



WISE

Women in Science and Engineering

Spring 2009

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The mission of the Women in Science and Engineering (WISE) Program is to expand and improve educational and professional opportunities for women in all fields of science, technology, engineering and math (STEM) by facilitating individual, institutional, and social change.

Dear Readers,

It is with profound gratitude and some relief, that I am able to report another very successful year for WISE. Student achievement, engagement, and retention surpassed expectations, and evaluations of our programming remain consistently high. So why the relief?

At this juncture, I am finally allowing myself to take a long view of this past academic year, a luxury few of us have been able to afford ourselves owing to the day to day challenges faced in the aftermath of the flood of 2008. Even though WISE was spared physically, we were not immune to the angst that pervaded the entire university community over the loss of our beautiful and vibrant Arts campus, the inaccessibility of the Iowa Memorial Union, the compromised state of the Main Library and secondarily, the loss of a cohesive campus geography. We also felt an increased level of apprehension in incoming students, who seemed much more tentative about their place in the campus community than in previous years. Some of this may be due to the shortening of summer orientation from two days to one giving students and families less time to 'explore' campus. Another factor may be that the IMU, a location central to the incoming UI student experience, was off-line for several months during the summer and fall. Whatever the factors, there was general consensus that everyone felt some level of stress coming into this academic year and that it persisted and was further compounded by the ever-worsening economic downturn. So yes, I am relieved that this year has been completed successfully and with much less lack of continuity for the students than I ever thought possible at the beginning of the year.

I want to express my greatest admiration and respect to my colleagues, my co-workers, and especially to all of my WISE Women for making this an exceptional year. It is your consistently evident role-modeling behavior, your strength of character and backbone, your willingness to be flexible during times of uncertainty, and your eternal optimism that are the glue of this institution. It is an honor to work with you and for you. I look forward to recharging my spent batteries this summer and approaching next fall with a renewed sense of purpose and vigor.

Chris

WISE Presenter Awarded First Bernstein Professorship in Dentistry



Dr. Deborah Dawson, Department of Preventive and Community Dentistry, and director of Biostatistics,

was awarded the first Morris Bernstein Professorship in Dentistry in September 2008. Morris Bernstein (DDS 1939) was a loyal supporter of the College of Dentistry who died in 2005. Upon receiving this honor, Dr. David Johnsen, College of Dentistry Dean, commented that "Deborah Dawson is a rare individual who is passionate about teaching and scholarship and is an expert in both."

Dr. Dawson has been with the UI College of Dentistry since 2001 and has served as a regular presenter for the WISE Grad/Post-Doc Professional Development Workshop Series. Her workshops, "Effectively Responding to Reviewer Comments" and "Writing a Successful Grant Proposal" give WISE Women timely guidance on the grant application and journal submission processes. Congratulations Dr. Dawson!

WISE

Who we are and what we do...

The Women in Science and Engineering (WISE) Living-Learning Community (LLC) provides a supportive environment for first- and second-year women majoring in science, technology, engineering, and math (STEM) to study, play, and grow. The WISE LLC, first offered for the 1996-97 school year, is the oldest academic learning community on campus.

Over the life of the WISE Learning Community, WISE has provided academic and social support, to

- 558 first-year women in STEM (40-50% from the College of Engineering, depending on year)
- 129 second-year women in STEM the College of Liberal Arts & Sciences (initiated in 2003-04)



WISE Lasagna Dinner and Leadership Panel featuring Regenia Bailey, Mayor of Iowa City

On February 22, 2009 WISE women were given the opportunity to hear from three outstanding females in leadership roles and enjoy a free lasagna dinner from Zio Johnno's! Speakers included Ashley Vanorny, a former participant in the WISE Peer Mentoring Program who spoke about her internship with the Iowa Attorney General's Office; Brianna Steitzer, a member of the inaugural class of the Iowa N.E.W. Leadership program sponsored by the UI's Women's Resource and Action Center (WRAC) and a former WISE Living-Learning Community resident; and Iowa City Mayor Regenia Bailey. Mayor Bailey touched on life as the Mayor, the path she took to get there, and offered some advice to women looking into possible political or leadership roles. She told us to keep considering roles in politics and leadership no matter where we might be in our lives.

The event was well received by those who attended, "The women who presented gave me a good idea of the opportunities that are available to undergraduates at Iowa." A big THANKS to our three speakers. It was a wonderful night!

