BioMolecular Science Weekly
October 8th-12th, 2018

Calendar:
Monday, October 8th
BMS Research Forum, 12:00 PM, 162 Food Safety
Sarah Keaton, Physiology/Lena Brundin Lab, “A systems level approach to peripatam depression”

WiPS Seminar, 12:00 PM, 1425 BPS
Brian Nohomovich, Manning, Lab, “The virome and human health”
Doug Wilkinson, Garavito Lab, “The DBI Protein; a cytosolic inhibitor of TSPO”

Tuesday, October 9th
MMG Seminar, 4:10 PM, 1415 BPS
Dr. Chris Waters, MSU, “Cyclic Dinucleotides: From Cholera to Cancer”

Wednesday, October 10th
CMB & Genetics Research Forum: 12-1 PM, 1425 BPS
Daniel Barnett, CMB, Student Research Talk: “sTRA glycan identifies aggressive cells and improves the diagnostic accuracy of CA19-9 for pancreatic cancer”

Pharm Tox Seminar, 12:00-1:00 PM, B448 Life Sciences
Dr. David Ferguson, MSU, “Hypothesized Molecular Mechanism by Which Early Life Growth Restriction Leads to Cardiovascular Disease in Adulthood”

C-RAIND Brown Bag, 12:00-1:00 PM, 2235 BPS
Alexa Veenema, PhD, Psychology and Neuroscience MSU, “Function of sex differences in the brain for social behavior: Relevance for understanding sex bias in autism”

Thursday, October 11th
BMB Colloquium Series, 11:00 am, Room 101 Biochemistry
Daniel Ducat, MSU, Tenure Talk

EEBB Seminar, 3:30 PM, 1420 BPS
Karen Maruska, Biological Sciences, Louisiana State University, "Multisensory communication in an African cichlid fish"

Plant, Soil, and Microbial Science Seminar, 4:00-5:00 PM, A149 Plant and Soil Science Building
Frances Trail, PLB and PSM, “A mycologist’s view of the plant microbiome”

Physiology Seminar, 4:00 PM, 1425 BPS
Joel Michael, PhD, Rush Medical College, “Using Core Concepts in the Physiology Classroom”

Friday, October 12th
BEACON Seminars, 3:30 PM, BEACON conference room inside BPS
Speaker information TBA

Plant Biology Seminar, 3:30 PM, PLB 168
Bran Dikes, Purdue University Biochemistry, Title TBA

Science at the Edge Seminar, 11:30 AM, 1400 BPS
Peter Frazier, Operations Research & Information Engineering Department, Cornell University; and Staff Data Scientist, Uber Engineering, “Bayesian Optimization for Materials Design and Drug Discovery”
New Student Spotlight:

Olivia Favor

Olivia Favor graduated from Michigan State University in May 2018 with a Bachelor of Science degree in Biochemistry and Molecular Biology. As an undergraduate, Olivia worked in the Borhan Research Group on the multistep stereospecific synthesis of Salinosporamide A, a proteasome inhibitor with potential use in anticancer research. Olivia is interested in the Pharmacology and Toxicology program through BMS and would like to pursue research in the Martinez-Hackert, Pestka, or Olive labs. In her free time, Olivia enjoys long-distance cycling and writing short stories.

Announcements:

Introduction to Data Visualization with R
Date/Time: October 8, 2018, 6–730p
Venue: BPS 1425 (bit.ly/rrel-venue; opposite to Sparty’s)
RSVP required: bit.ly/rrel-meetup (RSVP to the Oct 8 event)

WHAT TO EXPECT
This workshop will provide a practical introductory overview (with hands-on practice) with making data visualizations in R using ggplot2 (http://ggplot2.org/).

Science Debate Student Group
Wednesday, October 31st at 12PM in 2245 BPS
Do you love science? Are you interested in how science intersects with policy? Come join the MSU Science Debate student group! Enjoy free food and engage in a discussion led by Dr. Wolfgang Bauer, about the science policy of climate change and energy. Training and phone banking for the Science Debate questionnaire. Science Debate is a nonprofit nonpartisan organization dedicated to encouraging politicians to give their thoughts on science policy topics.

