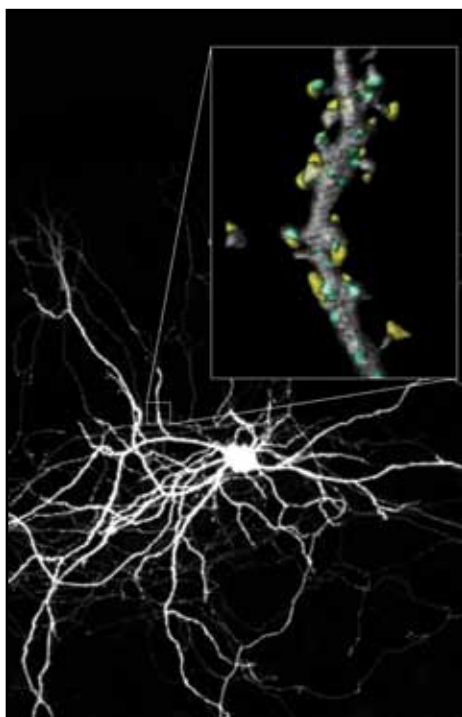




# I I G B N E W S

Achievements, awards, and information about the IGB community

## IMAGE OF THE MONTH



This month's Core Facilities Image of the Month was made by Der-I Kao. This image of a Yellow Fluorescent Protein (YFP) labeled neuron with immunostained synapses was created using the Zeiss LSM 710.

## UPCOMING EVENTS

### Translational Biomedical Research Seminar

"Systems Approaches to Disease Stratification"

Nathan D. Price | University of Illinois

Veterinary Medical Basic Science Building #2271C | Apr 5 | 12:00 p.m.

### IGB Seminar Series

"Widespread Tissue-Specific Variation in DNA Methylation and its Impact on Human Health and Disease"

Michael S. Kobor | University of British Columbia

IGB Conference Center #612 | Apr 6 | 12:00 p.m.

### IGB Seminar Series

"MicroRNA in Tissue Injury and Repair"

Chandan K. Sen | Ohio State University Medical Center

IGB Conference Center #612 | Apr 13 | 12:00 p.m.

### The Chancellor's Colloquium Series: Biology & Beyond

"Natural Selection" Revisited: Are There Really Winners in Evolution?

Forest Rohwer | San Diego State University

Loomis 151 | Apr 13 | 4:00 p.m.

### 2010 IGB Fellows Symposium

IGB Conference Center #612 | Apr 16 | 8:00 a.m.

### Pioneers Seminar Series

George E. Fox | University of Houston

IGB Conference Center #612 | Apr 20 | 12:00 p.m.

### Chicago Alumni and Friends Reception

A networking event during the BIO 2010 Convention

Drinks and hors d'oeuvres

Trump International Hotel and Tower, Chicago | May 4 | 7:00-10:00 p.m.



## CEM Program Bridges Gap between Science and Business

Science skills. Business savvy. Graduates of the IGB's Certificate in Entrepreneurship and Management for Life Scientists (CEM) program possess both, and are using their skills and understanding of both fields to their benefit.

The CEM program teaches students the traditional ins and outs of entrepreneurship, such as creating a business plan and managing intellectual property. They also study topics specific to the life sciences, such as managing the FDA approval process and conducting clinical trials.

For Damla Bilgin, a plant molecular biologist at the IGB, the CEM program was a chance to learn and apply business knowledge to the research she conducts on a daily basis.

"The CEM program is an incredible experience with great instructors, guest speakers, and a great opportunity to establish a network and understand the business, economic, and legal issues in life sciences and biotechnology ventures," she said.

Not only are students learning valuable information, they're learning

it from experts in the fields of law, finance, marketing, and management. Through their experiences in industry and academia, professors and guest lecturers know the unique situations and challenges facing life scientists and understand what it takes to succeed in a competitive market.

The CEM program is divided into six modules, each with a different topic, from leadership and management to finance, from marketing to intellectual property policy. The six modules are completed over two semesters, and a summer internship may be completed at the end of the year.

Each module meets for two weeks with two professors who are experts in the topic area. The courses include opportunities for students to interact with guest speakers, participate in workshops and assessments, network with classmates, and improve their presentation and communication skills.

"The professors and invited guests were absolutely amazing," said Heather Horn, a CEM student and an Academic Professional in the University's Campus Recreation department. "I've never been involved with an academic

program that has provided so many resources and outstanding connections to the workforce."

Those workforce connections also give students opportunities to take the knowledge they have gained in the classroom and apply it to real-world situations and businesses through internships at the end of the program. Previous internship locations include nationally known corporations such as Xerox, international businesses like Malaysian Life Sciences, and home-grown companies like Illinois Ventures.

