

This neuron, created in Su-Chun Zhang's lab, makes dopamine, a neurotransmitter involved in normal movement. (Image by Yan Liu and Su-Chun Zhang, Waisman Center.)

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## From the Directors

Spring has been an exciting time for the UW SCRMC. We continue to make groundbreaking discoveries in several critical research areas, highlighted by major advances toward using stem cells to regenerate tissues in the brain and spinal cord (see page [4](#) in this newsletter). In addition, awards such as the recent McEwen Award for Innovation (**Jamie Thomson**, page [7](#)), the 2013 National Academy of Sciences Cozzarelli Prize (**Sean Palecek / Tim Kamp**, page [6](#)), and multiple young investigator awards (**Wan-Ju Li**, **Randy Ashton**, **Kris Saha**, page [7](#)) recognize our faculty as world leaders in regenerative medicine research. The continued excellence of our faculty, combined with our uniquely collaborative environment, clearly place UW among the most impactful institutions worldwide in regenerative medicine.

We also continue to explore exciting ways to build community and support powerful interdisciplinary collaborations. The 2013 Wisconsin Stem Cell Symposium (page [13](#)), our weekly seminar series, and the SCRMC fall conference have all helped to showcase world leaders in stem cell science while also featuring our local stars. Creative initiatives from our graduate and postdoctoral trainees, such as the Wisconsin Stem Cell Roundtable's new SURF program (page [11](#)), are continually expanding the impact of the SCRMC. Our five Scientific Focus Groups continue to catalyze innovative collaborations and build bridges across UW schools and colleges. Each of these groups is now pursuing at least one new multi-investigator funding initiative, including proposals for major national research centers. Please contact us, or the Focus Group leaders, to become more involved in these exciting initiatives.

As always, we welcome your input on SCRMC initiatives. Please tell us how we can help to support your vision for regenerative medicine in Wisconsin. We also ask for your continued support, whether it is in the form of intellectual, pedagogic, or philanthropic contributions. This is a critical time in regenerative medicine research and education, and there is so much more we can do together!

Sincerely,  
Tim Kamp & Bill Murphy. SCRMC Co-Directors

## Samuel Gubbels

by Jordana Lenon

Surgeon and scientist [Samuel Gubbels, M.D.](#), has been receiving some attention lately. Some of you may remember his talk on hearing loss for the SCRMC campus seminar series this spring. He has also been active on the community outreach speaking circuit. If that isn't enough to keep him busy, along with his daily clinical and research demands, his inbox filled up with queries from students and others after University Communications featured him in a Feb. 12 news release, "[Research quest aims to cure hearing loss at its root.](#)"

So we decided to join the party and spotlight Gubbels in our own newsletter. An assistant professor of Otolaryngology in the Department of Surgery at the UW-Madison School of Medicine and Public Health, Gubbels' clinical practice focuses entirely on managing hearing loss and ear-related disorders. Gubbels interviewed with us prior to one of his clinics at UW Hospital, then again at the Waisman Center, where he conducts his research on stem cell and regenerative medicine approaches to hearing loss.

**JL:** How common is hearing loss?

**SG:** It's the most common disability in industrialized countries. Approximately 278 million people worldwide have some degree of hearing loss.

**JL:** What part of the inner ear is affected, specifically, and how?

**SG:** Most of the time, hearing loss is due to loss or dysfunction of the hair cells of the inner ear (otic) sensory epithelium. Hair cells cannot spontaneously regenerate in mammals. This leads to the permanency that typifies most cases of hearing loss. The damage can be noise induced, caused by certain toxic drugs, age-related, or due to other causes. The hair cells of the inner ear, and thus one's hearing abilities, are progressively lost. We are currently unable to reverse the process.

**JL:** How are you researching hearing loss?

**SG:** In my lab and with colleagues who are experts in stem cell research at the Waisman Center, we are studying primarily human embryonic stem cells and induced pluripotent stem cells and their abilities to form inner ear progenitor cells and hair cells *in vitro*. In the lab dish, these human pluripotent stem cell-derived progenitors form alongside developing neural progenitor cells. Upon differentiation to an otic progenitor-like fate they express gene and protein markers with sequences and expression similar to what we see in normal mammalian inner ear development. In addition to our *in vitro* studies we are initiating studies to transplant otic progenitor-like cells grown from these pluripotent stem cells into a mouse inner ear developmental model.

