

Interdisciplinary Graduate Studies in  
**BioMolecular Science**



# BioMolecular Science Weekly

October 2 - 6, 2017

## *Save The Date:*

**BMS Recruitment Weekends: January 11 – 13, 2018 and February 8-10, 2018**

Current graduate students and faculty, please set aside some time during these dates to assist/volunteer with recruiting events and social activities. More details to follow.

## *Calendar:*

### Monday, October 2<sup>nd</sup>:

**Genetics Journal Club:** Amanda Charbonneau; “Weed evolution: Genetic differentiation among wild, weedy, and crop radish”; 1:00 PM; 1425 BPS

**Entomology Seminar:** Adam Ingrao, Michigan State University; “Adventures in Outreach: Reaching America's Veterans through Entomology”; 4:00 PM; 244 Natural Science

**BMS Research Forum:** Alexandra Lantz, T. Sharkey Lab; “Role of the MEP Pathway in Controlling Isoprene Emission in Natural and Engineered Species”; 12:00 PM; 162 Food Safety

**Pharmacology and Toxicology Seminar:** Dr. Murray Esler; “Phenotypes of Sympathetic Nervous Activation in Essential Hypertension and Their Relation to Cardiovascular Risk: The Obesity Paradox Explained?”; 12:00 PM; B448 Life Sciences

**MSU-DOE Plant Research Laboratory Seminar:** Professor Megan Frederickson, University of Toronto; “The Evolution of Cooperation between Plants and Microbes”; 4:00 PM; 1200 Molecular Plant Sciences

**WiPS Seminar:** Jennifer Kirk, Kashefi/Walker Lab; “The Water-Filled Tree Holes as a Reducing Environment: Implications for Microbial Communities and Mosquito Growth”; Michael Maiden, Waters Lab; “Targeting Persister Cells to Enhance Antibiotic Activity Against *Pseudomonas aeruginosa* Biofilms in Cystic Fibrosis”; 12:00 PM; 1455A BPS

## Tuesday, October 3<sup>rd</sup>:

**MMG Seminar:** Joshua ShROUT, University of Notre Dame; “Coordinated Responses and Signaling Patterns of *Pseudomonas Aeruginosa* Swarm Communities”; 11:00 AM; 101 Biochemistry

**MSU-DOE Plant Research Laboratory Seminar:** Zhi-Yan Du, Benning Lab; “Bio-flocculation of Algae for Biofuel Production”; 12:00 PM; 168 Plant Biology

**Genomics Core Seminar:** Marie Adams, PhD, Director of the Genomics Core at Van Andel Research Institute; “10X Sequencing at Van Andel Research Institute”; 12:00 PM; 162C Food Safety and Toxicology

## Wednesday, October 4<sup>th</sup>:

**3M Interest Group:** Jason Schrad, Parent Lab; “Opening Pandora's Box: Characterization of the Samba Virus Genome Release Strategy”; 4:00 PM; iCER Seminar Room, 1455A BPS

**Pharmacology and Toxicology Seminar:** Dr. Elena Demeriva; “TBD”; 12:00 PM; B448 Life Science

**Department of Medicine Research Forum:** Ralphe E. Watson, M.D., F.A.C.P., F.A.S.H.; “Do Modifiable Factors Affect Blood Pressure Via Methylation of Cytosine in Human DNA?”; 12:00 – 1:00 PM; Bio Engineering Facility, IQ Conference Room 3000

**Food Science and Human Nutrition Seminar:** Michael Meller, University of Illinois; “Queso Fresco or: How I Learned to Stop Worrying and Love Fresh Cheese”; 4:00 PM; Room 1135 S. Anthony Hall

**EEBB Colloquium:** Darren Incorvaia, Integrative Biology, Michigan State University; "Spatial Allocation in Bumblebee Colonies"; 12:00 PM; 203C Natural Science Building