"(This program's) greatest benefit is the opportunity CEM provides for the students to learn and network in an area that is not their major course of study," said Megan Puzey, CEM Program Coordinator. "Taking the CEM provides them with a more diverse educational background that will make them more valuable to employers."

How do you know if you or one of your students would be a fit for CEM? The program requires that students have at least a bachelor's degree in the life sciences and be completing a graduate or doctoral degree, or be a professional

*Cont'd. on pg. 8*

## 2ND ANNUAL BIOFUELS LAW AND REGULATION CONFERENCE



The Second Annual EBI Biofuels Law and Regulation Conference, "Bioenergy Law and Regulation: Putting the Pieces Together," will take place Friday, April 9, at the I Hotel & Conference Center.

Noted academic experts will present and lead discussions on the legal and regulatory challenges facing the biofuels industry and the future of bioenergy.

Registration is free, but required. Register online at [www.biofuelslawconference.org](http://www.biofuelslawconference.org).

Questions? Contact Conference Administrator Elizabeth Stull at 244-6510 or [estull@illinois.edu](mailto:estull@illinois.edu).

## SYMPOSIUM ON CONTROL AND MODELING OF BIOMEDICAL SYSTEMS

This two-day symposium on Thursday, April 22 and Friday, April 23, will expose academic and clinical researchers to key biomedical problems from the perspective of dynamic system control and modeling in an effort to initiate collaborations and investigate future research directions.

Registration closes April 15.

For more information, go to: [biomedsym.beckman.illinois.edu](http://biomedsym.beckman.illinois.edu).

## 2010 IGB FELLOWS SYMPOSIUM



Mark your calendar: The fourth annual Fellows Symposium is scheduled for Friday, April 16. The symposium features presentations on IGB research and current issues in the life sciences. Five of the nine research themes will host sessions on their work.

Special guest speaker Bernhard Palsson, Galetti Professor of Bioengineering and Adjunct Professor of Medicine at the University of California, San Diego, will discuss genome-scale metabolic reconstructions and the regulatory and signaling processes behind the translation and transcription mechanisms.

The symposium also includes a Poster Session with prizes for the top three posters. If you would like to take part in the Poster Session, include your poster topic information on the registration form.

Registration is free, and everyone who attends will have the chance to win an iPod Shuffle. For more information, go to [www.igb.illinois.edu/fellows10](http://www.igb.illinois.edu/fellows10).

Registration closes Wednesday, April 7.

## GLOBAL FOOD SECURITY CHALLENGES FORUM



Join us for the Global Food Security Challenges Forum on Friday, April 23, as we consider the future of food production and hunger in the biofuels era.

The forum will begin at 1 p.m. in the Monsanto Room of ACES Library, with a reception to follow in the Heritage Room.

No registration is required. View the schedule of events at [www.igb.illinois.edu/foodsecurity](http://www.igb.illinois.edu/foodsecurity).

Questions? Contact Bryan Endres at 333.1828 or [bendres@illinois.edu](mailto:bendres@illinois.edu).

## CONOCOPHILLIPS ENERGY PRIZE

The ConocoPhillips Energy Prize is a joint initiative of ConocoPhillips and Penn State to recognize new ideas and original, actionable solutions that can help improve the way the nation develops and uses energy.

In 2010, the program will award up to \$300,000 in cash prizes. Entries are due by May 21. Get more information and submit your entry at [www.conocophillips.com/energyprize](http://www.conocophillips.com/energyprize).



# ADMINISTRATIVE NEWS

News from the administrative departments that support the research mission of the IGB

## COMPUTER AND NETWORK RESOURCE GROUP



### Desktop Backup

Soon a new Desktop Backup server will be in place, and as part of that upgrade the Computer and Network Resource Group (CNRG) is making changes to our Desktop backup policies. To begin, computers with more than 200GB of data will still be prevented from using the “Nights and Weekends” or “Daily” backup sets, however we are creating a new backup set to accommodate these computers called “Large Data”. Computers backed up via the “Large Data” backup can contain between 200 and 500 GB of data, and are backed up once per week. If you need to back up more than 500GB of data on and end system, please contact [help@igb.illinois.edu](mailto:help@igb.illinois.edu), and we can make specialized arrangements.

## OPERATIONS AND FACILITIES



### Bicycles

Spring means bicycle season. Please do not lock your bikes up on the plaza; they will be removed. Instead, use bike racks north of the lab building.