**JL:** There has been some success with introducing other mature cell types grown from ES and iPS cells safely in animals and even in some people in early clinical trials. So why not just grow mature hair cells from stem cells and transplant those into the inner ear?

**SG:** While transplanting mature hair cells into target tissues such as the auditory sensory epithelium (the organ of Corti) may have promise, there are reasons to believe that differentiated hair cells may not survive or engraft efficiently upon transplantation. The progenitor cells, on the other hand, might have a better chance of becoming new hair cells themselves, once they are introduced in the right microenvironment *in vivo* with the appropriate signals to guide them to not only develop properly but also engraft.

**JL:** What else is your lab currently working on?

**SG:** We have started developing new collaboration with other SCRMC-affiliated investigators looking at tissue specific cochlear stem cells. We are interested in whether multipotent inner ear stem cells exist in the cochlea into adulthood and,

furthermore, whether they respond in any detectable way to an inner ear injury. We hope that these studies will provide some insight into any inherent regenerative capacity of the inner ear that might be harnessed or improved as a means to restore hearing in the future.

**JL:** We hear about immune rejection of stem cell derived transplants, or cells not thriving and other problems. Are there other concerns specific to otic transplant approaches in animals, and ultimately in people?

**SG:** Certainly immune rejection of transplanted stem cells is always a concern, however the inner ear may have some level of immune privileging that could help with successful engraftment of transplanted cells in the future. What is perhaps most daunting is that we are dealing with such unique anatomy. The inner ear is a delicate, fluid-filled series of chambers encased in dense bone. Its cytostructure, or cellular structure, is highly organized and critical to its function. Successful transplantation into the cochlea would require not only survival of transplanted cells but engraftment in an organized fashion into the organ of Corti.



Sam Gubbels examines a whole mount fluorescence image of the mouse inner ear sensory epithelium using confocal image analysis software at the Waisman Center. (Image by J. Lenon.)

Another challenge that the field of inner ear regenerative therapies faces is that the current treatment for severe to profound hearing loss – cochlear implants – work exceptionally well in most children and adults. As a result, the bar is quite high for the development of new therapies. Cochlear implants do have some drawbacks, however, including device dependence and cost. Thus, the development of novel therapies to replace dead or

damaged hair cells with functioning ones has many attractive qualities for the treatment of hearing loss.

**JL:** With such challenges as you described, do you think this will be ultimately possible?

**SG:** Progress is being made in the development of regenerative therapies for hearing loss and I do think that in the coming decades there will be novel, regenerative treatment of deafness. When this might occur is anyone's guess at this point.

**JL:** So let's close on some of the significant progress that you and others in this field have made.

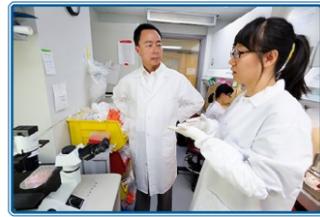
**SG:** First, we now know that through a number of *in vitro* and *in vivo* experimental approaches, mouse inner ear hair cells can be generated that are fully functional and have connection to the central auditory networks. Second, we know that through some genetic and pharmaceutical approaches, hearing loss can be improved in mice with certain types of deafness. (In the Oregon Health Sciences University lab of Dr. John Brigande, Gubbels was first author on a [2008 Nature paper](#) showing that *in utero* gene transfer of *Atoh1* produced functional supernumerary hair cells in the mouse cochlea.) Third, human stem cell derived neural progenitor cells can be transplanted into a mouse with deafness due to loss of the cochlear nerve and hearing will be restored. These advancements, while incremental, bring the field closer to the eventual development of novel clinical treatments for hearing loss, which is very exciting to me as a clinician and investigator



**Gubbels SP, Woessner DW, Mitchell JC, Ricci AJ, Brigande JV.** Functional auditory hair cells produced in the mammalian cochlea by *in utero* gene transfer. *Nature*. 2008 Sep 25;455(7212):537-41. Epub 2008 Aug 27.

**Brigande JV, Gubbels SP, Woessner DW, Jungwirth JJ, Bresee CS.** Electroporation-mediated gene transfer to the developing mouse inner ear. *Methods Mol Biol*. 2009;493:125-39.