**EEBB Colloquium:** Klara Scharnagl, Plant Biology, Michigan State University; "Sodium, Climate Change, and Other Dissertation Distractions"; 12:30 PM; 203C Natural Science

## Thursday, October 5<sup>th</sup>:

**BMB Colloquium Series:** Jin O-Chin, Brown University; “Physiological and Pathophysiological Role of Mitochondrial Calcium in the Heart”; 11:00 AM; 101 Biochemistry

**EEBB Seminar:** Valeria Souza, Universidad Nacional Autonoma de Mexico; "Is Cuatro Ciénegas a Lost Paradise?"; 3:30 PM; 1420 BPS

## Friday, October 6<sup>th</sup>:

**Pharmacology and Toxicology Seminar:** Deepa Srikanta, Ph.D. and Ken Zhart; “Corporate and Foundation Funding Opportunities for Drug Discovery”; 9:00 AM; B448 Life Sciences

**BEACON Seminar:** Arend Hintze, MSU; “Evolutionary Origins of Prospect Theory”; Peter Kvam, MSU; “Evolution of Heuristics”; 3:30 PM; BEACON Conference Room

**Science at the Edge Seminar:** Sunduz Keles, Department of Biostatistics & Medical Informatics and Department of Statistics, University of Wisconsin, Madison; “Statistical Analysis of Global Gene Expression Information”; 11:30 AM; 1400 BPS

**MSU-DOE Plant Research Laboratory:** First Friday Coffee; The Plant Biology Building Coffee Break takes place on the first Friday of each month during the academic year. Come enjoy free juice, coffee, tea, muffins, bagels, and get acquainted with people from the Plant Research Lab, the Plant Biology Department, and more ; 9:30 AM – 10:00 AM; 168 Plant Biology

## *Announcements:*

### Molecular Plant Sciences Seminar Series

**Friday, October 6, 1:00 PM; MPS 1200**

Professor Alain Goossens, Ghent University – Belgium; “Jasmonate-modulated plant metabolic circuits: how to rewire them?”

In addition to the normal Monday Seminar on October 2, please join us for a seminar on Friday, October 6. We welcome graduate students and postdocs to join the speaker for lunch and discussion on seminar days. Lunch will be served at 11:15 AM in room MPS 4270. This is a great opportunity for students to meet our outside speakers in an informal environment.

If you would like to participate, please reply to Carol Wood at [woodc@msu.edu](mailto:woodc@msu.edu) with a “Yes” and any dietary preferences by Wednesday, October 4<sup>th</sup> at 3:00 PM.

All students who are interested in that week’s seminar topic are welcome to attend. Students do not have to be in the MPS program or affiliated with an MPS faculty member.

### Mastering the Interview and Securing Positions at 2- and 4-Year Institutions

**Saturday, October 7, 9:00 AM- 3:00 PM; 110 Chittenden Hall, The Graduate School**

What type of academic position would you like to have after completing your degree or postdoc? What are the expectations for applicants and potential career trajectories at different kinds of institutions? In this interactive workshop, you will learn about the academic cultures at a variety of institutions, and about how to tailor your application and interviewing strategies to these different settings.

In the morning session, featured panelists who are current administrators and faculty members from liberal arts colleges, community colleges, masters comprehensives, and research extensive universities will discuss what they look for when they are screening applications, what interviews look like on their campus, and expectations for tenure and promotion.

The interactive afternoon session will focus on talking about research and teaching in the interview. Learn how to communicate your strengths and interests, set yourself apart in interviews, and get your audience excited about your work. Are you prepared for all of the venues and formats you might encounter in the job search (e.g., video interview, conference exchanges, campus visit)? Can you talk about your research outside your prepared job talk or research presentation? How well can you describe how you teach and what you do in the classroom? You will practice presenting your research and teaching to different audiences, and learn strategies for managing casual conversations on campus visits to job talks. We will explore interview strategies through discussions of video vignettes of candidate interviews. This workshop is part of the PREP Job Search Series, and it fulfills the Certification in College Teaching Competency area of “Understanding the University Context.”

