

Interdisciplinary Graduate Studies in
BioMolecular Science



Biomolecular Science Weekly

Month of June

Save The Date:

The American Society of Biochemistry and Molecular Biology (ASBMB) presents a special symposium: “Evolution and Core Processes in Gene Expression”; July 13-16, 2017

Organizers: David Arnosti (Michigan State University), Justin Fay (Washington University), Julia Zeitlinger (Stowers Institute). Learn more at: <https://www.asbmb.org/SpecialSymposia/2017/geneexpression/>

Calendar:

Monday, June 5th- Friday, June 9th:

No Events Listed

Monday, June 12th-Friday, June 16th:

Friday, June 16th-Genetics Defense Seminar: Michael McAndrew; Title TBA; 10:00 AM; 208 Biochemistry

Friday, June 16th -BEACON Seminar: Abhinav Gaur and Wendy Smythe; “Beacon’s Native American project”; 3:30 PM; BEACON Conference Room

Sunday, June 18th- The Department of Entomology hosts the **2017 Bee Palooza** at the MSU Horticulture Gardens and the **Bug House Open House** at the Nat Science Bug House; 1:00-4:00 PM

Monday, June 19th-Friday, June 23rd:

Friday, June 23rd- Great Lakes Chapter Meeting of the America Society of Pharmacology and Toxicology: See details under Announcements.

Monday, June 26th-Friday, June 30th:

Monday, June 26th- Last day to start summer rotation for BMS students.

Monday, June 26th- Genetics Defense Seminar: Jinpeng Li; “Aryl hydrocarbon receptor activation by 2,3,7,8-tetrachlorodibenzo-p-dioxin impairs human B lymphopoiesis”; 1:00 PM; 162 Food Safety and Toxicology Bldg.

Friday, June 30th-BEACON Seminar: Haitham Seada and Zhichao Lu; Titles TBA; 3:30 PM; BEACON conference room

Announcements:

2017 Great Lakes Chapter Meeting of the American Society of Pharmacology and Experimental Therapeutics

It is our great pleasure to invite you to participate in the 2017 meeting of the Great Lakes Chapter of the American Society of Pharmacology and Experimental Therapeutics (GLC ASPET). **This meeting will be held on Friday, June 23, 2017 at the University of Illinois in Chicago, Moss Auditorium, College of Medicine Research Building, 909S. Wolcott Ave., Chicago.**

This will be our 30th Annual GLC ASPET meeting. Our annual meeting is focused on timely topics in pharmacology and drug discovery, and is designed to promote interactions and build bridges between scientists in the Midwest (e.g., Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio and Wisconsin). This year’s theme is “Advances in Pharmacimmunology”.

A major objective of the meeting is to serve as a platform for productive interactions between academic and industrial researchers, as well as suppliers of scientific equipment. In addition to a poster session (that covers all aspects of pharmacology and life science and that results in awards to the best posters from undergraduate and graduate students, as well as post-doctoral fellows), our scientific sessions will be interspersed with discussions relevant to students interested in a career in pharmacology and drug discovery.

Abstract deadline is June 9, 2017. Learn more about the event at: <https://www.aspet.org/glc/>.

Origins of Cancer: Tackling Provocative Questions Van Andel Research Institute; July 21, 2017

Origins of Cancer is a one-day symposium that brings together students, scientists and medical professionals to discuss the latest breakthroughs in cancer research. The theme for 2017 is *Tackling Provocative Questions*, which will highlight recent progress from the National Cancer Institute’s Provocative Questions Initiative.

[Invited speakers](#) will address the following key questions:

- How do variations in tumor-associated immune responses contribute to differences in cancer risk, incidence or progression?
- What are the underlying molecular mechanisms that are responsible for the functional differences between benign proliferative diseases and premalignant states?
- What cancer models or other approaches can be developed to study clinically stable disease and the subsequent transition to progressive disease?
How does microbiota affect the response to cancer therapies?

