



IGB NEWS

Achievements, awards, and information about the IGB community

Volume 4, Number 3



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{Upcoming Events}

Pioneers in Genomic Biology Lecture Series

April 26, 2011
12:00 p.m.
612 Institute for Genomic Biology

James A. Shapiro, PhD
University of Chicago
Department of Biochemistry and Molecular Biology

“Why 21st Century Evolution Science will Differ Fundamentally from 19th and 20th Century Evolution Science”

Infection Biology Symposium

April 29, 2011
8:00 a.m.
LAC 100 Auditorium

The symposium program, details, and online registration can be found at:
<http://vetmed.illinois.edu/ope/infecbio>

Fellows Symposium

May 6, 2011
8:30 a.m.
IGB Conference Center

Learn about IGB research, hear about current issues in the life sciences, and connect with other students on campus at the fifth annual IGB Fellows Symposium. Registration closes April 29, so register today!

10th Annual BioResearch Product Faire

Wednesday, May 11, 2011
10:00 a.m.- 2:30 p.m.
Illini Union, Rooms A & B

Learn more: <http://www.biotech-calendar.com/showinfo/detail.php?showcode=UIUrbana11>

Save the Date!

IGB BBQ
Wednesday, May 25, 2011
Noon to 1:00 p.m.
IGB Concourse Level

{Image of the Month}



This month's image, “Fractal from the Third Domain,” was made by Courtney Cox in Doug Mitchell's Lab. It is a gelrite plate with *sulfolobus acidocaldarius* culture that was incubated at 80C for 3 weeks where it dried to form the design. The image was taken with the Canon EOS 5D Mark II Digital SLR Camera.

IGB News

Share your news with the IGB. Send your story ideas to mme@illinois.edu

In the Classroom

Interdisciplinary research institutions like the IGB draw on experts from a number of different departments across campus—and the research projects are more comprehensive because of it. Yet faculty scientists in the IGB also carry their research activities back to the classroom, where they share their experiences with their students. “In the Classroom” is a look at the courses that IGB researchers teach in their home departments and the research theme activities that can enrich student education at the University of Illinois.



» Justin Gillis of the *New York Times* speaks to the Plants and Global Change class about communicating climate science to the public



» Lisa Ainsworth and Andrew Leakey

Atmospheric and climate changes are taking place across the globe and impacting plants including crops and natural ecosystems. Understanding why this is happening and debating what can be done to solve these issues are the focus of one course being taught by faculty at the University of Illinois.

Dr. Andrew Leakey and Dr. Lisa Ainsworth, both Assistant Professors in the Department of Plant Biology, are teaching the course “Plants and Global Change” and hold faculty appointments within the Genomic Ecology of Global Change theme at the Institute for Genomic Biology.

The course, which is comprised of 48 undergraduate and graduate students from Plant Biology, Crop Sciences, and Natural Resources and

Environmental Sciences, has several learning objectives:

- Understanding the mechanisms of plant-environment interactions in the context of the impacts, adaptation, and mitigation of global environmental change.
- Understanding how ecosystem goods and services are generated by natural and agricultural ecosystems.
- Evaluating current knowledge of global change biology and how to communicate it to scientific and public audiences in review papers, competitive debates, and podcasts.

Debates, Guest Speakers

During the semester, the students take part in competitive debates that focus on key issues in global change biology such as whether the global food supply will be secure by the end of the 21st century. Leakey said by having students debate real issues facing the world they learn how to evaluate scientific knowledge and then present that evidence to their classmates.

In March, Justin Gillis, a senior writer from the *New York Times*, visited the Illinois cam-



pus to interview members of the theme about their SoyFACE research project for an in-depth article about the impact of global climate change on food production. (SoyFACE was designed to discover the effects of atmospheric change on the agronomy and productivity of Midwestern crops and to find solutions to help these plants adapt.) After interviewing most of the theme members, he then visited the “Plants and Global Change” class to discuss how to communicate climate science to the public.

Having Gillis in class allowed students to hear from an expert communicator and the key lessons he has learned by interviewing the world’s best climate scientists, Leakey said.

Continued on page 3

» In the Classroom, cont.

Ursula Ruiz Vera, a Ph.D. student in the Department of Plant Biology, was interviewed by Gillis about her work at the SoyFACE project and said the experience has inspired her to continue her research. “It (interviewing with Gillis) helped me improve my argumentative and communication skills and emphasized the importance of communicating our knowledge to the public.”

“It was fantastic to have Gillis talk to the class about understanding and communicating climate change science,” Leakey said. “Because he was at Illinois to write an article about climate change impacts and solutions for a publication as prestigious and influential as the *New York Times*, it really emphasized for the students the real-world impor-

tance of what they have been learning in class and what they are discovering as researchers.”

Other students said they also enjoyed applying classroom experiences and knowledge to the real-world.

“Gillis brought a sense of reality to the classroom setting,” said Kevin Wolz, a sophomore studying Environmental Engineering and Integrative Biology. Wolz said the course has helped him unify his passions for biology and agriculture with the practical application of climate change.