**8:45-8:55. Sign in and pick up materials**

**9:00-11:55 a.m. From Application to Interview: How to Make the Cut for a Campus Interview and Thrive in a New Academic Environment; Panelists:**

- Joseph Esquibel, Associate Professor, Department of Biology, Lansing Community College

- Manooch Koochesfahani, Professor, Mechanical Engineering, Associate Dean, College of Engineering, Michigan State University
- Samuel McIlhagga, Professor of Music and Director of Bands, Albion College
- Parama Sarkar, Associate Professor, Director of Graduate Studies, English, University of Toledo

**12:00-1:00 p.m. Lunch**

**1:15-3:00 p.m. Mastering the Interview: Talking About Your Research and Teaching**

There is a \$10 fee required to participate this workshop. A link to payment information will be provided in the confirmation email you will receive upon registration. Failure to pay this fee will result in your registration being dropped. [Register Here \(Fee\)](#)

### Need RCR Hours?

**October 9<sup>th</sup>, 1:00 PM, 1425 BPS**

Join us for an hour of conversation that counts as face-to-face RCR! We're going to be discussing Christian Kreipke vs. Wayne State. Kreipke contends that Wayne State was falsifying documents about his various grants, and he refused to sign off on them. Wayne State has accused him of scientific misconduct. It's an ongoing case with no clear answers, and should make for a great discussion. Please read this short synopsis before you attend: <http://michiganradio.org/post/after-almost-seven-years-new-twists-wayne-state-whistleblower-case>

Graduate students and post-docs from all programs are encouraged to come. Pizza will be provided.

### Bioethics Brownbag and Webinar Series

**October 11<sup>th</sup>, 2017; 12:00 PM – 1:00 PM; C102 Patenge Room, East Fee Hall**

Dr. Christopher H. Contag; "Crossing the Biology to Pathobiology Threshold: Distinguishing Precision Health from Precision Medicine"

Diseases have long been defined by their symptoms, and therefore patients have typically been treated when they are symptomatic. New tools and innovations will enable a transition from Precision Medicine where the molecular etiology is determined after symptoms appear, to Precision Health in which the molecular etiology of diseases can be anticipated and symptoms averted. However, is it ethical to treat "asymptomatic disease" and at what cost to the healthcare system? What level of risk will be tolerated for interventions that are developed for treating "pre-diseased" patients? Since many of these assays will predict likelihood of disease and not absolute progression to disease, what level of certainty is needed to intervene at all?

This lecture is free and open to the public. You are welcome to bring your lunch. Beverages and light snacks will be provided. All lectures are recorded and posted online in our webinar archive.

<http://Msubioethics.clickwebinar.com/brownbag>

## Graduate Student Life & Wellness Events

### **Leadership Summit: October 28<sup>th</sup>, 2017; 9:00 AM – 4:00 PM**

At this year's summit, attendees will learn from proven leaders who have demonstrated and honed these skills in their personal and professional lives. This year's presenters include Dr. Pero Dagbovie, Dr. Lew Dotterer, Dr. Donna Kaplowitz, and Dr. Jessica Garcia.

Registration begins on September 28<sup>th</sup>, 2017 for this transformative leadership experience. Registration and details at [grad.msu.edu/calendar](http://grad.msu.edu/calendar).

### **Grad Group Fitness Classes**

Register today for these fun community style fitness classes with your fellow graduate students! More information and registration can be found here: [grad.msu.edu/FitnessClasses](http://grad.msu.edu/FitnessClasses)

### **Dissertation Support Groups: October 11, 18, & 25 (12 – 1 PM)**

This is a 6-week group for graduate students who are experiencing difficulty maintaining motivation and/or making effective progress in the writing of their dissertation. The group follows a brief, solution-focused model that utilizes short-term goal-setting in order to facilitate and maintain progress in the writing of the dissertation.