### Thermostats

As we are now entering the cooling season (outside air temperatures above 55 degrees), remember 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, please email [facilities@igb.uiuc.edu](mailto:facilities@igb.uiuc.edu).

### Cigarette Disposal

If you smoke cigarettes on the plaza west of the lab building, please do not throw your cigarette butts on the plaza or in the trash containers. Cigarette urns are located on the plaza for disposal of butts.

## SAFETY



### SafeWalks

SafeWalks is a courtesy service provided to University of Illinois students, faculty, or staff so they do not have to walk alone on campus at night. Those interested in a SafeWalk should contact the University of Illinois Police Student Patrol during their operating hours (9 p.m. to 2 a.m. Sunday through Thursday, and 9 p.m. to 3 a.m. Friday and Saturday). Please give at least 20 minutes notice for the SafeWalk.

Call 333-1216 or press an emergency phone button and wait for the dispatcher.

And remember to follow these safety tips on campus: [publicsafety.illinois.edu/universitypolice/personalsafetytips.html](http://publicsafety.illinois.edu/universitypolice/personalsafetytips.html)



### Play it safe when working with electricity in the lab

Safe work practices must be used to prevent electrical shock or similar injuries when working with electricity in the laboratory. Some of the hazards associated with the use of electricity include electrical shock and electrical fires caused by shorts and overloaded circuits or wiring. In addition, sparks from electrical equipment can serve as an ignition source for flammable or explosive vapors or combustible materials. Most incidents are a result of unsafe work practices, improper equipment use, and faulty equipment.

Prior to using electrical equipment, you should first determine if it is safe by checking the following:

- Make sure the electrical equipment is not located in a hazardous environment such as a damp/wet location or where it is exposed to high temperatures and flammable liquids and gases.
- Make sure current and safety devices such as fuses, breakers, and ground fault circuit interrupters (GFCI) have not been tampered with and are working correctly.
- Check that the power cord and plug do not have any defects such as cuts in the insulation and expose bare wiring.
- Know if the equipment has an emergency shutoff switch and where it is located prior to use.
- Make sure there is sufficient space around the electrical equipment or circuit so that it can operate safely.
- Ensure that all electrical outlets have a grounding connection requiring a three-pronged plug. All electrical equipment should have three-pronged, grounded plugs or be double-insulated.
- Keep corrosive chemicals and organic solvents away from electrical cords—these can easily erode the insulation on wires.
- Never handle electrical equipment when hands, feet, or body are wet or perspiring, or when standing on a wet floor.
- Electrical outlets, wiring, and other electrical equipment integral to the building may only be serviced and repaired by qualified trades personnel or other qualified electricians.

## COMMUNICATIONS



### IGB on Facebook

Become a fan of the IGB on Facebook! Check the daily lunch specials in the Array Café and be the first to learn what's happening around the IGB. Search for "Institute for Genomic Biology."



### List of Prohibited Purchases on the University Procurement Card

P-Cards may not be used for the purchase of the following items. See Section 8.13, Allowability and Funding of Certain Expenditures ([www.obfs.uillinois.edu/manual/central\\_p/sec8-13.html](http://www.obfs.uillinois.edu/manual/central_p/sec8-13.html)) for a more comprehensive list of expenditures that are not allowed from various or any fund sources.

- Purchases from University employees, their spouses, parents, or children.
- Purchases from business concerns of which an employee (or an employee's spouse, parent(s) or children) is a sole or principal owner, major officer, or primary employee.
- Purchases when the vendor requires an agreement or any contract to be signed by an authorized University representative.
- Purchases when the vendor requires a deposit.
- Employee expenses while in travel status. Travel status expenses are all expenses that must be reimbursed on an Employee Travel/Miscellaneous Reimbursement Form ([www.obfs.uillinois.edu/forms/EmployReimb.xls](http://www.obfs.uillinois.edu/forms/EmployReimb.xls)). They include:
  - o Airport shuttles
  - o Automobile rentals and replacement fuel
  - o Hotel rooms and services
  - o Payment or reserving of hotel rooms
  - o Limousines
  - o Parking
  - o Per diem allowance
  - o Personal or University vehicle fuel
  - o Tolls
  - o Taxi cabs

Specific items as follows:

- Attorney fees
- Capital Development Board purchases
- Cash advances
- Charter bus and charter air services
- Chemicals as specified (See List of Chemicals for specific precursor and chemicals/toxins not allowed for purchase with P-Card: [www.obfs.uillinois.edu/manual/central\\_p/7-61st.html](http://www.obfs.uillinois.edu/manual/central_p/7-61st.html))
- Consultant fees or expenses
- Drugs and pharmaceuticals (unless prior approval has been granted by the OBFS, Purchasing Division)
- Fuels (including but not limited to alcohol, ethanol, gasoline, diesel, kerosene, propane, fuel oil, aviation, and any other combustible liquid or gas)
- Furniture with a unit cost of \$500 or more
- Gifts to other University units or external organizations (see Section 8.13, Funding and Allowability of Certain Expenditures for additional further information: [www.obfs.uillinois.edu/manual/central\\_p/sec8-13.html#ee](http://www.obfs.uillinois.edu/manual/central_p/sec8-13.html#ee))
- Gift certificates and gift cards (See Section 8.13, Funding and Allowability of Certain Expenditures for information on how to purchase gift cards or gift certificates: [www.obfs.uillinois.edu/manual/central\\_p/sec8-13.html#cc1](http://www.obfs.uillinois.edu/manual/central_p/sec8-13.html#cc1))
- Health care provider fees
- Imported goods that must go through customs
- Independent contractor fees
- Lab or specialty gases (examples: liquid nitrogen, helium)
- Laboratory animals (purchase through the Division of Animal Resources)
- Laminar flow fume hoods and biological safety cabinets
- Maintenance contracts
- Professional and artistic services
- Radioactive materials
- Recombinant deoxyribonucleic acid (RDNA)

- Services involving labor, including installation charges, indemnity, and/or insurance requirements (examples: tent rental, catering, on-site repairs)
- Trade-in of equipment that is inventoried
- Vehicle purchases or rentals (such as autos, trucks, and cycles)
- Weapons, ammunition, or detonating equipment or material

For additional questions regarding prohibited purchases using your IGB P-Cards, e-mail [pcard@igb.uiuc.edu](mailto:pcard@igb.uiuc.edu) or contact Dale Johnston at 244-5595.

## BIOTECHNOLOGY INFORMATION CENTER



### Keeping Up to Date with Literature

Are you staying updated with the literature in your field? It can seem like an impossible task, but email alerts can help. Alerts can be sent to you once a week so that you receive information from databases that are updated daily or weekly. Such databases include Web of Science, Scopus, Scifinder Web, Faculty of 1000, and PubMed. You also can run searches in the more comprehensive databases such as Biological Abstracts and CAB (Agriculture) Abstracts.

Whether you want to keep up with the research your colleagues or competitors are publishing, or you just want to review the table of contents for several journals in your field, the Biotechnology Information Center can help you formulate a research alert. You could set one up to receive the table of contents for over 50 journals, as well as the results from a research topical search that excludes articles from any of the journals in the Table of Contents alert. The center can work with you to come up with vocabulary for topical alerts in your research or teaching areas and formulate your own searches that best fit your needs.

You can read about tactics for keeping up-to-date in your field on the library's website: <http://www.library.illinois.edu/biotech/current/index.html>.

If you'd like to arrange a session, contact Katie Newman, 2130 IGB, at [florador@illinois.edu](mailto:florador@illinois.edu) or 265-5386.

## STATE DRIVER AND VEHICLE SERVICES



Illinois Secretary of State Jesse White's office will be on campus Wednesday, April 21 to provide certain driver and vehicle services to students, faculty, and staff of the University. These services include renewing driver's licenses or state IDs, purchasing annual vehicle license plate stickers, and registering to be an organ and tissue donor. Acceptable forms of payment include personal checks, cash, MasterCard, American Express, and Discover credit and debit cards.

White's office will be providing these services on campus from 9:30a.m. to 3:00 p.m. at the Illini Union in Room 314 (3rd floor north).

For more information and a complete list of acceptable forms of identification, visit the Secretary of State's website at [www.cyberdriveillinois.com](http://www.cyberdriveillinois.com).

## IGB Bake-Off and Culinary Competition



**On Your Mark, Get Set... Bake!**  
JOIN THE IGB COMMUNITY FOR A BAKE-OFF AND CULINARY COMPETITION

FRIDAY, APRIL 23  
4-6 p.m.  
IGB Concourse Level

All individuals or groups are invited to attend and participate. The theme that "bakes" the competition by winning the most votes will be the overall winner.

**I** Start perfecting these treats now, and save the date!

Join the IGB community on Friday, April 23 for a bake-off in the Concourse from 4:00-6:00 p.m. Individuals or groups are invited to attend and participate. The theme that wins the most votes will be the overall winner. If you have a delicious recipe for a baked good or savory appetizer, now is your time to showcase it!