Alesha Nickeson Receives the "Of the Month" Award in February



The WISE Living-Learning Community (LLC) Liaison, Alesha Nickeson, was recognized with the University Housing "Of the Month" (OTM) Award in February. OTMs are awarded to outstanding Living-Learning Community Members, Executive Board Members, First-year Students, Professionals, Resident Assistants, and Students within the UI residence halls. Individuals are nominated each month and awardees are honored with

a dinner. And although we are sad to report that Alesha will be moving out of her position at WISE this summer, we are thrilled that she will be the new Resident Assistant (RA) for the Justice and Diversity through Community Engagement Living-Learning Community in Hillcrest Hall next academic year! Way to go Alesha!!!

WISE Women 'earn' \$100 for an End-of-Year Event!

The Office of the Provost provided support for a very in-depth survey, *National Study for Living-Learning Programs* (NSLLP) given to ALL students living in UI residence halls this spring. Because the survey itself was long and detailed, a \$100 prize was to be awarded to the living-learning community who had the highest response rate, AND GUESS WHAT - IT WAS WISE!!!!

As usual WISE Women take on any challenge with great gusto and this was no exception. The overall response rate for the survey was 14.1%; across all UI living-learning communities it was 20.2%; and for the WISE LLC it was 33.7%!!

WAY TO GO WISE WOMEN! Survey responses will provide lots of good information that can be used to further the LLC 'movement' on campus.

A BIG Thanks to the 2008-09 WISE Tutors!

Lora Buckman	Physics I & II; Engineering Math I & II
Samantha Connelly	Principles of Chemistry I & II; Organic Chemistry
Amanda De Hoedt	Principles of Biology I; Engineering Problem Solving (EPS) I & II
Emily Klatt	Principles of Chemistry I; Math for the Bio Sciences
Michelle Stolzoff	Engineering Problem Solving (EPS) II
Jessica Stowe	Engineering Math I & II

LIVING-LEARNING COMMUNITY



WISE Living-Learning Community STRESS BUSTER!

Every year WISE holds its annual December Stress Buster in the Currier Multipurpose Room. LLC residents take a break from their studies by decorating 40 dozen cookies with all manner of strange and wonderful frostings and 'sprinkles', including such things as teeny black, brown and white cows.

The fantastic tasting cut-out cookies are baked by the Neel House Bakery and are made available to WISE at a reduced cost. Yum! Thanks you Todd and Carol Neel!!!

This event is always a great time, as it is a wonderful way to relax with friends, have a stress free afternoon right before finals, and of course EAT SOME COOKIES! The room is filled with cheerful holiday music and the joyful chatter of LLC women.

Since the LLC women could only eat about half of the cookies, we donated the rest to the Domestic Violence Intervention Program (DVIP) shelter and one of the local children's support organizations..

This event is definitely a WISE favorite! What a great way to end the fall semester!

WISE LLC Women provide Outreach to their Schools

During first semester and over winter break, first-year WISE LLC Women took the opportunity to give back to their school or an organization in their home town by presenting an informational session to students. The purpose was to encourage junior high or high school students, especially young women, to stay in science and math classes throughout high school and to promote women in STEM fields.

Overall, the presentations were given to a range of students from fifth grade through high school. A teacher who helped coordinate one of the presentations *"liked what was said and thought it was beneficial to the students."* The presentations received positive responses not only from those who listened but also from the women who presented. *"This project opened a door for me as well. I gained a new perspective and a better understanding of women in science."*



Carving out a good time

On October 29th, the Currier Green Room was filled with pumpkin seeds, carving knives, scooping spoons, and over 20 different carved pumpkins. Darrelle Wilkinson, a second year resident of the WISE LLC, suggested having a pumpkin carving event for the WISE Women and worked with WISE Liaison, Alesha Nickeson, to organize the event. The women enjoyed food, prizes and the opportunity to carve their favorite thing into a pumpkin. Overall, the turnout for the event was great and is something to be continued for next year!



WISE-eligible Undergraduate Majors

Actuarial Science
Applied Physics
Astronomy
Athletic Training
Biochemistry
Biology
Chemistry
Chiropractic (pre-)
Clinical Laboratory Science
Computer Science
Dentistry (pre-)
Engineering
 Biomedical
 Chemical and Biochemical
 Civil and Environmental
 Electrical and Computing
 Industrial
 Mechanical
 Undeclared
Environmental Sciences
Geoscience
Health and Sport Studies
Integrative Physiology
Mathematics
Medicine (pre-)
Microbiology
Mortuary Science (pre-)
Nuclear Med. Technology (pre-)
Nursing
Optometry (pre-)
Pharmacy
Physical Therapy (pre-)
Physician Assistant (pre-)
Physics
Podiatric Medicine (pre-)
Psychology
Radiation Sciences (pre-)
Science Education
Speech and Hearing Science
Statistics
Veterinary Medicine (pre-)

What we see is what we model . . .

