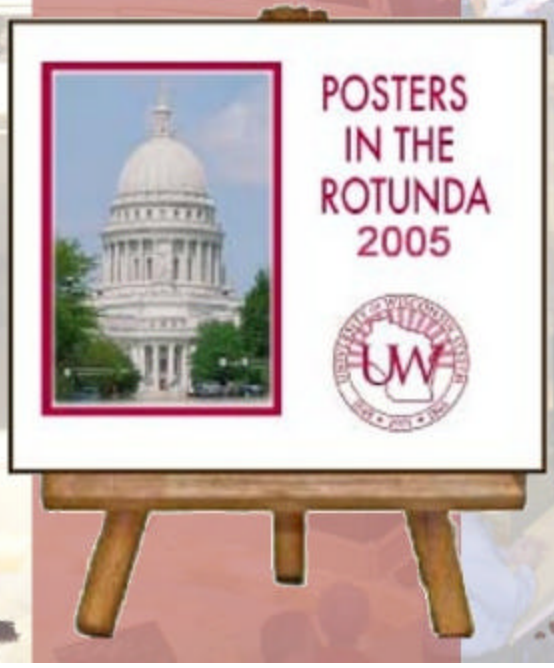

POSTERS IN THE ROTUNDA 2005

A celebration of undergraduate student research

April 7, 2005
The Capitol Rotunda
Madison, Wisconsin

GOVERNOR'S PROCLAMATION

WHEREAS, one mission of the University of Wisconsin System is to serve and stimulate society by developing in students heightened intellectual, cultural, and humane sensitivities; scientific, professional, and technological expertise; and a sense of purpose;

WHEREAS, the research that takes place at the undergraduate level advances this mission across the entire spectrum of University of Wisconsin campuses and disciplines;

WHEREAS, University of Wisconsin undergraduate students participate in every aspect of the scholarly work university faculty perform and benefit substantially from faculty mentorship and experience;

WHEREAS, every institution in the University of Wisconsin System performs important research – from studying child learning impairments, to testing bio-degradable textile dyes; from analyzing forest fires, to isolating new anti-infective agents in plants;

WHEREAS, more than 75 undergraduate research projects, representing a host of different university disciplines, will be on display in the Rotunda of Wisconsin's State Capitol on Thursday, April 7, demonstrating the depth and breadth of the educational experience of University of Wisconsin undergraduate students;

WHEREAS, each University of Wisconsin System campus holds an undergraduate research day on their campus, and a Systemwide Undergraduate Research Symposium will be held on the University of Wisconsin-Oshkosh campus on April 29;

WHEREAS, the research posters demonstrate the substantial contributions that students, faculty, and the University of Wisconsin System institutions make to advancing knowledge and addressing critical problems confronting our state and nation;

NOW THEREFORE, BE IT RESOLVED THAT I, JIM DOYLE, GOVERNOR OF THE STATE OF WISCONSIN, DO HEREBY PROCLAIM APRIL 7, 2005

UNDERGRADUATE RESEARCH DAY

IN THE STATE OF WISCONSIN AND WARMLY COMMEND THE UNIVERSITY OF WISCONSIN SYSTEM FACULTY AND STUDENTS FOR THEIR HIGH ACHIEVEMENTS AND OUTSTANDING CONTRIBUTIONS TO UNDERGRADUATE RESEARCH AND SCHOLARSHIP.

TABLE OF CONTENTS

AGENDA

Posters in the Rotunda

Thursday, April 7, 2005
11:00 a.m. – 2:00 p.m.
The Capitol Rotunda
Madison, Wisconsin

http://www.wisconsin.edu/posters

12:00 – 12:30 p.m.
Featured Speakers

Dr. Kevin P. Reilly
President
University of Wisconsin System

Ms. Amanda Lederer
Student
University of Wisconsin-Platteville

Professor Jeff Johnson
School of Pharmacy
University of Wisconsin-Madison

Mr. Toby E. Marcovich
President
University of Wisconsin System Board of Regents

FROM THE PRESIDENT

Dear Education Partner:

Welcome to "Posters in the Rotunda: A Celebration of Undergraduate Research." Promoting research and sharing knowledge are essential to the University of Wisconsin System's educational mission, and undergraduate students at each of our 26 institutions contribute to this mission by conducting state-of-the art research in a host of disciplines.

Providing University of Wisconsin students with opportunities to conduct research allows them to link academic theory to real-life practice, thereby strengthening their undergraduate learning experience. In addition, by working with undergraduate student researchers, university faculty gain fresh perspective and valuable assistance for their own research initiatives, while at the same time providing students with beneficial mentorship and experience.

Undergraduate research in the University of Wisconsin System also provides a wealth of benefits to the larger university community. Students collaborate with faculty to study child learning impairments, test biodegradable textile dyes, analyze forest fires, isolate new anti-infective agents in plants, and collaborate in the scholarly work University of Wisconsin faculty perform. Undergraduate research brings benefits to the state of Wisconsin as well. By developing innovative products and solutions, sharing new knowledge, and training a highly educated workforce, University of Wisconsin System undergraduate research can boost the state's economy helping to improve Wisconsin's quality of life.

My colleagues and I acknowledge the efforts of all our educational partners who make this event possible, including the graphic design team at University of Wisconsin-Whitewater, the equipment assistance of University of Wisconsin-Madison, and the participation and support of our elected representatives.

Each University of Wisconsin institution has contributed to this successful event. We thank the faculty and staff who support undergraduate research, and applaud all our highly talented student exhibitors. The quest for knowledge exemplified by our undergraduate researchers is a wonderful example of how this public university is Wisconsin's premier developer of advanced human potential.

Sincerely,

Kevin P. Reilly
President
University of Wisconsin System

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UNIVERSITY OF WISCONSIN-EAU CLAIRE

1 Psychiatric Diagnoses and Concomitant Drug Treatment in Specialized Child Populations

Krista Bowman [Roberts], Katie Ley [Tomahawk], and Kristina Hall [White Bear Lake, MN]
William Frankenberger, Faculty/Staff Mentor; Human Development Center Child and Adolescent Research Institute

The study determined the number of psychiatric diagnoses of children enrolled in Early Childhood Special Education Programs, specific medication(s) prescribed, number of children receiving multiple medications, possible adverse drug interactions for children receiving multiple medications, and attitudes of teachers regarding psychiatric medication use of children enrolled in the programs.

2 Language Sample Analysis: A Comparison of Two Procedures

Sara Halada [Sturgeon Bay]
Kristine Retherford, Faculty/Staff Mentor; Communication Disorders

This study investigated the effectiveness of two language sample analysis procedures for determining if a child is evidencing language impairment. Bricker's (1993) Assessment, Evaluation, and Programming System for Infants and Children (AEPS) and Retherford's (2000) Structural Analysis were analyzed. Results and implications of the study will be discussed.

3 Use of Psychiatric Medications for Treatment of Elementary Level Children in Schools

Katie Ley [Tomahawk] and Krista Bowman [Roberts]
William Frankenberger and La Vonne Cornell-Swanson, Faculty/Staff Mentors; Human Development Center Child and Adolescent Research Institute

The study determined the proportion of children in first and second grades identified with single and multiple psychiatric disorders, the proportion of children treated with single and multiple psychiatric medications, possible adverse drug interactions for children receiving multiple medications, and attitudes of teachers concerning psychiatric medication use in elementary students.

4 Establishing a Pre-Clinical Model of 'Hunger'

Valerie Jonjak [Chippewa Falls]
David Jewett, Faculty/Staff Mentor; Psychology

Using a two-lever discrimination procedure, subjects discriminated between 22 ("hungry") and 2 hours ("satiated") food deprivation. Hypothalamic peptides ghrelin and neuropeptide-Y induced "hungry" responses. For rats in the "hungry" condition, food consumption induced "satiated" responses. Sucrose and saccharin did not. The model appears to be sensitive to factors affecting "hunger."

5 Isolation of Azo Dye-Degrading Bacteria

Cathy Pohl [Eau Claire]
Sasha Showsh, Faculty/Staff Mentor; Biology

Increasing environmental concern about the appearance of color in wastewater generated from textile and paper companies has made the bio-treatment of dyeing effluents increasingly attractive to the industry. Azo dyes are reactive effluents generally considered to be recalcitrant against biodegradation. Current methods for removing azo dyes are expensive and unfeasible. We have isolated several aerobic bacteria that are able to degrade the azo dye mordant yellow XII.

6 Searching for the Lost River and Village: An 1805 Lewis and Clark Site along the Northern Oregon Coast

Jeremy Treague [Danbury]
Harry Jol, Faculty/Staff Mentor; Geography and Anthropology

Student geologist and computer scientist Jeremy Treague has been using ground penetrating radar (GPR) with faculty member Harry Jol to investigate localities mapped and described by Lewis and Clark, including the physical location of the former Clatsop River outlet along the northern Oregon coast and an associated Native village. The research coincides with the Lewis and Clark Bicentennial.