Cost:

\$100 Non-students

\$50 Students

To register go to <http://www.cvent.com/events/origins-of-cancer-symposium-tackling-provocative-questions/event-summary-b25684ec7c7a4ba48ffba79fb5fce6f.aspx>.

Course Announcement:

BLD 854: Advanced Flow Cytometry Laboratory is offered July 17-21, 2017 on the beautiful Michigan State University Campus. This class features hands on experience in quality assurance exercises, multi-color assay design, multiplex bead assay, data analysis, and sorting. Students will use various flow cytometers on the MSU Campus and will access analysis software in our computer laboratory. This course provides first-hand experience in advanced flow cytometry concepts and practices and is a companion to the online lecture BLD 853: Advanced Flow Cytometry. BLD 853 and BLD 854 contain concepts and exercises to clinicians and researchers that are critical to successful flow cytometry. Students completing both courses (BLD 853 and BLD 854) are eligible for an Advanced Flow Cytometry Certificate. BLD 853 has assisted some students with passing the ICCE exam.

For more information, contact Dr. Sue McQuinston (mcquist9@msu.edu) or Aimee Stewart (stewa120@msu.edu).

Workshops:

13th Summer School on Toxic Compounds in the Environment 2017

RECETOX Research Infrastructure, Regional POPs Centre for Central and Eastern Europe and Research Centre for Toxic Compounds in the Environment (RECETOX), Masaryk University would like to extend to you an invitation to attend the international 13th Summer School on Toxic Compounds in the Environment 2017, which will commence from **June 26th to 30th 2017** at RECETOX, Masaryk University, Brno, Czech Republic. For more information, please visit: <http://www.recetox.muni.cz/>

Registration is open here: <https://is.muni.cz/obchod/fakulta/sci/recetox/?lang=en> Do not hesitate with registration, summer school is limited to 40 participants.

Summer Institute in Data Intensive Biology Workshops, UC Davis

Nine week-long computational workshops will be held at UC Davis from July 10 to July 21.

Week 1: July 10-15

- Genome Wide Association Study Workshop - <http://ivory.idyll.org/dibsi/workshops.html#genome-wide-association> -study-workshop - Tamer Mansour and Erica Scott
- Undergraduate Curriculum Hackathon - <http://ivory.idyll.org/dibsi/workshops.html#undergraduate-curriculum-hackathon>
- Introduction to Python - <http://ivory.idyll.org/dibsi/workshops.html#introduction> -to-python - Emily Dolson

- Reproducible research with R/Data Hackathon - <http://ivory.idyll.org/dibsi/workshops.html#reproducible> - research-with-r-data-hackathon - Chris Hamm
- Cloud Training Materials Development - <http://ivory.idyll.org/dibsi/workshops.html#cloud> -training-materials-development - Daniel Standage and Luiz Irber

Week 2: July 17-21

- Introduction to Transposon Insertion Sequencing Analysis (TNSeq/INSeq) - <http://ivory.idyll.org/dibsi/workshops.html#introduction> -to-transposon-insertion-sequencing-analysis - Mark Mandel
- Environmental Metagenomics - <http://ivory.idyll.org/dibsi/workshops.html#environmental-metagenomics>- dibsi-em - Harriet Alexander
- Non-model RNAseq, bring your own data - <http://ivory.idyll.org/dibsi/workshops.html#non-model-rnaseq-bring-your-own-data> - Tessa Pierce, Jane Khudyakov, and Lisa Cohen
- Introduction to R - <http://ivory.idyll.org/dibsi/workshops.html#introduction> -to-r - Michael Koontz

All workshops will take place at UC Davis; please see the venue information (<http://ivory.idyll.org/dibsi/VENUE.html>) for details.

Workshops may extend into the evening hours; please plan on devoting the entire time to the workshop. Workshops are \$350/wk.

On-campus housing information is available for approximately \$400/wk, which includes breakfast and dinner. Housing registration currently closes April 26th.