Email Taylor Dunivin (dunivint@msu.edu) or Amanda Koenig (koenigam@msu.edu) with questions, or visit sciencedebate.org for more information.

COGS Upcoming Events, Discounts, and Services

Check out COGS special discounts and services:

COGS Discount Wharton Center Tickets – COGS offers $5 off the regular student price for a limited number of tickets to a selection of shows throughout the year. Be sure to check our website Events page often for available ticket sales. Right now Broadway musical, School of Rock, tickets are available for Graduate & Professional students to purchase for $24 ea. Visit: https://cogs.msu.edu/home/upcoming-events/ (MSU ID needed for ticket pick-up at the COGS office.)

COGS Wings Wednesday - All day wings are half off at Harrison Roadhouse every Wednesday for grad/professional students wearing a COGS wristband. Need a wristband? Stop by the COGS office in Chittenden Hall (room 120) and get one.

Free Legal Services - visit http://cogs.msu.edu/resources/services/legal-aid/ for more information.
Short Term Loans - visit http://cogs.msu.edu/resources/services/loans/ for more information.
Funding Opportunities - visit http://cogs.msu.edu/resources/funding/ to learn more.

COGS Upcoming Events:

October 11 – COGS Coffee Hour. Located in the lounge in Chittenden Hall. 4 pm to 5 pm. Enjoy coffee, snacks and conversation!

October 28 – COGS Annual Detroit Red Wings Bus Trip; A limited number of tickets will go on sale Oct. 1st at noon. Game Date is Sunday, October 28th - puck drops at 5:00 pm. See the Detroit Red Wings face the Dallas Stars at Little Caesars Arena. Ticket Combo costs $50 and includes: (1) game ticket, round-trip charter bus transportation from MSU Campus, and a $10 concessions credit. Limit 2 combos per student. Available until sold out.

AND MORE! Please like and follow us on Facebook & Twitter for updates and visit our website for more information. We look forward to getting to know you this year!
Job Opportunities:

Postdoctoral Associate Position:

**Position summary:** The Caswell laboratory at Virginia Tech is seeking a Postdoctoral Research Associate to study virulence mechanisms in the pathogenic bacterium Brucella abortus. This NIH-supported position has 2 years of guaranteed funding. The Associate will conduct research projects related to defining genetic mechanisms and biochemical systems important for Brucella pathogenesis.

**Required qualifications:** Ph.D. in microbiology, molecular biology, or related discipline. Strong background in bacterial genetics, biochemistry, or animal models of infectious disease. Track record of peer-reviewed publications in high quality journals. Demonstrated ability to work independently and organize and prioritize work. Excellent communication skills and the ability to work closely with other individuals. Ability to obtain clearance for independent work in a Select Agent BSL-3 laboratory.

**Preferred qualifications:** Experience with genetic manipulation of bacteria. Experience with microscopy. Desire to develop scientific writing skills.

**Distribution of duties:** 95% research and scholarship. 5% teaching and instruction.

**Duration of position:** 2 years.

**Position availability:** Immediately.

**Required materials:** Cover letter, CV, and list of three references.

**Website:** https://listings.jobs.vt.edu/postings/90026

**Posting Number:** SR0180163

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### Postdoctoral, Visiting Scholar and Technician Positions at Cincinnati Children’s Hospital Medical Center (CCHMC) : Cincinnati, OH, United States

