

Advance E-news Vol. 2, no. 4, January 2010

ADVANCE-Nebraska: Advancing women, advancing STEM

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Please forward any items (announcements, new or classic papers, funding and job opportunities) to advance2@unl.edu.

Thanks to all who contributed articles: Julia McQuillan, Susan Poser.

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A. Announcements

1. ADVANCE-Nebraska has a new Principal Investigator: Dr. Prem Paul

The ADVANCE-Nebraska teams wishes our original PI, Dr. Barbara Couture, all the best at New Mexico State, and welcomes Dr. Prem Paul as the program's new PI. Dr. Paul volunteered to step in and help provide the program with stability in light of the current flux in University administration.

Prem was key in UNL getting the ADVANCE grant proposal funded. He put together the team, he provided us with resources, he served on an ADVANCE panel at NSF to better understand what the program officer was looking for.

Administratively, ADVANCE-Nebraska is now in the Office of Research and Economic Development rather than the Office of the Senior Vice Chancellor for Academic Affairs. We will of course continue to work closely with the OSVCAA for the dual career part of the program.

We want especially to thank Evelyn Jacobson, Associate Vice Chancellor for Academic Affairs, for her critical help and guidance to the ADVANCE program. Thanks, Evelyn!!

2. Spring Semester, 2010 ADVANCE Activities

a. Judy Walker, Mathematics, Paths to Success Luncheon speaker, February 11

"The Importance of Determining What's Important"

City Union, 11:30 Lunch buffet; speaker begins at noon.

Dr. Walker is Professor and Graduate Chair for the UNL Department of Mathematics. Her research is in coding theory, which seeks to find efficient ways of adding redundancy to information so that errors in transmission can be detected and corrected. She is co-founder of the Nebraska Conference for Undergraduate Women in Mathematics. She has served on the Council of the American Mathematical Society and received the 2006 Haimo Award of Distinguished Teaching from the Mathematical Association of America. She currently serves as the MAA's Poly Lecturer.

Free lunch! Please r.s.v.p. advance2@unl.edu by February 9 so we have enough food!

B. Perceptions of Climate and Connectivity Among UNL STEM Faculty – February 22

In 2007 as we awaited word from NSF on whether the ADVANCE grant would be funded or not, UNL's Office of Research helped the grant-writing team to field two surveys of UNL STEM faculty: the COACHE survey and the Networking Survey. The latter is a research project by Dr. Christina Falci, Sociology, and tests the hypothesis that women in STEM are less integrated into research and social networks than their male colleagues.

This assertion is common in the literature, but was never tested in academia until now! Come and hear the results of the two surveys, from Drs. Falci and Julia McQuillan. Come and understand why this research is so important, and what it has told us about working at UNL and being a success at UNL.

Location TBA; Time: 11:30 – 1:00. Register for free lunch at advance2@unl.edu or brown bag.

C. COACH Workshop: Powerful Presentations in the City Campus Union, Mar. 29. 9am – 4:30pm.

This workshop, designed to complement Strategic Persuasion and Strategies for Leading Change, will give women the opportunity to hone their speaking skills. In an interactive format, participants will learn techniques from the theater for increasing confidence and charisma, expanding vocal power, using effective body language, and dramatic strategies. You will learn how to bring structural clarity to the content of your speech, whether speaking spontaneously or with prepared remarks. You will discover how powerpoint can become a tool rather than a distraction. You will explore the relationship between time, structure, and silence, in order to most effectively land their points. Participants will be asked to bring in examples of their most challenging speaking events, whether in meetings, negotiations, informal presentations, or formal lectures. There will be plenty of practice and individual coaching on how to improve performance.

Participants will leave with the confidence and ability to present themselves and their ideas with power. Register now at advance2@unl.edu.

D. Paths to Success Luncheon Series: Dr. Allison MacKay, Civil Engineering, U-Conn, 22 April

Mark your calendars to hear how a mid-career engineer balances work and family.