Registration links for each workshop are under the workshop description; housing is linked there as well, and must be booked separately. Attendees of both weeks of workshops may book housing for both weeks, and attendees of the two-week introductory bioinformatics workshop, ANGUS (<http://ivory.idyll.org/dibsi/ANGUS.html>) may book a full four weeks of housing.

For questions about registration, travel, invitation letters, or other general topics, please contact dibsi.training@gmail.com.

For workshop specific questions, contact the instructors (e-mail links are under each workshop).

Job Opportunities

Postdoctoral Position with Richard Schwartz in MMG

I have a postdoctoral position available. This position is funded for up to 3 years and requires a minimum 2-year commitment by the candidate. We are investigating the promotional effects of high fat diet and its interaction with the endocrine disruptor benzophenone-3/ BP-3/oxybenzone, the active ingredient in most sunscreens and many personal care products. These studies utilize various genetic mammary cancer mouse models. It would be beneficial for the candidate to have had prior experience in mammary gland biology, cancer biology, and/or cancer immunology. Experience with animal studies

would be an asset but not necessary. Our MSU research project is one of six national programs currently funded by the NIEHS/NCI Breast Cancer and the Environment Research Program. Salary will be commensurate with level of experience. Please contact Richard Schwartz, schwartz9@msu.edu, if interested.

Genetics Lab Position

A position is open for a Genetics grad student to work on a population genomics forest pathology project. For more information, please contact Monique Sakalidis at sakalidi@msu.edu.

Faculty – Assistant or Associate Professor, Tenure Track, Columbia University

Field of Specialization: Toxicology

Proposed Starting Date: July 1, 2017

Position Description: The Department of Environmental Health Sciences of Columbia University's Mailman School of Public Health seeks applicants for 1-2 tenure track faculty positions at the level of Assistant or Associate Professor, beginning July 1, 2017. We seek scholars with a doctorate degree in Toxicology and are particularly, but not exclusively, interested in expertise in neurotoxicology. We are also interested in scientists working on the microbiome as it relates to environmentally-induced diseases. The successful candidate(s) will work and collaborate with investigators across the Columbia University Medical Center to develop a comprehensive research program in the areas referenced above, and she/he will play a substantial role in our MS, MPH and PhD educational programs as a teacher and mentor.

Minimum Degree Required: Doctoral degree, terminal professional

Minimum Qualifications: Doctorate degree in toxicology, neurotoxicology, environmental health sciences, or other related discipline (PhD, ScD, DrPH or MD), with substantial post-doctoral training and experience in mechanisms of environmental disease, or cellular, molecular or in vivo models of human disease. A strong publication record, original and creative long-term research vision and demonstrated excellence in teaching and mentoring are required. A record of obtaining peer-reviewed funding for independent research is essential, as is a demonstrated success in working with multidisciplinary and multi-institutional teams.

Applicants should submit a cover letter, CV, personal research plan, statement of teaching philosophy, and list of references to the attention of Dr. Joseph Graziano, Search Committee Chair, Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University, 722 West 168th Street New York, NY 10032 using the following link <https://academicjobs.columbia.edu/applicants>

Postdoctoral Position in Computational Biology and Genetics

A three-year fully-funded post-doctoral research position in computational biology is available, working with leaders in the fields of molecular genetics, psychiatry, neuroscience and philosophy of science. The successful candidate will have outstanding skills in bioinformatics and statistics and a driving curiosity about how genes affect behavior and other complex traits. The position may be held with Dr. Mark Reimers at Michigan State University in East Lansing, or with Dr. Kenneth Kendler at Virginia Commonwealth University in Richmond.

The project aims to address a fundamental question in the genetics of complex traits and diseases: to what extent do genetic variants related to a trait point to a distinct molecular mechanism for that trait? We will specifically compare the genetics of a variety of behavioral traits and psychiatric disorders to the genetics of well-understood processes like growth, and to the genetics of other well-studied complex traits and diseases.

