



IGBNEWS

Achievements, awards, and information about the IGB community

Volume 4, Number 4



- p. 2** SING: Genomics Internship for Native Americans
- p. 3** Around the IGB
- p. 3** Awards
- p. 4** Administrative News

Welcome!

If you are new to the IGB this semester, welcome. If you've been away from the IGB for the summer, welcome back.

{Upcoming Events}

Energy Biosciences Institute's Energy Farm tour

September 20, 2011

9:00 a.m - 12:00 p.m.

4301 South Philo Road

Tour the 320-acre EBI Energy Farm with researchers showing the latest in energy crop agronomic, environmental and engineering research until noon.

For more info contact:

energyfarm@igb.illinois.edu

IGB Seminar - Co-Sponsor Neuroscience Program

October 18, 2011

12:00 p.m.

612 Institute for Genomic Biology

Andreas Meyer-Lindenberg, MD, PhD
Director, Central Institute of Mental Health, Mannheim
Professor and Chair of Psychiatry and Psychotherapy,
University of Heidelberg, Germany

Pioneers in Genomic Biology Lecture Series

October 25, 2011

12:00 p.m.

612 Institute for Genomic Biology

Vickie L. Chandler, PhD
Chief Program Officer-Science
Gordon and Betty Moore Foundation, Palo Alto, CA

"Paramutation: Epigenetic Silencing Across Generations"

IGB Seminar

November 1, 2011

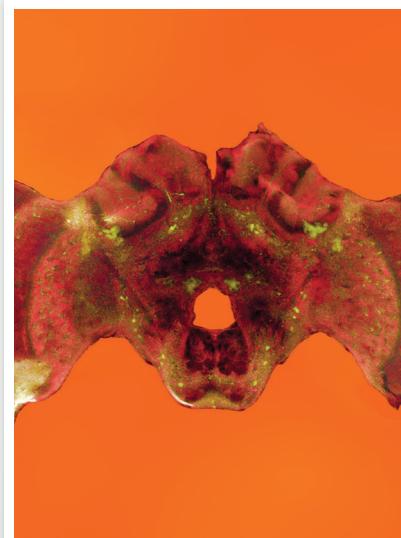
12:00 p.m.

612 Institute for Genomic Biology

Valerie M. Weaver, PhD
Associate Professor, Departments of Surgery and Bioengineering and Therapeutics
Director, Center for Bioengineering and Tissue Regeneration, University of California-San Francisco

"Tensional Homeostasis and the Malignant Phenotype"

{Image of the Month}



This month's image, "Tyrosine hydroxylase / mRNA expression in the honey bee brain," was made by Matthew McNeill in Gene Robinson's Lab. This is the expression pattern for the gene that encodes the rate-limiting enzyme in dopamine synthesis, tyrosine hydroxylase (th; yellow), in the brain of a forager honey bee. The image was taken using a Zeiss LSM 700 confocal microscope.

IGB News

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

IGB Hosts Genomics Internship for Native Americans

A weeklong program for Native Americans in genomics included everything from learning to do DNA extraction and genotyping to a discussion about integrating indigenous and scientific ideas and values. But by far the most powerful outcome was a lasting bond between 12 participants and seven faculty, all Native Americans from around the United States and Canada.

“To my knowledge nothing like this has ever been done before,” says Kim TallBear, assistant professor of science, technology and environmental policy at the University of California, Berkeley, and one of the Summer Internship for Native Americans in Genomics (SING) faculty. TallBear is a member of the Sisseton-Wahpeton Oyate Dakota tribes.

Other workshops for Native American scientists have been held, but none for a full week and specifically about genetics, and targeted to undergraduates, graduate students and post docs. The benchwork component also was unique.

The IGB hosted this first-ever internship July 10-17, but the idea had been percolating in organizer Ripan Malhi’s mind since his graduate-student days.

Malhi, a molecular anthropologist at the University of Illinois, uses genetic techniques to test the long-held assumption that movement of goods, such as pottery, and ideas, such as corn cultivation, represented the movement of people as well. He has worked to determine whether that is, in fact the case, by using genetic techniques. He works most closely with several First Nations tribes of Canada.

The challenge, he found, was not so much the laboratory techniques (though handling ancient DNA can be tricky) as it was gaining the trust and cooperation of the Native American communities he approached for DNA samples.

“The difficult part was finding Native American communities with the interest in using their DNA to examine their history and especially those willing to take samples from their ancestors, though it varied from community to community,” said Malhi, whose parents are from India and who grew up in a small town in South Dakota and in Yuba City, California. The general feeling was, “why should we trust you?” he says.