**Hildebrand MS, Newton SS, Gubbels SP, Sheffield AM, Kochhar A, de Silva MG, Dahl HH, Rose SD, Behlke MA, Smith RJ.** Advances in molecular and cellular therapies for hearing loss. *Mol Ther*. 2008 Feb;16(2):224-36. Epub 2007 Nov 27. Review.



May 2, 2013  
[Adult cells transformed into early-stage nerve cells, bypassing the pluripotent stem cell stage](#)  
 A University of Wisconsin-Madison research group led by **Su-Chun Zhang**, Ph.D., has converted skin cells from people and monkeys into a cell that can form a wide variety of nervous-system cells - without passing through the do-it-all stage called the induced pluripotent stem cell, or iPSC. (Photo by Jeff Miller, UW-Communications.)

April 21, 2013  
[Stem cell transplant restores memory, learning in mice](#)  
 For the first time, human embryonic stem cells have been transformed into nerve cells that helped mice regain the ability to learn and remember. A study at UW-Madison is the first to show that human stem cells can successfully implant themselves in the brain and then heal neurological deficits, says senior author **Su-Chun Zhang**, a professor of neuroscience and neurology. (Image: Su-Chun Zhang.)



April 10, 2013  
[Material screening method allows more precise control over stem cells](#)  
 When it comes to delivering genes to living human tissue, the odds of success come down to the molecule. The entire therapy – including the tools used to bring new genetic material into a cell – must have predictable effects. Now, a new screening process developed by **William Murphy**, Ph.D., will simplify non-viral transfection, providing a method researchers and clinicians use to find an optimal set of biomaterials to deliver genes to cells. (Image: William Murphy.)

March 14, 2013  
[Transplanted brain cells in monkeys light up personalized therapy](#)  
 For the first time, scientists have transplanted neural cells derived from a monkey's skin into its brain and watched the cells develop into several types of mature brain cells, according to **Su-Chun Zhang**, Ph.D., **Marina Emborg**, M.D., and their co authors on a new study in Cell Reports. After six months, the cells looked entirely normal, and were only detectable because they initially were tagged with a fluorescent protein. (Image: Marina Emborg.)



Questions about this newsletter? Please contact us.  
 Editor: **Jordana Lenon**  
 Designed by **Sue Gilbert**  
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## Save the Date – September 13 is SCRMC Fall Conference

The SCRMC fellows are organizing our annual Fall Conference and Poster Competition for Friday, Sept. 13, noon to 5 pm., in the H.F. Deluca Forum at the Wisconsin Institutes for Discovery. Fellows Weixiang Guo, Paul Wrighton, Rhongui Li, and Ethan Lippmann will be working with Ka Yi Ling from the Wisconsin Stem Cell Roundtable to organize a great event for all. The keynote speaker will be **Thomas Zwaka**, M.D., Associate Professor, Baylor College of Medicine. (And yes, Stem Cell Jeopardy will be back!)



February 12, 2012  
[Research quest aims to cure hearing loss at its root](#)  
 The ultimate cause of hearing loss is usually found in the tiny hair cells that play the crucial role of converting sound waves into nerve impulses for delivery to the brain. "Whether hearing loss is related to age, noise, or many hereditary causes, it's the hair cell that is the Achilles heel," says **Samuel Gubbels**, a surgeon-scientist at the Waisman Center at the University of Wisconsin-Madison. "When enough hair cells die, hearing is lost." (Image: Samuel Gubbels.)

January 8, 2013  
[Study advances treatment of respiratory failure in ALS patients](#)  
 A new study, published online in the American Journal of Respiratory and Critical Care Medicine and conducted largely at the University of Wisconsin-Madison, shows the potential for two complimentary treatments— stem cell therapy and intermittent exposure to low oxygen — to preserve and even restore breathing capacity in rats with a condition similar to ALS in humans, according to co principal investigator **Gordon Mitchell**, Ph.D (Image: Gordon Mitchell.)



