

IGB NEWS

Upcoming Events
Monthly Profiles
Happenings at IGB

Image Of The Month

IP @ IGB

Department Announcements

Volume 10 Number 1

UPCOMING EVENTS

Reddit's Ask Me Anything

Gene Robinson and May Berenbaum
February 14, 2017

Questions can be submitted
starting at 7:00 am on February 14th
at <https://www.reddit.com/r/science/>.

Lunch With The Core

*How the IGB Engages with the Public
and Industry Sectors*

February 15, 2017, 12:00 p.m.

612 Carl R. Woese Institute for Genomic Biology

Lunch and learn with members of IGB
Core Facilities, featuring members of the
IGB Outreach Group.

Fox Family Innovation and Entrepreneurship Lecture

Single Molecule Real-Time DNA Sequencing

February 21, 2017, 12:00 p.m.

612 Carl R. Woese Institute for Genomic Biology

Harold G. Craighead, PhD
Cornell University
Applied and Engineering Physics

IGB Seminar (CGRH)

*Comparative DNA Methylation Analyses
of the Human Brains*

February 28, 2017, 12:00 p.m.

612 Carl R. Woese Institute for Genomic Biology

Soojin Yi, PhD
Georgia Institute of Technology
Biological Sciences

IGB Seminar (GNDP)

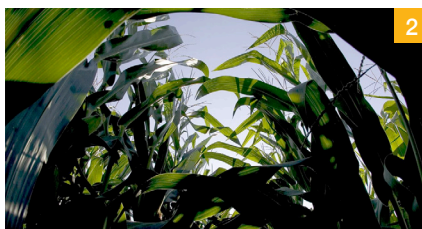
*Impact of Regulatory Variation Across Human
iPSCs and Differentiated Cells*

March 7, 2017, 12:00 p.m.

612 Carl R. Woese Institute for Genomic Biology

Yoav Gilad, PhD
The University of Chicago
Department of Medicine
Department of Human Genetics

FEATURED NEWS



2

Crop Achilles' heel costs farmers
10 percent of potential yield



3

Climate Change will Affect
Carbon Storage Levels, Soil



4

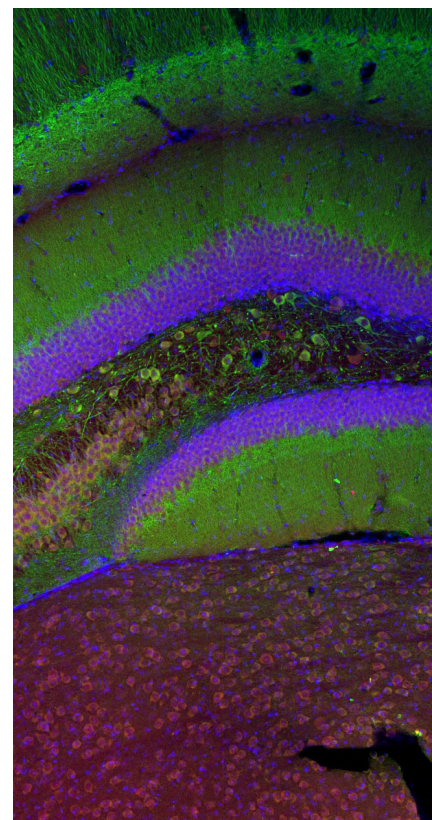
Monthly Profile:
Zeynep Madak-Erdogan



5

On the Grid:
Happenings at IGB

IMAGE OF THE MONTH



The autism susceptibility candidate 2 (AUTS2) gene is linked to Autism and other neurodevelopment disease, and known to be expressed in several brain regions during prenatal development. However, AUTS2 still expresses in some brain regions, including hippocampus and cerebellum, postnatally. As the hippocampus is a brain region that shows neurogenesis after birth, disruption of adult neurogenesis may impact on learning and memory forming (Green: MAP2, Red: AUTS2, Blue: Hoechst). Image courtesy of Chih-Ying Chen of the Lisa Stubbs Lab.