Anthropologists have been collecting data from



and studying Native American populations for decades but rarely sharing data or knowledge with the study participants. The media often portray Native Americans as “anti-science” but they are not, says Malhi. However, they do not want to be taken advantage of.

Several disputes have been publicized by the media, such as the Havasupai study, in which researchers took DNA samples from a community for a study of diabetes, but then used the data to also study schizophrenia and other conditions. In addition no data or findings ever were shared with the tribe that donated the samples. Native Americans feel betrayed.

“I’ve always been conscious that research is political,” says TallBear. “It’s about making some people subjects while others have the right to inquire.”

Malhi envisioned a program that would expand on the education of indigenous people in the science of genetics, discuss the implications of that research and enable them to collaborate more with other scientists, both Native and non-Native.

SING participants came from a wide range of disciplines including genome sciences, computer science, botany, ethnic studies and resource management. In addition, two tribal leaders from the Metlakatla tribe in Canada attended the internship. Many had some genetics background, and those in the group who had hands-on experience with bench work, such as sequencing genomes, taught those who did not. IGB personnel also provided instruction. Even some of the SING faculty learned techniques they had not done before, TallBear said.

“The biggest impact I believe SING had was to unite budding Native scientists and provide them with a rich environment for career growth and identity development,” says Jake Long, a graduate

student in botany at Oklahoma State University and a member of the Miami tribe. “I believe that once there is a well-established community of Native scientists in genomics, they will be able to bridge the cultural gap between western science and traditional ways of thought.”

TallBear also noted that there was not the usual wrangling or tension between the social scientists and the biological scientists at the internship, which often occurs at other professional meetings she attends.

“The participants had really productive conversations because they were all Native people invested in doing science in ways that is more democratic



and meets the needs of tribal and first nation communities,” says TallBear. “While they had different languages and kinds of training and theoretical backgrounds that they came from, they really had an incentive to have a conversation because they also shared a social and cultural commitment to making science more productive for tribal communities.”

In fact, the diversity helped in some ways, says Nanibaa’ Garrison, a postdoctoral research fellow at Stanford University and a member of the Navajo tribe. The seminar “really opened up everyone’s eyes because people without a strong

Continued on page 3

» Genomics Internship, cont.

genetic background were able to understand the science much better than before and people with a science background had never thought about or been exposed to the social implications of their work.”

In addition to bonding over science, participants bonded over intense and complex discussions and role-play on the ethical, legal and social implications (ELSI) of research within Native American communities. Participants generally felt that this was the most compelling aspect of the workshop.

“The ELSI (Ethical Legal Social Implications) presentations were outstanding, and I learned a lot about the different stakeholders in genomic research,” says Katrina Claw, a graduate student at the University of Washington and a member of the Navajo tribe. “I brought home the message that I should carefully scrutinize ELSI issues in any current and future research that I do.”

The ELSI sessions were very interactive, which made them very effective.

“Often, I will feel at a loss about how to communicate an ethical concept, and I felt that the organizers were able to conceptualize what I was trying to say,” adds Claw. “In addition, the social scientists were able to offer a completely different perspective on many of the topics discussed throughout the week. I felt like these were important issues and would have gone unnoticed or not addressed without their presence.”

“The ELSI discussions were some of the most valuable for me,” agrees Long. “I have only really paid attention to how ELSI topics relate to Native American maize landraces (varieties of corn developed by Native Americans), and the main source of conflict in the native community has been through human genetic/genomic studies. I realized even more how complex these issues

are, and how easy it is for western science to completely miss things that are culturally taboo or significant.”

Malhi especially hoped that the internship would create a sense of community for Native Americans in academic settings. By all accounts this sense of community developed very strongly.

“My main incentive for attending the workshop was to meet more Native Americans in or interested in genomics,” says Claw. Being a graduate student in genome sciences “is a lonely place because I’m often the only Native American person. Though I have found support from various non-Native people, it is very empowering to talk with other Native scientists about science.”