November 8, 2012  
[Cells from skin create model of blinding eye disease](#)  
**David Gamm**, M.D., and fellow researchers at UW-Madison have taken skin from patients and, using induced pluripotent stem cell (iPSC) technology, for the first time have turned them into a laboratory model for an inherited type of macular degeneration. (Image: David Gamm)

More research highlights in our [News Archives](#)

### SCRMC Member Services

The following core services are available to SCRMC members and appear on our website [here](#):

- Cardiophysiology Services
- Cellular and Molecular Imaging Services
- Immunology and Pathology Services
- induced Pluripotent Stem Cells Service
- Nonhuman Primate Services
- Small Animal Imaging Services
- Small Molecule Screening & Synthesis Services
- Waisman Biomanufacturing
- WiCell



May 2, 2013  
[With heart cells, middle schoolers learn the hard lessons of science](#)  
 Middle-school students from the Madison Metropolitan School District's Talented and Gifted program conduct drug-trial experiments with cardiomyocytes derived from induced stem cells during a weekly science class in a teaching lab at the Wisconsin Institutes for Discovery. At left is Irene Landrum, outreach staff with the Morgridge Institute for Research. (Photo by Jeff Miller, UW-Communications.)

April 28, 2013  
[Palecek receives PNAS paper honor](#)  
 A [Cozzarelli Prize](#) from the Proceedings of the National Academy of Sciences has gone to senior authors **Sean Palecek**, Ph.D., professor of chemical and biological engineering, and **Tim Kamp**, M.D., Ph.D., professor of medicine and physiology for their paper "Robust cardiomyocyte differentiation from human pluripotent stem cells via temporal modulation of canonical Wnt signaling." Graduate student **Xiaojun Lian** was lead author. (Image: Sean Palecek.)



April 2013  
[Epigenetics group nabs two best-of-year papers](#)  
 Research led by Epigenetics researcher **John Denu** has gained two best-of-the-year awards, in enzymology and metabolism, respectively, from the Journal of Biological Chemistry. (Image: John Denu.)



March 14, 2013  
[Lynn, Shusta earn American Chemical Society awards](#)  
 Chemical and Biological Engineering Professor David Lynn has received the Biomacromolecules/Macromolecules Young Investigator Award, an honor sponsored by the journals of the same names and the American Chemical Society. The award honors Lynn for his contributions to polymer science. CBE Professor **Eric Shusta** has received the BIOT Young Investigator Award from the American Chemical Society Division of Biochemical Technology. The award recognizes Shusta's contributions to the field of biochemical technology and active participation in the division programs. (Image: Eric Shusta.)



March 13, 2013  
[McEwen Award for Innovation goes to Thomson](#)  
 The ISSCR announces that **James A. Thomson**, V.M.D., Ph.D. is the recipient of the 2013 McEwen Award for Innovation. He is honored for his work that reproducibly isolated pluripotent cell lines from human blastocysts. This discovery opened the door for the study of human embryonic stem cells and revealed new possibilities for developing cell-based therapies, disease models and reagents for toxicity testing. (Image: James A. Thomson.)



March 12, 2013  
[Thomson on top stem cell influencers list](#)  
 Stem Cells Regenerative Medicine Congress, Europe's largest and most senior conference for the stem cell research and regenerative medicine community, has released its list, Top 50 most influential people on stem cells. In the top five spots were **Shinya Yamanaka, James Thomson, Chris Mason, Robert Lanza, and Douglas Melton.** (Image: James A. Thomson.)

February 21, 2013  
[Two engineers among UW-Madison Romnes Faculty Fellowship recipients](#)  
 Biomedical Engineering faculty **Patricia Keely**, professor of cell and regenerative biology and biomedical engineering, and **Eric Shusta**, professor of chemical and biological engineering and biomedical engineering, are among eight exceptional mid-career UW-Madison faculty who have been honored with Romnes Faculty Fellowships. The Romnes awards recognize exceptional faculty members who have earned tenure within the last six years. Selected by a Graduate School committee, winners receive an unrestricted \$50,000 award for research, supported by the Wisconsin Alumni Research Foundation (WARF). The award is named for the late H.I. Romnes, former chairman of the board of AT&T. (Image: Patricia Keely.)



February 15, 2013  
[Li earns 3M faculty award](#)  
 The 3M Corp. has awarded Orthopedics & Rehabilitation and Biomedical Engineering Professor **Wan-Ju Li** its Nontenured Faculty Award, which includes a three-year, \$45,000 grant to study braided nanofibers as a 3-D scaffold that replicates the body's extracellular matrix to regulate embryonic stem cell differentiation *in vitro* for ligament tissue engineering. (Image: Wan-Ju Li.)