7 Is *Potentilla fruticosa* a Nectar Plant for Butterflies?

Dustin VanOverbeke [Springfield, MN]
Paula Kleintjes, Faculty/Staff Mentor; Biology

We observed 59 individual butterflies belonging to 11 species nectaring on *Potentilla fruticosa* in the Jemez Mountains, New Mexico. Butterflies spent 53% of observed nectaring time on *P. fruticosa* when availability was 26%. Significantly more mean carbohydrates were in *P. fruticosa* flowers excluded from nectivores (26.83 ug/2ml vs. 6 71ug/2ml).

8 Reconciling Observations of the Yellowstone Hotspot with the Standard Plume Model

James Watkins [Spooner]
Phillip Ihinger, Faculty/Staff Mentor; Geology

The Yellowstone hotspot is the classic example of continental plume magmatism despite several observations that challenge a plume origin. We present a new model for the origin of Cenozoic deformation and magmatism in the western US that reconcile the enigmatic features of Yellowstone with the standard plume model.

UNIVERSITY OF WISCONSIN-FOX VALLEY

9 Social-Psychological Terrorism

Erik Kraemer [Kaukauna]
Greg Peter, Faculty/Staff Mentor; Sociology

A main goal of terrorism is social-psychological control over the population. In the US, we are particularly susceptible to the fear aspects of social-psychological terrorism. We ought to employ a strong method for risk assessment including geographic area and population, and use an internationally comparative approach to asses the appropriate amount of apprehension.

10 Why W2 Doesn't Work

Katrina Nelson [Neenah]
Greg Peter, Faculty/Staff Mentor; Sociology

This poster presents a Marxian analysis of the Wisconsin W2 program. Data was collected from participants in the W2 program as well as general public perceptions of the program. This research points out the inequalities in the social welfare system of the State and makes suggestions for change in the future.

11 No One Cares: The Sociology of Teen Suicide

Brittany Hilbert [New London]
Greg Peter, Faculty/Staff Mentor; Sociology

Teen suicide is a major social issue in the United States. It is important to make teen suicide a public issue rather than just label it a personal trouble. The sociological imagination problematizes teen suicide promoting more awareness of this social problem.

12 Inhibition of Mold Growth by Probiotics and Fatty Acids

Shanna Kaczynski [Appleton] and Dominick Piekarczyk [New London]
Kurt Dubear Kroening, Faculty/Staff Mentor; Biological Sciences

Mold growth can often cause food spoilage and illness. This research examined two different methods, the addition of medium-chain length fatty acids to media in order to inhibit mold growth and the ability of probiotics (bacteria that provide health benefits) to out compete mold growth on media.

13 Examination of the Inhibitory Effects of Probiotics on Growth of the Yeast *Candida albicans*

Jerry Wolff [Neenah], Yuun Murphy [Appleton], and Nathan Weyenberg [Kimberly]
Kurt Dubear Kroening, Faculty/Staff Mentor; Biological Sciences

The yeast *Candida albicans* is known to have adverse effects on humans. There are a number of probiotics currently on the market to provide health benefits to humans. This research tested the ability of some of these probiotics to out compete yeast growth in culture.

14 Reactions of Dinaphthyl Ditelluride with Various Thioureas under Oxidizing Conditions with Bromine

Deanna Pahl [Kaukauna] and Cindy Hofkens [Menasha]
Martin Rudd, Faculty/Staff Mentor; Chemistry

The reactions of dinaphthyl ditelluride with various thioureas under oxidizing conditions with bromine have been investigated. Several novel three-coordinate T-shaped complexes have been isolated and characterized by elemental analysis, NMR spectroscopy, and single crystal X-ray diffraction. The molecules are of the type RTeX(L) [R=naphthyl, X=Br, L=thiourea(s)].

UNIVERSITY OF WISCONSIN-GREEN BAY

15 Morphology of Rocks at Mars Pathfinder Landing Site

Kimberly Biedermann [Neenah]
R. Aileen Yingst, Faculty/Staff Mentor; Natural and Applied Sciences

Using images from the Mars Pathfinder lander, quantitative morphological data (roundness, sphericity, elongation) were determined to yield information about the morphology and transportation history of sedimentary clasts at the landing site.

16 Show More, Look Better? Revealing Clothes, Body Size, and Impression Formation

Heather Bloch, [Athens]
Regan Gurung, Faculty/Staff Mentor; Psychology Department

Your body size and what you wear can significantly influence how you are perceived. One hundred ninety men and women rated 3 women in a 2 (large/small) by 2 (revealing/not) design. Revealing clothes made the wearer appear more promiscuous. Larger women were seen as being less fit, attractive, sexy, and to have lower self-esteem.

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

Amy Kiley [De Pere]
Georjeanna Wilson-Doenges, Faculty/Staff Mentor; Psychology

Classroom design significantly affects student's perception of crowding and learning. Data from 60 surveys and 20 interviews of undergraduates show that high ceilings, stadium seating, windows and light reduce perceived crowding and increase learning. Students actively cope with non-optimal classrooms by choosing a seat that reduces negative consequences on learning.

18 Does This Shirt Make Me Look Big…Enough?

Darryl Teske [Mauston]
Regan Gurung, Faculty/Staff Mentor; Psychology

A study about the attitudes of 94 men regarding health and relationships, no correlations were found between social physique anxiety, body esteem, social support, or relationships, when compared with workout hours and supplement usage. However, quality of relationship was affected by physique anxiety. In addition male physique anxiety levels were similar to female physique anxiety levels from a different study.

19 How Do Students Really Study (and Does it Matter)?

Christina Tosh [Verona]
Regan Gurung, Faculty/Staff Mentor; Psychology

Are specific study techniques better than others? We asked 236 introductory psychology students to list how they studied and then correlated their scores with their techniques. Four techniques (memorizing, using examples, reading the text, and self-testing) related to better exam scores. Listening to music, watching television, and using email while studying were detrimental to exam scores.

UNIVERSITY OF WISCONSIN-LA CROSSE

20 The Evolution of Traditional Ghanaian Music and Influence from Western Society

Lindsay Albright [Evansville]
Bridget Teboh; Faculty/Staff Mentor; History

This research took place in Ghana, West Africa, and included studying the role of traditional music in contemporary Ghanaian society as well as its use in rural vs. urban areas. Influence from Western society, urbanization, and Christianity have contributed to the changing role and value of traditional music in Ghana.

21 Anthropometrics, Dietary Habits, and Feelings About Health Among Wisconsin Hmong-Americans

Por Chang [Wausau]
Margaret Maher, Faculty/Staff Mentor; Biology

To recognize important issues for Hmong-American health and wellness, we assessed basic anthropometrics, diet, physical activity, and knowledge of and attitudes toward health and healthcare among Wisconsin Hmong-Americans. Our results suggest that overweight may be an issue for many Hmong-Americans related to exercise, diet, and nutrition awareness, and warrant further study.

22 The Megiddo Expedition: Archaeology and the Bible

Jennifer Westphal [Onalaska]
Mark Chavalas, Faculty/Staff Mentor; History

The site of Megiddo is widely regarded as one of the most important sites in Israel, containing evidence supporting the chronology of biblical text. According to Israeli archaeologist, Israel Finkelstein, his excavations suggest a different chronology. In Summer 2004, archaeologists worked to uncover more of this recently controversial site

23 Discovery of Anti-Infective Agents in Native American Herbal Remedies

Kristin Keatley [River Falls]
Aaron Monte, Faculty/Staff Mentor; Chemistry

There is an urgent need to discover new methods of fighting infectious diseases caused by multi-drug resistant organisms, such as tuberculosis. Natural plants provide sources for novel drug molecules. Bioassay directed fractionation allowed the isolation of a new anti-infective molecule structure, which was elucidated using various chemical techniques.

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

Natalie Moore [Fridley, MN] and Katherine Wroblewski [Trempeleau]
William Schwan, Faculty/Staff Mentor; Microbiology

Community-acquired strains of *Staphylococcus aureus* (CASA) infections are emerging as a health problem in Wisconsin, particularly those CASA strains 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 these strains carry the genes for potential virulence factors. This study investigated a few of these virulence factors in order to ascertain the genetic differences between CA-MRSA strains and hospital-acquired *S. aureus*strains or *S. aureus* isolates from the nasal passages of healthy people.

25 The Culture of Masculinity at La Crosse State Normal School, 1909-1920

Sean Reckwerdt [Madison]
Victor Macias-Gonzales, Faculty/Staff Mentor; History

From its establishment in 1909, the La Crosse State Normal School (LCSNS, today's University of Wisconsin-La Crosse) has presented—through its courses of study, extracurricular activities, and publications—institutional models of masculinity that its students have subsequently projected on to the communities where they served as teachers. 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.

UNIVERSITY OF WISCONSIN-MADISON

26 Diving Deeper: Venturing into Science with Rural Wisconsin

Allison Bichler [Franklin] and Annika Swenson [Hayward]
Michelle Harris, Faculty/Staff Mentor; Zoology

Our goal was to connect University of Wisconsin-Madison with rural science students in Wisconsin by conducting in-class interactive presentations at Hayward and Wisconsin Heights high schools. By guiding students through an exercise in which they designed their own experiments, we hoped to introduce them to scientific research, spark their interest in science, and open their eyes to the opportunities at University of Wisconsin-Madison.