IGB News

Share your news with the IGB. Send ideas on stories, articles, and features to nvasi@illinois.edu.



Crop achilles' heel costs farmers 10 percent of potential yield

Scientists assumed leaves at the top of a plant would be the best at turning higher levels of light into carbohydrates—through the process of photosynthesis—while the lower shaded leaves would be better at processing the low light levels that penetrate the plant's canopy of leaves. Turns out that in two of our most productive crops, these shaded leaves are less efficient than the top leaves, limiting yield.

These findings, published in the *Journal of Experimental Botany*, could help scientists further boost the yields of corn and Miscanthus, as well as other C4 crops that have evolved to photosynthesize more efficiently than C3 plants such as wheat and rice.

"The wild ancestors of C4 crops are thought to have grown as individuals in open habitats where the number of leaves that they produced would have been limited by water and nitrogen and most leaves would be exposed to full sunlight" said principal investigator Steve Long, Gutsell Endowed Professor of Plant Biology and Crop Sciences at the University of Illinois.

"Today we grow these crops in ever denser stands, and provide them with nitrogen and water so that they can produce many more layers of leaves. But as a result, the proportion of leaves that are shaded has increased, and the production of grain will depend more and more on the contribution of this increasing proportion of shaded leaves. So how do the Maseratis of photosynthesis, C4 crops, do when they are on a meager fuel ration in the shade?"

Not well, according to this paper: when top and bottom leaves are placed in the same low light, the lower canopy leaves showed lower rates of photosynthesis. Shaded corn leaves are 15 percent less efficient than top leaves—and worse, lower leaves are 30 percent less efficient than the top leaves of

"The wild ancestors of C4 crops are thought to have grown as individuals in open habitats where the number of leaves that they produced would have been limited by water and nitrogen and most leaves would be exposed to full sunlight."

Miscanthus, a perennial bioenergy crop that is 60 percent more productive than corn in Illinois.

Considering the crop as a whole, this loss of efficiency in lower leaves may cost farmers about 10 percent of potential yield—a cost that will increase as planting density increases. This 'Achilles' heel' likely applies to other C4 relatives, such as sugarcane and sorghum.

"What's interesting is that we saw this loss in efficiency in the lower canopy was not due to the leaf

senescing and dying off—we would have expected that," said first author Charles Pignon, a doctoral candidate in the crop sciences and at the Carl R. Woese Institute for Genomic Biology. "The leaves were still perfectly healthy when we were looking at them; they were even darker. In the article, we show through experiments that this was not caused by age."

"Next, it will be important to find out why this loss in efficiency occurs and if there's any way that we can fix it, since overcoming this and gaining a 10 percent increase in production would be very significant," Pignon said.

###

The paper "Loss of photosynthetic efficiency in the shade. An Achilles heel for the dense modern stands of our most productive C4 crops" was published in *Journal of Experimental Botany*. Co-authors also include Deepak Jaiswal and Justin McGrath, a post-doctoral researcher at the University of Illinois.

This work was supported by the Energy Biosciences Institute (EBI). The EBI is a public-private collaboration supported from BP in which bioscience and biological techniques are applied to help solve the global energy challenge. For more information, visit <http://www.energybiosciencesinstitute.org/>. ■

*Written by Claire Benjamin.
Photo by Don Hamerman*



Study: Climate Change will Affect Carbon Storage Levels, Richness in Midwest Soil

Researchers from the University of Illinois and collaborating institutions predict that Midwest soil may lose as much as 15% of its stored carbon—and thus its agricultural fertility—over the next 100 years due to the effects of global climate change.

During a three-year field trial at the University of Illinois at Urbana-Champaign, researchers exposed pockets of a traditional corn-soy rotation agriculture site to the kinds of increased temperatures and atmospheric carbon dioxide (CO₂) levels the region is expected to experience in 50 years' time. They measured carbon dioxide release (also called “flux”) from the ground in the test spaces from two sources: the roots of plants and the fungi that grow on them, and the microorganisms inhabiting soils that break down soil organic matter — like decomposing plant tissue.

