

ERI ANNOUNCEMENTS & COMING EVENTS

3rd Annual Vision Science & Visual Art Poster and Gallery Session, October 18, 2011

Please save afternoon and evening hours on Tuesday, October 18, 2011 to attend the ERI's annual event gathering faculty and students around posters showcasing vision-related research, along with visual art works.

The concurrent poster/gallery session and ERI membership reception will take place from 3:00pm to 4:30pm, immediately followed by the ERI distinguished guest lecture featuring Mr. Gordon Gund, founder of Foundation Fighting Blindness. Mr. Gund will share his remarkable personal story and his insights from a lifetime of vision research advocacy and philanthropy. Watch for registration and event details in early September.

*We want to remind you and your trainees to save posters you have presented within this past academic year, so that you can display them here! Participation is encouraged for:

- Eye Research Institute members and associated scientists, researchers, postdocs, graduate students and advanced undergraduates
- Center for Visual Cultures members and associated graduate students, postdocs and advanced undergraduates
- other individuals with vision science or visual art interests

Work accepted for display:

- **posters** already prepared and previously presented at a recent conference OR
- new posters presenting work not previously shown [No abstracts required.]
- **visual art** work previously exhibited or new (any media, any format)

Awards for best student presentations will again be given.

Trainee Membership Lends New Emphasis and Opportunity for Student Involvement

As current ERI members, you now have a chance to invite graduate students, postdoctoral fellows and trainees, and advanced undergraduates to apply for *Trainee Membership*, a new membership category that has been formally established by the ERI Leadership Committee. *Trainee Membership* can provide opportunities to get involved with ERI research, education, and outreach initiatives and to network with others across campus, strengthening vision-related research links and widening perspectives. Individuals follow the same application process as full and associate members, but need to include a statement of support from a faculty sponsor or advisor. Application forms and trainee membership information are available at the ERI website: www.vision.wisc.edu or from Gail Stirr (265-4023; gmstirr@wisc.edu). We encourage every ERI member to extend invitations to their trainee associates, helping to strengthen ERI membership and connectivity.

Vision at the Zoo Event Builds ERI – Community Connections

A June 18th outreach program focusing on the varied vision characteristics of walking sticks, hedgehogs, and pythons brought ninety-five adults and children into direct contact with these Henry Vilas Zoo animals, each introduced by Zoo education volunteers. After ERI member **Nansi Colley** introduced the ERI mission and membership diversity, members **Dick Dubielzig** (veterinary pathologist) and **Gillian McLellan** (veterinary ophthalmologist) presented interesting vision facts and engaging stories. Modeled on the first *Vision at the Zoo* event held last spring, this second event again attracted families and friends curious about animal vision. The thirteen ERI members attending sported ERI T-shirts, accentuating ERI name recognition!

Development Update

We continue to work on activities that will help us “friendraise” and “fundraise” as we go into late summer and early fall. We have a first draft of print materials for our coming capital campaign to support additional ERI physical space in the second tower of the Wisconsin Institutes for Medical Research (WIMR II) now under construction, and will share them with you once they are final. The ERI Advisory Board has helped us add several hundred names to our mailing lists and we will begin introducing these people to the Eye Research Institute. After holding some late summer/early fall events to acquaint more people with ERI, we will have an official kick-off event for the capital campaign shortly after the beginning of the academic year. Please watch for dates, as we will invite ERI members to attend these events to share your research and your work with interested members of the public!

FACULTY, STAFF & AFFILIATE ACCOMPLISHMENTS

WARF Named Professorship Awarded

Among the eight members of the UW-Madison faculty appointed to Wisconsin Alumni Research Foundation (WARF) named professorships in 2011 is ERI member **Paul Kaufman** (Ophthalmology and Visual Sciences). Dr. Kaufman, who specializes in glaucoma, the mechanisms of aqueous humor formation, and age-related loss of vision, was named the Ernst H. Bárány Professor of Ocular Pharmacology. This WARF program provides recognition for distinguished research contributions of the UW-Madison faculty, honoring those who have made major contributions to the advancement of knowledge, primarily through their research endeavors, but also as a result of their teaching and service activities. The appointment includes \$75,000 of research support from WARF over a five-year period.