27 The Health-Related Goals of Pregnant Women

Kimberly Ehlers [Cottage Grove]
Diane Lauver, Faculty/Staff Mentor; Nursing

The aim of this study was to identify health-related goals of pregnant women using a descriptive design. Using an anonymous questionnaire, participants provided information about health-related goals, overall health status, and background information. Themes were determined with content analysis. Discovery of these goals may allow clinicians to tailor interventions to meet women's individual needs.

28 Self Plagiarism: Labor, Loss, and Longing in Student Writing

Sophia Estante [Madison]
Emily Hall, Faculty/Staff Mentor; English

By exploring the seemingly paradoxical question of whether students can plagiarize their own writing, this research looks at the theoretical, rhetorical, and pedagogical implications of the common university policy that considers the act of handing in the same paper- whether revised or not- for more than one class plagiarism.

29 Categorization in Preschool Children

Princess Lee [Corona, CA]
Olivia Ennes, Faculty/Staff Mentor; Educational Psychology

Perseveration is a tendency to repeat a response to an experience in later situations where it's not appropriate. Philip Zelazo's Cognitive Complexity and Control (CCC) Theory suggests that children perseverate because they have difficulty using complex hierarchical rules. The results of this experiment will help us understand how children under the age of four change strategies in solving problems or completing different tasks.

30 Breaking All the Rules: The Rise of Political Parties and Pressure Groups in Uganda Under President Museveni's Reign

Adam Lichtenheld [Prairie du Sac]
Aili Tripp, Faculty/Staff Mentor; Political Science

To promote an understanding of African political and societal structures, this project seeks to identify political parties in Uganda and examine their growth during the regime of President Yoweri Museveni. Despite Museveni's attempts to promote a one-party system, opposition coalitions have emerged to contest the president in the 2006 elections.

31 Biomechanical Performance in F2 Intercross Between HCB/13 and HCB/14 Mice

Tyriina O'Neil [Hutchinson, MN]
Robert Blank, Faculty/Staff Mentor; Endocrinology

Intercrossing HcB/13Dem mice and HcB/14Dem mice, which have differing bone properties, allows us to relate bone phenotypes to animal genotype. 345 F2 mice were sacrificed at 17 +/- 1 weeks and we measured biomechanical performance by 3-point bend testing to extract maximum load, structural stiffness, and energy to failure.

32 Distribution of Angiotensin Receptor Subtypes in Rat Brain

Sarah Saeed [Fitchburg]
Mark Brownfield, Faculty/Staff Mentor; Comparative Biosciences

Angiotensin is a small peptide hormone and neurotransmitter that helps in the regulation of blood pressure and salt and water metabolism. This study is being conducted to find the distribution of the specific receptors (AT1a, AT1b and AT2) in rat brains. Finding which receptor is linked to which part of the brain will allow for the use of particular drugs that act on selected receptors to treat angiotensin related diseases such as hypertension, stroke and renal disease.

33 Engineering of Maltose Binding Protein to Employ a 6-Arginine Tag and Improve Protein Purification

Abby Wochinski [Kaukauna]
Brian Fox, Faculty/Staff Mentor; Biochemistry

Maltose binding protein (MBP), a protein expression vector, has been engineered to include a poly-arginine tag that promotes two-step protein purification, using both Immobilized Metal Affinity Chromatography (IMAC) and cation-exchange. In lieu of the current one-step protocol, this procedure will improve protein purification, while maintaining the solubility-enhancing property of MBP.

34 Development of Fluoregenic Probes for Assaying Cytochrome P450 Activity

Melissa Yatzeck [Madison]
Ronald Raines, Faculty/Staff Mentor; Biochemistry and Chemistry

A novel substrate for Cytochrome P450 has been designed that possesses several advantages over current substrates, including potential new selectivity, higher sensitivity, ease of use, and modular capabilities. The probe will provide a valuable new tool to evaluate Cytochrome P450 activity in the metabolism of drugs, toxins, and other compounds.

35 Male Leaders vs Female Leaders: Characteristics Associated with Each

Selamawit Zewdie [Milwaukee]
Stefanie Halverson, Faculty/Staff Mentor; Communication Arts

This project seeks to understand the different traits and characteristics that are associated with male leaders vs. female leaders. There is a significant difference in the way female leaders are perceived as opposed to their male counterparts. We hope to discover the specific prototypes that are associated with each.

UNIVERSITY OF WISCONSIN-MILWAUKEE

36 Strategies for Efficient Coupling of Optical Fibers in Optical Fiber Sensor Arrays for Environmental Monitoring

Matthew Van Duzor [Palmyra]
Peter Geissinger, Faculty/Staff Mentor; Chemistry and Biochemistry

This research involves the production and environmental application of optical fiber junctions clad in sol-gel silica. Sol-gel is a porous glass, providing stability while facilitating analyte interaction with the fiber-evanescent field. This robust multi-fiber configuration could provide spatially resolved, real-time data for targeted species in both natural and civic waterways.

37 Experimental Results within a Re-circulating Flume Concerning the Relationship Between Fluid Flow, Water Temperature, and the Generation of Bedforms

Kim Wilkinson [Glendale] and Quintin Bendixen [New Berlin]
John Isbell, Faculty/Staff Mentor; Geosciences

This experiment was conducted in a re-circulating flume which allowed us to vary the water temperature, depth, and velocity. We observed what bedforms were generated under the different conditions in order to see if a change in temperature (and thus, a change in viscosity) resulted in a change of bedforms.

38 Defects and Growth of MgO(111)

Joshua Bostick [Wauwatosa]
Michael Weinert, Faculty/Staff Mentor; Physics

A combination of first-principles electronic structure theory and statistical mechanics was used to probe the defect structure of the classically unstable MgO(111) surface in order to address issues related to the growth and stabilization of polar surfaces and interfaces. The results have implications for nanostructures of compound semiconductors and other complex materials.

39 Correspondence between Parent-report and Observational Measures of Socio-communicative Deficits in Young Children with Williams Syndrome

Kristin Arnold [Germantown]
Bonita Klein-Tasman, Faculty/Staff Mentor; Psychology

In this investigation we examined the relation between parental report of socio-communicative abilities of 15 young children with Williams syndrome (using the Social Communication Questionnaire) and professional observations of socio-communicative deficits using a structured play interaction (using the Autism Diagnostic Observation Schedule Module 1).

40 The Politics of Peace: How Political Structures Affect Negotiation Outcomes in the Palestinian/Israeli Process

Adam Wickersham [Milwaukee]
Shale Horowitz, Faculty/Staff Mentor; Political Science

This research is focused on the Palestinian-Israeli conflict separate from the greater Arab discord. Its unique focus emphasizes the internal conflicts causing the negotiations' habitual collapses. Therefore, to fully understand the conflict's origin and future end state, one must look at the history of the politics behind the conflict.

UNIVERSITY OF WISCONSIN-OSHKOSH

41 Effects of Monitoring on Task Performance, Mood, and Stress Level

Bethany Watts [Beloit] and Amanda Weigle [Mukwonago]
Kathleen Stetter, Faculty/Staff Mentor; Psychology

This study examined effects of electronic performance monitoring, traditional performance monitoring, false electronic performance monitoring, and a control condition of no monitoring on task performance, mood and stress. Participants' reaction time, accuracy, depression, anxiety, belief in monitoring and perceived control of task were measured during a computerized word discrimination task.

42 *E. coli* and Lake Superior Recreational Beaches

Sarah Hughes, [Spooner]
Todd Sandrin, Colleen McDermott, and Gregory Kleinheinz, Faculty/Staff Mentors; Biology

This research documents levels of total coliforms and of *E. coli* at 27 beaches in Lake Superior, Wisconsin during the 2003 and 2004 sampling seasons. Increasing water temperatures were not associated with increasing levels of bacterial contaminants. Location of sampling site and depth of water where samples were taken did have an effect on detection of coliforms and *E. coli*. Higher *E. coli* levels were detected in shallower water and varied depending on the horizontal location of the sampling site. These findings indicate that levels of E. coli determined to be "safe" for swimming and originally measured in chest-deep water may not be appropriate to apply to water collected at more shallow depths.

43 Source Tracking of Microbial Contamination at Door County, WI, Beaches Using Spatial and Rainfall Data

Erik Englebert [Neenah], Amanda Griesbach [Greenville], Joseph Felt [La Crosse], Candace Otte [Waterloo], and Amanda Brown [Neenah]
Gregory Kleinheinz and Colleen McDermott, Faculty/Staff Mentors; Biology and Microbiology

E. coli concentrations from Door County beaches were greater in shallow water than in deep and greater from storm water outfalls than from the beach. Microbial contamination likely originated on shore and washed into water, often after rainfalls. The first eight hours after rainfall showed greatest contamination and should be avoided as times for swimming.