As ambient CO₂ levels increase in the air surrounding plants, they actually “breathe” in more of it and store it (via photosynthesis) in their root systems — a net gain of carbon to the soil. However, as temperatures simultaneously increase, the microbes in soil become increasingly active, eating up more soil matter and releasing more carbon. Whatever small benefit higher atmospheric CO₂ had on soil carbon, it was overwhelmed by the spike in CO₂ flux by the increased activity of microorganisms.

Using those observed results and historical climate and weather patterns for Illinois, the team then used the ecosystem model DayCent to simulate the effects temperature and CO₂ effects through the year 2109. The overall result: 100 years of hot soil means 15% less carbon than before.

The scientists, who published their report in *Global Change Biology* journal in late 2016, said previous

studies failed to show a large, if any, drop in soil carbon because they examined only the aggregate respiration — or breathing out — from soils. By examining how different effects of a warming climate affect individual components of total respiration, this new study provides a more nuanced view of ecosystem response.

If realized, the predicted substantial loss of organic carbon in soil is likely to cause major headaches for both farmers and climate scientists.

Carbon is a prized element in agricultural soils because of its nutrient- and water-holding properties. Near-black, carbon-rich soils are a hallmark and major asset of Illinois and other Midwest agriculture. Even slight degradation may lead to the need for additional costly inputs.

Also, soil is the second-largest reservoir of carbon on the planet, second only to in-ground fossil fuels. So, said one of the study's authors, the greater concern from these results may be from a climate change perspective.

“The stock of carbon in the top meter of soil is about two to three times the amount of soil in the atmosphere,” said Evan DeLucia, a University of Illinois Professor of Plant Biology and a co-author of the study. “And so anything you do to mess with that either sequesters more carbon in the soil or puts more into the atmosphere.”

“The story here is that the kind of warming we are expecting to see is accelerating the decomposition of carbon in the soil, which accelerates the rate of global warming, which takes more carbon out of the soil, which accelerates global warming, etc.”

The results of this study — conducted by DeLucia, fellow Illinois Plant Biology Professor Carl Bernacchi, Illinois Plant Biology Ph.D. student Christopher K. Black, Ohio University Assistant Professor of Environmental Studies Sarah C. Davis, and University of Idaho Professor of Natural Resources Tara Hudiburg — are limited to one type of soil, in one small area of the world. But the broader implication that soil, which is usually relied upon as a carbon collector, may be poised to become a carbon contributor in an era of climate change is cause for concern.

What, if anything, can be done in response to carbon emissions from soil?

“The most immediate response is to aggressively pursue policies that reduce the rate of global warming so we can keep that carbon in the soil,” DeLucia said. “For example, getting our federal government to adhere to and accelerate the Paris Climate Accord would be one thing.”

He added that there are also many agricultural practices that can be employed to trap carbon in soil — like using a green fertilizer or planting winter cover crops.

The article, “Elevated CO₂ and temperature increase soil C losses from a soybean–maize ecosystem,” is published in *Global Change Biology*. Portions of the research were funded by the U.S. Department of Energy's National Institute for Climatic Change Research. Read the full text of the article at: <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13378/full>. ■



Zeynep Madak-Erdogan is an Assistant Professor of Nutrition and uses systems biology approaches to understand how nutrients and hormones impact breast cancer outcomes and identify biomarkers and associated molecular mechanisms driving more aggressive breast cancers.

Zeynep Madak-Erdogan: Confronting cancer through systems biology

On a certain level, biology is the study of interactions. Biology explores how one thing—an enzyme or a population—interacts with something else—a substrate or a habitat. Zeynep Madak-Erdogan (ONC-PM) examines the interaction between three complex disciplines. “My lab is interested, overall, in the impact of diet and nutrition on how hormones work in regulating women’s physiology,” says Madak-Erdogan. “My training and background are in molecular biology, but throughout the years, as the projects I was involved in evolved, I became more interested in breast cancer, the metabolic aspects of it, and how nutrition affects the whole thing.”