There are tentative plans to hold another SING, perhaps in two years time, says Malhi. This one was very successful and he’d like to build on that. ■

{Around the IGB}

Awards

Beckman Fellow, Center for Advanced Study



Andrew Leakey, a member of the Genomic Ecology of Global Change research theme, was selected as a Beckman Fellow, Center for Advanced Study. Leakey’s proposal,

“Opening the Black Box of Plant Responses to Global Environmental Change with Genomic Tools”, deals with global environmental change in this century and the impact on growing conditions in farmers’ fields and crop yields. ■

ASM Undergraduate Research Fellowship

The American Society for Microbiology (ASM) has selected Nhat Trinh as a 2011 award recipient of the ASM Undergraduate Research Fellowship. Nhat’s mentor is Doug Mitchell (Mining Microbial Genomes research theme). ■

Congratulations

Editorial Appointment

Mining Microbial Genomes research theme leader William Metcalf has been appointed as an editor of the Journal of Bacteriology, one of the primary research journals published by the American Society for Microbiology. ■

NSF Grant

IGERT Awarded

An Integrative Graduate Education and Research Traineeship (IGERT) has been awarded to the IGB and the School of Integrative Biology for Vertically Integrated Training with Genomics, a training model aimed at empowering students to learn how an organism’s traits emerge from, and are continually shaped by, the complex interplay of genetic information stored in DNA and the environmental information an organism experiences throughout its life. ■

Biomass Grant

\$5,000 BP Undergraduate Grant

A \$5,000 research grant was awarded to undergraduate students by British Petroleum. The purpose of the grant is for students to learn the engineering properties of biomass. The grant was obtained through Luis Rodriguez, EBI faculty member and a professor in the department of agricultural and biological engineering. ■

New Arrivals

Kevin Xiang

Professor Kevin Xiang has joined the IGB as an affiliate in the Cellular Decision Making in Cancer (CDMC) Research Theme. Professor Xiang is an Assistant Professor in the Department of Molecular and Integrative Biology. ■

Entrepreneurship

CEM Program

Are you interested in learning the knowledge and skills necessary to meet the challenges of managing an academic or industrial laboratory group or business? The Certificate in Entrepreneurship and Management (CEM) program is for entrepreneurially minded doctoral students, post-doctoral students, practicing scientists, and Academic Professionals interested in understanding the business, economic, and legal issues in biotechnology ventures.

Classes will be scheduled for Spring 2012 in late January. The program consists of dual Certificates: The Certificate in Entrepreneurship Management for Life Scientists and Certificate in Business. The CIB program will hold sessions on Tuesday evenings and the CEM program will hold sessions on Saturday mornings in the time period of January through May. If you are interested in enrollment, contact Liz Stull at estull@illinois.edu for details. ■

Book News

Authored



Professor Bruce Schatz, a faculty member at the Institute for Genomic Biology, has co-authored a groundbreaking book

Healthcare Infrastructure:

Health Systems for Individuals and Populations about Health Informatics and based on his popular computer science course. ■

Reviewed



Entomology professor May Berenbaum reviews a new book about insects that are active at night entitled Cricket Radio: Tuning In the Night-Singing Insects, by John

Himmelman. Read the review at <http://bit.ly/rhs19Y> ■

Article

Bioenergy Sustainability

Jody Endres, the Senior Regulatory associate at the University of Illinois' Energy Biosciences Institute, is the author of a recently published paper on key issues facing policymakers in defining what "renewability" should mean in biomass-based energy policies. Read more at <http://bit.ly/opzxMv> ■

ADMINISTRATIVE NEWS

{Biotechnology Information Center}



The following are some of the library-sponsored resources available on the Biotechnology Information Center website at <http://www.library.illinois.edu/biotech/>

PubMed, customized URL for U of I

<http://www.library.uiuc.edu/orr/get.php?instid=406312>

Use this rather than the "free" PubMed URL to access journals off-campus, view articles selected for comment in Faculty of 1000, and easily find the articles for which the U of I has e-access.

SciFinder

<http://www.library.illinois.edu/chx/sfchanges.html>

Web version of Chemical Abstracts. Use this if your research involves any kind of chemical – biochemical, genomic, food, plant, and more.

Web of Science

<http://www.library.uiuc.edu/orr/get.php?instid=258127>

Scopus

<http://www.library.uiuc.edu/orr/get.php?instid=396840>

Use these to find up-to-date citations for articles on an array of subjects. Also, use them to set up topical alerts and for citation analysis.

A-Z Online Journals Tool (New!)

<http://openurl.library.uiuc.edu/sfxlcl3/az>

A new resource for finding e-journals.

RefWorks

<http://uiuc.libguides.com/refworks>

Use this recently updated tool to keep track of citations and to help format your papers according to defined styles.