We will have access to many of the largest GWAS data sets compiled to date, and we will integrate these GWAS data with several kinds of genomic data: chromatin, 17-primate conservation, and population history, in order to identify lists of the most likely candidate SNPs and genes. We will then map genes to the rapidly expanding protein-interaction and cell signaling databases in order to identify interactions among the proteins coded by these genes. Then we will develop metrics to quantify the molecular coherence of various traits: that is, the extent to which the different genes implicated in each trait interact directly with each other; this metric will be analogous to network connectivity, although edges may have different strengths or types. Much of this project will depend on integrating data which comes with considerable uncertainty, and we plan to use a Bayesian approach.

This unique integrative project will require a comprehensive engagement with a variety of GWAS data, and draw on a large swathe of modern computational molecular biology; we expect it to yield significant insight into how common genetic variation may influence many complex human traits, and therefore to high-profile publications. This position is funded by a grant from the Templeton Foundation.

Application Process:

Interested applicants should send applications to Dr. Mark Reimers (reimersm@msu.edu), or to Dr. Kenneth Kendler, (kenneth.kendler@vcuhealth.org), with subject heading 'Templeton post-doc application'. All submitted applications must include the following documents: letter of interest, summary of research interest and future plans, three references and a CV. Only electronic applications/documents will be accepted. Administrative questions should be directed to Shari Stockmeyer at stockmey@msu.edu, or Linda Mikell, at linda.mikell@vcuhealth.org.

MSU and VCU are Equal Opportunity/Affirmative Action employers. Women, minorities and persons with disabilities are encouraged to apply.

Toxicologist - Senior Scientist, Amway

Reporting to the Manager of Product Safety, Global Technical Service, this Toxicologist will be responsible for leading product safety and risk assessments to support the development of new beauty, personal care and home products, along with ongoing surveillance of existing products sold globally. This position will lead the safety initiatives for our top brands, offering guidance to enable new product development and promote stewardship in support of our global consumers. The individual will manage the design, monitoring, and interpretation of in vitro and clinical safety studies conducted under Good Clinical Practices (GCP), lead the evaluation of ingredients and formulations for safety purposes, and communicate the recommendations to cross functional teams. This individual will also provide direction on appropriate ingredients, dosages, formulation and processes that will meet regulatory requirements, for safety and quality goals.

The strong professional will have the following academic credentials:

- PhD with 3 - 5 years industry experience in Toxicology, Pharmacy, Medicine or related discipline.
- Board certified toxicologist desired.

Amway's exceptional benefits package includes: Medical, dental, prescription and vision insurance; 401(K) participation; Profit Sharing; Bonus Eligibility; Fitness Center; product discounts. Visit our website to apply: www.amway.jobs.

Postdoctoral Position, The Dow Chemical Company

The Toxicology & Environmental Research & Consulting (TERC) group of The Dow Chemical Company (Midland, MI) is looking for a postdoctoral candidate with experience and training in molecular biology, toxicology, bioinformatics or a related emphasis. The postdoctoral candidate will work closely with TERC scientists and study directors in developing and/or applying state-of-the-art experimental approaches for characterizing toxicity and discerning mode of action. This unique position will present the right candidate with an opportunity to grow and excel in the exciting field of predictive toxicology.

This is a laboratory-based position and the successful candidate is expected to be actively involved in research projects in evaluating bioactivity of compounds using in vitro and Omics approaches and to apply a margin of exposure-based method for safety characterization of chemicals. Activities include experimental design, study conduct, interpretation of results, and evaluation of assay performance. The candidate is expected to present research findings at internal and external workshops/meetings and publish in prestigious peer-reviewed journals. The postdoctoral position at Dow Chemical is for one-year and the contract is renewable up to two years.