January 23, 2013  
[Saha Named Frontiers in Bioengineering Young Investigator](#)  
**Kris Saha**, Ph.D., was selected one of 23 scientists from across the nation to receive a Young Investigator Award at the Frontiers in Bioengineering Workshop Feb. 25-26, 2013, in Atlanta. The award recognizes Saha's contributions to the field over his career thus far. (Image: Kris Saha.)



December 26, 2012  
[Ashton and Saha are CMBE Rising Stars](#)  
**Randolph Ashton**, Ph.D., and **Krishanu Saha**, Ph.D., received "Rising Star" awards at the Biomedical Engineering Society's Cellular and Molecular Bioengineering (CMBE) Annual Conference January 2-5, 2013 in Hawaii. (Image: Randolph Ashton.)



November 18, 2012  
[McHenry Family donates skin cells for eye disease research](#)  
 Tim Reese, who suffers from Best disease and slowly is losing his eyesight, and his sister Theresa Selzer recently donated their skin cells to **David Gamm**, M.D., Ph.D. Gamm's team turned the cells into stem cells and then differentiated these into retina tissue. It is the first time research like this has been done to create a model of this eye disease. (Image: David Gamm.)



Find more news in our [News Archives.](#)



## Public outreach update – Wisconsin Strong: Return of the UW-Madison Speakers Bureau

by Jordana Lenon

The UW-Madison Speakers Bureau is up and running! Statewide demand for speakers on stem cell and regenerative medicine and related fields remains high. Thus, we encourage faculty and staff who enjoy public speaking to contact [Nancy Sandhu](#), 608-262-3880, Speakers Bureau Coordinator in the Office of University Relations to add your name to the list of speakers who are willing to present engaging and informative talks in Wisconsin communities.

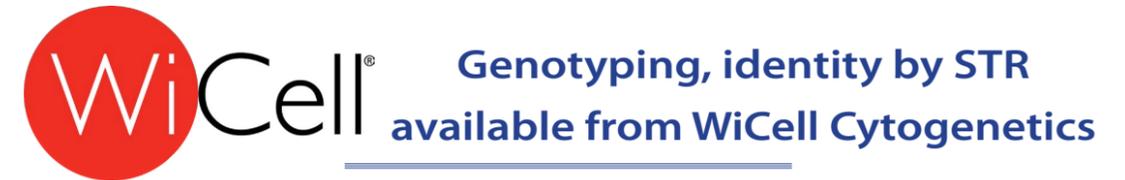
The program, deeply rooted in the Wisconsin Idea, enhances relationships between UW-Madison and the rest of the state by proactively facilitating faculty and staff talks throughout the state for community groups, businesses and government agencies, K-12 schools, and other colleges and universities across Wisconsin.

Please note that by registering with the Speakers Bureau, you are not committing to any particular engagement. If you are contacted and an event fits your schedule and interest, the Speakers Bureau will cover faculty and staff travel costs including mileage/fleet vehicle costs, meals and, if necessary, overnight accommodations. There is no charge to external groups to host a speaker.

### Core Focus: Cardiophysiology Services



The [Cardiovascular Physiology Core Facility](#) provides University of Wisconsin-Madison and external researchers, including industry scientists, with a central resource for creating and studying cardiovascular physiology and pathophysiology in animal models on a fee-for-service basis. While the central focus of the facility is cardiovascular research, the techniques employed are useful to a number of investigators in other fields. Currently, the facility is conducting studies focusing on diabetes, drug toxicology, heart failure, arrhythmias, gene, drug and cell therapy and other cardiovascular diseases. In addition to studying disease, the core conducts laboratory teaching exercises for undergraduate and School of Medicine and Public Health courses. For more information, contact [Timothy Hacker](#). (Photo by J. Lenon)



WiCell is now running Aglient as well as Illumina microarrays for genotyping and copy number analysis (CGH/SNP). Detailed information can be found [here](#), or contact them directly at [cytogenetics@wicell.org](mailto:cytogenetics@wicell.org).

As a reminder, avoid the hassle of garnering your own STR provider: WiCell Cytogenetics provides STR analysis to establish or confirm identity of your cell line. The STR assay is done right here in Madison; you give us cells or DNA and we give you the report – makes things quick and easy for you!

**Save time, have your Cytogenetics test samples picked up at your lab!**

WiCell Cytogenetics Laboratory offers complimentary sample pick-up service for researchers at the University of Wisconsin-Madison.