Madak-Erdogan, who received her bachelor’s from Bilkent University in Turkey before pursuing her PhD at the University of Illinois, has had cancer in her crosshairs for most of her life. “I’ve wanted to be a cancer researcher since I was 15. Through my training, certain projects brought me to the intersection of cancer research and metabolism. But it was always cancer: understanding cancer, and curing cancer eventually.” Madak-Erdogan’s involvement with metabolism began during her postdoctoral work with Benita Katzenellenbogen, Professor of Molecular and Integrative Physiology (ONC-PM) at Illinois, and then evolved into combining female metabolism with obesity research to produce a lens from which to examine breast cancer.

Madak-Erdogan, who joined the Department of Food Science and Human Nutrition in 2014, directs this integrative lens at the environment in which the tumor grows. “The majority of current research focuses on the tumor—like when the breast cancer develops, what makes the tumor responsive or not responsive to other things,” she explains. “But the way we approach things is that we consider the composition of the tumor, but also examine the composition of the patient’s blood

serum, because that feeds the tumor, in a way. We think that the factors in the serum such as growth factors, nutrients, and metabolites also affect how the tumor might respond to certain therapies or not, or if it’s more aggressive or not.”

Since joining the recently created Omics Nanotechnology for Cancer Precision Medicine (ONC-PM) research theme at the IGB, Madak-Erdogan’s

“My training and background are in molecular biology, but throughout the years, as the projects I was involved in evolved, I became more interested in breast cancer, the metabolic aspects of it, and how nutrition affects the whole thing.”

focus has shifted from how blood serum feeds and affects a tumor, to how serum can be used to indicate the presence of that tumor. Composed of biologists, engineers, and clinicians, the theme hopes to develop a biosensor that is able to detect tumors based on the presence of certain molecules found in blood serum. The sensor would also monitor how cancer cells respond to treatments. “The aim is to develop an accurate, quick, cheap way of diagnosing cancer, using a small amount of blood or saliva,” explains Madak-Erdogan. “To maybe have a detector, one that you could possibly insert into an iPhone, take a little sample and use it.

“The offshoot of that is to use it daily to monitor whether the patient is responding to therapy or not, and if not then to change the treatment regimen. Like a point-of-care device. And the thing is

that the doctor might use it, but the way we’re envisioning this device is that you don’t need advanced training, so a technician can do it and software can do the analysis.”

Madak-Erdogan’s original approach to cancer treatment extends beyond her research. She and Erik Nelson, a professor of integrative physiology, are attempting to establish the Cancer Research Advocacy Group on the University of Illinois campus.

“We try to bring in patient advocates, who could be cancer survivors, family members of survivors, or anyone who has a personal interest in cancer research,” says Madak-Erdogan. “We train them in the fundamental science of cancer, and then hopefully have them advocate for us for cancer research.”

The objective of the Cancer Research Advocacy group is to develop a patient-focused approach to cancer research and treatment. “When you’re treating a patient with a tumor, you’re not treating just the tumor but a whole patient,” Madak-Erdogan says. “I think there is a lack of understanding that when you’re developing a drug, you’re not only trying to get rid of a tumor. There are always so many side effects that cancer patients or survivors have to deal with that at some point they say, ‘I’m not taking this drug anymore; I know it will save my life but I can’t deal with the side effects.’”

Ultimately, Madak-Erdogan’s goal is to impact cancer research and treatment in a way that ensures the patient remains the highest priority. “I think it’s very important fundamental researchers get into that mentality, and I believe that would be more likely to happen if they began working with these patient advocates. That understanding is very important and is something that I’ve been advocating for, even by myself.” ■

Written by Gregory Toreev. Photo courtesy of American Society for Nutrition.

ON THE GRID HAPPENINGS AT THE IGB

AWARDS



PAUL HERGENROTHER

Paul Hergenrother, Professor of Chemistry (ACPP Theme Leader) received the Arthur C. Cope Scholar Award by the American Chemistry Society (ACS) for his contributions of major significance to the field of chemistry.