RESEARCH NEWS

Visual Ethics Informs Conflict Between the Actual and Ideal

Why does the appearance of waif-like models across cultures also presage a global rise in eating disorders? Both medical anthropologists and mass communication scholars consistently observe that Western media, which showcase the same “thin ideal” body shape, are deeply intertwined with one of the most difficult mental illnesses to treat among women. ERI member **Shiela Reaves** (Life Sciences Communication), a former photojournalist, suspected that the power of body imagery was more than a complicating factor. She noted that scholars regularly used social comparison, a robust theory since 1954 that explains the rise and fall in self-esteem when humans compare themselves to others in their group. She suspected that social comparison might actually be an evolutionary adaptation that helped our ancestors evaluate rank, social threats, and hierarchy within their tribe. Her research into the ethics of digital manipulation in news images and fashion models influenced her decision to explore the research on evolution and the biology of the social gaze. Dr. Reaves revisited her field of visual ethics and in the *Journal of Mass Media Ethics* proposed that media images of this body ideal will continue to be implicated in the complex, culturally-driven health issue of eating disorders. The ancient emotional brain is wired to compare self to other body images, and cognitively does not distinguish between media and actual life. The media’s digitized “thin ideal” body activates a maladaptation in evolution, and children as young as eight are at risk to believe that success is measured by a visual ideal that not even the models themselves actually realize in an age of digital bodies and virtual faces. [“Rethinking Visual Ethics: Evolution, Social Comparison and the Media’s Mono-Body in the Global Rise of Eating Disorders,” *Journal of Mass Media Ethics*, 26:2,114-134.]

Toward Understanding 3D Motion Perception

ERI member **Bas Rokers** (Psychology) aims to understand the mechanisms underlying visual motion and depth perception utilizing neuroimaging (fMRI), psychophysical experiments, and computational modeling. His most recent study, titled “Motion processing with two eyes in three dimensions,” published in the *Journal of Vision*, shows how and where the visual system combines the retinal motion signals that are produced by an object moving toward or away from us. He suggests that when we understand how the brain processes motion and integrates binocular information, we can develop therapies for people with impaired 3D vision, such as that caused by strabismus or amblyopia (lazy eye). Furthermore, understanding 3D motion perception might improve the design of autonomous artificial systems (robots) that rely on 3D space navigation. [2011 Feb 11;11(2).pii:10.doi:10.1167/11.2.10] Be on the lookout for National Geographic’s fall TV special *Brain Games*; Dr. Rokers serves as the expert on motion and depth perception.

NEW PUBLICATIONS/CURRENT LITERATURE

These are among recent publications by ERI members, including Epubs and print publications from mid April to mid June 2011. The list is organized alphabetically by first-listed ERI author name, highlighted in bold. As we do not have full access to all publication resources for each discipline, we may have missed one of your publications. If so, please accept our apologies and send us your citations for inclusion in the next issue.

Li X, **Basso MA**. Cues to move increase information in superior colliculus tuning curves. *J Neurophysiol*. 2011 May 18. [Epub ahead of print]

Leblanc NL, Stepien RL, **Bentley E**. Ocular lesions associated with systemic hypertension in dogs: 65 cases (2005-2007). *J Am Vet Med Assoc*. 2011 April 1;238(7):915-21.

Millen AE, Voland R, Sondel SA, Parekh N, Horst RL, Wallace RB, Hageman GS, Chappell R, **Blodi BA**, Klein ML, Gehrs KM, Sarto GE, **Mares JA**; for the CAREDS Study Group. Vitamin D status and early age-related macular degeneration in postmenopausal women. *Arch Ophthalmol*. 2011 Apr;129(4):481-489.