To schedule a pick-up of live cells for g-banded karyotyping, fastFISH, SKY or CGH/SNP analysis please follow the '[UW Courier Instructions](#)' and complete one '[Testing Request Form](#)' on the SCRMC site for each sample.

**New cell lines from WiCell Core: Disease Model, Cord Blood, Bone Marrow iPS Cell Lines from Slukvin Lab**

The newest iPS cell lines available from WISC

Bank and the WiCell Core are four transgene-free iPS cell lines from Dr. Slukvin's lab. The cell lines, published in [Blood](#), were derived using a method that is up to 100 times more efficient and faster than fibroblast reprogramming. Two of the cell lines were derived from bone marrow, one from cord blood, and the last from the bone marrow of a patient with chronic myeloid leukemia (CML). The publication states these cell lines provide an "opportunity to explore banked and normal CB and BM samples without the limitations associated with virus-based methods". These cell lines can be ordered through the WiCell Core.

**H9 and H14 as NSCs available from WiCell Core**

Xiamin Zeng at the Buck Institute has differentiated H9 and H14 into neural stem cells. These NSCs were generated using feeder-free culture methods with the goal of facilitating automated drug compound screening. These cell lines were published in [PLOS One](#) and can be ordered through the WiCell Core.

**Publishing soon?**

Contact us at [deposits@wicell.org](mailto:deposits@wicell.org) and we will work with you to coordinate the availability of your cell lines through WiCell with the publication of your manuscript.



Want to stay up to date about activities associated with the UW SCRMC or of interest to our members? Subscribe to Stem Cell Announcements by going to our [Google group](#).

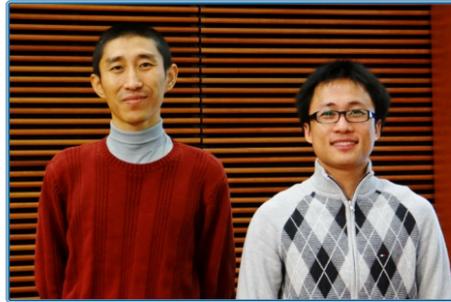


Find the University of Wisconsin Stem Cell and Regenerative Medicine Center on [Facebook](#). Join more than 500 followers keeping up with seminars, news, photos, and more.

## Fellowship Competition Winners

Our SCRMC-supported 2013 Fellowship awardees were announced in February and are pictured below with their principal investigators.

### Graduate fellowship:



**Ronghui Li** (right), research assistant in the lab of **Qiang Chang** (left), assistant professor of medical genetics and Waisman Center.

### Post-Doctoral Fellowship:



**Ethan Lippmann** (right), research associate, in the lab of **Randy Ashton** (left), assistant professor of biomedical engineering, Wisconsin Institute for Discovery (WID), and Bionanocomposite Tissue Engineering Scaffolds (BIONATES) program.

Education Committee Chair **Jayne Squirrell**, Ph.D., presented the awards at the Wisconsin Institutes for Discovery before the campus stem cell seminar on Feb. 12. The [SCRMC Fellowship Program](#) is an interdisciplinary pre- and postdoctoral program that aims to support the training of UW graduate students and post-doctoral fellows in interdisciplinary stem cell and regenerative medicine research. *(Photos by S. Gilbert)*



## Fundamentals of Stem Cell and Regenerative Biology course

Students in the inaugural "Fundamentals of Stem Cell and Regenerative Biology"

class of 2013 gathered with their instructors in early May before reviewing class concepts before final exam week. **Emery Bresnick**, professor of cell and regenerative biology, directed the course, with assistance from fellow instructors and SCRMC scientists **Tim Kamp**, **Judith Kimble**, **Wan-Ju Li**, **Bo Liu**, **Igor Slukvin**, **Rupa Sridharan** and **Xinyu Zhao**. The new course provides a foundation for understanding fundamental biological, mechanistic, and experimental concepts in stem cell and regenerative biology. The course is designed for graduate students and advanced undergraduates with significant background in biochemistry, molecular biology or cell biology. *(Photo by J. Lenon)*

