



IGBNEWS

Achievements, awards, and information about the IGB community

Volume 3, Number 6



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{Upcoming Events}

MMG Seminar: *The Effect of Homologous Recombination on Streptomyces Diversity and Evolution*

September 29, 2010

3:00 P.M.

IGB Conference Room #612

James Doroghazi

IGB MMG Fellow Candidate

Elements of a Successful Research Enterprise

October 8, 2010

9:00 A.M.

MNTL

Larry Schook

Director, Division of Biomedical Sciences

For more information visit biomedical.illinois.edu.

Elements of a Successful Research Enterprise

October 21, 2010

4:00 P.M. - 6:00 P.M.

ARC

Entries due by October 11, 2010. For more information visit www.tec.illinois.edu.

UIC-UIUC Workshop on Regenerative Biology and Tissue Engineering

October 22, 2010

9:30 A.M.

IGB Conference Room #612



Postdoctoral fellows and graduate students engaged in regenerative biology and tissue engineering research are encouraged to submit abstracts for a poster or oral presentation to be presented at a joint UIC-UIUC workshop on regenerative biology and tissue engineering. This event will take place on Friday, October 22, from 9:30 am to 4:30 pm at the Institute for Genomic Biology. The workshop will feature presentations by faculty from the U of I and UIC as well as a poster session with monetary awards up to \$300 for the best entries. From the submitted abstracts three winners will be selected for oral presentations. Three additional "best poster award" winners will be selected at the meeting by a panel of judges.

For more information visit <http://go.illinois.edu/RBTE>.

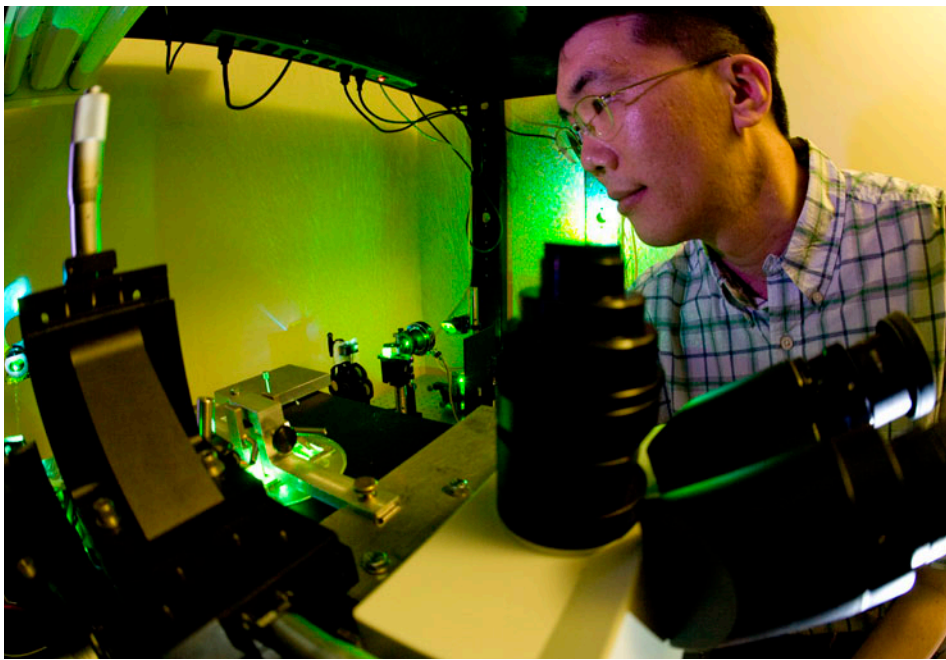
{Image of the Month}



This month's Image of the Month, "Calcium carbonate deposited in the Roman Aqueduct Anio Novus," was made by Bruce Fouke using the Canon EOS 5D Mark II and the Fluorescence Scope.

IGB News

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



Cellular Decision Making Focus of New IGB Theme

If a cell is damaged, does it repair itself or decide to self-destruct? And just how does the cell make that decision?

