake Superior in the states of Minnesota and Wisconsin. Information concerning the extent to which existing marinas are now utilized will be examined. Stakeholders utilizing this database will be able to compare existing marina facilities and analyze critical metrics and data including: location and situation of each marina, contact information, repair facilities, ramp size, slip size and draft, fueling capabilities, types of fuel, lift size and lift capabilities. The research will further

enable public and private decision makers to better assess the economic and market factors that drive expansion or new construction. The computerized database will be robust and expandable, with potential linkage to a Geographic Information System (GIS) application. The database can serve as a model for other marine facility decision makers in other locations.

Milwaukee Achiever Literacy Services Marketing Plan: Using a Project Management Approach

Adam Fornal, Anne Sweet and Brian Cartledge
(Brad Piazza)

Business, UW Parkside

Oral Presentation III (2:00 – 3:30 p.m.)

Marketing plans are essential for any organization's growth and overall stability. In summer 2004, Milwaukee Achiever Literacy Services, a non-profit literacy center, requested a marketing plan that addresses the following three areas: (1) to create better overall awareness of the organization; (2) to increase the revenue stream from sources other than a Welfare-to-Work (W2) grant; and (3) to increase the number of volunteer tutors. This presentation will discuss the details of the marketing plan for Milwaukee Achiever Literacy Services. Specifically, we will present comprehensive SWOT analysis, market segmentation, target markets, competitive review, and the marketing mix. In addition, the plan was written using state-of-the-art project management approach, including detailed documentation of every phase. The project was done through the Solutions for Economic Growth Center (SEG) within the School of Business and Technology. Companies and organizations can request business solutions through SEG. The completed marketing plan was delivered to the Milwaukee Achiever Literacy Services in December 2004.

Intranet Design for Runzheimer International

Jamie Herwald and Kevin Boutelle (Suresh Chalasani)

Business, UW Parkside

Oral Presentation III (2:00 – 3:30 p.m.)

This presentation focuses on the design of an intranet Web site for Runzheimer International, a for-profit company located in Southeastern Wisconsin that specializes in relocation services. This talk will discuss analysis and design of the intranet Web site for Runzheimer using the UML methodology, database design, and aspects of project management including

scope and risk management. For the analysis and design phase, we present detailed use cases, sequence diagrams, and the hardware/software requirements. In addition, we present a detailed Entity Relationship Diagram that depicts the database needs for the system. Finally, we will discuss the factors that affected development, and present a prototype of the intranet. This project was done through the Solutions for Economic Growth Center (SEG) within the School of Business and Technology. Companies and organizations can request business solutions through SEG. This project was completed and the intranet design was delivered to Runzheimer International in December 2004.

Dollarization in Latin America

Sofia Castillo (Marianne Johnson)
Economics, UW Oshkosh
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

Empirical studies on the subject of dollarization in Latin America have not been numerous, but most tend to measure dollarization with the ratio of foreign currency deposits to broad money (M3). For this paper, we adopt this measure of dollarization and take numerous macroeconomic indicators from 21 different Latin American countries between the years 1960 and 2002. We run various regressions using different variables and our dollarization measure to determine their impact on inflation and economic growth, measured by GDP growth. Multivariable econometric analysis is used to determine whether greater dollarization has brought economic stability (low inflation rates) and economic progress (economic growth) to Latin America. This analysis is related to important policy questions such as whether dollarization is expected to have a long-run positive impact on dollarized countries and whether the U.S. and Latin American countries should consider a single currency union, similar to that of the European Union. Results from our analysis show that dollarization presents a positive impact on economic growth in Latin American countries, though the relationship is not statistically significant. Whereas the analysis done on inflation suggests that as our dollarization variable increases, inflation decreases in each country; and this relationship is statistically significant.

The Disappearing January Effect and the Tax Loss Selling Hypothesis

Cliff Moll (Kevin McGee and Stephen Huffman)
Economics and Finance, UW Oshkosh
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

The January Effect is the documented presence of abnormal returns for common stocks in the month of January. Gu (2003) develops a power ratio in order to examine the January Effect present in major U.S. stock indices. The power ratio is established in order to uncover the dynamics of the January Effect that can not be uncovered using the traditional dichotomous variable approach. In this study, I expand upon the methodology of Gu to provide a closer examination of the January Effect over time. Also of importance is the relationship between the January Effect and the Tax-Loss Selling Hypothesis. The Tax-Loss Selling Hypothesis is an explanation for the existence of the January Effect. It states that as investors liquidate their positions in stocks that have amounted capital losses in the previous year, the prices of these stocks are depressed. Then, after the turn of the year, these investors reinvest their money in the stock market. As this happens, the stocks that were previously sold are bought again, causing their prices to rise. Using OLS methodology, I investigate the relationship between the January Effect and several firm-specific and macro-economic variables. Important relationships examined include those between the January Effect and each firm's market value of equity, beta, and price/earnings ratio. The results of this study are two-fold. First, the results indicate that the January Effect can be explained, at least in part, by the Tax-Loss Selling Hypothesis. Second, the January Effect seems to be disappearing over time. The opportunity to exploit this anomaly has quite possibly already passed. By observing the coefficient on the time variable, I demonstrate to what extent the January Effect is disappearing. I find that the January Effect can be expected to be only two-thirds of what it was the year before, indicating that the anomaly is quickly disappearing.