IWONA JASIUK

Iwona Jasiuk, Professor of Mechanical Science and Engineering (RBTE) was named the recipient of the 2016 American Advanced Materials Award from the International Association of Advanced Materials.



WILFRED VAN DER DONK

Wilfred van der Donk, Heckert Chair in Chemistry (MMG) received the 2017 Repligen Award in the Chemistry of Biological Processes from the Division of Biological Chemistry, American Chemical Society, in recognition of his contribution to understating natural product biosynthesis.

NEW ARRIVALS



VIVIAN TANG

Professor Vivian Tang has joined the IGB as an affiliate member in the Regenerative Biology and Tissue Engineering (RBTE) Research Theme. She is a faculty member in the Department of Cell and Developmental Biology. She received her PhD from the University of California, San Francisco, and was a postdoctoral research associate at Harvard Medical School. Her research interests focus on the regulation of cell junction in kidney diseases.



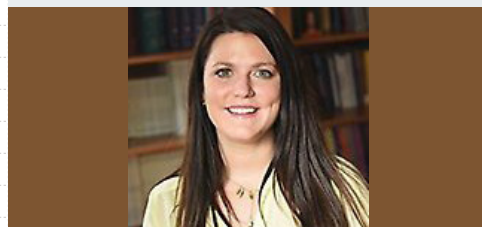
DONELLE ASH

Donelle Ash has joined the IGB as an Account Technician I. She will be assisting the Grants Support Team in the IGB Business Office. Donelle transferred from the LAS Student Affairs Office after working there as an Office Support Associate supporting the LAS Honors Program. She initially worked at the University of Illinois from 1995 to 1998; however, she spent most of her career as a Rural Mail Carrier in Mahomet before deciding to return to the University.



KIERRA FONNER

Kierra Fonner has joined the IGB as an Account Technician. She will be assisting the Grant Support Team. Kierra previously worked as an Administrative & Procurement Professional at Deedrick Precision Machining. Recently she transferred to Eastern Illinois University to pursue a bachelor degree in Organizational and Professional Development.



MICHELLE REW

Michelle Rew has joined the IGB as an Account Technician I. Michelle will be assisting with the processing of appointments, payroll, and visa submissions in the IGB Business Office. Michelle previously worked in the Business Office in the School of Social Work. Michelle has a degree in Office Administration.



AMY WILDMAN

Amy Wildman has joined the IGB as an Office Support Associate. As part of the Business Office she will be supporting the Outreach and Communications teams. Amy previously worked in the Micro and Nanotechnology Lab supporting faculty members and coordinating events. She graduated from the University of Illinois with a BA in English and is pursuing a Master's in Library Information Sciences.

ON THE GRID HAPPENINGS AT THE IGB

ASK ME ANYTHING



GENE ROBINSON AND MAY BERENBAUM TO BE FEATURED ON REDDIT'S ASK ME ANYTHING

IGB Director and Swanlund Chair in Entomology Gene Robinson, with Professor and Head of Entomology May Berenbaum, will be featured on Reddit's Ask Me Anything on February 14.

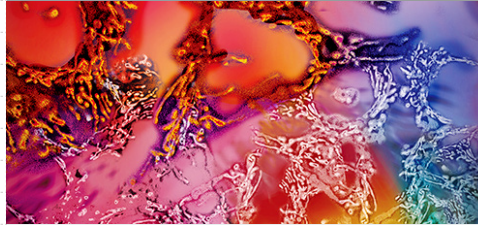
Questions can be submitted starting at 7:00 am on February 14th at <https://www.reddit.com/r/science/>. More information below:

Science AMA Series: We are Dr. May Berenbaum and Dr. Gene Robinson, University of Illinois entomologists. We study the genomics of honey bee biology, and we're here for some sweet science discussion for Valentine's Day! AUA!