The Women in Science and Engineering (WISE) Peer Mentoring Program provides one-on-one mentoring for approximately 100 incoming first-year women majoring in science, technology, engineering, and math (STEM) each year, to support their academic and personal growth. The oldest, continuously-offered mentoring program at the University of Iowa (pilot, spring 1995), this program consistently reports STEM retention rates for first-year participants through their fourth-year as significantly higher than the national average (UI WISE retention rates between 60% and 81% vs. national retention rates reported at 30% to 46%).

Over the life of the WISE Peer Mentoring Program, WISE has provided academic and social support, to

- 566 women in the College of Engineering
- 1838 women in the College of Liberal Arts & Sciences

Welcoming Amy Southwood to WISE



In January 2009, Amy Southwood joined the WISE family taking over primary responsibility for coordinating the Undergraduate Peer Mentoring Program and the WISE Ambassadors. Stepping in at mid-year was pretty hectic, but Amy has done a great job getting programs off the ground and building rapport with our WISE Women over the last few months.

Amy has just started the Masters of Teaching (MAT) program in the College of Education this semester, with a focus in Secondary English Education. In one of her current courses, she is completing a teaching practicum in an eighth-grade Language Arts classroom in a local junior high school. Before her studies in education, Amy completed her Masters in English at the University of Iowa and focused on nineteenth-century British literature and the novel. After graduating from Purdue University and before returning to graduate school, she worked for 5 years at the John F. Kennedy Center for the Performing Arts in Washington, DC, where she managed the Corporate Fund and wrote foundation and government grants.

In her spare time, Amy has volunteered with the Pediatric Inpatient Unit at the University of Iowa Hospitals and Clinics and participates in a local junior high student mentoring program. She also enjoys reading novels, running, and trying new restaurants with friends.

Amy is thrilled to be working with the WISE staff and the talented undergraduate students that she feels privileged to be getting to know through WISE.

We also want to say a fond farewell to Andrea Beloy, former Assistant Director of WISE Undergraduate Programs, who took a fantastic position with the Honors program in December, 2008. After two plus years of outstanding work at WISE, Andrea has moved into a position that provides her with new challenges and opportunities. While we were sad to see her leave, we are very happy that her expertise is still being used to facilitate the success of undergraduate students at the University of Iowa.

“Preparing for Nursing” Seminar Answers Students’ Questions

On Monday, February 23, 2009, the WISE “Preparing for Nursing” Seminar gave pre-Nursing students an opportunity to ask questions about the UI Nursing program and to tour the state-of-the-art Nursing Clinical Education Center.

The panel that evening featured Linda Myers, Program Associate and Advisor for the Undergraduate and Professional Master’s Program for the UI College of Nursing and three WISE mentors currently in the UI Nursing program—Kelsey Clemen, Kelly McGee, and Christina Zuccaro. Many of the questions from attendees focused on the process of applying to the Nursing program and all four panelists shared helpful strategies as well as calming advice to ease the students’ anxiety about gaining admission to the highly competitive and reputable program.

After the panel discussion, attendees were given the rare opportunity to tour the impressive facilities at the Nursing Clinical Education Center in University of Iowa Hospitals and Clinics. Students viewed classroom spaces, examination rooms, and simulation environments where they may soon be learning the nursing profession. One student said, *“I really enjoyed the nursing seminar and getting to actually see the facilities [used] for nursing education.”* Special thanks to Linda Myers for leading this tour and panel, and to Kelsey, Kelly, and Christina for sharing their WISE advice!



PEER MENTORING PROGRAM

Program Workshop Two Provides Valuable Professional and Academic Skills

The WISE Peer Mentoring Program offers multiple workshops throughout the year, and our second workshop of 2008-2009 proved to be a great success! We were privileged to feature professional and academic leaders who offered our WISE Women practical strategies for success.



On Tuesday, February 10, 2009, the “Resume Writing” Workshop began with a terrific presentation by Alicia Joens of the UI Pomerantz Career Center, who took students through the step-by-step process of creating a dynamic resume. Several current WISE mentors shared their resumes in break-out sessions that allowed students to witness a professional resume review by members of the corporate community. Special thanks to Alicia Joens and to Mike Nickeson, Lea Ann Dies, Rebecca Schwertfeger, and Staci Wall of Alliant Energy in Cedar Rapids for joining us that evening and sharing their professional expertise!

The “Study Skills” Workshop took place the following evening, with Carol Hunsicker and Stephanie Kuhn, advisors from the university’s Academic Advising Center, sharing their proven strategies for time management and effective study skills. In small groups, students discussed articles on study skills and then participated in an interactive large group discussion to share their own favorite strategies with each other. Thank you to Carol Hunsicker and Stephanie Kuhn for leading this useful workshop!