Multigenerational Impacts on Educational Choice

Chelsea Nelson
(Marianne Johnson and Nancy Burnett)
Economics, UW Oshkosh
Poster Presentation II (2:00 – 3:30 p.m.)

The choice to pursue higher education is dependent upon multiple factors within each individual's sphere

of influence; traditional economic analysis has primarily focused on the effects of race, gender and family income to determine an individual's choice to attempt higher education. What I examine is the impact on individuals' choices from parental educational levels, the concomitant choices of siblings'/peers' decisions, as well as the more traditionally studied effects of race, income and gender. My probit regression analysis directly estimates the strength of these influences. Further, I look at how these effects have different degrees of result on males versus females by incorporating interactive variables. The ever-increasing importance of a college education in today's labor force underscores the implications of my work as it determines the relative importance of influences on the decision to apply to college. Individuals who otherwise would have a low probability of attempting college should be targeted. The data for this study is the NLSY (National Longitudinal Survey of Youth) published by the Bureau of Labor Statistics.

Skewed Bidding in Wisconsin State Forest Auctions

Laurie Turtenwald (M. Ryan Haley)
Economics, UW Oshkosh
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

Athey and Levin (2000) have investigated the skewing of bids in United States Forest Service timber sales. Skewed bidding occurs when the estimated volumes of different species of timber involved in a sale differ from the volumes of those species that are actually harvested. Due to difficulty in accurately measuring the volume and value of timber for sale, bids are measured based upon the estimated volume of timber. However, the actual payment is made according to the volume of timber cut out from a tract. Bidders can take advantage of estimation error and private information by submitting a bid that is higher than expected payment. I expand the model of Athley and Levin to include more than two species and examine this model empirically using data concerning sales of timber in state forests in Wisconsin.

Spatial Relationship Between Bars, Schools and Churches in Superior, Wisconsin

John Cavanaugh (William Bajjali)
Geography, UW Superior
Oral Presentation I (8:30 – 10:00 a.m.)

Communities will often zone incompatible activities at some distance from each other. In general the

community is more concerned about the proximity of bars to the school system and residences, but not necessarily to churches. This study utilized Geographic Information Systems (GIS) to apply proximity analysis to find the relationship between schools, bars and churches in Superior, Wisconsin. Information was collected using Global Positioning Systems and addresses from the local yellow pages. The addresses were geocoded in order to make it usable in the GIS analysis. The study reveals that there are a large number of bars in the city of Superior and they are clustered close to each other in certain locations and further away from the schools and residences. The churches are the opposite of the bars: they are scattered at various locations between residences and in closer proximity to the school systems.

Perceived Crowding and Territoriality's Effects on College Student Learning: Influences of Classroom Design

Amy Kiley (Georjeanna Wilson-Doenges)
Psychology and Women's Studies, UW Green Bay
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

There is a growing emphasis on applying sustainable design features to the college classroom including sky lights, windows, high ceilings and stadium seating. However, there is little research empirically studying how these design elements and the classroom physical environment in general, affect student learning. Classroom design contributes significantly to students' perception of crowding and learning. Data from 100 surveys and 20 qualitative interviews of undergraduate students were analyzed to assess the influence of physical features of the classroom, perceived crowding and ownership of their learning space (territoriality) on learning. The physical features of each classroom including ceiling height, stadium seating, windows and daylighting all played a role in the relationship between perceived crowding and ability to learn. Students reported feeling most comfortable and learning best in classrooms with high ceilings, lots of light, stadium seating and exterior windows. In classrooms where perceived crowding was high, ability to claim their "own spot" mitigated some of the negative effects of crowding on learning. Students were surprisingly aware of the direct effect of design features on their learning, and specifically on their ability to focus. Findings promote strategies for designing college classrooms which are optimal for student learning.

The Fate of Family Dairy Farming: Can Wisconsin Stay “America’s Dairy Land?”

Elizabeth Kobus (Stephanie May de Montigny)
Anthropology, UW Oshkosh
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

Dairy farming in Wisconsin is a large part of the state’s cultural identity as evidenced by its residents’ vote for a dairy farming themed image on its state quarter in 2003. A current trend in dairy farming is the steady loss of dairy farms, especially the loss of smaller family farms. The choice of Wisconsinites to be represented by dairying and Wisconsin’s nickname as “America’s Dairy Land” gives them a real vested interest in the fate of the Wisconsin family dairy farm, not to mention dairying’s \$20 billion annual contribution to the state’s income. This presentation will address the following questions: How much of a problem is the decline in dairy farm numbers? What are some of the forces behind the decrease in smaller farms? What are some of the affects of this decline to Wisconsin’s identity? And, finally, what is with those California cheese ads?, an analytical look at California’s assault on Wisconsin’s dairy land reputation. This presentation will focus on information the presenter has gathered from original ethnographic research and an analysis of previous research and literature related to the subject.