Cody Markelz, a Ph.D. student in the Department of Plant Biology, said Gillis’ visit was a great opportunity for him to converse with a high profile

communicator of science. “He was not only interested in the technical aspects of the questions he was trying to answer, but also in the limits of our current knowledge in accurately predicting future food supply and ecosystem responses to global climate change factors. ■

{Around the IGB}

Proof of Concept Awards

IGB Announces Proof of Concept Awards

The Institute for Genomic Biology (IGB) and the Office of the Vice President for Research (OVPR) at the University of Illinois have launched a Proof of Concept Award Program to support commercialization of high-potential, early-stage technologies from the IGB. Two researchers have been selected to receive the first round of awards to help bridge the gap between the laboratory and commercial use.

“A Proof of Concept Award Program is central to the very mission of the IGB—to advance life sciences research and to stimulate bioeconomic development in the state of Illinois,” said IGB Interim Director Gene Robinson. “We are committed to providing resources that ensure our technologies are given the opportunity to make a positive impact on the world.”

One of the two funded projects was developed by Matthew Wheeler, of the IGB and the Department of Animal Sciences, in collaboration with Jennifer Lewis, Fei Wang, Jianjun Cheng, and Ralph Nuzzo. The group’s customized implantable therapeutics for wound healing, which enables cell growth on engineered scaffolding, is an example of the marriage between Illinois’ strengths in both biology and engineering.

The second project was developed by Brendan Harley, of the IGB and the Department of Chemical and Biomolecular Engineering. Harley has developed composite biomaterials for the treatment of tendon defects. His technology addresses

the clinical need to improve the quality and speed of tendon regeneration after severe injury.

A panel of experienced commercialization managers, entrepreneurs, and a scientific advisor reviewed project proposals to identify those with clearly defined milestones for advancing early-stage technologies, a critical factor for potential investors or licensees. Funding for the projects comes from the Office of the Vice President for Research and the Institute for Genomic Biology.

“An essential component for any commercialization ecosystem is a proof of concept fund, preferably a sustainable source of funding for early stage projects to help ‘de-risk’ them and increase interest from licensees or investors,” said Vice President for Research Lawrence Schook. “The IGB Proof of Concept Award Program is a natural step in the ongoing development of the University of Illinois commercialization system.” ■

Awards

Tyler Prize



IGB Faculty Member May Berenbaum will receive the 2011 Tyler Prize for Environmental Achievement, an international award that recognizes “those individuals

who have contributed in an outstanding manner to scientific knowledge and public leadership to preserve and enhance the environment of the world.” ■

Ho-Am Prize

Cellular Decision Making in Cancer Theme Leader Taekjip Ha has been awarded the 2011 Ho-Am Prize in Science by the Ho-Am Foundation in Korea. ■

NSF Announces New Awards That Will Investigate More Efficient Ways to Harvest Sunlight to Make New Biofuels and Biomaterials



Scientists in the United States and the United Kingdom have been awarded funding totaling more than \$10.3 million to improve the process of biological photosynthesis.

The U.S. National Science Foundation (NSF) and the U.K. Biotechnology and Biological Sciences Research Council (BBSRC) collaborated in issuing these jointly funded awards.

The EBI’s Steve Long will lead one of four projects, “Exploiting Prokaryotic Proteins to Improve Plant Photosynthesis Efficiency (EPP).” A metabolic process known as photorespiration reduces the yields of plants including major crops, such as soy, wheat and rice, by an estimated 20 percent to 50 percent. Some blue-green algae have protein structures, called carboxysomes, that reduce such losses. This research aims to adapt and engineer these protein structures into crop plants to minimize photorespiration and boost yield. ■

General Announcements

Fellows Symposium

The Fellows Symposium is May 6. The cafe tables will be replaced with round tables and chairs. The cafe will remain open but seating will be limited. ■

Exit Forms

Leaving the IGB? Remember to fill out the IGB exit form.

<http://www.igb.illinois.edu/facilities-services/operations-facilities>

We'd like to stay in touch with you, so be sure to provide us with a contact to receive news about the IGB! ■

Illini-Alerts



Stay informed in the event of an emergency. Be sure to sign up for the Illini-Alert at www.emergency.illinois.edu ■

Green Ideas

Call2Recycle



Rachel Shekar was the Green Idea winner for March. Her green idea was to provide battery recycling locations at the IGB.

The IGB will be providing a Call2Recycle box at the IGB dock for rechargeable batteries (ONLY!) that contain Nickel/Cadmium, Nickel Metal Hydride, Lithium Ion, and Small Sealed Lead batteries less than 11 lbs (no car/motorcycle batteries). This should be in place in about 3-4 weeks. ■

The Art of Science

Taking the Show on the Road

Did you miss "The Art of Science," at the indi go Gallery in Champaign last month? You can see a selection of the images at the iHotel through the end of the month. In May, the exhibit will be on display at the Research Park. To view the images online, visit: <http://www.igb.illinois.edu/core/artscience> ■

Informatics PhD

Learn More

The Illinois Informatics Institute announces the new PhD in Informatics, introducing flexible programs of study in:

- Bioinformatics
- Medical Informatics
- Spatial Informatics
- Art and Cultural Informatics
- Design, Technology, and Society
- Data Analytics and Information Visualization
- Cognitive Science and Language Processing

Visit www.informatics.illinois.edu for more information or contact info-phd@illinois.edu.