WISE thanks the following corporate contributors for supporting the mentoring program

Accenture
Alcoa (Davenport facility)
Alliant Energy Foundation
The Caterpillar Foundation
Emerson Process Management–Fisher Division
John Deere Foundation
Pioneer Hi-Bred International
Rockwell Collins

Program Workshop Three Examines Career Paths in Science, Engineering, and Healthcare

Our third workshop of the 2008-2009 year for the WISE Peer Mentoring Program drew great numbers to both sessions! The popular career panel workshops provide an opportunity for WISE Women to learn from the experiences of women professionals across various fields and in various stages of their careers. The panelists answered student questions about their current responsibilities, work/life/family balance, the benefits of working for a small or a larger company or industry versus research, and other important topics.

On Monday, March 30, 2009, mentors and mentees in the science and engineering majors gathered to hear from six distinguished professionals at our “Career Paths in Science & Engineering” workshop.

Panelists

- Jennifer Brozik, Industrial Engineer at Kinze Manufacturing
- Amanda Freese, Quality Engineer at John Deere
- Mona Garvin, UI Assistant Professor of Electrical-Computer Engineering
- Cathleen Moore, UI Professor of Psychology
- Julianna Tymoczko, UI Assistant Professor of Mathematics
- Anne Weber, Production Specialist at Integrated DNA Technologies

On Tuesday, March 31, 2009, we welcomed healthcare professionals for the “Career Paths in Healthcare” workshop. The large number of WISE Women intending to enter healthcare fields listened to the advice of these former WISE participants now working in the professional world.

Panelists

- Olivia Bailey, Assistant Professor of Emergency Medicine at UIHC,
- Keri Christensen, Clinical Quality Improvement at The American Medical Association
- Megan Danforth, UI Dental Student
- Dawn Scott, Pharmacist at Mercy Medical Center

In feedback about the workshops, one student said she appreciated learning “how they balance social lives with careers, finding undergraduate opportunities, experiences abroad, and personal career paths.”



Workshop Three Panelists - Monday, March 30.

Who are the WISE Ambassadors?

The Ambassadors are a team of both undergraduate and graduate students in science, technology, engineering, and math (STEM) fields who organize and participate in outreach, leadership, and career development experiences.

The program is run and kept alive by the enthusiasm and ideas of the Ambassadors, and the WISE office aids their efforts by providing an annual budget, resources, and support. The WISE Ambassadors program is open to all students, and new participants are always welcome.

View the website at <http://www.uiowa.edu/~wise> and contact wise@uiowa.edu to be added to the Ambassadors mailing list!

Ambassadors shoot for the top – 10,000 Hours Show

Earlier this year the WISE Ambassadors decided to try for a new award offered by the 10,000 Hours Show, namely the *Organization with the Most Volunteer Hours*. As if they don't have enough to do, the Ambassadors, along with volunteers from across WISE programs, have been racking up volunteer hours in the hundreds.

As it turns out, the organization with the most hours of recorded volunteer time this year was the Cedar Rapids Museum of Art! While we are thrilled at their accomplishment, we are already looking at next year as another opportunity to take on the challenge of being the organization with the most hours of volunteer time. Whether we ever win or not, it's important to recognize the true spirit of volunteerism that is so evident in all of our WISE Women.

You volunteer, you rock!

For more information about the 10,000 Hours Show, check out their website at: www.10000hoursei.org



First Ever WISE Ambassadors Blood Drive: Success!

On February 19th, 2009, the WISE Ambassadors held the first ever WISE-sponsored blood drive. Madeline Godar, student staff member, coordinated the blood drive with the help of Shelly Merrick, a representative of the American Red Cross, and 15 Ambassadors who worked tirelessly throughout the day to accommodate everyone who wanted to donate.

By the end of the day, 50 units of blood had been collected, 20 more than our original goal! Also impressive, over 50 people attempted to donate (a few were deferred) and 39 first time donors were registered with the American Red Cross! What a successful event!

Plans are now underway to make hosting a blood drive an annual event on the WISE Ambassadors agenda!

WISE Women serve food at Ronald McDonald House

WISE Women get a close-up look at Pathology!



On Wednesday, April 1st, ten WISE Ambassadors attended a program at the Decedent Care Center at University of Iowa Hospitals and Clinics. Kursten Graham, co-chair of the WISE Ambassadors Educational Programming Committee, worked really hard to plan this unique

event. The preceptor for the event was Dr. Marcus Nashelsky, Autopsy Director, who showed our group his lab and answered our questions about pathology. After an initial question and answer session, we entered the lab and learned exactly what attire needs to be worn during an autopsy, as Ambassador Whitney Leverich stepped up to be the mannequin. Dr. Nashelsky had various diseased organs for us to view and handle while he discussed what might have been wrong with the person and what might have caused the diseased state.