The Institute for Genomic Biology at the University of Illinois at Urbana-Champaign has announced the formation of a new research theme,

the same questions. This work holds promise for personalized medicine and other healthcare advances,” says Harris Lewin, director of the IGB.

Because cancer in particular is the result of cell decision-making run amok, the theme members will focus on that disease. However, because cellular

“ In the case of a viral infection, for example, if the cell makes a wrong decision and thinks there is an infection when there is not, you can end up with an autoimmune disease. ”

Cellular Decision Making in Cancer (CDMC) to look at those kinds of questions. The new theme will be led by Taekjip Ha, professor of physics and Howard Hughes Medical Institute Investigator, and will “develop a multi-scale narrative of how single-molecule events integrate protein networks to determine cell fate,” says Ha.

“These are all very important processes,” says Ha, of cellular decision-making. “In the case of a viral infection, for example, if the cell makes a wrong decision and thinks there is an infection when there is not, you can end up with an autoimmune disease.”

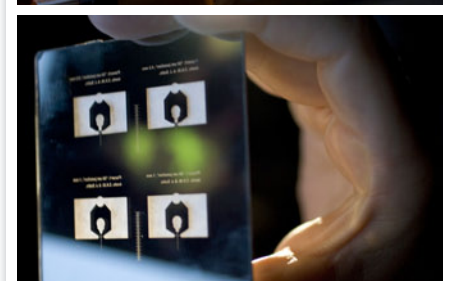
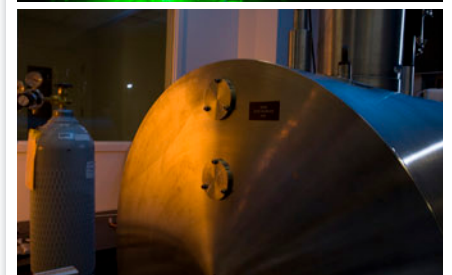
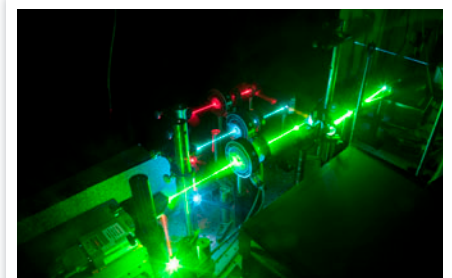
“The CDMC theme has unique tools at its disposal to help unravel both the complexities of individual cells and of larger systems using an approach different from others interested in

decision-making is involved in an array of other activities, the theme will also investigate such activities as cell maintenance, replication, repair, recombination, programmed cell death—apoptosis — as well as the decision by a stem cell to differentiate into a specific type of tissue or a cell’s response to a viral infection, when it will crank up the production of antiviral proteins.

The theme capitalizes on advances over the last few years in single molecule measurements, chemical biology, and computational genomics, which has resulted in techniques unique to IGB and the University. Those tools include FISH, a fluorescent labeling technique *in situ* (i.e. *in vivo*) that can image individual mRNA molecule in a single cell, and SiMPull, for “single molecule pull down,” a way to isolate and analyze single protein

complexes directly from cell extracts. Currently SiMPull works in 30 minutes with a group of 10 cells and shortly, Ha predicts, it will succeed at the single cell level. Western Blots, the current technique for analysing proteins, takes 5,000 cells, large quantities of reagents and antibodies and many hours to get results.

Because SiMPull can achieve better resolution in less time using fewer resources, Ha believes that the technique will “accelerate the rate of biological discovery.”



The theme includes Paul Hergenrother, a professor of chemistry; Yann Chemla, a professor of physics; Nathan Price, a professor of chemical and biomolecular engineering who is a systems biologist; and Sua Myong, Jian Ma and Cheng Zhong, all of whom are bioengineering professors. ■

EBI

EBI Energy Farm Tour Draws Big Numbers



EBI program leaders, postdocs, and students hosted nearly 400 guests during the Energy Farm tour on Thursday, Sept. 9. The tour allowed the EBI to showcase their research projects on-site, demonstrating how they are making important discoveries in growing and harvesting crops and other grasses for biofuel.