Applications for new students due December 15 for Fall 2012.

IGB members Bruce Schatz, Gustavo Caetano-Anolles, Sandra Rodriguez-Zas and Matthew Hudson all contributed to efforts to make this new program a reality.

ADMINISTRATIVE NEWS

{Communications}

QR Code



You may see an icon appearing on various materials that IGB produces. A QR code is a barcode that may be read by mobile devices with a camera. The codes may be used to display text, link to a Web page, send an email, or add vCard content to the user's device.

QR Codes can now also be printed on the reverse side of U of I business cards. For more information, see <http://go.illinois.edu/qrcode>. ■

Digital letterhead

Digital letterhead for campus units is now available in color in the form of a custom Word template that may be saved as a PDF. Digital letterhead may be used only for email, internal campus communications, and faxed correspondence. Contact Melissa Edwards (mme@illinois.edu) for more information. ■

{Operations & Facilities}

Graffiti and Damage to the IGB

If you observe physical damage (including graffiti) to the IGB building (inside or outside), it is very important that you report it to facilities@igb.illinois.edu as soon as possible. The cost of clean-up and repairs come from funds that we would otherwise be spending on research. If you witness someone in the act of causing physical damage to the IGB building (including graffiti) contact the Campus Police Department at 333-8911 (this is a non-emergency number) immediately and give them the details. ■

Heating and Cooling

As we are now entering the cooling season (outside air temperatures above 55 degrees), please be reminded that your office thermostats will be locked into a range of 75 – 78 degrees. You can manually adjust the temperature within this range. We are finding that most of the thermostats automatically set to 78, so please be sure to adjust yours down closer to 75 if you are too warm.

If you have any questions regarding these changes, please email facilities@igb.illinois.edu. ■

{Computer and Network Resource Group}

GPU Computing

CNRG has developed two systems for testing GPU computing. If anyone is interested in testing these systems, please contact help@igb.illinois.edu and we will give you an account where you can try them for free. ■

Desktop Backup

Recently, an IGB member lost their data because they were not on our backup system and had a hard drive failure. The desktop backup system is a service provided for free to all IGB members, and we encourage everyone to use this service. If you are interested in using this service, please visit http://help.igb.illinois.edu/Desktop_Backup ■

Fall Classroom Reservations



Now is the time to reserve the 607 Bioinformatics Teaching Classroom for the fall semester. If you are an IGB faculty member and are interested in doing so, please fill out a request for the classroom at <http://www.igb.illinois.edu/facilities-services/reserve-classroom> ■

Wireless Network

The wireless network upgrade in the IGB is complete and should have resulted in better coverage and transfer rates throughout the IGB. If you are experiencing any issues with the wireless at this time, please contact help@igb.illinois.edu ■

{Biotechnology Information Center}

Scholarly Commons

The Scholarly Commons, a new unit of the University of Illinois Library, is available to serve the emerging needs of faculty, researchers and graduate students pursuing in-depth research and scholarly inquiry.

Services Include:

- Copyright – What are your rights & responsibilities when using copyrighted materials in research/teaching? How can you determine if usage falls under “Fair use”?

- Data Services – Do you need help with numeric and special data analysis, e.g., using ArcGIS, SASS, and more?
- Digitization – Would you like to scan some documents using high-end scanners to create searchable PDFs or image files?
- Scholarly Communication – Consult our experts about YOUR rights as an author! And learn how to put your scholarly works in our Campus repository (IDEALS) where they will be freely available to all for all time.
- And more services – see the website: www.library.illinois.edu/sc/

Where: 328 Main Library

Hours: 1-5 p.m., Monday – Friday

Drop in or make an appointment with one of the experts!

Phone: 217-244-1331

Email: sc@library.illinois.edu ■

{Safety}

Lab Coats



Remember, it is mandatory for researchers to wear a lab coat while working in spaces designated Biosafety Level II. This is required by NIH guidelines, University policy, and by 29 CFR1910.1030, the OSHA bloodborne pathogens standard. Please make sure to wear appropriate personal protection equipment, including a lab coat, gloves, and when necessary, face and eye protection, when you are working in an area designated BSL II. ■

{Business}

Procurement Reporting Update



A new workshop presentation to clarify when to do the Procurement Communications Reporting has been developed. This training aide only takes a few minutes to review and is well worth the time to help determine if or when you need to report a conversation with a vendor.

The direct link is:

https://illinois.edu/cms/secFile/558/procurement_communications_reporting_training_v2.pdf

If you have any questions about this, please contact Pam Rank or Bruce Barnes in Purchasing. ■



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