Overall, the Ambassadors were very satisfied with the tour and the information presented to them, and they plan to do many events like this in the future. Thanks Dr. Nashelsky!



WISE Ambassadors 2008-09 Officers – GREAT JOB!

Amber Meyer	President
Brandy Kleinheksel	Vice President/Treasurer
Kaitlyn Adams	Secretary
Jenn Yu	Public Relations

Also, a special thanks to:

Dumayi Gutierrez for organizing sessions with English Valley schools
Madeline Godar for organizing the first ever WISE blood drive
Kursten Graham for organizing the Pathology Tour at UIHC
Amy Rowe for organizing Ronald McDonald House dinners

Girls Scout Badge Day

The WISE Ambassadors did it again! Another successful Girl Scout Badge Day (GSBD)!

Relocated from the IMU to the conference space at University Capitol Center, a majority of the girls liked the new location better and commented that the surroundings made them feel really “professional”.

This year the Ambassadors came up with five new hands-on activities: Psychology – Lights and Whistles; Making Flubber; Assembling First Aid Kits; The Physics of Catapults; and Bouncy Balls. Flubber, a polymer activity using glue and borax, seemed to be the biggest hit, especially the part where the girls picked a color for their Flubber and added various forms of glitter. The other activities were also really fun and informative, just not so messy 😊.

We also had two speakers for the day: Dr. David Wilder, UI Professor in Biomedical Engineering, demonstrated how the spine works using Oreos and marshmallows; and Dale Stille, an Instructional Resource Specialist with the Physics Department, enlightened the girls about how radio waves and light waves work. We all learned a lot that day!

The Ambassadors hard work really paid off this year and they did a great job providing the Girl Scouts with an unforgettable experience! Great job everyone!



English Valley girls enjoy fun with the Ambassadors in December AND March!

On December 6th, 2008 and March 28th, 2009 the spectacular WISE Ambassadors hosted 40 fourth and fifth grade girls from English Valley Schools to an afternoon of hands-on activities from the amazing world of science, engineering, and medicine!

In December, the girls took part in activities that were engineering focused: making flashlights with simple household products and using a computer model engineering robots. They then traveled to the medical campus for a presentation on the body, led by current medical students, which included feeling a real human brain and heart!

Activities that took place in March had a biological/medical focus. First, a presentation by Dr. Edwin Dove, professor in Biomedical Engineering; then building ‘cells’ using ordinary household products including clear hand soap for cytoplasm, marbles for nuclei, pipe cleaners, glitter, kidney beans, and beads for organelles; followed by the most tasty activity of the day, building models of the spine using Oreo cookies and marshmallows! The day ended with a tour of the UIHC medical museum.

A BIG thanks to the Ambassadors and the other wonderful WISE Women who volunteered to help make these events truly remarkable experiences for the English Valley students.

To request a K-12 outreach program, on or off-campus, contact Amy at 319-335-3509 or email WISE@uiowa.edu

Grad/Post-Doc Professional Development Workshop Series

The WISE Grad/Post-Doc Professional Development Workshop Series continues to provide STEM women with timely and informative presentations related to their professional development needs. For many women, the information is not formally available within their colleges or departments so WISE fills the gap by providing opportunities for interaction between students and professionals in small group, gender-sensitive settings. Many workshops have been developed as the direct result of requests from our target population.

During the 2008-09 academic year, WISE offered seven workshops that continue to be well attended and receive consistently high marks from participants. We are extremely grateful to have access to the expertise of our outstanding presenters, many of whom provide service to WISE on an annual basis.

For more information about the WISE Grad/Postdoc Professional Development Workshop Series or to suggest a new workshop, please visit our website at www.uiowa.edu/~wise and click on the Grad/Post Doc link or contact Tess Barker at maria-barker@uiowa.edu.