### **Building Capacity for Emotional Wellness: October 9, 16, & 23 (6 – 8 PM)**

This course will help you understand the importance of emotional wellness, help you see the connection between emotional health and optimal performance, and provide you with the basic emotional wellness tools to help you be more resilient and effective in all areas of your life. Students MUST attend all three sessions. To register for this series, please refer to the event page for October 9th.

### **Academic Women's Forum: October 25 & November 14 (3:30 – 5 PM)**

A safe-space to connect, build community, and explore issues that are relevant to the success, support, and empowerment of academic women.

## Research Evening hosted by MSU Institute for Integrative Toxicology & the EITS Graduate Program

Monday, November 13, 2017; 5:15 to 8:00 p.m.; Lincoln Room, Kellogg Center, MSU

Poster session, dinner served, student presentations

Please come interact with graduate students, postdoctoral fellows and faculty in the Environmental and Integrative Toxicological Sciences Program. Graduate students in participating departmental programs are invited to share in the interactions and learn about the opportunity to add an Environmental Toxicology emphasis to their Ph.D. program.

Please RSVP by Friday, **November 3** to Adelle Simmons at [asimmons@msu.edu](mailto:asimmons@msu.edu) .

## Announcement from the Office of Regulatory Affairs

In December 2017, Michigan State University is implementing a new research compliance system, Click™, to manage its Institutional Review Board (IRB) activities. This will affect graduate students with current and future human subjects' research applications and protocols. Click™ will help streamline the

compliance process and enhance security and application transparency for student and faculty investigators.

Educational opportunities, quick guides, and video demonstrations will be available on the [Research Administration Project website](#) this fall. There will be additional communications this fall about the upcoming IRB implementation, including training dates and the transition process for active projects. We encourage you to participate in these educational opportunities if your research involves human subjects. Please visit the [Human Research Protection Program's website](#) and [the Research Administration Project website](#) for additional information.

### Course Announcement: Plant Biotechnology for Health and Sustainability

BMB 961, Section 001, 3 Credits, Spring 2018

Coordinator: Bjorn Hamberger

Other Participating Faculty: Christoph Benning (instructor), Tom Sharkey (instructor), invited MSU Faculty and External Participants

Date/time: Tuesdays/Thursdays, 9-10:20 a.m. in 1030 Molecular Plant Sciences

Prerequisites: Basic knowledge in molecular biology, genomics, or plant biochemistry as demonstrated by having completed at least one of the following graduate level classes: BMB801 molecular genetics, BMB961 plant biochemistry, BMB865 plant molecular biology

Limitation: 15 Students

Description: This course is in part of an interdisciplinary effort to foster opportunities for graduate students with interest in plant biotechnology. A broad overview of the state-of-the art plant biotechnology and related fields will be provided. In addition, students are encouraged to think about concepts and ideas that can be potentially commercialized. Special emphasis will be on plant metabolic pathways that impact human health and nutrition, as well as sustainability in the production of therapeutics, food and fuels from plants and algae. Examples and case studies will be discussed that cover hosts, strategies and pitfalls in expression of foreign pathways. Examples are chosen to explain in simple terms basic metabolic engineering principles, including synthetic biology approaches to generate, analyze, and optimize transgenic plants or algae. Some of the chosen cases will be particularly suited to discuss regulatory and commercial issues related to genetically modified organisms (GMOs) and the 'share-your-parts' philosophy, as promoted for example by the international genetically modified machine (iGEM) initiative. To actively participate in the course, students need to have a basic understanding of molecular biology, genomics, or plant biochemistry, and are expected to read background and original research papers as assigned. Students will be guided to develop a 3-page brochure presenting a scientific idea for a plant biotechnology based product or process with a recognized need or new opportunity. The students will need to lay out the idea, present reasonable milestones and be aware of potential technical, commercial, or societal hurdles, and articulate how the proposed technology would address the need or opportunity. Relevant concepts (novel technologies for genome editing, societal acceptance and outreach, IP aspects) will be discussed and a list of topics will be developed during the first three weeks of the course together with the students. The instructors will provide guidance and feedback to the students on an individual basis as they develop their project. During the final sessions of the semester, students will be asked to pitch their idea in a 10-minute presentation, followed by feedback from the entire group.