Postdoctoral, visiting scholar and technician positions in bioinformatics and epigenomics (computational/experimental) are available at Dr. Yaping Liu’s lab in the Department of Pediatrics, Cincinnati Children’s Hospital Medical Center (CCHMC) to study epigenomics in circulating nucleic acid. Our group will focus on using genetic and multi-dimensional epigenetic information in circulating cell-free DNA and exosomes to understand the gene regulation at the population level and therefore bridge the gap between genetic and phenotypic variations at different healthy and pathological conditions. Dr. Yaping Liu is an incoming tenure-track assistant professor and will join the department at CCHMC in January 2019. Dr. Liu received his B.S. from Nanjing University in Biotechnology and Ph.D. in Genetics from University of Southern California under the supervision of Dr. Benjamin Berman. He finished his postdoctoral training at Dr. Manolis Kellis lab in MIT and Broad institute of MIT and Harvard. Right now he is a principal computational biologist in Freenome Inc. to do cancer early detection research by using genomics in liquid biopsy.

**What We’re Looking For:**

**Computational postdoctoral positions:**

- Ph.D. (recent/expected) in computational biology, bioinformatics, genomics or quantitative research fields.
- Proficiency with at least one high-level scripting language (R/Python/Perl) and Linux operating system. It will be better to also have some experience with Java/Scala.
- Excellent quantitative background in statistics and machine learning, and/or computational genomics background. Familiarity with large scale next generation sequencing (NGS) data analysis (WGS, WGBS, RNA-seq, ChiP-seq and/or related).
- At least one first or co-first author SCI paper published or accepted.
- Highly motivated and ability to work independently.
- Fluent in English (spoken and written)

**Experimental postdoctoral positions:**

- Ph.D. (recent/expected) in biomedical related field.
- Strong training background in one or more of the following areas: epigenetics/epigenomics, genetics/genomics, immunology or lipid biology
- Familiar with basic molecular biology techniques (PCR, qPCR, mammalian cell culture) and NGS library preparation (WGS, WGBS, RNA-seq, ChiP-seq and/or related).
- At least one first or co-first author SCI paper published or accepted.
- Highly motivated and ability to work independently.
- Fluent in English (spoken and written)

**Research assistant positions:**

- B.S./B.A. level or above in biomedical related field.
- Familiar with basic molecular biology techniques (PCR, qPCR, mammalian cell culture) and NGS library preparation (WGS, WGBS, RNA-seq, ChiP-seq and/or related).
- At least one first or co-first author SCI paper published or accepted.
- Highly motivated.
- Fluent in English (spoken and written)

Anticipated start date is January 14th, 2018 or after. Generous stipends will be paid according to NIH postdoctoral stipend levels with additional CCHMC benefit (e.g. healthy insurance, retirement plan and generous relocation package will be provided, details in https://www.cincinnatichildrens.org/education/research/postdoctoral ). Potential candidates are encouraged to send a cover letter, CV, and names and contact information of 2-3 referees to: Yaping Liu, Division of Human Genetics, Cincinnati Children’s Hospital Medical Center, Cincinnati, OH, USA.

Email: lyaping1986@gmail.com

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### Postdoctoral Positions in Cell and Developmental Biology

A fully funded, 5-year Postdoc position in the McNeill lab is available to study how the nuclear envelope regulates gene expression during reprogramming from oocytes to early embryos. This project focuses on transcriptional landscapes and the interaction between nuclear envelope structures (NEMP1) and chromatin organization. The lab has found that NEMP1 supports nuclear envelope stiffness, and that loss of NEMP1 leads to defects in chromatin organization. Applicants should have a PhD and demonstrated relevant research experience. Excellent communication skills and the ability to work in collaboration are essential. A strong background in molecular biology, developmental biology, or cell biology is preferred. Experience in RNA-seq, ChIP-seq, Hi-C and bioinformatics is a plus.

Another fully funded Postdoc position is available to study how Fat cadherins and the Hippo pathway regulate tissue growth and regeneration in fly and mouse models. One focus there is to understand how the Hippo pathway regulates branching morphogenesis in mouse embryonic kidney explants. Expertise in imaging would be very helpful.