2008-09 Workshops and Facilitators Series

Developing a Teaching Philosophy in the Sciences & Engineering

Facilitator: Carolyn Colvin – Associate Dean for Academic Affairs & Graduate Programs, College of Education

Writing a Successful Research Grant Proposal

Facilitator: Deborah Dawson – Professor and Director of Biostatistics; Professor, Preventive and Community Dentistry, College of Dentistry

Developing a Research Statement in the Sciences and Engineering

Facilitators: Cinda Coggins Mosher – Lecturer, Department of Rhetoric, College of Liberal Arts and Sciences

Ben Mosher – MFA Grant Writer and Iowa City Tate High School English Teacher

Strategies for More Efficient and Effective Literature Searches

Facilitator: Lisa McDaniels – Instruction Librarian, Library Reference and Instruction

Effectively Responding to Reviewer Comments

Facilitator: Deborah Dawson – Professor and Director of Biostatistics; Professor, Preventive and Community Dentistry, College of Dentistry

Using Networking to Support and Enhance Your Professional Goals

Facilitator: Margie Peskin – President, *Search Forward*; Adjunct Professor, Tippie College of Business

Negotiating Your First Tenure-Track Faculty Position in the Sciences and Engineering

Facilitators: Linda Boyle – Associate Professor, Mechanical and Industrial Engineering College of Engineering

Gerene Denning – Associate Director, WISE; Director of Research, Emergency Medicine, College of Medicine

Mary Hall Reno – Professor and Associate Chair, Physics, College of Liberal Arts and Sciences

Amy Kristof-Brown – Professor and Director, PhD Program in Management and Organizations, Tippie College of Business

Chris Peterson Brus – Director, Women in Science and Engineering (WISE) Program

A big THANK YOU to our WISE workshop facilitators!

Dr. Eunice Schuytema Beam WISE Travel Grant Program

The Dr. Eunice Schuytema Beam WISE Travel Grant program awards three \$300 grants per semester to women doctoral students who were competitively selected to give an oral presentation of their work at meetings, symposia, conferences, or other professional or academic gatherings.

Submission deadlines are October 15 and February 15. To be eligible, an applicant must:

- Be a female doctoral student at UI (Ph.D. track) in one of the science, technology, or math (STEM) departments eligible for funding (see WISE web site).
- Have been notified of acceptance to give an oral presentation of at least 10 minutes at a national or international conference, chosen competitively. Please note: poster presentations are not eligible.
- Submit a completed application, including documentation and essays, as noted on the application form, available on the WISE web site.

For the Fall 2008 funding cycle, the committee decided to award travel grants to four women because of the high quality of submissions.

GRAD/POSTDOC NEWS

Beam Travel Grant Recipients Fall 2008



Kelley Foreman of Coralville, Iowa, a biology doctoral student in the College of Liberal Arts and Sciences, delivered an oral presentation, *The Signal Between the Initiation of Recombination and the First Division of Meiosis*, at the Yeast Genetics and Molecular Biology meeting in Toronto, Ontario, Canada on July 22-27, 2008.



Jessica Graham of Shadyside, Ohio, a chemical engineering doctoral student in the College of Engineering, delivered an oral presentation, *Co-Delivery of Cationic Polymers and Adenovirus Enhance Tumor Protection in a Murine Model of Prostate Cancer*, at the AIChE Annual Meeting in Philadelphia, Pennsylvania, November 16-22, 2008.



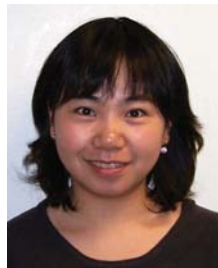
Heather Russell of Millersville, Maryland, a mathematics doctoral student in the College of Liberal Arts and Sciences, delivered an oral presentation, *Crossingless Matchings and the Springer Representation*, at the Joint Mathematics Meetings on January 5 – 9, 2009.



Talia Tokyay of Ankara, Turkey, a civil and environmental engineering doctoral student specializing in hydraulics in the College of Engineering, delivered an oral presentation, *A Large Eddy Simulation Study of High Reynolds Number Gravity Currents Propagating Over Dunes*, at the Riverflow 2008 – International Conference on Fluvial Hydraulics in Cesme-Izmir, Turkey on September 3 – 5, 2008.



Beam Travel Grant Recipients Spring 2009



Fengrong Wei of Wuhan, Hubei, P.R. China, a mathematics doctoral student in the College of Liberal Arts, delivered an oral presentation, *Group Selection in High-Dimensional Regression*, at the Eastern North American Region of the International Biometric Society (ENAR) Meeting. The meeting was held in San Antonio, Texas on March 15 – 18, 2009.



Lei Hua, of Beijing, P.R. China, a biostatistics doctoral student in the Graduate College, delivered an oral presentation at the Eastern North American Region of the International Biometric Society (ENAR) Meeting. Her presentation, *Spline-Based Sieve Semiparametric Generalized Estimating Equation for Panel Count Data*, was given in San Antonio, Texas on March 17, 2009.



Janelle Beadle of San Clemente, California, a neuroscience doctoral student in the Graduate College, delivered an oral presentation entitled *Age-Related Shifts in Regional Blood Flow During Hedonic Appreciation Persist After Controlling for Structural Neuroanatomy and Valance Attribution* at the Society for Neuroscience Annual Meeting on November 16, 2008 in Washington, D.C.