44 Detection of *E. coli* Contamination at Door County, WI Beaches

Candace Otte [Waterloo], Amanda Brown [Neenah], and Joseph Felt [La Crosse]
Gregory Kleinheinz and Colleen McDermott, Faculty/Staff Mentors; Biology and Microbiology

The US Beach Act (2000) requires that coastal and Great Lakes beaches are monitored for microbial contamination. During Summer 2004 we monitored 27 Lake Michigan beaches in Door County, WI for *E. coli* indicator of fecal contamination) using a defined substrate test (Colisure, IDEXX Corp.). *E. coli* concentrations were expressed as MPN/100 ml water. Six representative beaches (located on Lake Michigan, Green Bay, or the Sturgeon Bay Canal) will be discussed here. Approximately 10% of the samples taken at these beaches resulted in "poor water quality advisors" with MPN levels exceeding 235, and 3% resulted in beach closures with MPN levels over 999. *E. coli* concentrations varied depending on beach location, with Green Bay and Sturgeon Bay Canal beaches having greater *E. coli* concentrations than Lake Michigan beaches. In general, more southerly beaches had greater *E. coli* concentrates than northern beaches in the county. In addition to *E. coli* concentrations, several environmental factors (water temperature, waterfowl numbers, etc.) also were monitored. There was no significant correlation between water temperature, bather load, or waterfowl numbers and *E. coli* concentrations.

45 Monitoring and Molecular Source-tracking of *Escherichia coli* on Door County, WI Beaches

Candace Otte [Waterloo], Darryl Horn [Rice Lake], and Jennifer Okon [Beaver Dam]
Todd Sandrin, Colleen McDermott, and Gregory Kleinheinz, Faculty/Staff Mentors; Biology and Microbiology

Microbial contamination of recreational waters is a widespread problem that Wisconsin beaches have not escaped. During summer 2004, we monitored levels of the indicator organism, *Escherichia coli,* at five beaches in Door County. We used DNA fingerprinting to help identify sources of this contamination.

46 Analysis of Counter Advertisements: A Social Perspective

Anthony Schneider [Oshkosh]
Tim Gleason, Faculty/Staff Mentor; Journalism

A series of counter-advertisements that challenge American values and consumption were produced. These advertisements were made using professional techniques of advertising design to reinforce the ubiquity of advertising in our society. The concepts of these advertisements consider advertising as a social institution that has been criticized as a source to perpetuate addiction, consumerism, materialism, sexism and stereotype. Implications for social responsibility are discussed.

UNIVERSITY OF WISCONSIN-PARKSIDE

47 Further Characterization of PnhB and the Nudix Hydrolase, PnhA, Proteins of *Pasteurella multocida*

Ellen Arena [Waterloo]
Carmel Ruffolo, Faculty/Staff Mentor; Biological Sciences

The bacterium *Pasteurella multocida* causes many important animal diseases. *P. multocida* strains that lack PnhA, the Nudix hydrolase, have reduced virluence. To understand the role PnhA and an associated protein, PnhB, play in the bacterium's ability to cause disease, we have carried out phenotypical and molecular characteriztion of both proteins.

48 Organic Chemistry on the Meteorites

Milica Bajagic [Podgorica, Montenegro]
Vera Kolb, Faculty/Staff Mentor; Chemistry

We have shown that the sugar ribose reacts rapidly by the Maillard reaction with various amino acids, including those that are found on the meteorites, to form dark insoluble material. The spectroscopic and other properties of this material resemble the insoluble organic material which has been isolated from Murchison meteorite.

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

Theresa Dailey [Racine]
David Higgs, Faculty/Staff Mentor; Biological Sciences

Photosynthesis is a complex process that involves many genes in the nucleus and chloroplast. Some are regulatory genes that control expression of photosynthetic genes. We use the alga *Chlamydomonas reinhardtii* to study the *CrXrn1* regulatory gene that encodes a ribonuclease, which may control chloroplast genes and ultimately photosynthesis.

50 Radiation of Woot Retrotransposons Across Strains of *Tribolium castaneum*

Douglas Drury [Janesville]
Scott Thomson, Faculty/Staff Mentor; Biological Sciences

Woot is a novel retrotransposon found in the red flour beetle, *Tribolium castaneum*. The number of woots present in an Indian strain of *T. castaneum* is significantly less than beetles from other regions. This project uses a PCR based technique to detect specific woot locations across strains.

51 Hydrogeologic Investigation of the University of Wisconsin-Parkside Campus

Heather Herr [Pleasant Prairie], Jamie Lambert [Racine], Ryan Beachner [Rochester, NY], and Heather Olson [Racine]
John Skalbeck, Faculty/Staff Mentor; Geosciences

A hydrogeologic investigation was conducted on the University of Wisconsin-Parkside campus. The shallow water zone potentiometric surface shows a groundwater mound beneath the local topographic high coincident with the central campus that indicates radial flow. A pump test yields hydraulic conductivity values consistent with sand and storativity values consistent with confined conditions.

52 Intranet Design for Runzheimer International

Jamie Herwald [Burlington]
Suresh Chalasani, Faculty/Staff Mentor; Business

This poster will present the design of an intranet Web-site for Runzheimer International. We will present requirements of the system via use case models, and indicate several design diagrams including sequence diagrams. This project was carried out by the Solutions for Economic Growth (SEG) Center at University of Wisconsin-Parkside.

53 Use of PIGED (Prokaryotic InterGenic Exploration Database) to Predict Metal-Responsiveness Elements in Archaea

Mickey Sarto [Milwaukee], David Slick [Portland, OR], and Michael Bose [Union Grove]
Robert Barber, Faculty/Staff Mentor; Biological Sciences

The Prokaryotic InterGenic Exploration Database (PIGED; http://bioinfo.University of Wisconsinp.edu/ PIGED/home.htm) provides a front-end web application for conserved sequence identification in upstream non-coding regions of annotated prokaryotic genome sequences. Orthologous comparisons combined with a weight matrix-based scan of intergenic sequences predict twenty-eight newly identified binding sites for ArsR protein family members in prokaryotes.

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

Daniel Swosinski [Franklin] and Ryan Helgesen [Pleasant Prairie]
John Skalbeck, Faculty/Staff Mentor; Geosciences

Precambrian basement depth near the Waukesha Fault exceeds the total depth of water wells due to normal vertical displacement along the fault. Unknown basement depths increase uncertainty of groundwater flow models for southeastern Wisconsin. Coupled modeling of gravity and aeromagnetic data was performed to estimate subsurface structure of the basement.

UNIVERSITY OF WISCONSIN-PLATTEVILLE

55 Impact of Restoration on a Southwestern Wisconsin River

Amanda Lederer [Grafton]
Kristopher Wright, Faculty/Staff Mentor; Biology

I examined how stream restoration immediately impacts the habitat and organisms of the Blue River in southwestern Wisconsin. Field surveys were conducted upstream, at, and downstream of the restoration site. Habitat, macroinvertebrates, and fish characteristics changed following restoration; however, the changes were more localized and less severe than expected.

56 An Automated Sample Transfer Machine

Kevin Neff [Eau Claire], Benjamin Nemec [Hillsboro], and Jonathan Woolever [Wonewoc]
David Kunz, Faculty/Staff Mentor; Mechanical and Industrial Engineering

An Automated Sample Transfer Machine was designed and built for processing cytotoxicity assays in immunology laboratories at the Mayo Clinic. The machine functions within an incubator, and has a capacity of 960 samples. The programmable machine provides accurate, gentle completion of tedious repetitive tasks, increasing the effectiveness of research personnel.

57 Determining the Feasibility of Using Anaerobic Digester Solids as a Substrate in Plant-Growing Medium

Galen Osby [Howards Grove], Lucas Hendricks [Lyndon Station], and Eric Riedeman [Brandon]
Timothy Zauche, Faculty/Staff Mentor; Chemistry and Engineering Physics

The focus of this research is two-fold: 1) to determine the ability of the anaerobic digester's end product (solids) to be used as a substrate in a plant-growing medium and 2) to determine the amount of steroids present in the solids and to find a feasible method for its removal.

58 Attitudes Towards Farmers and Production Agriculture Stratified by Economic, Gender, and Connection to Production Agriculture

Cory Stenjem [Cambridge], Brad Innerst [Richland Center], Chelsea Zirbel [De Pere], Linda Giorno [Whitewater], Matthew Lange [East Troy], Matt Coley [Rockford and Byron, IL], Stacy Kelley [Fennimore], Sally Kruchten [Sauk City], Jessica Wipperfurth [Lodi], Jonathan Woolever [Wonewoc], and Justin Redfearn [Cuba City]
Kevin Bernhardt, Faculty/Staff Mentor; School of Agriculture

As more and more of the US population become removed by multiple generations from production agriculture, how will attitudes towards farmers and production agriculture change? As a class project, the Agricultural Policy students at University of Wisconsin-Platteville will survey adult attitudes and be able to analyze results by economic, gender, or connection to agriculture differences.