## Lactation Room



The IGB has a lactation room designed specifically for nursing mothers. If you are a nursing mother and you want a key to the room, see Kathy at the receptionist's desk. If you have questions about this room, please contact Darci Wooden at 244-2200 or [darci@illinois.edu](mailto:darci@illinois.edu).

## Green Ideas at IGB



Have an idea to make the IGB "greener"? Send it to: [greenideas@igb.illinois.edu](mailto:greenideas@igb.illinois.edu).

## Array Café



Opening Day Special! On April 5, celebrate Major League Baseball's opening day with a ballpark lunch special (without the ballpark prices!). Get a hot dog, a bag of chips, and a soda for \$3.50—only at the Array Café!

## CEM Program (cont.d)

in a life sciences field. Seats are reserved for university students and/or employees, but the course is also open to academic professionals or those working in industry.

The cost of the CEM program is competitive, and the vast majority of students receive a scholarship to subsidize their tuition. Apply online and include in your application an interest statement detailing why you would like to be a part of the program and how it will benefit you and your career in the life sciences. Applications for the third cohort of the program will be accepted from April 1-August 31, 2010. Classes begin in September 2010.

Have questions about the CEM program? Email [cem@igb.uiuc.edu](mailto:cem@igb.uiuc.edu) or read through the frequently asked questions on the CEM's website at [www.igb.uiuc.edu/cem/faqs.html](http://www.igb.uiuc.edu/cem/faqs.html).



## That's So Obvious! Or Is It? Understanding Patentable Subject Matter Terminology<sup>1</sup>

In last month's newsletter, the requirements for patentability were introduced: statutory subject matter; novelty; and non-obviousness.<sup>2</sup> This month, the focus is on understanding the basics behind these statutory requirements.

First, if an invention fits into one of the distinct classes listed by statute, it is eligible for patenting.<sup>3</sup> Perhaps the most cited description of patentable subject matter with regard to biotechnology is "anything under the sun that is made by man."<sup>4</sup> There is also a "usefulness" requirement, which means the invention must be able to perform its intended purpose.<sup>5</sup>

Next is the novelty requirement. An invention is not novel if it was "known or used" by others or "patented or described in a printed publication," in "public use," or "on sale" in the U.S. or other country for more than one year prior to applying for the patent.<sup>6</sup> In other words, the subject matter must not be someone else's invention,

and the clock starts ticking one year after the subject matter is made public. The time limit is often referred to as a "statutory bar" to patenting. For example, scientific publications related to the patentable subject matter claimed in a patent that are available to the public for one year or more create statutory bars to patenting under the novelty requirement.

The third requirement of patentability, non-obviousness, is a bit trickier. "A patent may not be obtained...if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art."<sup>7</sup>

To distill this legalese, when a patent application is examined by the Patent Office, the examiner compares the subject matter in the application with other publications or descriptions known as "prior art." The examiner must then go back in time, in a sense,

to when the invention was conceived and reduced to practice, and use the "teaching-suggestion-motivation test"<sup>8</sup> to evaluate if the prior art would have resulted in a person having ordinary skill in the art combining the pieces of prior art to come up with the new invention.

Persons of ordinary skill are those who are familiar with the technology area, and are not necessarily experts, making this subjective standard more broadly applicable to those practicing technology in the field of the invention. Small differences in the prior art and the new invention might be enough to preclude patenting, but as in all legal affairs, it depends on the facts.

If you have questions about your technology and patentability, contact the Office of Technology Management for more information.

<sup>1</sup> Written by Nicole A. Janovick, PhD. Nicole is currently a second-year law student at the College of Law and is a Commercialization Analyst Intern for the Office of Technology Management, specializing in life sciences technologies. Nicole holds office hours at IGB in Room 2606 (gate house) on Mondays from 9 a.m. to 1 p.m. and on Tuesdays and Wednesdays from 9 a.m. to 12 p.m. During this time she is available to answer questions about intellectual property and technology transfer. Questions can also be sent to her directly via email: [janovick@ad.illinois.edu](mailto:janovick@ad.illinois.edu).

<sup>2</sup> 35 U.S.C. §§ 101-103.

<sup>3</sup> These categories are: processes; machines; manufactured items; and compositions of matter.

<sup>4</sup> Recited in *Diamond v. Chakrabarty*, 447 U.S. 303 (1980).

<sup>5</sup> In fact, inventions are not evaluated by the United States Patent Office for how much good they do, or how much of an improvement they are, just that they are capable of performing the way the inventor describes.

<sup>6</sup> 35 U.S.C. § 102.

<sup>7</sup> 35 U.S.C. § 103.

<sup>8</sup> See *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007) (discussing the application of the test).

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