Implications for Petroform Associations Within Fond du Lac County, Wisconsin

Jennifer Tovar
(Mamadou Coulibaly and Jeffery Behm)
Geography and Anthropology, UW Oshkosh
Oral Presentation I (8:30 – 10:00 a.m.)

Petroforms are a form of Native American rock art variously defined as surface features formed through the arrangement of stone, stone outline figures, and boulder arrangements that range across the entire contiguous United States and Canada. Closely associated with petroforms, and often sharing a similar and parallel distribution, are culturally modified trees. Culturally modified trees, also known as manito trees, marker trees, and anthropogenic trees, are trees that have been altered by aboriginal people as part of their traditional use of the forest. This study proposes to document the form and spatial distribution of petroforms and culturally modified trees in Fond du Lac County, Wisconsin. Documentation will be accomplished through accurate photographic recording techniques and scrutinizing various resources to determine their apparent value in locating exact

locations of petroform sites and ancient trails. These data will be entered into geographic information systems and examined for spatial relationships among petroforms, culturally modified trees, and previously recorded ancient trails and springs. At the current stage of the research, the analysis successfully identifies a definite and human-caused alignment of trees, as well as positive results for petroform, culturally modified tree, trail, and spring associations within Fond du Lac County, Wisconsin.

Gentrification and Socioeconomic Polarization: The “Creation” of Two Milwaukeees

Erica Trafton (Jeffrey Zimmerman)
Geography, UW Parkside
Poster Presentation II (2:00 – 3:30 p.m.)

Geographers continue to be interested in the process of urban gentrification. This is in part because the process has significantly increased over the past decade. One of the consequences of the process of urban gentrification is a deepening economic and social polarization across central city urban space. Using Milwaukee, Wisconsin, as a case study, this exhibit visually examines how gentrification and the resulting socio-economic polarization have “worked together” to create two distinct Milwaukeees.

Searching for the Lost River and Village: An 1805 Lewis and Clark Site Along the Northwest Oregon Coast

Jeremy Treague (Harry Jol)
(Curt Peterson, Portland State University)
Geography and Anthropology, UW Eau Claire
Poster Presentation II (2:00 – 3:30 p.m.)

Lewis and Clark spent the winter of 1805 along the Northwest Oregon coastline. During their stay, they visited, mapped and described many locations, including a native village along the former Clatsop River. Several wooden structures south of the river’s outlet to the Pacific Ocean were noted in their map and journal records. Previous investigations by other researchers have failed to locate the historic site. After reviewing Lewis and Clark’s map and journal records, and speaking with local residents, a study area was selected along the west shore of Slusher Lake, near Warrenton, Oregon. Field research using ground penetrating radar (GPR) and other field methods was carried out in September 2003. GPR profiles collected along the ridge west of Slusher Lake reveal parallel to

sub-parallel, continuous to semi-continuous reflection patterns, which are interpreted as vertically accreting coastal sand dunes. A distinct channel-form reflection pattern noted on the GPR profiles northwest of Slusher Lake is interpreted as the historic Clatsop River outlet along which the village was located. Based on the results of previous research, a detailed subsurface investigation is in progress, which coincides with the Lewis and Clark Bicentennial and seeks to resolve the physical location of the Clatsop native village.

America's Impact on Vietnam's Physical Environment During the Vietnam War

Steven Messner (Mike Jacobs)

History, UW Baraboo/Sauk County

Oral Presentation I (8:30 – 10:00 a.m.)

America's Impact on Vietnam's Physical Environment during the Vietnam War is a 13-minute presentation designed to educate and show some of the environmental impacts America's foreign policy has had on another country. Using both visual and audio effects, actual video footage from the Vietnam War, and popular songs during this time period that fit appropriately to the material, this presentation covers the major causes of the destruction of the environment: bombs, combat, chemical warfare, bulldozers, and materials of war left by armies. The presentation utilizes a combination of sources, including academic, commercial and pop cultural, and special-interest sources. These sources range from *The Journal of Toxicology and Environmental Health* and *The New Republic* to *National Geographic* and the Public Broadcasting Station and the organization, Peace Trees.

Making Men: The Culture of Masculinity at La Crosse State Normal School, 1909-1920

Sean Alexander Reckwerdt (Victor Macias-Gonzales)

History, UW LaCrosse

Oral Presentation I (8:30 – 10:00 a.m.)