59 An Analysis of Vermicomposting Strategies in Hog and Food Substrates with Emphasis on Reproduction

Matthew Lange [East Troy]
Christopher Baxter and Kenneth Kilian, Faculty/Staff Mentors; Agriculture

The incorporation of earthworms into conventional composting systems has shown to increase microbial activity and raise the level of nutrient value in the organic matter. This experiment in vermicomposting strategies investigated worm reproductive characteristics, nutrient matter, and the possibilities of worm use on composted hog feces at the University of Wisconsin-Platteville Farm.

UNIVERSITY OF WISCONSIN-RIVER FALLS

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

Bwarenaba Kautu, [Kiribati (South Pacific)]
E. Katherine Miller, Faculty Mentor; Biology

Ethanol is a strong chemo-attractant compound for *C. elegans*. 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. Our results demonstrated that formaldehyde is a more potent chemoattractant than ethanol in the wild type (N2) *C. elegans*.

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

Kendra Scudder [Verona]
E. Katherine Miller, Faculty Mentor; Biology

Following an acute toxicity test, the High Incidence of Males (HIM-5) strain of *C. elegans* will be used for a multi-generation bioassay of the estrogenic compound bisphenol A. Fecundity, reproduction (particularly changes in male to hermaphrodite population ratio), and physical abnormalities will be used as toxicity endpoints.

62 Development of a 3-dimensional Cell Culture System for the Growth and Study of Epithelial "Pseudo-tissues"

Erin Lee [Hudson], Tracey Nelson [St. Paul, MN], Marion Majeske [River Falls], Andrew Gunderson [River Falls], Tory Schaaf [Prior Lake, MN], Sarah Schimmel [Pickett], and Nicole Salwasser [St. Paul Park, MN]
Timothy Lyden, Faculty/Staff Mentor; Biology

Recent studies at University of Wisconsin-River Falls have identified an easily available natural scaffolding material for 3-dimensional culture of Hela, HEK, JEG and BeWo cells. These cells consistently established tissue-like cultures with evidence of epithelial differentiation. Samples were evaluated by phase contrast and fluorescent microscopy to define the tissue-like structures observed.

63 Word Usage Analysis of the 2004 Presidential Debates

Nels Thoreson [Lake Nebagamon]
Tracey Gladstone-Sovell, Faculty/Staff Mentor; Political Science

This two-part study was conducted to present an in-depth comparison of the two 2004 presidential candidates. The first part studied how they responded to their questions, and the second part looked at what type of words the two candidates used.

64 Midterm Report and Subsequent Academic Performance

Matthew Schuelke [Glidden]
Phil George, Faculty/Staff Mentor; Psychology

A midterm reporting system utilized during the 2002 fall semester at the University of Wisconsin-River Falls proves to detect students who may benefit from academic intervention. The system identifies a group of students fundamentally different than their peers yet homogeneous within the sample on a variety of typical academic measures.

65 Morphometric Analysis of "Tissue-engineered" 3-dimensional Epithelial Cell Cultures

Tracey Nelson [St. Paul, MN], Erin Lee [Hudson], Tory Schaaf [Prior Lake, MN], Marion Majeske [River Falls], Andrew Gunderson [River Falls], Sarah Schimmel [Pickett], and Nicole Salwasser [St. Paul Park, MN]
Timothy Lyden, Faculty/Staff Mentor; Biology

In these studies, samples of Hela, HEK, JEG and BeWo cells grown on 3-dimensional scaffoldings were evaluated and a variety of measurements made using the NIH "Image J" analysis program. These data will be compared to tissue sections in order to define relationships between these cultures and actual tissue structures.

UNIVERSITY OF WISCONSIN-ROCK COUNTY

66 Modifying Diels-alder Reactions Using Ionic Liquid Solvents

Nick Turner [Janesville] and Ann Reinardy [Janesville]
Kim Kostka, Juan Lozano, and David Olszewski, Faculty/Staff Mentors; Chemistry

Ionic liquids are environmentally friendly solvents which were discovered in the 1980s but only recently have become useful in the laboratory. Use of these chemicals in traditional organic chemical reactions is an important issue in Green Chemistry. Imidazolium- and amino acid-based ionic liquids can easily be synthesized (some just using a microwave!) and provide safe replacements for more traditional, volatile solvents. The determination of which ionic liquids are best suited for Diels-Alder reactions is currently under investigation and will hopefully yield a green, viable replacement for current college-level organic laboratories.

UNIVERSITY OF WISCONSIN-STEVENS POINT

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

Jessica Orlofske [Oak Creek] and Christopher Tyrrell [Hales Corners]
Eric Anderson, Faculty/Staff Mentor; Wildlife

Wetlands worldwide are experiencing declines. Wetland scientists are seeking effective indicators of wetland condition to assess management options. Our study examined the usefulness of Odonate (Dragonfly and Damselfly) species diversity as indicators in suburban wetlands. Odonates appear to be sensitive to different wetland morphologies which could have implications for land use practices.

68 Short-term Understory Response to Prescribed Fire on Menominee Reservation

Nicholas Jensen [Two Rivers]
James Cook, Faculty/Staff Mentor; Forestry and Forest Ecology

Vegetation cover under eastern white pine (*Pinus strobus*) forests was measured on the Menominee Reservation during June and August of 2002 and 2003. In April 2003, four areas were treated with prescribed fires, and compared to un-burned areas. Outcomes suggest the understory vegetation exhibits some resilience to prescribed fires.

UNIVERSITY OF WISCONSIN-STOUT

69 Nutritional and Fitness Status of University of Wisconsin-Stout Students

Aaron Fonder [Waukesha]
Esther Fahm, Faculty/Advisor Mentor; Food and Nutrition

The purpose of this study was to assess the physical activity and nutritional status of University of Wisconsin-Stout students. Data was collect 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.

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

Brady Hurtgen [Prairie Farm]
Stephen Nold and Charles Bomar, Faculty/Staff Mentors; Applied Science Program

Student researcher Brady Hurtgen sequenced the mitochondrial gene cytochrome oxidase subunit I (COI) of *Melanoplus femurrubrum* (DeGeer) from restored and relic prairies. Neighbor-joining phylogenetic analysis revealed a high degree of relatedness among specimens from restorations, while four specimens from relic prairies displayed a high degree of genetic divergence.

71 Morphometric Analysis of Red-legged Grasshopper, *Melanoplus femurrubrum* (De Geer), Populations from Relic and Restored Prairies

Levi Stodola [Rice Lake]
Charles Bomar, Faculty/Staff Mentor; Biology

A common inhabitant of most relic and restored grasslands is the red-legged grasshopper, *Melanoplus femurrubrum* (De Geer). Fifteen separate morphometric measurements were used to evaluate differences in this species that were collected from 3 relic and 4 restored grasslands. Statistical analysis showed numerous significant differences in these populations.

UNIVERSITY OF WISCONSIN-SUPERIOR

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

Sherry Berhow [Cambridge, MN]
Richard Stewart, Faculty/Staff Mentor; Transportation and Logistics Management

This study will provide a comprehensive database of marinas located on western Lake Superior, enabling stakeholders to compare existing facilities and analyze critical metrics and data. The research will further enable public and private decision makers to better assess the economic and market factors that drive expansion or new construction.

UNIVERSITY OF WISCONSIN-WHITEWATER

73 Credit Cards and Student Spending: A Behavior Model

Michael Endres [Madison]
Joseph Neuman, Faculty/Staff Mentor; Psychology (University of Wisconsin-Madison)

This study examined factors influencing student credit card usage in order to establish the reliability and validity of the Student Credit Card Use Inventory; develop a working model of student behavior relative to credit card debt; replicate laboratory findings using web-based technology. The study's results suggest the need to further investigate psychological, behavioral, and cognitive factors contributing to student credit card debt.

74 Ordovician Stratigraphy of the Decorah Formation, Southeastern Wisconsin

Tanya Gregg [West Allis]
Rex Hanger, Faculty/Staff Mentor; Geography and Geology

Middle Ordovician (~495-448 Mya) strata of the Docorah Formation are exposed in the Hausz Brothers Quarry in Jefferson County, Wisconsin. Approximately 100m of strata are exposed that reveal the Docorah Formation and the underlying Galena Formation. Trends shown in the section include multiple rapid sea level changes, with an overall trend of sea level regression, or sea level drop throughout the preserved time interval.

75 Characterization of the Apoptotic Machinery in Three Human Pancreatic Cancer Cell Lines: COLO 587, PANC-1 WT, PANC-1 CD

Luke Jakubowski [Janesville]
Peter Mesner, Faculty/Staff Mentor; Biological Sciences

This study categorizes presence and involvement of capsizes in the apoptotic pathways of three pancreatic cancer cell lines: COLO 587, PANC-1wt and PANC-1 cd. Identifying the critical components of the apoptotic machinery in pancreatic cancer cells may ultimately aid in the development and use of anticancer therapeutics.