3. Office of Research and Economic Development Grant-Writing Seminar, March 12

Beef up your proposals and meet the folks responsible for getting your proposal out the door:

8:30 a.m. to 5:00 p.m. in the Nebraska Union auditorium

For more information, contact Peg Filliez in the Office of Research at pfilliez1@unl.edu or (402)472-2851. More information and link to online registration: <http://research.unl.edu/events/grantseminar/>

4. Concetta DiRusso, Biochemistry, Keynote Speaker at Women in Science Conference, February 19-20, Holiday Inn, Lincoln.

This annual conference for high school sophomore and juniors showcases UNL and local scientists and engineers, presenting unthought-of career paths for gifted female students. From the website:

Concetta DiRusso, a professor in the Departments of Nutritional and Health Science and Biochemistry, is a basic scientist studying fats to understand how different kinds of fat in the diet influence health and disease and to determine if biological fats can supply our fuel needs in the future.

Her career has taken her from a small town in Massachusetts to Vermont, California, Tennessee, New York, Denmark, Austria, Argentina and her current home in Nebraska at UNL.

In high school an interest in understanding how fertilizer runoff into lakes and streams caused seasonal algal blooms led her to study metabolic pathways and lipids. In college she started studying dietary fat used to supplement baby formula using bunnies as a model system. Today her work involves cells in culture, dietary studies in mice, and, once again, algae.

More information on the Women in Science Conference: <http://scimath.unl.edu/csmce/wis.php>

5. The UCARE application deadline for the 2010-11 Academic Year: Friday, February 12, 2010.

One- or two-year awards for UNL students who have completed 30 hours of undergraduate study, to do a research project with a faculty member.

UCARE website, with links to online application: <http://www.unl.edu/ucare/>

6. UNL Strategic Plans: Diversity component

Departments and their chairs are being asked to address faculty diversity in strategic plans this spring. One approach that we would like to suggest is that departments begin, if they have not already, to gather data on diversity of faculty in their discipline nationwide, and the diversity of the potential applicant pools as represented by newly minted PhDs.

How many people get a PhD in your field each year – how many are women, how many racial/ethnic minorities?

Find out from NSF: <http://www.nsf.gov/statistics/showpub.cfm?TopID=2>

How does your department fare when compared to national data? Donna Nelson of U-Oklahoma has the most comprehensive and most recent data on women STEM faculty and URM STEM faculty, by rank and by discipline:

http://chem.ou.edu/~djn/diversity/Faculty_Tables_FY07/07Report.pdf

Some professional societies collect and publish such data as well.

American Institute of Physics: <http://www.aip.org/statistics/>

American Geological Institute: <http://www.agiweb.org/workforce/reports.html>

Please send us your discipline's and we can compile a list for our website: advance2@unl.edu.

B. New Papers on Work-Life Balance, Gender Equity, The Pipeline

1. Gender Bias Bingo

From Joan C. Williams and the Center for WorkLife Law at the University of California's Hastings College of the Law comes an online game designed to raise awareness of the structural barriers in academia that chip away at women's confidence and willingness to persist, and undermine fathers who want to be active participants in their children's lives. "Double Binds", "Prove it Again!" and "Frigid Climate for Fathers" are some of these barriers. Learn more here: <http://www.genderbiasbingo.com/index.html>.

Submit your own experiences, win a t-shirt! <http://www.genderbiasbingo.com/games.html>

2. New Journal on Gender and STEM

The first issue of the International Journal of Gender, Science and Technology <http://genderandset.open.ac.uk/> has been published. This is an important new publication that brings together research, case studies and perspectives from academics, practitioners and policy makers in this area. It's available online, free of charge.

3. New NIH Publication Features Women in Science Careers

"*Women in Science at the National Institutes of Health 2007-2008*" is a new publication showcasing the achievements of some of the accomplished women at the NIH and is intended to inspire a diversity of girls and boys, women and men to enter or continue in science careers. Sponsored and prepared by the NIH Office of Research on Women's Health (ORWH) with assistance from the members of the NIH Coordinating Committee on Research on Women's Health, the book celebrates the careers and accomplishments of 289 talented female scientists and administrators who are part of the NIH community. Each NIH Institute, Center and Office recommended up to 15 doctoral-level women to be featured in the publication.