From its establishment in 1909, the La Crosse State Normal School (LCSNS, today's UW LaCrosse) has presented – through its courses of study, extracurricular activities, and publications – institutional models of masculinity that its students have subsequently projected onto the communities where they served as teachers. LCSNS's small cadre of males (more than 85% of the students were women in the early decades) would later become school administrators and in that capacity serve as model

citizens in small rural communities of western Wisconsin; this ultimately makes masculinity a substantive category of historical analysis given the centrality of masculinity to the reproduction of structures of power. This paper analyzes the various ideological and institutional influences that helped create institutional masculinity at LCSNS, using different cultural representations in yearbooks and campus publications in which men and others represented, constructed, and explored their masculine identity in relationship to that of women and other men. The article explores how Progressivist institutions like the Young Men's Christian Association as well as the Student Army Training Corps (the SATC was the forerunner of today's ROTC), helped to create a remarkably emotive masculinity, unlike the hyper-masculine pattern and behavior evident today at UW LaCrosse.

The Megiddo Expedition: Archaeology and the Bible

Jennifer Westpfahl (Mark Chavalas)

History, UW LaCrosse

Oral Presentation I (8:30 – 10:00 a.m.)

The site of Megiddo is widely regarded as one of the most important biblical period sites in Israel. Surrounded by mighty fortifications, outfitted with sophisticated water installations and adorned with impressive palaces and temples, Megiddo was the queen of cities in Canaan and Israel. Because of its location and importance, archaeologists have been excavating the site for more than 100 years. Biblical scholars often cite Megiddo as a site containing supporting evidence for the chronology found in the biblical text, a subject that has come into controversy in recent times. The controversy is centered, in part, on the idea of a united monarchy in ancient Israel under the Davidic dynasty, a viewpoint based primarily on reports from the biblical text. Israel Finkelstein, current director of excavations at Megiddo for more than 10 years and is planning further excavations at the site. According to Finkelstein, his excavations have revealed archaeological evidence that puts the more traditionally held viewpoints on biblical chronology in question.

Adaptive Re-Use for a Residential Care Facility, Nelson Hall

Christine Doidge and Amy McGuire
(Professor Jane Kangas)

Interior Architecture, UW Stevens Point

Oral Presentation II (10:30 a.m. – 12:00 p.m.)

This project in Interior Architecture was based on the design problem of adaptive re-use of a historical campus dormitory, Nelson Hall. The new use is a residential care facility for elderly with dementia. Students needed to research causes and symptoms of dementia and effects their living environment can have on people with the disease. Students examined which design elements can improve comfort levels, way finding and safety of dementia patients. Some design elements include central wandering paths, traditional colors, and interaction with outdoors. Research on Nelson Hall included renovation guidelines, ADA accessibility laws, and assessment of the unique attributes of the structure. Students also conducted a building evaluation of Nelson Hall. This evaluation made it clear that certain changes would be required to make the building suitable for a residential care facility. A tour of an existing care facility, interacting with residents with dementia, and speaking with design professionals about adapting historic buildings for a new use also provided students with information necessary for the design project. The final design emphasized a home-like environment with a nature theme. Leisure activities were arranged without any ambiguous space organization. Spaces were designed with appropriate colors, materials and finishes with an inviting quality and to minimize confusion. Public spaces, including a “town square,” enhanced social interaction and helped maintain some of the historic features of the building.

When the Tanks Came Rolling In: Conservative Advocacy Tanks and the Rhetoric of Illegitimacy and Welfare in 1995

Andrew Bloeser (Michelle Brophy-Baermann)
Political Science, UW Stevens Point
Oral Presentation III (2:00 – 3:30 p.m.)

Over the past decade, scholars have paid increasing attention to how think tanks inform policymaking decisions, with particular attention afforded to conservative advocacy tanks since the 1994 midterm elections. The function of think tanks as informers of political debate in the news media, however, has

received less attention. By examining the mediated welfare reform debate of 1995 concerning family structure and sexual behavior, my research attempts to shed light on this function. An examination of congressional testimony on the potential connections among family structure, sexual behavior, and welfare dependence reveals that the bulk of such testimony was provided by conservative advocacy tanks. Using this testimony as an indication of conservative advocacy tank preferences (and the preferences of other actors), and relying on a content analysis of ABC and CBS evening newscasts, my work illustrates the circumstances of coverage under which conservative advocacy tank preferences appeared with the greatest frequency. The findings from this effort suggest a greater utility for advocacy tanks that extends beyond policymaking.

The Politics of the German Reformation

Richard Draeger Jr. (Richard McGregory Jr.)