76 Gonadotropin Releasing Hormone (GnRH) Associated Peptide (GAP) Does Not Affect GnRH Release in Perifused Rat Hypothalami

Jason Lange [Sun Prairie]
Michael Woller, Faculty/Staff Mentor; Biological Sciences

It has been shown that GnRH can influence GnRH release through autocrine/paracrine effects, but the role of the peptide (GAP), has not been determined. We conducted an investigation to evaluate the role of GAP in the coordination of GnRH release events or pulses using an in vitro perifusion approach. Comparison of treatments vs. pre challenge or post challenge blocks produced p values greater than 0.8, indicating little support for an effect of GAP on coordinating GnRH release.

77 The Role of Color Polymorphisms in Sexual Selection: Comparing Time of Sexual Activity and Success in Male *Telmatherina antoniae* from an Ancient Sulawesi Lake

Samuel Miller [Whitewater]
Jeffrey McKinnon, Faculty/Staff Mentor; Biological Sciences

Our analysis focus primarily on whether sexual selection varies in a similar manner over the course of the day, possibly due to variation in ambient lighting and male conspicuousness. We also use an enlarged data set to further evaluate early findings from our laboratory (Chou and McKinnon, unpublished) that examined the overall relationships, for each morph, between components of sexual fitness such as spawning success and egg predation.

78 The Role of Color Polymorphisms in Sexual Selection: Comparing Time of Sexual Activity and Success in Male *Talmatherina antoniae* from an Ancient Sulawesi Lake

Jason Ross [Rockford, IL]
Jeffrey McKinnon, Faculty/Staff Mentor; Biological Sciences

We hypothesize that the distinct color morphs of *T. antoniae* and *T. sarasinorum* are maintained by mating success variation related to conspicuousness, contingent upon ambient lighting and background. For each species, then, we are testing whether morph contrast varies significantly with the same variables that predict morph abundance (habitat for *T. sarasinorum*, habitat and time of day for *T. antoniae*). To quantify contrast with the background, as seen by conspecific fish, we measured radiances, irradiances and reflectances of males and backgrounds. These values are being combined with recently collected sensitivity data of each cone to give species-specific color contrast indices (following Endler).

79 Single-pot Preparation of Tetrahydrquinoline (THQ) Amines Followed by Catch and Release Purification

Jessica Weber [Oconomowoc] and Laura Wisnowski [East Troy]
Hephzibah Kumpaty, Faculty/Staff Mentor; Chemistry

We report herein an efficient synthesis of N-alkylated THQs using titanium isopropoxide and sodium borohydride reagent system. The N-alkylated THQs were isolated by catch and release purification using polymer-supported sulfonic acid columns. The MP-TsOH columns were highly effective at flow-through isolation and purification of the N-alkylated THQs. When a solution containing the product THQ was retained or “caught” on the resin. After washing off the impurities, the product was “released” from column by elution with a solution of ammonia in MeOH.

80 Are College Students Financially Literate?

Moua Yang [Madison]
John Aulerich, Faculty/Staff Mentor; Finance

In February of 2004, 145 students from a regional comprehensive university in the Midwest were administered a questionnaire during the fall of 2004. The results of the study are part of an ongoing assessment of the financial decisions of college students.

INDEX OF STUDENT PRESENTERS ALPHABETICAL BY LAST NAME

POSTER	FIRST	LAST NAME	INSTITUTION	HOMETOWN	PAGE #
20	Lindsay	Albright	UW-La Crosse	Evansville	9
47	Ellen	Arena	UW-Parkside	Waterloo	17
39	Kristin	Arnold	UW-Milwaukee	Germantown	14
48	Milica	Bajagic	UW-Parkside	Podgorica, Montenegro	17
51	Ryan	Beachner	UW-Parkside	Rochester, NY	18
37	Quintin	Bendixen	UW-Milwaukee	New Berlin	14
72	Sherry	Berhow	UW-Superior	Cambridge	23
26	Allison	Bichler	UW-Madison	Franklin	11
15	Kimberly	Biedermann	UW-Green Bay	Neenah	8
16	Heather	Bloc	UW-Green Bay	Athens	8
53	Michael	Bose	UW-Parkside	Union Grove	18
38	Joshua	Bostick	UW-Milwaukee	Wauwatosa	14
1	Krista	Bowman	UW-Eau Claire	Roberts	5
3	Krista	Bowman	UW-Eau Claire	Roberts	5
43	Amanda	Brown	UW-Oshkosh	Neenah	15
44	Amanda	Brown	UW-Oshkosh	Neenah	16
21	Por	Chang	UW-La Crosse	Wausau	10
58	Matthew	Coley	UW-Platteville	Rockford and Byron, IL	19
49	Theresa	Dailey	UW-Parkside	Racine	17
50	Douglas	Drury	UW-Parkside	Janesville	17
27	Kimberly	Ehlers	UW-Madison	Cottage Grove	11
73	Michael	Endres	UW-Whitewater	Madison	23
43	Erik	Englebert	UW-Oshkosh	Neenah	15
28	Sophia	Estante	UW-Madison	Madison	11
43	Joseph	Felt	UW-Oshkosh	La Crosse	15
44	Joseph	Felt	UW-Oshkosh	La Crosse	16
69	Aaron	Fonder	UW-Stout	Waukesha	22
58	Linda	Giorno	UW-Platteville	Whitewater	19
74	Tanya	Gregg	UW-Whitewater	West Allis	72
43	Amanda	Griesbach	UW-Oshkosh	Greenville	15
62	Andrew	Gunderson	UW-River Falls	River Falls	20
65	Andrew	Gunderson	UW-River Falls	River Falls	21
2	Sara	Halada	UW-Eau Claire	Sturgeon Bay	5
1	Kristina	Hall	UW-Eau Claire	White Bear Lake, MN	5
54	Ryan	Helgesen	UW-Parkside	Pleasant Prairie	18
57	Lucas	Hendricks	UW-Platteville	Lyndon Station	19
51	Heather	Herr	UW-Parkside	Pleasant Prairie	18
52	Jamie	Herwald	UW-Parkside	Burlington	18
11	Brittany	Hilbert	UW-Fox Valley	New London	7
14	Cindy	Hofkens	UW-Fox Valley	Menasha	8
45	Darryl	Horn	UW-Oshkosh	Rice Lake	16
42	Sarah	Hughes	UW-Oshkosh	Spooner	15
70	Brady	Hurtgen	UW-Stout	Prairie Farm	22
58	Brad	Innerst	UW-Platteville	Richland Center	19
75	Luke	Jakubowski	UW-Whitewater	Janesville	23
68	Nicholas	Jensen	UW-Stevens Point	Two Rivers	22

POSTER	FIRST	LAST NAME	INSTITUTION	HOMETOWN	PAGE #
4	Valarie	Jonjak	UW-Eau Claire	Chippewa Falls	5
12	Shanna	Kaczynski	UW-Fox Valley	Appleton	7
60	Bwarenaba	Kautu	UW-River Falls	Kiribati (South Pacific)	20
23	Kristin	Keatley	UW-La Crosse	River Falls	10
58	Stacy	Kelley	UW-Platteville	Fennimore	19
17	Amy	Kiley	UW-Green Bay	De Pere	9
9	Erik	Kraemer	UW-Fox Valley	Kaukauna	7
58	Sally	Kruchten	UW-Platteville	Sauk City	19
51	Jamie	Lambert	UW-Parkside	Racine	18
76	Jason	Lange	UW-Whitewater	Sun Prairie	24
59	Matthew	Lange	UW-Platteville	East Troy	20
55	Amanda	Lederer	UW-Platteville	Grafton	19
29	Princess	Lee	UW-Madison	Corona, CA	12
62	Erin	Lee	UW-River Falls	Hudson	20
65	Erin	Lee	UW-River Falls	Hudson	21
1	Katie	Ley	UW-Eau Claire	Tomahawk	5
3	Katie	Ley	UW-Eau Claire	Tomahawk	5
30	Adam	Lichtenheld	UW-Madison	Prairie du Sac	12
62	Marion	Majeske	UW-River Falls	River Falls	20
65	Marion	Majeske	UW-River Falls	River Falls	21
77	Samuel	Miller	UW-Whitewater	Whitewater	24
24	Natalie	Moore	UW-La Crosse	Fridley, MN	10
13	Yuun	Murphy	UW-Fox Valley	Appleton	8
56	Kevin	Neff	UW-Platteville	Eau Claire	19
10	Katrina	Nelson	UW-Fox Valley	Neenah	7
62	Tracey	Nelson	UW-River Falls	St. Paul, MN	20
65	Tracey	Nelson	UW-River Falls	St. Paul, MN	21
56	Benjamin	Nemec	UW-Platteville	Hillsboro	19
45	Jennifer	Okon	UW-Oshkosh	Beaver Dam	16
51	Heather	Olson	UW-Parkside	Racine	18
31	Tyriina	O'Neil	UW-Madison	Hutchinson, MN	12
67	Jessica	Orlofske	UW-Stevens Point	Oak Creek	22
57	Galen	Osby	UW-Platteville	Howards Grove	19
43	Candace	Otte	UW-Oshkosh	Waterloo	15
44	Candace	Otte	UW-Oshkosh	Waterloo	16
45	Candace	Otte	UW-Oshkosh	Waterloo	16
14	Deanna	Pahl	UW-Fox Valley	Kaukauna	8
12	Dominick	Piekarczyk	UW-Fox Valley	New London	7
5	Cathy	Pohl	UW-Eau Claire	Eau Claire	6
25	Sean	Reckwerdt	UW-La Crosse	Madison	11
58	Justin	Redfearn	UW-Platteville	Cuba City	19
66	Ann	Reinardy	UW-Rock County	Janesville	21
57	Eric	Riedeman	UW-Platteville	Brandon	19
78	Jason	Ross	UW-Whitewater	Rockford, IL	24
32	Sarah	Saeed	UW-Madison	Fitchburg	12
62	Nicole	Salwasser	UW-River Falls	St. Paul Park, MN	20
65	Nicole	Salwasser	UW-River Falls	St. Paul Park, MN	21
53	Mickey	Sarto	UW-Parkside	Milwaukee	18
62	Tory	Schaaf	UW-River Falls	Prior Lake, MN	20
65	Tory	Schaaf	UW-River Falls	Prior Lake, MN	21