Note: if you are not a Biochemistry Graduate Student, you'll need to submit the BMB online course override form found in the "Undergraduate" drop down menu on the BMB Dept. website homepage: [www.bmb.natsci.msu.edu](http://www.bmb.natsci.msu.edu)

### Course Announcement: Visualization of Scientific Datasets

Visualization of Scientific Datasets (CMSE 402), Spring 2018

Course instructor: Brian O'Shea, [oshea@msu.edu](mailto:oshea@msu.edu)

Date/time: Monday/Wednesday, 10:20-11:40 a.m. in 1220 Engineering Building

Prerequisites: CMSE 202 and Calculus III (any version)

This course is open to both undergraduate and graduate students, and counts towards the CMSE minor and both CMSE graduate certificates! Please contact the course instructor if you have any questions or require an override into the course.

Course description: The purpose of this class is to learn about the visualization of many different types of datasets. This includes understanding the components of effective data visualization, the methods and techniques used to visualize different types of data, and the relationship between data analysis and visualization. Students will gain experience in several widely-used visualization tools and will work with vector and scalar data, multivariate data, geographical data, and time-series datasets. Students participating in this course will have the opportunity to experiment with the new CMSE Visualization Laboratory as well as other campus resources.

### Course Announcement: Law College Class Offerings

If you are reading this, you may be considering taking a course at the Law College during the 2017-18 school year. We would be delighted to have you in our classrooms. The following courses are ones we think could be especially valuable to graduate students in the College of Natural Science:

#### **Education:**

- Education Law, LAW 579D. Prof. Kristi Bowman, Fall Mon 4:00-5:40, 2 cr. This course provides an introduction to the legal regulation of public K-12 education in the U.S. and regularly addresses a range of specific topics regarding students' individual and group-based rights.

#### **Environment/Food/Animals:**

- International Environmental Law, LAW 548E. Prof. David Favre, Spring Mon/Wed 10:30-11:45, 3 cr. Learn about the use of bilateral and multilateral treaties and other international mechanisms for dealing with global environmental problems.

#### **Intellectual Property/Technology and Law:**

- Scientific Research Regulation, LAW 558Y. Dr. Jennifer Carter-Johnson, Spring Mon 2:00-2:50, 1 cr. Learn about the legal regulation of a specific area of scientific research and work together to prepare informative and accessible resource materials for researchers themselves.

#### **Social Justice/Social Work:**

- Domestic Violence, LAW 541B. Prof. Veronica Thronson, Spring Mon 4:00-5:40, 2 cr. Study the nature of domestic violence and the role of the law in preventing and deterring such violence.

### **How to Enroll**

This is the tricky part. To enroll in a Law course, we need to ask you to bear with us and complete some paperwork. Because MSU-Law is a separate legal and financial entity from MSU, a grad student must enroll as a “guest student” at the law college to take this class. We are working with the university on simplifying this process, but unfortunately we aren’t there yet. If you have a graduate assistantship, it will cover this coursework in the Law College and there should not be any out-of-pocket cost. The Law College cannot receive MITW (Michigan Indian Tuition Waiver) funding from the state, but will work with you to honor the waiver commitment. (Please note if this is your situation; we’ll need to figure out a number of things behind the scenes—it won’t impact you in the end, but it might take us a little while.)

After you fill out the forms [here](#) and get the required signatures, submit the forms to Theresa Allen in the Law College in person (Admissions Office, third floor of the Law College building) or by email, [allenthe@law.msu.edu](mailto:allenthe@law.msu.edu). We will then enroll you in the course, space permitting. We look forward to seeing you this year.