Political Science, UW Whitewater

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

The discussion of politics and religion in contemporary society can bring about sharp disagreements. In Europe’s past, however, religion and politics often collided, such as in the instance of the Avignon Captivity and the actions of Henry VIII in the separation of the Church of England from the Church of Rome. While France and England figure prominently in the history of the intersection between church and state, Germany has also played an active role. This role was witnessed during the Protestant Reformation begun by the noted Saxon, Martin Luther. Martin Luther’s involvement with the Reformation in Germany was primarily religious; however, it was quickly politicized. This is evident in the Signing of the Augsburg Confession by individuals such as Phillip Landgrave of Hesse. This research study examines not only on the impact that the young Phillip had on the signing of the Augsburg, but the measures he took in his principality, which is located in the present day state of Hesse. This study focuses on the steps taken to implement the Reformation in Hesse, the motives behind its implementation, and its ramifications.

Cyber Bullying: An Exploration of Electronic Aggression

Adam Hinz (Justin Patchin)

Political Science/Criminal Justice, UW Eau Claire

Oral Presentation III (2:00 – 3:30 p.m.)

Over the past two decades, social science and education research has documented the numerous detrimental effects of bullying. The recently identified relationship between bullying and acts of extreme school violence prompted a vast array of studies concerned with traditional bullying. However, since the advent of the Internet and other mobile communication devices, bullying now occurs not just on the schoolyard, but in the digital realm of today's technological society. Due to the pervasive and prolonged use of such technology by children both in and out of school, their victimization potential increases dramatically beyond the schoolyard. The present study focuses on two forms of aggression capable of electronic transmission—verbal and psychological. While researchers have just begun to explore electronic harassment, very few have explored the electronic extension of bullying. The present study empirically documents the extent to which *cyber bullying* occurs, and develops a profile of *cyber bullies* and their victims. Present findings have application in determining how bullies and victims interact in the fast-growing society of electronic communication. Such electronic interactions are compared to those of traditional schoolyard bullies and victims in terms of frequency and effect.

Teaching Vocal Imitation to Children With Autism

Amanda Besner, Kelli Capocasa, Christine Benedict and Heather Petersen (Kevin Klatt)
Psychology, UW Eau Claire
Poster Presentation II (2:00 – 3:30 p.m.)

Children diagnosed with autism have developmental delays in communication, play and social skills. Poor communication skills are most problematic because they are necessary for learning many social and play skills. Therefore, developing communication skills, especially verbal competence, is extremely important. Teaching verbal skills to nonverbal children requires first teaching the child to imitate vocal sounds. In this study, vocal imitation was taught to two young children using a discrete trial procedure. Three nonverbal children ages 2.5, 2.5 and 4 were taught to imitate various combinations of vowels and consonants. Results show an increase in vocal imitations across most categories of vowels and consonants.

Eye-Hand Coordination in Video Game Playing Populations

Nicholas Cuccia, Kelly Bougneit, Kathy Chronis and Megan Fowler (Kathleen Stetter and Dawn Vreven)
Psychology, UW Oshkosh
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

Eye-hand coordination and reaction time tasks were measured for video game players and non-video game players in a laboratory setting. Five tests were used; Donders A task, Donders B task, and a custom designed object intercept task were used to measure reaction time. The Minnesota Rate of Manipulation Test and a photoelectric rotary pursuit task were used to measure participants' motor skills. The total amount of subjects were 25 males, with 13 belonging to the video game playing group and 12 belonging to the non-video game playing group. Although it was expected that video game players would outperform the non-video game players on all the tests, they only differed significantly on the Donders B task. Performance on all the other tests was nearly identical. These findings suggest that the cognitive abilities of response selection and object recognition, as shown by superior performance on the Donders B task by the video game playing group, are the only skills that transfer over from game play.

Effects on Adolescents Living With a Depressed Parent

John Hoyt (Nancy Minahan)
Human Behavior and Diversity, UW Superior
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

The effects adolescents experience living with a depressed parent has been often overlooked in depression studies. The "inheritance factor" of depression in families could be the result of the environment the adolescent experienced. The study examined (a) perceptions of social support and depression (CES-D) scores between adolescents living with depressed or non-depressed parents, and (b) common cognitive processes that adolescents experienced in a depressed environment. Participants were 15 students at the University of Wisconsin Superior campus with depressed parents and a comparison group. The study predicted that CES-D scores for the depressed parent group would be higher, while social support perceptions would be lower than the non-depressed group. The study also documented cognitive similarities found in the depressed group.

Sad Movies and Emotion Expression: The Effects on Recall

Sarah Kriha, Tami Thompson and Kimberly Fassbender (Kathleen Stetter)
Psychology, UW Oshkosh
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

This study investigated the effects that sad movies and emotion expression have on recall. Forty-nine UW Oshkosh undergraduate psychology students were tested. In the control group, a neutral video was shown and in the suppression group a sad video was shown. Both groups wrote about the storyline. In the expression group, a sad video was shown and participants wrote about their feelings on the movie. Each group then read an educational text, followed by a recall exam. As predicted, students who wrote about their emotions achieved a significantly higher score on the recall exam. This supported the hypothesis, which stated that as emotion regulation increases, recall also increases. It was also predicted that participants viewing the sad video would have lower recall scores than those viewing the neutral video. The trend in data supported this hypothesis, although the results were not significant. This study showed that emotions play an underlying role in cognitive processes such as memory.