POSTER	FIRST	LAST NAME	INSTITUTION	HOMETOWN	PAGE #
62	Sarah	Schimmel	UW-River Falls	Pickett	20
65	Sarah	Schimmel	UW-River Falls	Pickett	21
46	Anthony	Schneider	UW-Oshkosh	Oshkosh	16
64	Matthew	Schuelke	UW-River Falls	Glidden	21
61	Kendra	Scudder	UW-River Falls	Verona	20
53	David	Slick	UW-Parkside	Portland, OR	18
58	Cory	Stenjem	UW-Platteville	Cambridge	19
71	Levi	Stodola	UW-Stout	Rice Lake	23
26	Annika	Swenson	UW-Madison	Hayward	11
54	Daniel	Swosinski	UW-Parkside	Franklin	18
18	Darryl	Teske	UW-Green Bay	Mauston	9
63	Nels	Thoreson	UW-River Falls	Lake Nebagamon	21
19	Christina	Tosh	UW-Green Bay	Verona	9
6	Jeremy	Treague	UW-Eau Claire	Danbury	6
66	Nick	Turner	UW-Rock County	Janesville	21
67	Christopher	Tyrrell	UW-Stevens Point	Hales Corners	22
36	Matthew	Van Duzor	UW-Milwaukee	Palmyra	13
7	Dustin	VanOverbeke	UW-Eau Claire	Springfield, MN	6
8	James	Watkins	UW-Eau Claire	Spooner	6
41	Bethany	Watts	UW-Oshkosh	Beloit	15
79	Jessica	Weber	UW-Whitewater	Oconomowoc	25
41	Amanda	Weigle	UW-Oshkosh	Mukwonago	15
22	Jennifer	Westphal	UW-La Crosse	Onalaska	10
13	Nathan	Weyenberg	UW-Fox Valley	Kimberly	8
40	Adam	Wickersham	UW-Milwaukee	Milwaukee	14
37	Kimberly	Wilkinson	UW-Milwaukee	Glendale	14
58	Jessica	Wipperfurth	UW-Platteville	Lodi	19
79	Laura	Wisnowski	UW-Whitewater	East Troy	25
33	Abby	Wochinski	UW-Madison	Kaukauna	13
13	Jerry	Wolff	UW-Fox Valley	Neenah	8
56	Jonathan	Woolever	UW-Platteville	Wonewoc	19
58	Jonathan	Woolever	UW-Platteville	Wonewoc	19
24	Katherine	Wroblewski	UW-La Crosse	Trempeleau	10
80	Moua	Yang	UW-Whitewater	Madison	25
34	Melissa	Yatzeck	UW-Madison	Madison	13
35	Selamawit	Zewdie	UW-Madison	Milwaukee	13
58	Chelsea	Zirbel	UW-Platteville	De Pere	19

INDEX OF STUDENT PRESENTERS ALPHABETICAL BY HOME TOWN

POSTER	FIRST	LAST NAME	INSTITUTION	HOMETOWN	PAGE #
12	Shanna	Kaczynski	UW-Fox Valley	Appleton	7
13	Yuun	Murphy	UW-Fox Valley	Appleton	8
16	Heather	Bloc	UW-Green Bay	Athens	8
45	Jennifer	Okon	UW-Oshkosh	Beaver Dam	16
41	Bethany	Watts	UW-Oshkosh	Beloit	15
57	Eric	Riedeman	UW-Platteville	Brandon	19
52	Jamie	Herwald	UW-Parkside	Burlington	18
72	Sherry	Berhow	UW-Superior	Cambridge	23
58	Cory	Stenjem	UW-Platteville	Cambridge	19
4	Valarie	Jonjak	UW-Eau Claire	Chippewa Falls	5
29	Princess	Lee	UW-Madison	Corona, CA	12
27	Kimberly	Ehlers	UW-Madison	Cottage Grove	11
58	Justin	Redfearn	UW-Platteville	Cuba City	19
6	Jeremy	Treague	UW-Eau Claire	Danbury	6
17	Amy	Kiley	UW-Green Bay	De Pere	9
58	Chelsea	Zirbel	UW-Platteville	De Pere	19
59	Matthew	Lange	UW-Platteville	East Troy	20
79	Laura	Wisnowski	UW-Whitewater	East Tory	25
56	Kevin	Neff	UW-Platteville	Eau Claire	19
5	Cathy	Pohl	UW-Eau Claire	Eau Claire	6
20	Lindsay	Albright	UW-La Crosse	Evansville	9
58	Stacy	Kelley	UW-Platteville	Fennimore	19
32	Sarah	Saeed	UW-Madison	Fitchburg	12
26	Allison	Bichler	UW-Madison	Franklin	11
54	Daniel	Swosinski	UW-Parkside	Franklin	18
24	Natalie	Moore	UW-La Crosse	Fridley, MN	10
39	Kristin	Arnold	UW-Milwaukee	Germantown	14
37	Kimberly	Wilkinson	UW-Milwaukee	Glendale	14
64	Matthew	Schuelke	UW-River Falls	Glidden	21
55	Amanda	Lederer	UW-Platteville	Grafton	19
43	Amanda	Griesbach	UW-Oshkosh	Greenville	15
67	Christopher	Tyrrell	UW-Stevens Point	Hales Corners	22
26	Annika	Swenson	UW-Madison	Hayward	11
56	Benjamin	Nemec	UW-Platteville	Hillsboro	19
57	Galen	Osby	UW-Platteville	Howards Grove	19
62	Erin	Lee	UW-River Falls	Hudson	20
65	Erin	Lee	UW-River Falls	Hudson	21
31	Tyriina	O'Neil	UW-Madison	Hutchinson, MN	12
50	Douglas	Drury	UW-Parkside	Janesville	17
75	Luke	Jakubowski	UW-Whitewater	Janesville	23
66	Ann	Reinardy	UW-Rock County	Janesville	21
66	Nick	Turner	UW-Rock County	Janesville	21
9	Erik	Kraemer	UW-Fox Valley	Kaukauna	7
14	Deanna	Pahl	UW-Fox Valley	Kaukauna	8