## **Graduate School Workshops:**

### **Translating Your CV to a Resume**

**Wednesday, October 4<sup>th</sup>, 2017; 5:30 PM – 7:00 PM; 110 Chittenden Hall**

The resume is a common document that is used to apply for jobs outside of academia; however, many graduate students are unfamiliar with how to prepare a compelling resume. This workshop will describe the difference between the CV and the resume and how to translate the experiences you have on your CV into a resume for non-academic job application. Registration is required. Visit [grad.msu.edu](http://grad.msu.edu) and click “Workshops/Events” under Professional Development.

### **Mastering the Interview and Securing Positions at 2 and 4-year Institutions**

**Saturday, October 7<sup>th</sup>, 2017; 9:00 AM – 3:00 PM; 110 Chittenden Hall**

What type of academic position would you like to have after completing your degree or post-doc? What are the expectations for applicants and potential career trajectories at different kinds of institutions? In this interactive workshop, you will learn about the academic cultures at a variety of institution, and about how to tailor your application and interviewing strategies to these different settings. We will explore interview strategies through discussions of video vignettes. You will practice presenting your research to different audiences, and learn strategies for managing casual conversations on campus visits to job talks. This workshop is part of the PREP Job Search Series, and it fulfills the Certification in College Teaching Competency area “Understanding the University Context”.

There is a \$10 fee required to participate in this workshop and lunch will be served. Registration is required. Visit [grad.msu.edu](http://grad.msu.edu) and click “Workshops/Events” under Professional Development.



## Building Capacity for Emotional Wellness

**A three part series: October 9<sup>th</sup>, 16<sup>th</sup>, and 23<sup>rd</sup>, 2017; 6:00PM – 8:00 PM; 110 Chittenden Hall**

It is not uncommon for graduate students to experience some anxiety and depression while completing their degree. Balancing personal, family, work, and academic responsibilities can feel overwhelming at times. In order to thrive in your graduate school experience it is helpful to be able to quickly assess your emotional health status and use this data to regain your emotional balance so you can move through your to-do list effectively. This course will help you understand the importance of emotional wellness, help you see the connection between emotional health and optimal performance, and provide you with the basic emotional wellness tools to help you be more resilient and effective in all the important areas of your life. This class will incorporate basic principles of healthy human psychological functioning, as well as the core concepts of Acceptance Commitment Theory (ACT), and a brief introduction to Shame Resilience Theory (SRT).

Student must attend all three sessions. . Registration is required. Visit [grad.msu.edu](http://grad.msu.edu) and click “Workshops/Events” under Professional Development.

## Electronic Thesis/Dissertation Formatting Workshop

**Friday, October 13<sup>th</sup>, 2017; 2:30 PM – 3:30 PM; 105 S. Kedzie**

This one-hour workshop is designed for Plan A Master’s students and all doctoral students who intend to graduate within the next two semesters. During this workshop students will receive information regarding the following: how to format their thesis or dissertation correctly, how to successfully submit their thesis or dissertation via ProQuest/UMI, and how to successfully submit required paperwork, complete their degree requirements, and receive their diploma. Students are encouraged to review the Thesis and Dissertation Formatting Guide before attending this workshop. Registration is required. Visit [grad.msu.edu](http://grad.msu.edu) and click “Workshops/Events” under Professional Development.

## *Workshops:*

### Genomics Core Workshop – How Much Sequencing Do I Need?

**October 19<sup>th</sup>; 2:00 PM – 3:00 PM; 162C Food Safety and Toxicology Building**

The most common question that we hear at the Genomics Core is how much sequencing is required for a given project. There are a number of parameters to consider when answering this question, but the calculations are not different once you are familiar with the process. This will be an activity driven workshop. Please bring paper, a pencil and a calculator. We will discuss how to request sequencing for a genome sequencing project and a metagenomic whole genome sequencing project. We will run the numbers for hypothetical projects, but you can work out the calculations for your own project too.