Athlete Performance Coachability

Michael Miller (Regan Gurung)
Human Development and Psychology, UW Green Bay
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

The study of coachability entails the examination of both personality and motivational traits of athletes. I created the athletic performance coachability scale (APCS) as a means to uncover the differences between athletes' cognitive and behavioral responses to coaching instruction – in essence, to measure their varying degrees of coachability. In addition, it reflects the relationship between coachability and performance. The APCS was administered to NCAA student athletes and college students with high school sport experience (N=74). Principle component and factor analysis resulted in seven components accounting for 73% of the response variance of participants. All of the components of the APCS shared statistically significant and logically meaningful correlations with valid personality and motivational measurements lending validity to the strength of measurement of each category. Results from the study offer support for a seven component conceptualization of coachability (APCS),

characterized by athletes' motivation, and personality characteristics, in particular their trust and respect for their coach, ability to interact with social influences, discipline and intensity of effort, ability to creatively adapt to situations, openness to learn, mood regulation, and how much they are affected by their perceptions of being evaluated – all within a coaching construct (i.e. developing through some form of coaching instructions).

Academic Thriving and Coping Skills of Students Who Live Amidst Domestic Violence

Carol Olson (P.B. Poorman)
Psychology, UW Whitewater
Poster Presentation II (2:00 – 3:30 p.m.)

The issue of academic coping skills that are utilized by adolescents who live amidst domestic violence is relevant to the goals of many educators relative to enhancing academic achievement. This qualitative investigation compares the coping skills of academically successful adolescents who live amongst domestic violence to their counterparts who are not academically successful. The study utilizes information from an exhaustive literature review as well as personal interviews and surveys of school counselors to make correlations between academic success and particular coping skills. The correlations that lead to the identification of successful coping skills may allow educators and policy makers to create social skills curricula that could be taught to children who are unsuccessful academically. These types of curricula could also be the core component of training modules for professionals in urban, rural and suburban school districts as part of our nation's effort to enhance student achievement in a more efficient and cost-effective manner.

The Relationship Between Maternal Distress and Youth Distress Among Assaulted Youth

Lilliann Paine (Lori Phelps and Gayle Norbury)
Psychology, UW Milwaukee
Oral Presentation II (10:30 a.m. – 12:00 p.m.)

The purpose of this study is to examine the relationships between maternal distress, particularly depression and Post-Traumatic Stress Disorder (PTSD), and youth distress among a sample of inner-city African-American youth who have been assaulted in the community. Maternal distress was measured by

the Trauma Symptom Inventory (TSI) and youth distress by the Trauma Symptom Checklist for Children (TSSC). Archival data was available for 36 mother-child dyads. SPSS was used to explore correlations among maternal and youth clinical scale scores. A significant but moderate correlation was found between maternal Defensive Avoidance (DA) and youth PTSD. No other significant correlations were found.

The Perpetuation of Rape Myths in the Media and the Effects on Attitudes Toward Sexual Assault Victims

Jennifer Seefelt (Rena Franiuk)
Psychology, UW Stevens Point
Poster Presentation II (2:00 – 3:30 p.m.)

Two studies were conducted targeting the Kobe Bryant sexual assault case to assess the extent to which rape myths (i.e., “she wanted it”) are perpetuated by the media and the effects this may have on attitudes about sexual assault. Study 1 involved an analysis of 156 articles to determine the extent to which rape myths were endorsed in the popular media. Findings revealed that rape myths were alarmingly prevalent with at least one myth present in 65% of the reviewed articles. In Study 2, participants were given one of two articles that either endorsed or attenuated rape myths to assess the effects of rape myths on opinions about the case. Results from this study showed that participants who read the rape myth-endorsing article were less likely to believe that Bryant was guilty and more likely to believe the victim was lying than were participants who read the rape myth-attenuating article. This research has strong implications for the media’s role in the perpetuation of rape myths and the consequences on individual and societal attitudes about sexual assault. Frequent exposure to myths blaming the victim may influence jury decision-making in sexual assault cases, as well as have devastating effects on victim reporting.