We are two scientists who are fascinated by honey bees: their complex social lives, their collective ability to adapt to environmental challenges, their sophisticated cognitive abilities, and the vital role they play in agriculture and food production. We also share a common experimental approach: exploring the behaviors, life history, evolution, and health of honey bees and other insects by studying their genomes.

Genomes have led to a definitive answer to the historic nature vs. nurture debate: effects of nature (inherited genetic material) and nurture (effects of the environment) interact with each other at the level of the genome to shape the biology of all living things. In Dr. Robinson's lab, we have discovered how the responsiveness of the genome in honey bee brain cells relates to the ability of bees to adjust their behavior to their physical and social environment, and therefore contribute to the colony's ability to be robust to challenges. In Dr. Berenbaum's lab, we've overturned the idea that honey is just a carbohydrate source. We've shown that constituents of honey that come from nectar and pollen increase the activity of genes in the genome that code for proteins that protect the bees from a variety of threats.

ART OF SCIENCE



ART OF SCIENCE SHOWS

The Art of Science: Images from the Carl R. Woese Institute for Genomic Biology traveling exhibit has the following shows:

- **Bloomington IAACU**
January 3 to February 28, 2017
- **Illinois State Capitol, Springfield**
February 27-March 10 and March 29, 2017

ONLINE COURSE

The Coursera logo, featuring the word "coursera" in a white, lowercase, sans-serif font on a blue background.

IGB MOOC

What is a genome, and how genomes define life on earth? These are the central questions explored by the IGB's new massively open online course (MOOC), entitled "Genomics: Decoding the Universal Language of Life," releasing on Coursera in February 2017. The course content will be free for everyone, and is designed to be accessible for students of all ages and backgrounds. IGB Director Gene Robinson is the main instructor for the course. In addition, each unit features several IGB researchers as guest instructors. Key concepts are conveyed through whimsical animations, as well as images and footage of IGB research.

Those who take the course will discover how IGB researchers are deciphering the language of genomes to learn how to develop sustainable food and fuel supplies, improve disease treatment and prevention, and protect our environment.

SCHOLARSHIP



CARL R. WOESE UNDERGRADUATE RESEARCH SCHOLAR

The Carl R. Woese Undergraduate Research Scholar Program offers undergraduate students the opportunity to pursue interdisciplinary research at the IGB. The successful applicant will conduct research on a full time basis over 10 weeks during the summer, and will be paid on an hourly basis up to a total of \$4,500.

Applicants must complete an application form, provide a CV, and a description of the proposed research project. The research description should not exceed two single spaced pages. The research project can be in any area of research that takes place at the IGB. The successful proposal will be understandable to a broad audience. Applications must be received by March 17, 2017, apply at <http://www.igb.illinois.edu/content/carl-r-woese-undergraduate-research-scholar>.

EMERGENCY PREPAREDNESS

The logo for the University of Illinois Police Department, featuring a stylized 'I' in a square followed by the text "UNIVERSITY OF ILLINOIS POLICE DEPARTMENT" and "URBANA - CHAMPAIGN" below it.

RUN, HIDE, FIGHT

The University Police Department recently produced a video related to emergency preparedness and the concept of "Run, Hide, Fight." Please watch the two minute video in the spirit of being well-prepared. The video can be found at <http://police.illinois.edu/emergency-preparedness/run-hide-fight/>. There are clear and simple take-away messages for community members in the research enterprise such as at the IGB.

DEPARTMENT ANNOUNCEMENTS

IP @ IGB

THE OFFICE OF TECHNOLOGY MANAGEMENT (OTM) INTERNSHIP PROGRAM

The OTM commercialization analyst internship program is a one year, 10 hour per week program that begins in the summer and lasting through the spring. Founded in 2002, UIUC's OTM internship program has become a model for university technology transfer offices across the United States. A combination of eight PhD, MBA, and JD students learn to evaluate inventions in terms of patentability, marketability, and commercial potential. As part of this process, the interns work with the inventors to understand the underlying technology, perform searches to gauge the intellectual property potential, and present their findings to the OTM staff. The interns then work with the staff – who are PhD scientists, engineers, business professionals, and lawyers who specialize in intellectual property and technology transfer – to decide on a best course of action for the technology, be it a patent filing, copyright protection, or direct marketing. If you are interested in learning more about this internship, please visit <http://otm.illinois.edu/internships>. The applications deadline is February 10, 2017.