## *Job Opportunities:*

### Positions Available at the University of Kansas

**Assistant or Associate Professor in Biochemistry, Assistant or Associate Professor in Microbial Pathogenesis; Department of Molecular Biosciences**

We invite applications for two faculty positions as tenure-track assistant or associate professors. One position is in the area of Biochemistry and another in the area of Microbial Pathogenesis. Candidates are expected to develop an internationally visible, rigorous, and well-funded research program and to effectively teach and mentor undergraduate and graduate students. Included for the Microbial Pathogenesis faculty position are specific resources and support mechanisms associated with the NIH Chemical Biology for Infectious Disease Center of Biomedical Research Excellence (<https://cbid.cobre.ku.edu/>). As such, preference will be given to those applicants with current or future plans that incorporate an aspect of chemical biology into their research.

The University of Kansas is a member of the prestigious Association of American Universities. KU is a major educational and research institution located in Lawrence, a vibrant, thriving community of more than 90,000 and close to Kansas City and the KU Medical Center.

Applicants must have a PhD or equivalent degree in the chemical or biological sciences and at least two years of post-doctoral research experience. Applicants at the Assistant Professor level are expected to demonstrate potential for establishing an independent, externally-funded research program, and those at the Associate level must have extramural funding (as PI or MPI) with clear potential for continuance. The successful candidate will also direct graduate student research and participate in the undergraduate and graduate teaching missions of the University. Minorities, women, veterans and those with disabilities are strongly encouraged to apply. The University of Kansas values candidates who have experience working with students from diverse backgrounds and possess a strong commitment to improving access to higher education for historically under-represented minorities.

To apply online, go to:

Biochemistry: <https://employment.ku.edu/academic/10020BR>

Microbial Pathogenesis - <https://employment.ku.edu/academic/9958BR>.

A complete online application includes the following materials: a cover letter, curriculum vitae, statement of current research achievements and future research plans, statement of teaching interests and philosophy, and the names and contact information for at least three professional references. Review of applications will begin **November 1, 2017** and will continue as long as required to identify a qualified pool. Position inquiries can be directed to Dr. Audrey Lamb (biochemistry position, [lamb@ku.edu](mailto:lamb@ku.edu)) or Dr. Scott Hefty (microbial pathogenesis position, [pshefty@ku.edu](mailto:pshefty@ku.edu)).

### Postdoctoral Position Available at Sloan-Kettering Institute, New York City

The Lai laboratory has a funded postdoctoral position available to study intragenomic conflicts across *Drosophila* species and their control by endogenous RNAi. In prior work, we showed that RNAi has a major role in regulating spermatogenesis, via a special class of rapidly evolving siRNA substrates termed hpRNAs. In ongoing unpublished work, we characterized the genomics of hpRNAs across the Drosophilids, which we believe unlock a map of genomic conflicts controlled by RNAi pathway. We also knocked out the RNAi pathway in a non-model fruit fly and revealed surprising male-specific phenotypes much more overt than in *D. melanogaster*, reflecting depression of emergent meiotic drive systems that do not exist in the flagship fruit fly.

We know little of the profound activities of recently-emerged selfish genes that are controlled by hpRNAs and how they affect gametogenesis, and how such factors come to be recognized and extinguished by small RNA pathways. These topics are central to understanding the biology of RNAi and

mechanisms of speciation. To elucidate these questions, the ideal postdoctoral candidate will have familiarity with *Drosophila* genetics and genome engineering, and integrate these techniques with molecular and genome wide approaches in the context of gonadal biology. As well, this project is relevant to other interests in the group that examine the testis with respect to rapidly-evolving miRNAs and protein-coding genes, and specialized post-transcriptional regulatory pathways, that all reflect the unique gene expression environment of this tissue.

If interested, please contact [laie@mskcc.org](mailto:laie@mskcc.org) with research statement and CV.