DON'T FORGET - the **WISE Resource Library** in 423 Gilmore Hall has tons of DVD's that you can check out! We have titles from many different series like Nova, Scientific American Frontiers, Secrets of the Dead, Frontline, American Experience, and Smithsonian.

Students, staff, faculty, K-12 teachers, and community members are all welcome to check out WISE materials.

The library also has over 600 books, journals, reports, periodicals, and curricula for your use and over 75% of WISE materials are not found in any other library on campus.

Want to take a look? Email: wise@uiowa.edu to set up an appointment just in case we're out when you stop by.

We'd sure hate to miss you!

Two Biomedical Engineering Undergrads Receive First Arbash-Meinel Travel Scholarships



Rosalind Smith and Esther Wathen

BME undergrads, Rosalind Smith and Esther Wathen each received a \$300 travel scholarship from the Arbash-Meinel Travel Scholarship fund to help defray expenses to the Biomedical Engineering Society (BMES) 2008 Annual Fall Meeting in St. Louis. Their paper, Heart Rate Variability in Infants Born

with Hypoplastic Left Heart Syndrome (HLHS), was accepted for presentation through a competitive process.

According to Smith and Wathen, The conference provided an excellent opportunity for us to share our research with other professionals, network with colleagues across the field of biomedical engineering, and get a glimpse of our future as engineers. Great work Esther and Rosalind!

Undergraduate Women in Biomedical Engineering—Don't forget to apply for a **Lina Arbash-Meinel Scholarship** next fall!

Through this program, undergraduate women majoring in Biomedical Engineering can apply to receive up to \$300 in travel support to attend a conference in their field. Please note – you do not need to be presenting at a conference to be eligible for funding through this program!

Dr. Arbash-Meinell received her Ph.D. in Biomedical Engineering from the University of Iowa in May, 2006. Lina was also a recipient of a Eunice Beam WISE Travel Grant while a doctoral student at Iowa. For more information about the application process, contact WISE via email at wise@uiowa.edu, or call Chris Brus, WISE Director, at 335-3511.

Madeline Godar Awarded First Carol Fethke-WISE Scholarship



Madeline! We can't think of anyone more deserving of this recognition.

WISE Peer Mentoring Assistant and all-around miracle worker, Madeline Godar, will receive a \$1,000 scholarship as the first recipient of the Carol Fethke Scholarship. She is a Psychology, Pre-Med major and will graduate in May of 2011. WISE has been very lucky to have her able assistance for the past year, especially during the leadership transition that occurred in the Peer Mentoring program this winter. Congratulations,

The **Carol Fethke Scholarship**, given in alternating years to a Tippie College honors student and a student in the Women in Science and Engineering (WISE) Program, was established recognize Dr. Fethke for her contributions to The University of Iowa during her tenure as a faculty member in the Tippie College of Business. Carol also served on the WISE Advisory Board for four years and was a strong and vocal advocate for the program.

Multicultural Graduation and Recognition Banquet 2009



*Barbara C. Nzegwu
WISE Student Leadership Awardee*

Barbara Nzegwu, from Mason City, Iowa will graduate in May with a Bachelor of Science in Biomedical Engineering. Barbara has been involved with WISE as a mentor in the peer mentoring program for three years and has also been an active volunteer with the WISE Ambassadors. She has served as a tutor for New Dimensions In Learning; as an ambassador and pen pal for the Center for Diversity and Enrichment; as a volunteer in the Emergency Care Unit at Mercy Hospital; and has conducted research as an Iowa Center for Research by Undergraduates (ICRU) Scholar Assistant in Dr.

Sarah England's laboratory in the Department of Molecular Physiology and Biophysics. She has also been inducted into Omicron Delta Kappa, Mortar Board, and the engineering honor society Tau Beta Pi. After graduation, Barbara will be attending medical school at the University Of Toledo College Of Medicine this fall.



2009 Write Women Back Into History Essay Contest Women: Taking the Lead to Ensure Our Rights

On March 26th, 2009, Chris Brus attended the reception and awards ceremony for Write Women Back Into History Essay Contest, sponsored by the Iowa Commission on the Status of Women, the Iowa Department of Education, and the State Historical Society of Iowa as part of Women's History Month. Held in the State Capitol building in Des Moines, with Lt. Governor Patty Judge in attendance, Chris presented a prize, courtesy of WISE, to the second place winner in the Women in Science and Engineering essay category, Morgan Exline. Morgan wrote a nice piece on Ellen Ochoa, the first Latina astronaut at NASA. A sixth grade student at Prairie Middle School, Morgan was accompanied to the award ceremony by her parents and teacher.