The tour included stops to see plots of Miscanthus, sorghum, switchgrass, and novel woody plant species, as well as more traditional crops such as corn and soybeans. EBI scientists briefly discussed their research and fielded questions from the visitors, including community members, University of Illinois classes, and local media outlets. ■

Equipment

IGB Equipment Sharing Policy

All IGB Research Themes have equipment within their labs that belongs to either the theme, or the individual faculty members within the theme. Where appropriate, it makes sense that both themes and individual faculty share equipment. This will minimize duplication of equipment and maximize the use of limited resources. Collaboration is key to the success of the IGB, and this should certainly extend to the sharing of equipment and resources among all IGB researchers.

Unfortunately, there have recently been several incidents in the IGB after hours where researchers from one theme have used equipment in another theme, and the equipment has been broken or damaged. This has resulted in expensive repair costs and unnecessary down time for researchers that rely on this equipment.

As a result, the IGB will institute the following policy, effective immediately. Theme lab equipment cannot be used—under any circumstances—by researchers outside that theme, without prior approval from the theme leader or his or her designate. If the equipment belongs to an individual faculty member within the theme, permission to use the equipment must also be given

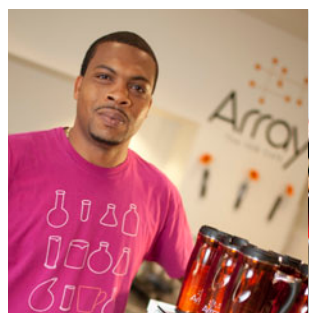
by that faculty member or his or her designate. Furthermore, equipment access will only be given when the individual has been trained to properly use it. The theme leader or his or her designate will assign someone within the theme to provide all necessary training. Finally, the theme leader or faculty advisor of the researcher using the equipment must agree to cover any costs associated with repairing the equipment if it is damaged during use.

Violation of this policy could lead to a revocation of a researcher's after-hours building access.

Policy Highlights

- Don't use another theme's equipment without permission.
- Even if you have permission, don't use equipment without training.
- If you damage another theme's equipment, your theme will have to pay for repair.
- If you violate this policy, you won't be able to access the building after hours. ■

Array Café: We've Got Great Food Down to a Science



A new school year, a new menu. Array Café has freshened up and expanded its food options, with new items like hot breakfast sandwiches, paninis, and Asian noodles on the menu.

Facilities Manager Darci Wooden said the changes reflect the direction the café is moving in. "We wanted to expand the menu a bit to offer more variety, especially for those who eat at Array multiple times each week," she said. "We have a lot of loyal customers, and we wanted to offer several choices so people don't get bored."

The new hot breakfast sandwiches are made with egg and cheese and either bacon or ham on sour dough bread. Paninis, also made on sourdough, are made with roasted vegetables or chicken with provolone. The new Asian noodles are tossed with peanuts and vegetables in a sesame soy glaze. Pizza options include pepperoni, sausage, and cheese, as well as Mediterranean, which features unique toppings like artichoke, spinach, olives, and feta cheese.

Additionally, Array is adding sandwich and salad flavors, including chicken Caesar or Mediterranean salads, and turkey ciabatta or roast beef and provolone sandwiches. For those with a sweet tooth, ice cream sandwiches and popsicles are now available as well.

Wooden said more menu options are on the horizon. "We are planning to make slight changes to the menu every couple of months, offering new types of paninis and such," she said.

Café Manager Carlos Spinks said so far customers are enjoying the new options. "Feedback has been good, especially for the paninis and salads," he said. "This is just the beginning; the menu's only going to get better."