## Seeking New Members

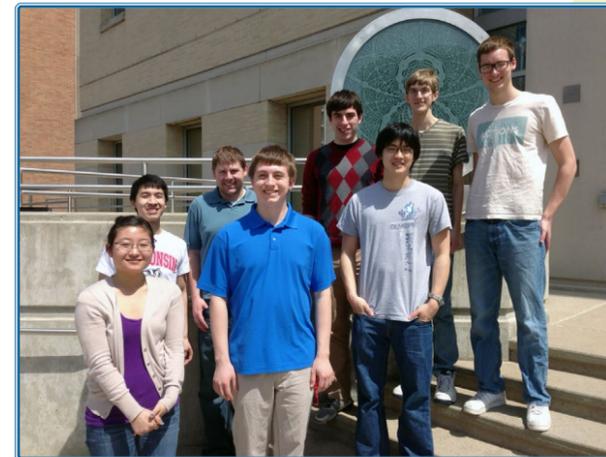
To help keep the SCRMC growing and dynamic, we would like to invite our colleagues in the UW community whose scholarly activities relate to stem cell science or regenerative medicine to consider joining us if they are not yet members. We welcome faculty and academic staff, as well as undergraduates, graduate students and postdoctoral fellows who want to join in contributing to the center's mission. Membership benefits include regular communications from the SCRMC regarding seminars, conferences, research opportunities, intramural grants as available, information on core services, access to sponsored symposia and poster events. To apply for membership, please go to <http://stemcells.wisc.edu/membership> and fill out the appropriate application.

## WiSCR students announce SURF winners

Continuing to expand their education, training and outreach efforts, this spring, the [Wisconsin Stem Cell Roundtable](#) (WiSCR), an SCRMC-supported group of postdoctoral trainees and graduate students, has launched its new Summer Undergraduate Research Fellowship Training Program, otherwise known as "SURF".

After an application period in early January, WiSCR President Garrett Lee and the SURF Committee, made up of WiSCR members, announced the first round of mentors and fellows pairing up this summer: **Travis Cordie** (Saha and Turng labs) will be mentoring **Ryan Prestil**. **Asuka Eguchi** (Ansari lab) will mentor **Matthew Wleklinski**. **Cheston Hsaio** (Palacek lab), teams up with **Michael Lampe**. **Gene Uenishi** (Slukvin Lab) will mentor **Derek Theisen**.

Training for mentors has already begun in collaboration with other mentor programs on campus, according to Lee. SURF training will be in concert with the Institute for Biology Education and the Delta program. WiSCR's contacts



Front (left to right): Asuka Eguchi, Ryan Prestil, Gene Uenishi  
Back (left to right): Chet Hsiao, Travis Cordie, Matthew Wleklinski, Derek Theisen, Michael Lampe

*(Image by T. Kamp)*

for this training are Janet Branchaw, director of the Institute for Biology Education; **Lucas Moyer-Horner**, Summer Research Program coordinator, Institute for Biology Education; and Dr. **Christine Pfund**, associate director, Delta Program in Research, Teaching, and Learning.

In addition to conducting research, trainees will be asked to perform a stem cell outreach project. Also stay tuned for WiSCR SURF research presentations at the 2013 SCRMC Fall Conference at WID Sept. 13.

Thank you, Garrett, and the rest of the WiSCR SURF committee for making some waves with this exciting new program! Other committee members are Vice President **Ka Yi Ling**, Treasurer **Paul Wrighton**, Secretary **Yefim Zaltsman**, and WiSCR member, **Maria Mikedis**.

For more information about SURF and other WiSCR activities, please contact the [Wisconsin Stem Cell Roundtable](#).

## New partnerships spring from Bill Murphy's semester in Georgia

By Bill Murphy

My spring involved a sabbatical visit to the Institute for Bioengineering and Bioscience at Georgia Tech in Atlanta. Although I missed my wonderful colleagues and friends at UW, this experience was quite valuable and, as part of this sabbatical, a series of new SCRMC partnerships has begun.

The SCRMC's Stem Cell Bioengineering Focus Group has begun meeting jointly with Georgia Tech's Stem Cell Engineering Center to expand our ongoing partnership in stem cell research and education. This partnership has already resulted in collaborative course development (including a new textbook), and will soon involve a collaborative proposal for a national research center.

The SCRMC will also soon partner with Georgia Tech and other partner institutions to organize two important events: a 2013 National Science Foundation Workshop, "New Directions for Tissue Engineering and Regenerative Medicine", and the 2014 Hilton Head Regenerative Medicine workshop. Stay tuned for these and other exciting opportunities that will extend from our new UW-Georgia Tech partnerships!

