

ERI ANNOUNCEMENTS & COMING EVENTS

Welcome New Staff Member

On February 1st we welcomed Susan Linck to a position as Senior Development Specialist, bringing her into the dynamic, interdisciplinary context of our ninety-three-member community of scientists and scholars. She is working intensively to fully understand the mission and vision of the ERI, the ongoing research of its members, and our educational and outreach goals and activities. Ms. Linck, who brings professional depth and experience along with original perspectives, joins the ERI staff specifically to assist with fund development, coordinating activities for both ongoing programmatic development and for a capital campaign to secure additional ERI space in the Wisconsin Institutes of Medical Research.

Clear Vision Campaign

ERI Members recently received the materials for our *Clear Vision* campaign. Through this opportunity, ERI members and community members alike can become ERI Visionaries and can provide important programmatic support to our Institute. Participating in the *Clear Vision* campaign is made easy through the monthly payroll deduction or bank draft programs. For \$2.80 a day you can create a legacy of support for collaborative and compelling research advancing the science and art of vision and furthering our goal of making the University of Wisconsin a leading vision research facility. To obtain the *Clear Vision* packet, please contact Susan Linck: slinck@vision.wisc.edu; 265-0690.

ERI Seminar Noon to 1:00pm, April 12

Donna Peters, PhD (Pathology & Laboratory Medicine) and
Arnold Ruoho, PhD (Pharmacology) with **Lian-wang Guo, PhD** (Pharmacology)
Glaucoma insights from cellular studies
Wisconsin Institutes of Medical Research (WIMR) Room 7001A
RSVP for pizza lunch by 3:00pm on Monday, April 11: gmstirr@wisc.edu

ERI Seminar Noon to 1:00pm, May 10

Anna Shen, PhD (Oncology)
Neal Barney, MD (Ophthalmology & Visual Sciences)
ERI Rapid Response Initiative-supported corneal studies
Wisconsin Institutes of Medical Research (WIMR) Room 7170* (*at northeast corner of 7th floor)
RSVP for pizza lunch by 3:00pm on Monday, May 9: gmstirr@wisc.edu

Research Committee Announces Walsh Research Fellowship Travel Award Recipient

Activated this semester to provide funds for an ERI graduate student to attend and present work at a professional conference/symposium, the *David G. Walsh Research Fellowship Travel Award* was open to graduate student applicants mentored by ERI members. The ERI Research Committee, which served as the application review board, is pleased to congratulate the award recipient. **Michelle Wilson** of ERI member **Paul Nealey's** lab (Chemical & Biological Engineering) will attend the *Society for Biomaterials 2011 Annual Meeting and Exposition: Animating Materials* from April 13-16, 2011 in Orlando, Florida. She will present a poster titled "Adhesive peptides modified with long spacers encourage human corneal epithelial cell attachment and spreading." ERI member **Chris Murphy** (Surgical & Radiological Sciences, VetMed, UC-Davis) is a collaborator in this interdisciplinary work identifying biologically relevant, physical and chemical cues that support a functional corneal epithelial tissue and that can ultimately be incorporated into synthetic corneal implants.

ERI Research Committee: Nicola Ferrier, PhD; Anne Griep, PhD; Aki Ikeda, DVM; Hongrui Jiang, PhD; Luis Populin, PhD; Dietram Scheufele, PhD; Nader Sheibani, PhD; Li Zhang, PhD

ERI Member Lab Open Houses

In the spirit of fostering Eye Research Institute connections, the Education Committee is initiating a program of "lab open houses." The mission of the ERI Education Committee is to provide members with interdisciplinary educational opportunities that broaden knowledge of vision-related topics and research—and a primary method to achieve this mission is by helping to foster member links. If you would consider hosting a lab open house sometime in the coming year, please contact Andrea Mason: amason@education.wisc.edu. Once open houses have been scheduled, details will be publicized regarding how members and their students and associates can visit the labs of fellow vision scientists on the Madison campus as well as member labs on other campuses. ERI Education Committee: Neal Barney, MD; Sakae Ikeda, DVM; Andrea Mason, PhD; Gillian McLellan, BVMS, PhD; Bikash Pattnaik, PhD; Shiela Reaves, MA; Lori Severtson, PhD; Vanessa Simmering, PhD; Adam Steinberg.