Array Café is open Monday-Friday from 8:00 a.m. to 3 p.m. and is located on the concourse of the IGB Gatehouse. ■

Diamond v. Chakrabarty



Ananda (Al) Chakrabarty (center) discussed the implications of the Supreme Court decision that is recognized as a pivotal point for the development of the global biotechnology industry during a special campus event on September 22. *Diamond v. Chakrabarty*, coupled with the Bayh-Dole Act (also passed thirty years ago, in 1980), permitted universities to develop intellectual property resulting from research supported by the federal government, and offered patent protection to genetically altered life, ultimately leading to the emergence of the biotechnology industry. ■

Awards

Congratulations to GEGC theme leader Donald Ort, who has been named Robert Emerson Professor in Plant Biology and Crop Sciences. "This professorship represents an extraordinary opportunity for us to recognize a world leader in photosynthesis research and strengthen ties for interdisciplinary research on campus," said Feng Sheng Hu, the head of the Plant Biology Department. ■

New Arrivals

Faculty:

Marni Boppert joins the IGB

Professor Marni Boppert has joined the IGB as an affiliate in the Regenerative Biology and Tissue Engineering Research Theme. Professor Boppert joined the Department of Kinesiology and Community Health as an Assistant Professor in 2007. Prior to joining the faculty, Professor Boppert was a Postdoctoral Research Associate and Research Assistant Professor in the Department of Cell and Developmental Biology. Her research interests focus on understanding the molecular and cellular adaptations to exercise, mechanical loading, and exercise training.

Ning Wang joins the IGB

Professor Ning Wang has joined the IGB as an affiliate in the Regenerative Biology and Tissue Engineering Research Theme. Professor Wang joined the Department of Mechanical Science in 2006. Prior to joining the University of Illinois, Professor Wang was on the faculty at the Harvard University School of Public Health. Professor Wang's research focuses on using advanced research techniques to gain a fundamental understanding of cell mechanics, including cytoskeletal biomechanics and control of cell form and function.

Staff:

Justine Russian

Justine Russian has joined the IGB as a Grants and Contracts Specialist. She will be responsible for preparing the monthly statements for all non-EBI related grants as well as other post-award activities. Justine's most recent position at the University of Illinois was a Grants and Contracts Specialist at the Grants and Contracts Office-Post Award Division. While there, her responsibilities ranged from setting up NIH grants and contracts in the U of I Banner system to completing financial reports required by the sponsors. She received her bachelor's degree in Business Management from Eastern Illinois University. ■

And New Arrivals...

Congratulations to Chris Fields and wife Tasha, who welcomed daughter Piper on Sept. 7, 2010. ■

ADMINISTRATIVE NEWS

{Business}

Making Purchases

Campus Purchasing is now strictly enforcing the policy that a purchase order must be in place prior to receiving goods and/or services at the University of Illinois.

It is very important to note that any purchases that cannot be made using the University P-Card, the University IBuy system, or Campus Central Stores require a purchase order. You must get a P.O. prior to receiving goods and/or services from any outside vendor.

University Purchasing has informed the IGB Business Office that people who violate this policy will have to:

- Submit a letter to the Purchasing Division, describing the circumstances that led up to the violation and including a detailed plan to ensure that the violation will not happen again.

- Second offenders may be required to testify before the State Procurement Board in Springfield, depending on the severity of the violation.

Purchasing policies can be confusing and change frequently. To be sure you do not violate purchasing rules, contact Pamela Rank at 244.8959 or Bruce Barnes at 244.1705, or email them at purchasing@igb.illinois.edu.

Policy Highlights

- Think before you buy.
- Use a P-card, IBuy, or Central Stores whenever possible.
- Equipment repairs can't be put on a P-Card. You'll need a P.O. BEFORE you have work performed.
- Not sure? Ask purchasing@igb.illinois.edu! ■

{Computer and Network Resource Group}

Upcoming Network System Upgrades



The Computer and Network Resource Group is preparing for several upgrades over the next school year. Nearly every existing production service, as well as the wireless system, will be updated with better hardware and software. As a result, there will be several service outages this fall and next spring as we migrate to these new systems.

During these upgrades, new services and features will be deployed. Please be sure to read all messages regarding service outages and changes closely to take full advantage of any new features. ■

{Biotechnology Information Center}

Access the Library from Your Mobile Device



Even when you're on the road or away from campus, you can visit the library—virtually. The library now has a main mobile web page from which you can access a variety of resources.