The Process of Assimilation: Narrative Analysis of Six Lao Women Refugees

Vinthany Souvannarath (Pamela Schaefer)
Psychology, UW Milwaukee
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

After the Communist takeover in Laos in 1975, approximately 16,000 Laotians fled to the U.S. The Lao constitute less than one percent of the total U.S. population (Reeves & Bennet, 2003) and have been the least noticed of the groups who fled from

Southeast Asia (Silberman, 2001; Cerquone, 1986). In this study I gathered narrative analyses from six Lao women refugees aged 18 to 45 from who have lived in the U.S. for an average of 19 years in a Midwestern state. Semi-structured interviews were conducted to explore 1) the challenges and adjustments they had in adapting to the U.S. 2) the extent to which they feel they have integrated in the U.S. society, and 3) the importance of preserving their cultural identity. The findings reveal the women’s cultural and linguistic isolation as newcomers and a range of challenges the women experienced. Challenges of overcoming traditional behavioral expectations of women, adapting to more individualistic attitudes, climate and weather change, distaste of American foods, transportation and homesickness were reported. However, acquiring the English language and pursuing education in the U.S. school system were among the biggest cultural adjustments. As predicted, the women have not fully integrated in the society and are still learning to adapt while continuing to maintain their cultural identity.

Comparing Constant Time Delay and Simultaneous Prompting Procedures on Skill Acquisition for Children With Autism

Nicole Zeug and Julie Ackerlund (Kevin P. Klatt)
Psychology, UW Eau Claire
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Teaching communication, play, social and academic skills to children often involves using procedures to transfer stimulus control from the teacher’s prompt to the discriminative stimulus. A constant time delay procedure has been successfully used to transfer stimulus control in many studies. More recently, a simultaneous prompting procedure has been demonstrated to successfully transfer stimulus control, but in many cases with fewer trials, sessions, training time to criterion and errors than the constant time delay procedure. The purpose of this ongoing study is to investigate whether differences exist in using these two procedures when teaching skills to young children diagnosed with autism. Preliminary results have shown little difference between the two procedures.

The Process of Attaining a Victim Identity in a Case of Date Rape: The Impact of Race, Gender, Victim Blame and Victim Precipitation

Angela Beck (Chris Rose)

Public Affairs/Criminal Justice, UW Oshkosh

Oral Presentation III (2:00 – 3:30 p.m.)

In this research, the status of a “date rape victim” is approached as a process where alleged victims must compete, negotiate, and struggle to make their claims of victimization believed. Only through a successful claimsmaking process will the alleged victim win a victim’s contest requiring the criminal justice system and advocacy programs to treat her accordingly. To win this contest and gain access to the limited resources available within the legal system and advocacy programs, the agents of these systems must believe that the victim did not precipitate the event and cannot be blamed for what transpired. To investigate this process, an experimental design was developed where criminal justice majors (future actors within the legal system) were asked to read a fictitious scenario where both an alleged victim and an alleged offender make statements to law enforcement concerning an alleged date rape. Subjects were then asked to estimate victim precipitation, victim blame, and whether or not date rape actually occurred. The victim’s dress, the victim’s race, the personal and situational relevance of the research subject (i.e., the likelihood that the subject would find himself or herself in similar circumstances), the subject’s gender, as well as beliefs in “rape myths” were shown to significantly influence whether or not research subjects believed the “alleged victim” worthy of the allocation of criminal justice and advocacy resources.

Black Males and the Criminal Justice System

Akela Brown (O. Oko Elechi)

Criminal Justice, UW Parkside

Oral Presentation III (2:00 – 3:30 p.m.)

In 2003, 9.3 percent of African-American men between the ages of 25 to 29 were incarcerated in American prisons. About one of every three African-American men is under the supervision of the criminal justice system. This study examines the root causes of the overrepresentation of young black males in the criminal justice system, including the social and economic conditions of African-American communities. Further, the study examines the media,

policing, prosecution and sentencing policies and practices that are alleged to have contributed to the disproportionate incarceration of African-Americans. Again, the impact of the massive incarceration of African-American men on their families and their communities were also examined in this study.

Stay Out, Speak Out and Succeed: Addressing the Needs of African-American Females in the Juvenile Justice System

Ebony Evans, (Laurie Schaffner, Criminal Justice, University of Illinois Chicago)

Criminal Justice, UW Whitewater

Poster Presentation II (2:00 – 3:30 p.m.)

The situation of African-American girls in the U.S. juvenile justice system is disturbing, and these offenders are commonly from underprivileged and economically disadvantaged backgrounds. Young females who are at high risk for victimization have an even greater risk of becoming criminal offenders. Separating the young women’s identities from their offenses is imperative to understanding their challenges. Girls who encounter the juvenile justice system have difficulty locating interventions in juvenile facilities that can serve to empower them. Due to the horrendous conditions that members of this population often encounter, possible solutions in the form of empowering programs are vital to their success. This study identifies viable programs and strategies for meeting the needs of young female offenders. An exhaustive examination of the research literature found that gender-specific programs empower young females in the juvenile justice system. In order to determine the effectiveness of gender-specific programs, an analysis of available data was conducted along with structured observations of gender-responsive projects that implement culturally sensitive criteria. Finally, an analysis of the voices of girls who were considered high risk was completed in order to assess the needs of the population and the effectiveness of existing programs.