Qualifications

- Ph.D. in toxicology (or related field) with training in molecular biology, bioinformatics is required
- Experience applying data mining and machine learning algorithms is preferred
- Strong ability to integrate, analyze and interpret results
- Works well independently and within a multidisciplinary team setting
- Excellent communication skills, both oral and written
- Strong work ethic and attention to detail

For additional details or to apply, contact Dr. Raja Settivari at : RSSettivari@dow.com

Research Associate Position in Biology Education Research at Michigan State University

The Michigan State University Biological Science Program invites applicants for a research associate position. The successful candidate will work with Dr. Jon Stoltzfus, Biological Sciences Program Director, to research students' understanding of core disciplinary ideas and use of science practices by creating a relational database for analyzing formative and summative assessments produced as part of an ongoing effort to transform undergraduate biology education at Michigan State University (<https://natsci.msu.edu/faculty-staff/resources/biology-initiative/>). They will enjoy the benefits of the diverse and active discipline-based education research community at Michigan State University (<http://create4stem.msu.edu/>).

The successful candidate will develop and implement an independent discipline-based education research project related to the following responsibilities:

- overseeing design and implementation of a relational database to archive and disseminate formative and summative assessments and analyze student data from these assessments.
- integrating features of the Automated Analysis of Constructed Response (<http://create4stem.msu.edu/project/aacr>), beSocratic (<http://besocratic.chemistry.msu.edu/>),

and LON-CAPA (<http://www.lon-capa.org/>) systems to provide both students and instructors with relevant feedback on student's understanding of core disciplinary ideas and use of science practices.

- teaching as part of an instructional team in an introductory biology lecture or laboratory course.

Applicants must have completed a Ph.D. in biology, STEM education, bioinformatics, educational technology or related field. Preferred applicants will have interest in or experience with undergraduate biology education research and student assessment. Experience with computer programming or database creation is desirable.

Initial appointment is for one year with renewal for an additional year possible contingent upon performance. Applications should include a cover letter, a one-page summary of educational research interests, a one-page teaching philosophy, curriculum vitae, and three letters of recommendation. Letters of recommendation should address the applicant's discipline-based education research potential, teaching experience, and ability to work in collaborative environments. Application should be submitted to <http://careers.msu.edu> (Posting #438136). Questions regarding the position may be directed to Jon Stoltzfus (stoltzfu@msu.edu). Application review will begin on June 6 and will continue until the position is filled. Anticipated start is flexible but desired by August 15, 2017.

Scholarships & Fellowships:

Baxter Young Investor Award Program

The ninth annual Baxter Young Investor Award Program is now accepting applications. Baxter provides products and services that are essential for saving and sustaining patient lives. This broad portfolio includes peritoneal, acute and in-center dialysis; IV solutions and premixed drugs; infusion pumps and administration sets; parenteral nutrition; surgical products and anesthetics; as well as pharmacy automation, software and services. The program consists of two tiers; first tier awards include a \$2,000 cash prize and an onsite visit to present the award-winning research. Second tier awards will receive a \$500 cash prize.

Scope and Criteria of the Award

Competitive applications will describe activity research which clearly and concisely demonstrates direct relevance to critical care therapies, and especially to those therapies closely related to Baxter's portfolio.

Research Description

The application should clearly describe the connection between the research and the therapies that are relevant. The length should not exceed two pages (including figures and references). The applicant's scientific advisor should also send a letter that confirms the enrollment or postdoctoral status, details the applicant's contribution to the research, distinguishing it from the efforts of other supporting team members, and establishes the significance of the contribution to its relevant scientific discipline.

Eligibility

All applicants must be currently enrolled graduate students or postdoctoral fellows in North America and must be primarily responsible for the research described. All successful applicants must commit to briefly presenting their results the annual Young Investigator Awards ceremony to be held on September 14, 2017 at Baxter's R&D facility located at Round Lake, Illinois.

Details and Conditions

The presentation will be recorded for broadcast at a later date and shared with Baxter's worldwide facilities. Some content may be made public through Baxter's website or through other avenues. Baxter will cover the cost of travel to and from the awards ceremony, as well as the cost of accommodations for the nights before and after the ceremony for those traveling outside from the Chicago area.

Application Deadline

Research descriptions, resumes, and letters should be submitted to the following website **no later than June 30, 2017.**

To submit an application and for more information, please visit <http://www.baxter.com/inside-baxter/science/programs/young-investigator-award.page>