On this site,

<http://m.library.illinois.edu>, you will find links to specially formatted versions of our catalog, library hours, the Ask a Librarian service, and a link to renew books online. Under "Mobile Databases" are links to a growing list of search resources that are formatted for mobile devices. Currently the list includes our 60 or so subscription EBSCO databases (a suite of academic research databases with abstracts and full text in all disciplines) and free resources such as PubMed, Wikipedia, and Google Books.

Additional Resources

ORR (Online Research Resource): <http://www.library.illinois.edu/orr/results.php?interface=1256>.

Mobile PubMed: <http://www.library.illinois.edu/orr/get.php?instid=1048978>.

Openly free mobile-PubMed <http://pubmedhh.nlm.nih.gov/>

Mobile Pubget site: <http://illinois.pubget.com/mobile>

This is just the start of mobile access to library resources. Be sure to periodically check the library's mobile site for additional resources.

Questions? Contact Katie Newman at florador@illinois.edu or 265.5386.

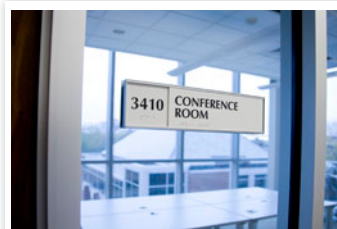
{Facilities}

Reporting Building Issues



Please promptly report any building issues to facilities@igb.illinois.edu. Sending an email to this address ensures that the problem can be tracked and repaired. We can only fix the problems we know about, so please notify us (via email) when you first notice a problem. ■

Conference Room Use



IGB policy prohibits holding vendor or product shows in any of our conference rooms or public spaces. This includes theme conference rooms. Hosting these types of shows could violate campus policies.

If you feel strongly about holding this type of event, you must obtain prior approval from IGB Associate Director Jennifer Quirk. ■

{Communications}

Photography



Has it been a few years since you last had a professional headshot? If you need an updated portrait, contact Melissa Edwards at 333-0873 or mme@illinois.edu. ■

{Safety}

Using the IGB Vacuum System



Using the IGB vacuum system? Remember to use it safely. Vacuum work can result in an implosion with flying glass, splattering chemicals, and fire. All vacuum operations must be set up and operated with careful consideration of the potential risks.



Equipment used at reduced pressure is especially prone to rapid pressure changes. Such conditions can force liquids through an apparatus, sometimes with undesirable consequences. Fumes, vapors, liquids, and aerosols can be drawn into the vacuum system and contaminate the vacuum pump or be discharged

elsewhere, causing a safety hazard. This can affect you, your coworkers, maintenance personnel, and other occupants of the building.

Safety Recommendations while working with vacuum systems

- Personal protective equipment, such as safety glasses or chemical goggles, face shields, and/or an explosion shield should be used to protect against the hazards of vacuum procedures.
- When possible, vacuum procedures should be carried out inside a hood.
- Do not allow water, solvents, and corrosive gases to be drawn into vacuum systems.
- Protect pumps with cold traps and vent their exhaust into an exhaust hood.
- Assemble the vacuum apparatus in a manner that avoids strain, particularly to the neck of the flask.
- Avoid putting pressure on a vacuum line to prevent stopcocks from popping out or glass apparatus from exploding.

- Place the vacuum apparatus in such a way that the possibility of being accidentally hit is minimized. If necessary, place transparent plastic around it to prevent injury from flying glass in case of an explosion.
- When possible, avoid using mechanical vacuum pumps for distillation or concentration operations using large quantities of volatile materials. A water aspirator or steam aspirator is preferred. This is particularly important when large quantities of volatile materials are involved.

If you have any questions about vacuum use or safety, contact Occupational Safety Coordinator Bob Mann at bobmann@igb.illinois.edu or 244.8346. ■

{Office of Technology Management}

New Resource Available to Local Entrepreneurs

EnterpriseWorks and the Illini Entrepreneur Center have hired local, experienced entrepreneurs to assist startups and inventors with business matters such as business development, attracting investment, and engagements with industrial clients. The program helps provide early management guidance for startups and helps inventors determine a path for starting their business.

For more information:

<http://www.researchpark.illinois.edu/about/amenities/?Id=441> ■