Recovery of Archeological Materials Through Water Screening at the Vieau Fur Trade Post Site, Franksville, Wisconsin

Margo Frost (Robert Sasso)

Sociology/Anthropology, UW Parkside

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

The excavation and analysis of artifacts recovered from trading post sites provide invaluable insight into

the daily lives of fur traders and the native Potawatomi people that exchanged goods with them. The Vieau site is located in Franksville, Racine County, Wisconsin, and was in active use until 1837. The trading post, owned and operated by brothers Jacques Vieau, Jr. and Louis Vieau, was near a prominent Potawatomi village known as Skunk Grove. Previous archaeological investigations conducted during the summers of 2002 and 2003 by researchers at the University of Wisconsin Parkside have yielded a variety of significant artifacts. For the most recent archaeological investigation, conducted during summer 2004, water screening was utilized for enhanced artifact recovery. Soil samples removed from three small excavation units were filtered through fine mesh (1/16th inch) screens to recover minute archaeological artifacts such as European trade beads, small ceramic fragments, and miniscule lithic fragments. By using water screening as an archaeological method, more in-depth information can be gathered that will help to further illuminate the complex relationship between the Native American and Euro-American populations.

Analysis of Square Nails Recovered From the Vieau Fur Trade Post Site, Racine County, Wisconsin

Tamara Gaut (Robert Sasso)
Sociology/Anthropology, UW Parkside
Poster Presentation II (2:00 – 3:30 p.m.)

The Vieau Fur Trade Post Site is located in Franksville, Racine County, Wisconsin. Situated next to a Potawatomi village then known as Skunk Grove, this site is important for understanding the relationship between Native Americans and Euro-Americans before the Indian Removal in 1837. To date, approximately 250 square nails have been recovered from this site. Square nails can be important dating tools. Before the nails can be analyzed it is necessary to remove any rust that has accumulated on them. Electrolysis is used to loosen the rust on the nails, which can then be easily removed with an electric grinder. After removing the rust, the nails are heated in a toaster oven to remove any vestigial moisture and lacquered to safeguard against future rusting. Once cleaned, their characteristics can be used to determine when they were made. Analysis to date suggests a range of nail types manufactured between approximately 1800 to 1850 A.D. This indicates that there were buildings at the site during and immediately after the time of the Indian Removal.

Mothering From Prison

Valerie Rangel, (Hadley Klug)
Sociology, UW Whitewater
Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Many researchers have studied criminal offenders. However, only a small fraction of this research has studied the issue of the interaction between incarcerated females and their children. This study examines women who have children and are incarcerated in the prison system. The primary thrust of this project is to assess whether these incarcerated mothers are “mothering” from behind bars. Through an exhaustive review of the research literature, this study identifies the characteristics of inmates who take responsibility for their children while incarcerated and categorizes factors that impact the nature and quality of the relationships between female inmates and their children. The study will add to the research literature already available in this area by uncovering viable alternatives for mothers to be with their children while incarcerated. The study will be conducted through personal interviews of incarcerated mothers at various prisons and staff members from a variety of functional areas at women’s correctional facilities during January and February 2005. It is anticipated that the results of the study will assist policymakers, researchers and criminal justice professionals with designing outreach programs to assist criminal offenders who have children.

Identification of Early 19th Century Potawatomi Artifacts in Museum Collections

Derek Rivers (Robert Sasso)
Sociology/Anthropology, UW Parkside
Poster Presentation II (2:00 – 3:30 p.m.)

The archaeological record indicates numerous Potawatomi settlements in the seven county area of southeastern Wisconsin dating from 1795 to 1838, and in a limited sense, beyond. However, the number of archaeological specimens that have been documented from these sites is quite limited. The project was designed to contact local and regional museums along with historical societies in an attempt to locate, identify, and photograph potential Potawatomi collections to build on ongoing research for the archaeological record. In addition, the identification and photo-documentation of potential Potawatomi artifacts and objects will be essential for the development of future publications that will describe Potawatomi material culture in the early 19th century.

**Analysis of Faunal Remains Recovered
From the Vieau Fur Trade Post Site,
Franksville, Wisconsin**

Tara Slorby (Robert Sasso)

Sociology/Anthropology, UW Parkside

Poster Presentation I (10:30 a.m. – 12:00 p.m.)

Since 2002, the University of Wisconsin Parkside has conducted archaeological research at the Vieau Fur Trade Post site near Franksville, Racine County, Wisconsin. The Skunk Grove locality, as the Franksville area was formerly known, was occupied by a Potawatomi village and this trading post for several years or more circa 1830-1837. After the post closed and the village population was relocated to Iowa in 1837, the Vieau site was occupied by a productive farmstead, and most recently has been used as a location for several residences. Faunal remains recovered from the site include bone, teeth and shell. The nature and variety of animal remains from the site will be described, including the individual skeletal elements and, where possible, the particular species represented.

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Thanks and Acknowledgments

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