FACULTY, STAFF & AFFILIATE ACCOMPLISHMENTS

Two ERI Members Receive 2011 Romnes Faculty Fellowship Awards

Hongrui Jiang (Electrical and Computer Engineering) and **Jill Casid** (Art History) are recipients of 2011 Romnes Faculty Fellowships, awarded to recognize remarkable potential in faculty who earned tenure within the last four years. Recipients are selected based on the quality, significance and productivity of their research, as well as the quality and programmatic value of their teaching and service. Supported by the Wisconsin Alumni Research Foundation, Romnes Fellows are granted an unrestricted \$50,000 of research

funding over a five-year period. One of Dr. Jiang's recent projects involved developing spherical adaptive liquid microlens arrays that combine advantages of the compound eyes of insects and the camera-like eyes of mammals. He intends to further his studies on intelligent and integrated micro optical imaging systems. Dr. Casid, founding director of the Center for Visual Cultures, is a historian, theorist of visual culture, and practicing artist in photo-based media. Her studies focus on productive tension between theory, archives and writing of history; gender, race, and sexuality; hybridity and chimerism; and performative and processual aspects of visual objects and imaging.

RESEARCH NEWS

Award-winning Paper Reports on Distancing in Human-Robot Interaction

At the 6th ACM/IEEE Conference on Human-Robot Interaction, held early March in Lausanne, Switzerland, ERI member **Bilge Mutlu** (Computer Sciences) was recognized as winner of the 2011 *Most Interesting Experimental Finding Award* for his paper, "Human-robot proxemics: physical and psychological distancing in human-robot interaction." By manipulating the likeability (like/dislike) and gaze behavior (mutual gaze/averted gaze) of the robot, Dr. Mutlu explored how these factors affected people's physical distance from robots, as well as their psychological distance and willingness to disclose personal information. Results showed that people who disliked the robot compensated for an increase in the robot's gaze by increasing their physical distance from the robot and were less likely to share personal information, while people who liked the robot remained in place as the robot's gaze intensified and more freely offered personal information. These findings have implications for designing robots to foster closer human-robot relationships that can facilitate effective robot integration into such human domains as healthcare, education, and public services.

Chemical Imaging Technique Holds Significant Promise

ERI member **Carol Hirschmugl** (Physics, UW-Milwaukee) led a team of researchers in developing a new synchrotron-based chemical imaging technique that combines infrared spectroscopy with microscopy, offering high-resolution pictures of the molecular composition of tissues with remarkable speed and quality. She and her UWM colleague Dr. Michael Nasse have established a national user facility termed "Infrared Environmental Imaging (IRENI)" to perform the technique at the Synchrotron Radiation Center at UW-Madison. IRENI dramatically reduces image sampling time from hours to minutes, while quadrupling the range of the sample size and producing high-resolution images of sample that do not have to be stained as they would for imaging with an optical microscope. Particularly sensitive to detecting organic materials, IRENI reveals the distribution of functional groups such as proteins, carbohydrates and lipids within tissue samples. Dr. Hirschmugl anticipates that this method can have broad applications not only in biomedical fields such as marine biology, cancer and stem cell research, and real-time monitoring of live cells, but also in pharmaceutical analysis, art conservation, forensics, and biofuel production. Use with eye tissues may reveal chemical signatures of eye diseases, perhaps revealing pathogenesis. An online article published in the March 20, 2011 issue of *Nature Methods* presents this imaging system, detailing both its application and promise. [Nasse MJ, Walsh MJ, Mattson EC, Reininger R, Kajdacsy-Balla A, Macias V, Bhargava R, and Hirschmugl CJ. High-resolution Fourier-transform infrared chemical imaging with multiple synchrotron beams. *Nature Methods*. 2011 Mar 20. doi:10.1038/nmeth.1585]

We invite your feedback on this newsletter for the ERI membership.
Please respond with comments at: [InSights Feedback](#)

About ERI InSights

The UW Eye Research Institute will distribute *InSights* every other month. Its purpose is to build ERI community, advancing member connections and collaborations by sharing research and educational activities as well as member accomplishments and honors (including those of their lab associates and students). We welcome news of research advances, scholarly publications, grant awards, educational and professional honors, available lab positions, or shared equipment/services. If you have an item you wish to submit for possible inclusion, please send it to Gail Stirr at gmstirr@wisc.edu

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