Project Lead the Way

Chris Brus, WISE Director, was invited to speak to a group of Project Lead the Way (PLTW) teachers on February 16th, 2009. PLTW is a national program that encourages participation in a pre-engineering curriculum during high school. As is often the case, recruiting and retaining young women into PLTW has proved to be challenging with average participation of young women at about 15%. Chris gave the teachers an overview of factors that have been shown to affect recruitment and retention of young women in science, technology, engineering, and math (STEM) fields generally and provided strategies for increasing their success in this area specifically. A big thanks to Jason Taylor, Kirkwood Community College, for inviting Chris to speak with PLTW teachers.

A few basic strategies for boosting the recruitment and retention of young women in STEM-based programs:

- Encourage young women to “sign up” in pairs and allow them to work together – cooperatively.
- Provide ‘safe’ opportunities for young women to work on increasing their facility with visual/spatial tasks and working in virtual/3-D environments.
- Balance the curriculum by developing units that alternate between engineering disciplines preferred by men and those preferred by women.
- Give the same weight to those disciplines you (as the teacher) may prefer and those you don’t.
- Use a variety of examples to underscore conceptual learning – be aware of differential knowledge and experiential bases of your students (lawn mower vs. sewing machine).
- Be intentional in making a direct connection between the skills/ concepts being taught and their practical application, especially if potentially humanitarian.
- Wait 3 - 5 seconds longer for responses from individuals who are part of a group that is underrepresented in your class, to allow for increased processing time that accompanies fear of reinforcing stereotypes of ‘their kind’.
- Create opportunities for students to *job shadow* an engineer working in a discipline that interests them.
- Set up competitive situations where the desired outcome is not person against person or one winner vs. losers, but is about coming up with creative solutions to a posed problem. This allows for many different endpoints and provides students with the opportunity to use their own knowledge and experience to develop creative solutions.
- Allow students the flexibility to develop projects (within a structured learning framework) that are perhaps different from what you would assign, but still fulfill the learning targets for the unit (environmental based vs. civil-based project) and support this difference.

For more in-depth information on issues surrounding the retention of women in STEM programs like PLTW and potential intervention strategies, please contact Chris Brus at: christine-brus@uiowa.edu.

Biography of a WISE Woman – Tess Barker



Tess is now in her third year with WISE, continuing to serve the needs of the Grad/ Post-Doc women at UI. Tess is a joint degree student who plans to graduate from law school in December 2009 and complete her Ph.D. in education policy and leadership studies in May 2010. Before coming to UI, Tess worked as a student affairs administrator for 9 years and she has been successfully finding ways to combine her background in education with her legal interests. Her two

research interests are the way the law interacts with student rights and responsibilities on campus; and intellectual property development in a university context. Her dissertation will analyze 750 intellectual property lawsuits which involved a college or university as a party to the case in order to identify “hot” areas and common issues which lead to the lawsuit. She hopes her research will inform current university attorneys of campus-based policies or procedures which might need to be reviewed in order to keep universities out of future litigation, concurrently supporting campus-based researchers in their efforts to develop and patent marketable products.

In addition to her studies, Tess has gotten involved in the UI and Iowa City community. Since her first month in Iowa, she has served as the volunteer advisor for the UI chapter of Alpha Epsilon Phi sorority, a position she finds highly rewarding. She has also volunteered for the Special Memory Unit of the Legacy Gardens Senior Living center and as a School Buddy through the Big Brothers Big Sisters of Johnson County. This semester, she was selected as one of two volunteer interns for the Johnson County Public Defender’s Office.

In her free time, Tess enjoys running, walking with her dog in the cornfields, and watching the Food Network. She plans to return to her hometown, Minneapolis, after graduation.

WISE Website – <http://www.uiowa.edu/~wise>

Remember to visit the WISE website to learn more about the programs and services offered through our office! Each month we profile a new student or staff/faculty member and update our ‘news’ section on the home page, so *Check It Out* to get the latest info and to learn about the amazing women associated with WISE!



Women in Science and Engineering

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WISE works closely with The University of Iowa Foundation (UIF) to stay abreast of funding opportunities that support our mission and goals. Maintaining close connections with our corporate sponsors and alumnae is critical to the fiscal health of WISE and we are very fortunate to have strong UIF advocates in our corner, such as Susan Sweeney and Diane Johnson, with Corporate and Foundation Relations, and Kate Metcalf, Associate Director of Development for the College of Engineering.

If interested in supporting WISE, please visit the WISE website (<http://www.uiowa.edu/~wise>) and follow the link to make an online donation through The University of Iowa Foundation.