The following is a view of the OTM internship program from the perspective of Commercialization Analyst Sage Dunham (Chemistry PhD candidate). In the December 2016 IGB newsletter Gregory Miner, a Biochemistry PhD candidate and OTM Commercialization Analyst Intern, provided his perspective on the OTM and the internship program.

How has the OTM Commercialization Analyst Internship influenced my graduate career, and what impact will it have on my professional life?

Each day at the OTM is unique and rewarding. Professors, postdoctoral researchers and graduate students are excited to share their greatest discoveries, and their enthusiasm is infective. The OTM staff is continually fascinated with the range of technologies and the potential impact of these technologies on world. As an intern, I work closely with inventors from all over campus to learn about science and technology well outside of my expertise. In 2016, the eight OTM interns handled 240 inventions from 62 departments and divisions across campus. These inventions were in software, library science, chemistry and biotechnology, agriculture and food science, electrical and computer engineering, materials, and many combinations thereof. Personally, I find the perspectives that I gain from these disparate fields to be directly transferable to my day-to-day research, allowing me to better evaluate my own work as well as that of my peers.

As I near the end of my PhD and begin to look into the next phase of my professional life, I expect my time at the OTM to have a lasting impact on whatever route I choose to follow. If I stay in academia, the exposure to the large variety of science will help me to integrate ideas from multiple disciplines when establishing my own lab and formulating research proposals. If I choose to work in private enterprise I will have a heightened understanding of what distinguishes good science from good commercial potential, and I will possess the basic tools necessary to navigate the business and intellectual property landscapes.

In addition to the day-to-day intellectual property and commercialization analysis, we as interns take on a variety of responsibilities that are keyed toward our individual interests. In the last six months alone, my colleagues and I have helped to compose patent applications and market analysis reports, attended national conferences and visited companies to evaluate markets and develop commercialization strategies, performed liability analysis for university sponsored products, and modeled the past disclosure performance of various campus innovation centers. Personally, I spent time

at a local venture capital firm in a role similar to the one that we interns take on at OTM. During this time I worked with the firm to evaluate pitches from startups seeking investment and appraised companies already under direct management for new rounds of outside funding. As a scientist with very little experience in the business world, this role was exceptionally enlightening, as it demonstrated the full route that a technology can take: all the way from conceptualization to prototyping, to marketing and commercialization, to funding, company maturation and sale.

So, in summary, how has the OTM Commercialization Analyst Internship influenced my graduate career, and what impact will it have on my professional life? This experience has made me a more efficient researcher, provided me a window into the cutting edge of science in many different fields, and has given me valuable, firsthand experience in the business side of science.

Where can I learn more about the OTM?

The OTM is located in 319 Ceramics Building and for more information about OTM's mission, activities, and services, please visit our website - otm.illinois.edu. This website contains links to disclosure forms as well as the inventor's handbook (<http://otm.illinois.edu/disclose-protect/inventors-handbook>), an easy-to-follow guide to patenting your inventions. If you have other questions about the patentability of your technology please contact our Technology Managers, RK Narayanan at rkn@illinois.edu and Lisan Smith at lisan@illinois.edu. ■

OTM Tip of the Month: Did you know that the OTM can help you put Material Transfer Agreements in place to protect your IP when you are transferring material OUTBOUND from your laboratory to an external laboratory, institute, or company; the Office of Sponsored Programs handles INCOMING materials to the University.

UNIVERSITY LIBRARY

SMART AND SIMPLE DATA MANAGEMENT WORKSHOP

Science librarians and the Research Data Service are teaming up to offer a data management workshop – Smart and Simple Data Management – outside of the Main Library. We hope the alternative locations will be convenient! The workshops are open to faculty, postdocs, graduate students, and other researchers.