To download an electronic copy or order a hard copy of "Women in Science at the National Institutes of Health 2007-2008," go to: <http://orwh.od.nih.gov/>

4. Math Scores: It's Where You Go to School

Glenn Ellison noticed that the team of high school students he coached to take the American Mathematics Competition exams didn't look like the other teams: his team included his daughter and her friends; the other teams were overwhelmingly male. He probed deeper into this issue and the results appear in a new paper.

Ellison and doctoral student Swanson of MIT (Economics) observe in *The Gender Gap in Secondary School Mathematics at High Achievement Levels: Evidence from the American Mathematics Competitions* (National Bureau of Economic Research Working Paper 15238;

2009) that **girls in the highest math percentile on the exams come from the most elite schools.**

MIT summary: <http://web.mit.edu/newsoffice/2009/math-gender.html>

Full report: http://www.nber.org/papers/w15238.pdf?new_window=1

5. New Study Shows Female Students with Highest Math Ability are Strongly Influenced in Choice of Major by Gender of Professor

Does gender of the professor really affect whether students choose a STEM major? Does it impact how they do in math classes? There are so many variables when studying college students: they self-select the class they take, the professor who teaches it, and when in their four years they take the class; that a definitive answer remained elusive.

This latest study holds these variables constant and concludes that **the highest-achieving female students are powerfully affected by instructor gender**: they do better in math and science classes and are **more likely to major in a STEM field** when the instructors are female.

Scott Carrell, Marianne Page and James West studied 9,841 students at the U.S. Air Force Academy (USAFA). USAFA students are a select group: only 14% of applicants are admitted. Their first-year course of study is mandatory and instructors are randomly assigned to math and science classes, and take common examinations for each class.

The authors found little impact for male students and less of an effect on lower-performing female students. In addition, there was little impact of gender of humanities professors on student performance and choice of major.

If we want to attract more women students and increase the number of majors in our fields, we'll need more women STEM faculty.

Link to pdf of the paper: <http://www.nber.org/papers/w14959>

Carrell, Scott E., Page, Marianne E., and James E. West. 2009. Sex and Science: How Professor Gender Perpetuates the Gender Gap. National Bureau of Economic Research, Working Paper No. 14959.

C. Opportunities for Students

1. Award for Graduate Students in BioSci: Public Policy Leadership Award

The American Institute of Biological Sciences (AIBS) is pleased to announce that applications for the 2010 Emerging Public Policy Leadership Award (EPPLA) are now being accepted. This award recognizes current graduate students in the biological sciences and/or science education who have demonstrated initiative and leadership in science and science policy.

Award recipients receive first-hand experience at the interface of science and public policy, including an expense-paid trip to Washington, DC to meet with their members of Congress.

Applications are due by 5 pm EST on 5 February 2010.

To learn more about the application process and the Award, please visit <http://www.aibs.org/public-policy/resources/EPPLAapplication-2010-announcement.pdf>

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2. Girls on Ice

Applications Now Available for the Girls on Ice 2010 Expedition!

Girls on Ice is a unique, FREE, wilderness science education program for high school girls. Each year a team of 9 teenage girls and 3 instructors spend 11 days exploring and learning about mountain glaciers and alpine landscapes through scientific field studies with professional glaciologists and mountaineers.

The 2010 Expedition will take place July 26 to August 5, 2010 on Mount Baker, Washington State.

<http://girlsonice.org/apply> (applications are due March 1, 2010)

We are able to provide this program free to the girls through small grants and gifts from individuals and support from the University of Alaska Fairbanks.

If you would like to help support the program please visit: <http://girlsonice.org/support>

For more information, please visit: <http://girlsonice.org>.

Questions? Please send an email to info@girlsonice.org.

Thanks,

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