POSTER	FIRST	LAST NAME	INSTITUTION	HOMETOWN	PAGE #
33	Abby	Wochinski	UW-Madison	Kaukauna	13
13	Nathan	Weyenberg	UW-Fox Valley	Kimberly	8
60	Bwarenaba	Kautu	UW-River Falls	Kiribati (South Pacific)	20
44	Joseph	Felt	UW-Oshkosh	La Crosse	16
43	Joseph	Felt	UW-Oshkosh	La Crosse	15
63	Nels	Thoreson	UW-River Falls	Lake Nebagamon	21
58	Jessica	Wipperfurth	UW-Platteville	Lodi	19
57	Lucas	Hendricks	UW-Platteville	Lyndon Station	19
28	Sophia	Estante	UW-Madison	Madison	11
25	Sean	Reckwerdt	UW-La Crosse	Madison	11
80	Moua	Yang	UW-Whitewater	Madison	25
34	Melissa	Yatzeck	UW-Madison	Madison	13
18	Darryl	Teske	UW-Green Bay	Mauston	9
14	Cindy	Hofkens	UW-Fox Valley	Menasha	8
53	Mickey	Sarto	UW-Parkside	Milwaukee	18
40	Adam	Wickersham	UW-Milwaukee	Milwaukee	14
35	Selamawit	Zewdie	UW-Madison	Milwaukee	13
41	Amanda	Weigle	UW-Oshkosh	Mukwonago	15
15	Kimberly	Biedermann	UW-Green Bay	Neenah	8
43	Amanda	Brown	UW-Oshkosh	Neenah	15
44	Amanda	Brown	UW-Oshkosh	Neenah	16
43	Erik	Englebert	UW-Oshkosh	Neenah	15
10	Katrina	Nelson	UW-Fox Valley	Neenah	7
13	Jerry	Wolff	UW-Fox Valley	Neenah	8
37	Quintin	Bendixen	UW-Milwaukee	New Berlin	14
11	Brittany	Hilbert	UW-Fox Valley	New London	7
12	Dominick	Piekarczyk	UW-Fox Valley	New London	7
67	Jessica	Orlofske	UW-Stevens Point	Oak Creek	22
79	Jessica	Weber	UW-Whitewater	Oconomowoc	25
22	Jennifer	Westphal	UW-La Crosse	Onalaska	10
46	Anthony	Schneider	UW-Oshkosh	Oshkosh	16
36	Matthew	Van Duzor	UW-Milwaukee	Palmyra	13
62	Sarah	Schimmel	UW-River Falls	Pickett	20
65	Sarah	Schimmel	UW-River Falls	Pickett	21
54	Ryan	Helgesen	UW-Parkside	Pleasant Prairie	18
51	Heather	Herr	UW-Parkside	Pleasant Prairie	18
48	Milica	Bajagic	UW-Parkside	Podgorica, Montenegro	16
53	David	Slick	UW-Parkside	Portland, OR	18
30	Adam	Lichtenheld	UW-Madison	Prairie du Sac	12
70	Brady	Hurtgen	UW-Stout	Prairie Farm	22
62	Tory	Schaaf	UW-River Falls	Prior Lake, MN	20
65	Tory	Schaaf	UW-River Falls	Prior Lake, MN	21
49	Theresa	Dailey	UW-Parkside	Racine	17
51	Jamie	Lambert	UW-Parkside	Racine	18
51	Heather	Olson	UW-Parkside	Racine	18
45	Darryl	Horn	UW-Oshkosh	Rice Lake	16
71	Levi	Stodola	UW-Stout	Rice Lake	23
58	Brad	Innerst	UW-Platteville	Richland Center	19
62	Andrew	Gunderson	UW-River Falls	River Falls	20
65	Andrew	Gunderson	UW-River Falls	River Falls	21

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23	Kristin	Keatley	UW-La Crosse	River Falls	10
62	Marion	Majeske	UW-River Falls	River Falls	20
65	Marion	Majeske	UW-River Falls	River Falls	21
1	Krista	Bowman	UW-Eau Claire	Roberts	5
3	Krista	Bowman	UW-Eau Claire	Roberts	5
51	Ryan	Beachner	UW-Parkside	Rochester, NY	18
78	Jason	Ross	UW-Whitewater	Rockford, IL	25
58	Matthew	Coley	UW-Platteville	Rockford and Byron, IL	19
58	Sally	Kruchten	UW-Platteville	Sauk City	19
42	Sarah	Hughes	UW-Oshkosh	Spooner	15
8	James	Watkins	UW-Eau Claire	Spooner	6
7	Dustin	VanOverbeke	UW-Eau Claire	Springfield, MN	6
62	Nicole	Salwasser	UW-River Falls	St. Paul Park, MN	20
65	Nicole	Salwasser	UW-River Falls	St. Paul Park, MN	21
62	Tracey	Nelson	UW-River Falls	St. Paul, MN	20
65	Tracey	Nelson	UW-River Falls	St. Paul, MN	21
2	Sara	Halada	UW-Eau Claire	Sturgeon Bay	5
76	Jason	Lange	UW-Whitewater	Sun Prairie	23
1	Katie	Ley	UW-Eau Claire	Tomahawk	5
3	Katie	Ley	UW-Eau Claire	Tomahawk	5
24	Katherine	Wroblewski	UW-La Crosse	Trempeleau	10
68	Nicholas	Jensen	UW-Stevens Point	Two Rivers	22
53	Michael	Bose	UW-Parkside	Union Grove	18
61	Kendra	Scudder	UW-River Falls	Verona	20
19	Christina	Tosh	UW-Green Bay	Verona	9
47	Ellen	Arena	UW-Parkside	Waterloo	16
43	Candace	Otte	UW-Oshkosh	Waterloo	15
44	Candace	Otte	UW-Oshkosh	Waterloo	16
45	Candace	Otte	UW-Oshkosh	Waterloo	16
69	Aaron	Fonder	UW-Stout	Waukesha	22
21	Por	Chang	UW-La Crosse	Wausau	10
38	Joshua	Bostick	UW-Milwaukee	Wauwatosa	14
74	Tanya	Gregg	UW-Whitewater	West Allis	23
1	Kristina	Hall	UW-Eau Claire	White Bear Lake, MN	5
73	Michael	Endres	UW-Whitewater	Madison	23
58	Linda	Giorno	UW-Platteville	Whitewater	19
78	Samuel	Miller	UW-Whitewater	Whitewater	25
56	Jonathan	Woolever	UW-Platteville	Wonewoc	19
58	Jonathan	Woolever	UW-Platteville	Wonewoc	19

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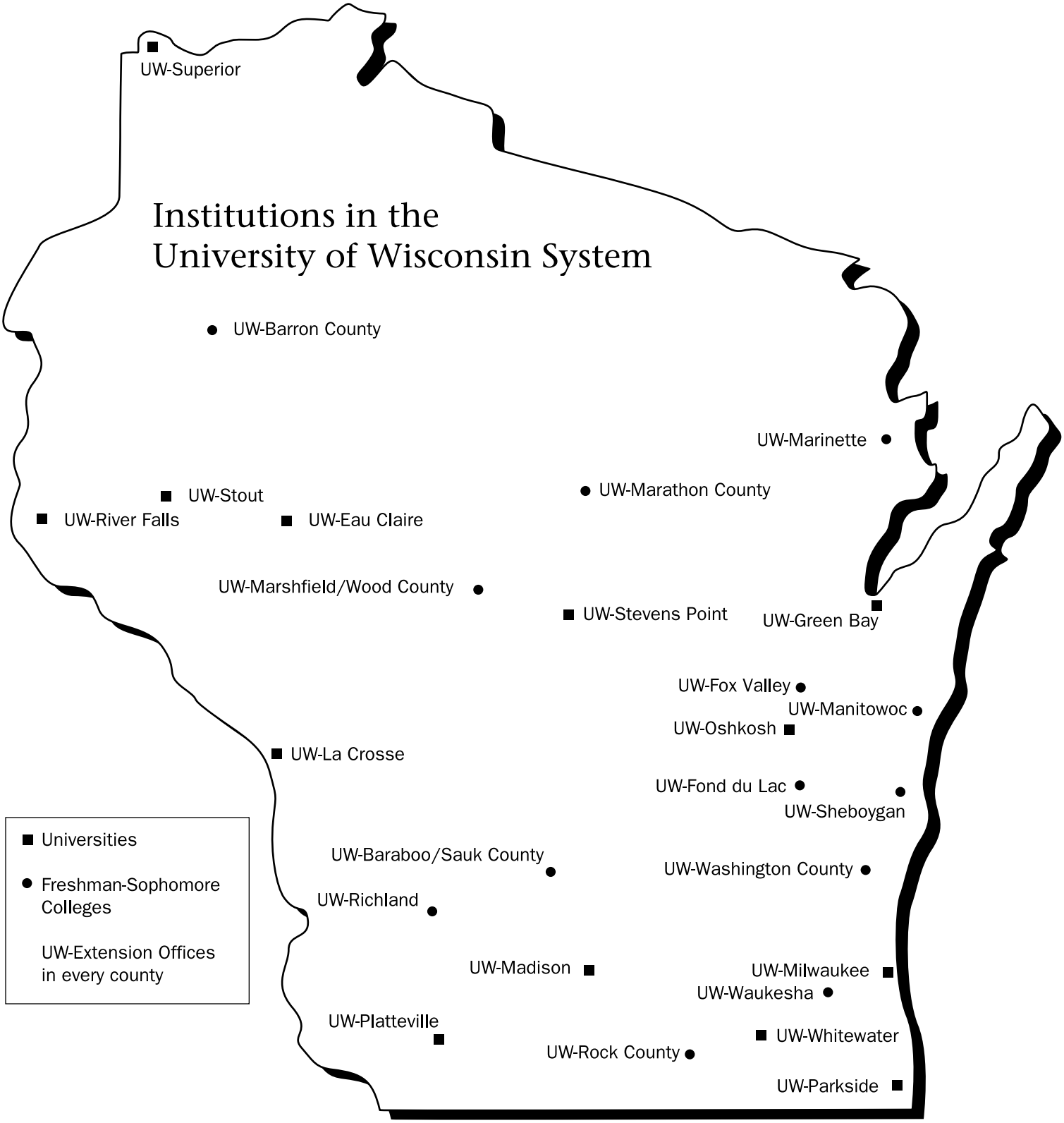
Finally, we owe thanks to our faculty and students, who do ground-breaking work and continue to inspire us with their ideas and findings. Is it any wonder that the University of Wisconsin System is recognized across the nation as a top-notch system of higher education!

Sincerely,

Laurie S. Dies
Special Assistant, Office of the President
University of Wisconsin System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