The workshop aims to provide you with data management best practices and tools to increase your research efficiency and impact. We'll present a basic introduction to data management using a data management plan framework, hands on activities, and discuss how to find and vet resources for making data publicly accessible.

The Smart and Simple Data Management workshop will be offered twice:

- Friday, February 17, 2017 from 10:00-11:30am in Funk ACES Library, Room 509
- Tuesday, April 4, 2017 from 10:00-11:30am in Grainger Library, Room 335

For registration links and more information: <http://researchdataservice.illinois.edu/workshops/> ■

DEPARTMENT ANNOUNCEMENTS

BUSINESS

ON-LINE W2 & 1042-S AVAILABLE NOW

If you have consented to receive your form W-2 and/or 1042-S electronically, it is now available. Below are the instructions to retrieve your form.

Access To Electronic Forms W-2 & 1042-S

1. Go to NESSIE at: <https://nessie.uihr.uillinois.edu/cf/index.cfm>
2. Select the "Compensation" tab.
3. Click on the link "W-2/1042-S Tax Statement".
4. Click "Continue".
5. Log in using your NetID and password. For more information on what NetID and password to use please refer to the NESSIE Login Changes FAQ (https://nessie.uihr.uillinois.edu/cf/index.cfm?Item_ID=4977)
6. Enter your Personal Identification Number (PIN) or create one.
7. Once you are on the W-2/1042-S Tax Statement Consent Form page, click 'Continue.'

8. On the Online Tax Forms page, click on the link of the 2016 tax form you want to retrieve.
9. Click on the 'Continue to View/Print' button.
10. Select the link of the tax form you want to retrieve (i.e. 2016 W-2 Form or 2016 1042-S Form).

Your Form W-2 or 1042-S will display on the screen. You may print the form (the form is 2 pages so if your printer has duplex printing you may want to turn it on) or save your form to a hard drive or disk. You may also log off and retrieve it again later through the same process via NESSIE.

If you have questions you may contact University Payroll & Benefits Customer Service by phone at UIUC 217-265-6363(UIUC), 312-996-7200 (UIC) and 217-206-7144 (UIS) or email payinq@uillinois.edu. ■

RECENT PUBLICATIONS

Please include your connection to the IGB in your author byline when submitting publications, as it will greatly help track potential newsworthy items and increase the possibility of coverage.

Wang, C., Song, Y., Li, H., Zhang, M., & Han, J. (2016). Text classification with heterogeneous information network kernels. In *30th AAAI Conference on Artificial Intelligence, AAAI 2016*. (pp. 2130-2136). AAAI press.

Korolov, R., Lu, D., Wang, J., Zhou, G., Bonial, C., Voss, C., ... Ji, H. (2016). On predicting social unrest using social media. In *Proceedings of the 2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining, ASONAM 2016*. (pp. 89-95). [7752218] *Institute of Electrical and Electronics Engineers Inc.*. DOI: 10.1109/ASONAM.2016.7752218

Li, X., Alemzadeh, H., Chen, D., Kalbarczyk, Z., Iyer, R. K., & Kesavadas, T. (2016). A hardware-in-the-loop simulator for safety training in robotic surgery. In *IROS 2016 - 2016 IEEE/RSJ International Conference on Intelligent Robots and Systems*. (Vol. 2016-November, pp. 5291-5296). [7759778] *Institute of Electrical and Electronics Engineers Inc.*. DOI: 10.1109/IROS.2016.7759778

Baig, N., Polisetti, S., Morales-Soto, N., Dunham, S. J. B., Sweedler, J. V., Shrout, J. D., & Bohn, P. W. (2016). Label-free molecular imaging of bacterial communities of the opportunistic pathogen *Pseudomonas aeruginosa*. In *Biosensing and Nanomedicine IX*. (Vol. 9930). [993004] SPIE. DOI: 10.1117/12.2236695

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