The McNeill lab (http://mcneilllab.wustl.edu/index.html) studies how cell fate and cell proliferation are controlled in vivo, using diverse model organisms. The lab is located in the Department of Developmental Biology at Washington University School of Medicine. Consistently ranked among the top 10 US medical schools, Washington University School of Medicine offers a highly interactive and stimulating academic environment for scientists in training. The lab is in a highly collaborative environment, with outstanding resources. We are located in the heart of the Central West End, a vibrant St. Louis neighborhood adjacent to major cultural institutions and one of the country's largest urban parks. We offer competitive salary and benefit packages and candidates are eligible to apply for a Rita Levi-Montalcini Postdoctoral Fellowship offered by the Center of Regenerative Medicine.

To apply please submit a CV, a cover letter describing research interests, and contact information for two references who can comment on your research to mcneill@wustl.edu. Applications will be reviewed promptly until the position is filled. Washington University is an equal opportunity employer and complies with applicable EEO and affirmative action regulations.
Job Opportunities:

Postdoctoral Scholar Position Available in Evolutionary and Isotopic Enzymology

The Blue Marble Space Institute of Science has an opening for a postdoctoral scholar with interests in evolutionary protein biochemistry and geochemistry.

The position is available immediately. The successful candidate will work in a collaborative and multi-institutional group which seeks to test and develop hypotheses related to the role of thioester chemistry in nascent life and the chemical networks that proceeded living systems. A primary target will be to determine enzyme specific kinetic isotope fractionation factors by purifying enzymes and conducting isotope ratio mass spectrometry measurements of substrate and product. Experience in anaerobic protein purification and manipulation is highly desirable. This project results from a recent NSF/NASA Ideas lab, and the position is made possible through the NSF Emerging Frontiers Crosscutting Activities Program (Award Abstract 1724300). The position is extendable beyond one year.

The successful candidate will benefit from working together and sharing research results and ideas collaboratively within our diverse group. The primary workplace of the successful candidate will be the Earth-Life Science Institute (ELSI) at the Tokyo Institute of Technology with supervision from Shawn McGlynn and regular interactions with group members including: Betul Kacar – University of Arizona, Boswell Wing – CU Boulder, Chris Butch – BMSIS/ELSI, Chris House – Penn State, Daniel Segrè – Boston University. Interested individuals should send a 1-2 page cover letter describing their research experience, publications, and motivation. In addition a current CV and contact information for three references should be sent. Letters of reference will be collected for finalists. These documents can be sent to: mcglynn@elsi.jp. Candidates must be already authorized to work in the U.S. prior to applying for this position. For more information and to discuss the project and employment specifics, please contact Shawn McGlynn.

TA Tuition Pool

The TA Tuition Pool application for spring semester 2019 is now open. The link to the application can be found on the Graduate School home page at: https://grad.msu.edu/TAtuitionpool under "News." The application deadline is Friday, October 19, 2018 at 5:00pm.

These tuition credits are available only to students who are appointed as teaching assistants in the spring semester, and they can only be used for spring semester credits. They can be used toward required courses that go beyond the 9 credits included in the assistantship benefits. The application must be supported by a faculty letter confirming that the credits are required for the student's program.

The GEU will select which students will receive support through the TA tuition pool, according to the priority categories listed on the application page. The application for summer semester 2019 credits will open in February.

Scholarships:

Big Ten Academic Alliance Smithsonian Institution Fellowship

The application period for the Big Ten Academic Alliance Smithsonian Institution Fellowship is now open. The deadline for submitting applications is 5 pm on November 1, 2018.

This program provides one-year fellowships to doctoral students to support research at Smithsonian Institution facilities. Students must have completed all coursework for their program, be admitted into doctoral candidacy, and completed all requirements except for completion of the dissertation. Fellowships carry a stipend of $36,000, which is paid by the Smithsonian Institution and the fellow’s home institution.

For more information on the fellowship, please visit http://www.btaa.org/students/smithsonian-fellowship. On this site, you will find an Application Guide, Campus Contacts, and a link to the application portal housed with Smithsonian.