Kolb AW, Schmidt TR, Dyer DW, **Brandt CR**. Sequence variation in the herpes simplex virus US1 ocular virulence determinant. *Invest Ophthalmol Vis Sci*. 2011 Apr 25. [Epub ahead of print]

Danis RP, Hubbard LD. Imaging of diabetic retinopathy and diabetic macular edema. *Curr Diab Rep*. 2011 May 24 [Epub ahead of [print]

Gangaputra S, Almkhatar T, Glassman AR, Aiello LP, Bressler N, Bressler SB, **Danis RP**, Davis MD. Comparison of film and digital fundus photographs in eyes of individuals with diabetes mellitus. *Invest Ophthalmol Vis Sci*. 2011 May 12. [Epub ahead of print]

Anderson LS, Axelsson J, **Dubielzig RR**, Lindgren G, Ekestén B. Multiple congenital ocular anomalies in Icelandic horses. *BMC Vet Res*. 2011 May 26;7(1):21. [Epub ahead of print]

Dreyfus J, Schobert CS, **Dubielzig RR**. Superficial corneal squamous cell carcinoma occurring in dogs with chronic keratitis. *Vet Ophthalmol*. 2011 May;14(3):161-8.

Howden SE, Gore A, Li Z, Fung HL, Nisler BS, Nie J, Chen G, McIntosh BE, Gulbrandson DR, Diol NR, Taapken SM, Vereide DT, Montgomery KD, Zhang K, **Gamm DM**, Thomson JA. Genetic correction and analysis of induced pluripotent stem cells from a patient with gyrate atrophy. *Proc Natl Acad Sci USA*. 2011 April 19;108(16):6537-42. Epub 2011 Apr 4.

Guo LW, Ruoho AE. The N-terminal half of the cGMP phosphodiesterase (gamma)-subunit contributes to stabilization of the GTPase accelerating protein complex. *J Biol Chem*. 2011 April 29;286(17):15260-7.

Hubbard LD, Sun W, Cleary PA, **Danis RP**, Hainsworth DP, Peng Q, Susman RA, Aiello LP, Davis MD; for the Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications Study Research Group. Comparison of digital and film grading of diabetic retinopathy severity in the diabetes control and complications trial/epidemiology of diabetes interventions and complications study. *Arch Ophthalmol*. 2011 Jun;129(6):718-726.

Li HK, Esquivel A, **Hubbard LD**, Florez-Arango JF, **Danis RP**, Krupinski EA. Mosaics versus early treatment diabetic retinopathy seven standard fields for evaluation of diabetic retinopathy severity. *Retina* 2011 Apr 23. [Epub ahead of print]

Volpe NJ, **Levin LA**. How should patients with indirect traumatic optic neuropathy be treated? *J Neuroophthalmol*. 2011 Jun;31(2):169-74.

Kluczynski MA, Lamonte MJ, **Mares JA**, Wactawski-Wende J, Smith AW, Engleman CD, Andrews CA, Snetselaar LG, Sarto GE, Millen AE. Duration of physical activity and serum 25-hydroxyvitamin D status of postmenopausal women. *Ann Epidemiol*. 2011 Jun;21(6):440-9.

Phillips NJ, Adin DM, Stabb EV, **McFall-Ngai MJ**, Apicella MA, Gibson BW. The lipid A from *Vibrio fischeri* lipopolysaccharide: a unique structure bearing a phosphoglycerol moiety. *J Biol Chem*. 2011 Jun 17;286(24):21203-19.