Luckily, my interactions with fellow Badgers from the Atlanta chapter of the UW Alumni Association helped Atlanta feel like home. It was my distinct privilege to give the keynote presentation at this year's UW Founders Day event in Atlanta, which enabled me to connect with over 100 UW Alumni and friends. Our alumni are clearly energized about the promise of regenerative medicine, and they are so very proud of UW's prominence in this area. Our alumni want to help us to push even further toward helping patients with debilitating diseases and training the next generation of innovative regenerative medicine scientists.

Many thanks to my new badger friends, and we look forward to your support as we continue to expand our impact across the UW campus and beyond!

## Brenda Ogle heads to Minnesota

**Brenda Ogle**, Ph.D., associate professor of biomedical engineering, is leaving for the University of Minnesota College of Science and Engineering this summer. She will pursue her interests in the role of cell fusion in cardiac regeneration and tumor metastasis. She also has family in the Twin Cities area. Ogle received her Ph.D. from the UMN and was a research fellow, then assistant professor at the Mayo Clinic College of Medicine before starting her position at UW-Madison in 2006. Among several interests, she has performed pioneering research in identifying and monitoring stem cell fusion *in vivo*, including the development of innovative microfluidic/microscopy systems. She was the recipient of the NSF CAREER Award in 2009.



Ogle has been very active in the development, leadership, science and outreach of the UW-Madison Stem Cell & Regenerative Medicine Center since its inception in 2007. Most recently, she was on our executive committee and chaired the SCRMC's Biomedical Engineering Scientific Focus Group. We will miss you, Brenda!

## 8th Wisconsin Stem Cell Symposium highlights cardiovascular advances



SCRMC member and symposium organizer Bo Liu, Ph.D., and SCRMC member John Centanni, Ph.D., networking during a break. (Image by S. Gilbert)

World leaders in researching cell-based therapies for heart and vascular disease overviewed basic, preclinical and clinical trials before an audience of 300 participants at the eighth annual Wisconsin Stem Cell Symposium April 10 in Fitchburg, Wisconsin.

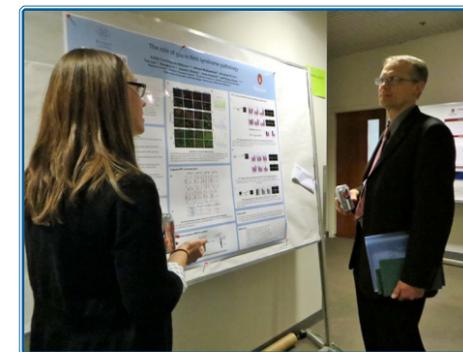
David Tenenbaum from The Why Files attended the symposium, describing the promise and reality of stem cells and heart repair in "[Healing broken hearts: stem cells to the rescue?](#)"

"[Cell-Based Therapy for Heart and Vascular Disease: Pathways to the Clinic](#)" featured 11 experts from across the United States on stem cells, biomedical engineering, regenerative medicine, surgery, clinical operations and other fields that are advancing new treatments for heart disease and disorders into the clinic.

The SCRMC, WiCell and Promega Corporation co-sponsored the event with the BioPharmaceutical Technology Center Institute (BTCI). They joined 23 other sponsors from academia and business at BTCI.

Poster winners were **Subarna Bhattacharya** in first and **Kurt D. Kolander** in second place, both from the Medical College of Wisconsin. **Yi Si** and **Paul J. Wrighton**, both from UW-Madison, tied for third. Poster finalists also included Pratik Lalit from UW-Madison and Jamie R. Karcher from the Medical College of Wisconsin.

We would like to extend a special thank you to Karin Borgh at BTCI and our faculty moderators **Derek Hei**, Ph.D., **Tim Kamp**, Ph.D., **Bo Liu**, Ph.D., **Bill Murphy**, Ph.D., and **Amish Raval**, M.D. for making this such a fascinating symposium.



(Left) WiCell Director Erik Forsberg, Ph.D., discussing a poster with a young researcher. (Center) SCRMC member and symposium organizer Amish Raval, M.D., and SCRMC Co-Director Tim Kamp, M.D., Ph.D., networking during a break. (Right) Attendees at the reception towards the end of the day. (Images by S. Gilbert)