For questions or training in these resources, contact **Katie Newman**, Biotechnology Librarian, Room 2130 IGB, florador@illinois.edu ■

{Operations and Facilities}

Carts

If you are using a cart within the IGB or bringing one from another building, please use the freight elevator. The gatehouse and atrium elevators are not designed for this purpose. ■

Café news



Looking for deals, specials, and announcements from Array Café? Find it all – and maybe more – on the Array Facebook page! Search for Array Café. While you're at it, join us on **Twitter** at **@ArrayCafe**. While you get social, just a reminder – the outdoor seating area outside of Array Cafe is a no smoking area. ■

Equipment repair

The updated process for having equipment repaired has recently been shared with contacts in the themes and the theme secretaries. If you have questions, please see one of them or email facilities@igb.uiuc.edu. ■

IGB plaza bicycle racks

Please do not block the exit door with bicycles when using the plaza racks. This door is used to exit the building in the case of an emergency. If your bicycle is damaged (flat tire, etc.) remove it from the bike rack rather than abandoning it there. Abandoned bikes will be removed after one week without notice. ■

Rechargeable battery recycling

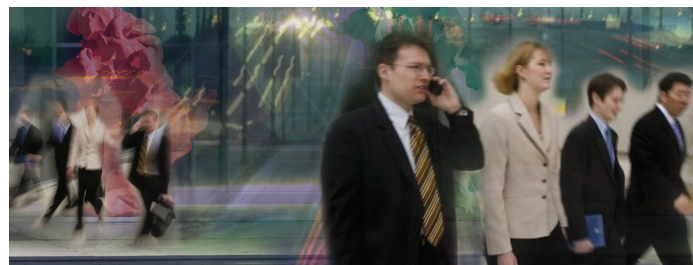


There is now a collection box for cell phone and rechargeable batteries located at the IGB dock. Alkaline batteries are not accepted at this collection location.

However, the Division of Campus Recreation offers alkaline battery recycling at the ARC (201 E. Peabody Dr., Champaign). Batteries can be dropped off at Membership Services. Campus expects to offer additional drop-off locations in the future. ■

{Business Office}

Illinois Transitioned to Using New Electronic I-9 Form on July 1, 2011



To comply with the Immigration Reform and Control Act (IRCA) of 1986, all U.S. employers must verify the employment eligibility and identity of all employees by completing the Employment Eligibility Verification Form I-9. A copy of the I-9 form can be viewed at <http://www.uscis.gov/I-9>.

On July 1, 2011, the University transitioned to using an electronic version of the I-9 form administered through the Tracker I-9 system. As has always been the case, please remember that it is very important that the I-9 form is completed correctly and within the following timeframe:

1. The employee must complete Section 1 of the I-9 form on or before the close of business on his/her first day of work for pay.
2. Employees must also present original documents establishing identity and employment eligibility (Section 2) by no later than close of business on the employee's third day of work for pay, or by the close of business on the first day if the employment is for less than three days.

Again, it is important that employees and supervisors comply with these timeline requirements associated with the I-9 form. To insure compliance, all supervisors should require their new/returning IGB employees to contact the IGB Human Resources staff to complete the I-9 form on or before the employee's first day of work at the University of Illinois. Academic HR is required to forward any instances of non-compliance to University Legal counsel for their review and proposed course of action.

I-9 forms are subject to inspection by officials of U.S. Immigration and Customs Enforcement, Department of Labor, and Office of Special Counsel for Immigration Related Unfair Employment Practices. Failure to comply could result in financial penalties up to \$1,100 for each violation.

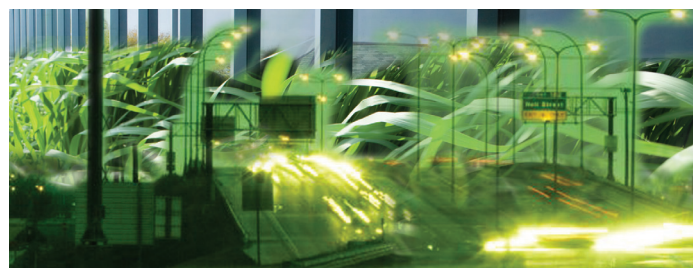
Any questions related to completion of the I-9 form for new IGB employees should be directed to Jacinda King and Malissa Leistner in the IGB Business Office by e-mailing hr@igb.illinois.edu. ■

{CNRG}

Unified Communications Update

With phase one of our Unified Communications project completed (that is moving existing Expressmail users to Exchange), CNRG will soon create accounts for users who check their email at IGB and have not yet been migrated. Please watch your e-mail for upcoming announcements about this important project. ■

{Communications}



Would you like to contribute to one of the featured videos on the website? We are always looking for research projects, community events, or individual interviews to add to our growing video library. Contact **Nick Vasi** at nvasi@igb.illinois.edu for more information. ■



IGB News is published every month by the IGB Communications Office
Contact: Nick Vasi • E: nvasi@igb.illinois.edu • P: 217.333.0873
www.igb.illinois.edu