### *Scholarships & Fellowships:*

#### Postdoctoral Fellowship for Academic Diversity at the University of Pennsylvania and Children's Hospital of Philadelphia

The Postdoctoral Fellowship for Academic Diversity Program is a competitive program whose goal is to increase the diversity of the community of scholar devoted to academic research at both the University of Pennsylvania and The Children's Hospital of Philadelphia (CHOP). Both organizations seek to attract promising researchers and educators from different background, races, ethnic groups, and other diverse populations whose life experience, research experience and employment background will contribute significantly to their academic missions. Fellowships are available for postdoctoral training in all areas of study at either Penn or CHOP. STEM field applications are encouraged. Successful candidates will receive mentored scholarly and research training as well as courses and workshops to enhance their research success skills and prepare them for a faculty position in a major university.

#### **Eligibility:**

- Graduate students from Penn and other institutions who have completed, or will complete their requirements for Ph.D. by the fellowship start date
- Postdoctoral scholars from other institutions who have completed their dissertation within the last three years
- Professional applicants (M.D., D.M.D., V. M. D., J.D., etc.) within a year of completing their post-degree professional training
- Candidates must be US citizens or permanent residents
- Postdocs, residents and fellows who currently have a position at Penn or CHOP are ineligible for this program

#### **Awards:**

Fellows receive a stipend of \$50,000 a year in year 1 with \$2,000 increments in years 2 and 3, as well as annual allowances for travel (\$2,000) and research (\$5,000), and a one-time relocation expense of up to \$5,000. The University and CHOP also provide a medical, visual, dental and life insurance benefits package.

Successful candidates will receive highly mentored scholarly and research training as well as courses and workshops to enhance their research skills and prepare them for faculty positions in a major university.

Start dates will be arranged in consultation with the faculty mentor to begin as early as July 2018.

For more information and to apply, please visit

[http://www.upenn.edu/research/postdocs\\_students/postdoctoral\\_fellowships\\_for\\_academic\\_diversity/](http://www.upenn.edu/research/postdocs_students/postdoctoral_fellowships_for_academic_diversity/)

The application deadline is **November 3<sup>rd</sup>**.

### Ford Foundation Fellowships

The National Academies of Sciences, Engineering, and Medicine is accepting applications for the 2018 Ford Foundation Fellowships Programs for Achieving Excellence in College and University Teaching. Full eligibility information and online applications are available on our [website](#).

Through its Fellowship Programs, the Ford Foundation seeks to increase the diversity of the nation's college and university faculties by increasing their ethnic and racial diversity, to maximize the educational benefits of diversity, and to increase the number of professors who can and will use diversity as a resource for enriching the education of all students.

#### Eligibility Requirements:

- U.S. citizens, nationals, permanent residents (holders of a Permanent Resident Card), or individuals granted deferred action status under the Deferred Action for Childhood Arrivals Program (DACA) program, and political asylees and refugees regardless of race, national origin, religion, gender, age, disability, or sexual orientation.
- Individuals planning a career in teaching and research at the college or university level in a research-based field of science, social science or humanities.

#### Stipends:

- Predoctoral--\$24,000 per year for three years
- Dissertation--\$25,000 for one year
- Postdoctoral--\$45,000 for one year

Awardees will have expenses paid to attend at least one Conference of Ford Fellows. Approximately 65 predoctoral, 36 dissertation, and 24 postdoctoral fellowships will be awarded.

#### Application Deadline Dates:

- Predoctoral: **December 14, 2017 (5:00 PM EST)**
- Dissertation: **December 7, 2017 (5:00 PM EST)**
- Postdoctoral: **December 7, 2017 (5:00 PM EST)**

**Supplementary Materials receipt deadline for submitted applications is **January 9, 2018 (5:00 PM EST)****

For more information and to apply online:

[www.nationalacademies.org/ford](http://www.nationalacademies.org/ford)

[FordApplications@nas.edu](mailto:FordApplications@nas.edu)

<https://twitter.com/NASEMFordFellow>

<https://www.facebook.com/NASEM.FordFellowship/>