Wood JA, Shah NM, McKee CT, Hughbanks ML, Liliensiek SJ, Russell P, **Murphy CJ**. The role of substratum compliance of hydrogels on vascular endothelial cell behavior. *Biomaterials*. 2011 Apr 16. [Epub ahead of print]

Zeiss CJ, Schwab IR, **Murphy CJ**, **Dubielzig RR**. Comparative retinal morphology of the platypus. *J Morphol*. 2011 May 12. Doi: 10.1002/jmor.10959. [Epub ahead of print]

Lin IH, Miller DS, Bertics PJ, **Murphy CJ**, de Pablo JJ, Abbott NL. Endotoxin-induced structural transformations in liquid crystalline droplets. *Science*. 2011 Jun 10;332(6035):1297-300. Epub 2011 May 19.

Murphy CJ, **Bentley E**, **Miller PE**, McIntyre K, Leatherberry G, **Dubielzig RR**, Giuliano E, Moore CP, Phillips TE, Smith PB, Prescott E, Miller JM, Thomas P, Scagliotti R, Esson D, Gadek T, O'Neill CA. The pharmacologic assessment of a novel lymphocyte function-associated antigen-1 antagonist (SAR 1118) for the treatment of Keratoconjunctivitis sicca in dogs. *Invest Ophthalmol Vis Sci*. 2011 May 16;52(6):3174-80.

Nagpal U, Kang H, Craig GS, **Nealey PF**, de Pablo JJ. Pattern dimensions and feature shapes of ternary blends of block copolymer and low molecular weight homopolymers directed to assemble on chemically nanopatterned surfaces. *ACS Nano*. 2011 Jun 15. [Epub ahead of print]

Mavlyutov TA, **Nickells RW**, **Guo LW**. Accelerated retinal ganglion cell death in mice deficient in the Sigma-1 receptor. *Mol Vis*. 2011 Apr 26;17:1034-43.

Meyer JS, Howden SE, Wallace KA, Verhoeven AD, Wright LS, Capowski EE, Pinilla I, Martin JM, Tian S, Stewart R, **Pattnaik B**, Thomson J, **Gamm DM**. Optic vesicle-like structures derived from human pluripotent stem cells facilitate a customized approach to retinal disease treatment. *Stem Cells*. 2011 Jun 15. doi: 10.1002/stem.674. [Epub ahead of print]

Bhattacharya S, Darjatmoko SR, **Polans AS**. Resveratrol modulates the malignant properties of cutaneous melanoma through changes in the activation and attenuation of the antiapoptotic protooncogenic protein Akt/PKB. *Melanoma Res*. 2011 Jun;21(3):180-7.

Bonner MK, Poole DS, Xu T, Sarkeshik A, Yates JR 3rd, **Skop AR**. Mitotic spindle proteomics in Chinese hamster ovary cells. *PLoS One*. 2011;6(5):e20489. Epub 2011 May 27.

Kenealey JD, **Subramanian L**, Van Ginkel PR, Darjatmoko S, Lindstrom MJ, Somoza V, Ghosh SK, Song Z, Hsung RP, Kwon GS, **Eliceiri KW**, **Albert DM**, **Polans AS**. Resveratrol metabolites do not elicit early pro-apoptotic mechanisms in neuroblastoma cells. *J Agric Food Chem*. 2011 May 11;59(9):4979-86. Epub 2011 Apr 12.

Banks MI, **Uhlrich DJ**, Smith PH, Krause BM, Manning KA. Descending projections from extrastriate visual cortex modulate responses of cells in primary auditory cortex. *Cereb Cortex*. 2011 Apr 6. [Epub ahead of print]

Smith PH, **Uhlrich DJ**, Manning KA, Banks MI. Thalamocortical projections to rat auditory cortex from the ventral and dorsal divisions of the medial geniculate nucleus. *J Comp Neurol*. 2011 May 25. Doi: 10.1002/cne.22682. [Epub ahead of print]

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

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College of Letters & Science*



The UW Eye Research Institute
445 Henry Mall #307
Madison, WI 53706

608/265-4023

email: info@vision.wisc.edu
website: vision.wisc.edu

Gail M. Stirr, MA

Asst. Administrative Director

Susan K. Linck, JD

Sr. Development Specialist

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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