1. Announcements

• Flu Shot mandate
This year the UM Medical School has issued a mandate that all are required to have a flu shot by Dec. 1, unless an approved exemption is in place. This policy applies to staff, faculty, students, trainees, vendors, contract personnel and volunteers.

A free flu shot clinic takes place on Mon., Nov. 30
7 a.m. – noon
University Hospital Cafeteria, Dining Rooms A&B
Also, flu shots are available at most doctors’ offices and pharmacies.

Occupational Health Services offers free vaccines Monday-Friday, 7 a.m. to 4:30 p.m.
Once done, a sticker will be placed on your ID card. Be sure to inform your unit; you may need to provide a printout from your UM Health Portal if no paper confirmation is given to you at the clinic.

• Preparing for next term? Here’s what you need to know:
Master’s students and pre-candidates should meet with either MS Guidance Advisors or the Program Directors to discuss academic plans, including rotation research options.

BIOINF 995: Ph.D. candidates must register for BIOINF 995. No permission is required; this course is automatically 8 cr. hrs.

BIOINF 990: Ph.D. pre-candidates (not in PiBS) are expected to register for BIOINF 990. Permission is required; the number of credit hours is determined between you and the faculty mentor. Please e-mail Julia in the Graduate Office to obtain permission.

BIOINF 599: Master’s students who wish to register for research credit (BIOINF 599), must communicate with the Master’s Guidance Advisors, Jeff de Wet and Kayvan Najarian. Once finalized, please e-mail Julia in the Graduate Office to obtain permission. The number of credit hours is determined between you and the faculty mentor; a maximum of 6 cr. hrs. count towards the MS degree.

• The Bioinformatics Ph.D. Program adheres to the PiBS vacation policy.
Ph.D. students receive a 12 month stipend and are expected to conduct research throughout the Spring/Summer term. If you wish to take a vacation, dates must first be approved by your mentor.
For first year students who do not yet have a mentor, a vacation should not be planned while classes are in session unless there is a family emergency. A note of caution: for international students requiring a new visa to re-enter the U.S., it is increasingly common to wait 1 - 2 months after your visa appt. for “special administrative processing.” Consequently, travel abroad over Christmas would be ill-advised - especially for students who are registered for classes in addition to a research rotation.
Please communicate with your adviser(s) and the Program Directors of any travel plans, when the time arises.
2. Workshops + Seminars

• **Bring Your Genes to Cal: How an Educational Program Was Drawn Into the Public Debate over Genetic Testing**
  Presenter: UM President Mark Schlissel, M.D., Ph.D.
  Mon., Nov. 30
  4:00 p.m. - 5:15 p.m.
  Kahn Auditorium, BSRB
  Commentators:
  David Ginsburg, MD
  James V. Neel Distinguished University Professor Internal Medicine and Human Genetics
  and
  J. Scott Roberts, PhD
  Associate Professor, Health Behavior and Health Education

• **Bioinformatics Ph.D. Thesis Defense Seminar:** *Computational and biological approaches for identification of Hedgehog signaling targets and their application to intestinal visceral smooth muscle development in the mouse*
  Presenter: Katherine Gurdziel, Ph.D. Candidate
  Thurs., Dec. 3
  12:30 p.m.
  Forum Hall, Palmer Commons Bldg.
  Adviser: Deborah Gumucio

**Abstract:**
The Hedgehog (Hh) pathway is an evolutionarily conserved cell-cell signaling pathway that controls organ development and homeostasis in embryos and adults. Hh signaling functions in cell fate choice, patterning and organ growth. Several developmental diseases are caused by altered Hh signaling and aberrant Hh signaling is also responsible for several cancers. Despite its central role in development and disease, very little is known about the precise genetic targets of Hh signaling or the genomic enhancers that activate those genes. These target genes and associated Hh-responsive enhancers are themselves responsible for disease initiation and progression. A comprehensive effort to identify these signaling targets and to dissect the context specificity that underlies their expression is therefore a high priority. Here, our aim is to understand how Hh activates gene expression in the context of a single Hh-responsive cell type, intestinal visceral smooth muscle (VISM).

This work comprised a multi-pronged approach, integrating both computational and biological methods in parallel, to achieve these aims. First, because of the documented role of Hh as an upstream regulator of genes critical to VISM development, computational methods were implemented to globally identify Hh enhancer regions. Second, biological data was collected in the mouse at embryonic day 14.5, during development of the intestinal inner circular muscle (ICM) region. A catalog of smooth muscle genes was identified and subsequent promoter analysis of these genes implicated cJUN as a regulatory component in intestinal VISM formation. cJUN binding locations identified using ChIP-seq, were enriched with other muscle transcription factor binding sites, suggesting that cJUN functions as a regulator of intestinal VISM development. Further evaluation confirmed that cJUN is a direct target of Hh signaling in the ICM and that Hh signaling has roles in proliferation of smooth muscle precursors as well as promotion of differentiation into intestinal VISM cells. Though this work has focused on Hh signaling in VISM, this approach could be applied to any transcription factor or signaling pathway to comprehensively analyze the gene regulatory networks governing many normal and disease-related cell states.

• **Weekly MIDAS Seminar:** *Computation-Statistics Tradeoffs in Unsupervised Learning via Data Summarization*
  Presenter: M. I. Ohannessian, Ph.D., Univ. of CA-San Diego
  Fri., Dec. 4
  4:00 p.m. - 5:30 p.m.
  Rm. 1200 EECS Bldg.
For an abstract and additional details, visit here:
http://midas.umich.edu/event/mesrob-i-ohannessian-phd-uc-san-diego-midas-seminar/
The complete list of the MIDAS seminar series can be found here.

3. Fellowships, Grants, and Awards

• **Lane Fellows Program: Carnegie Mellon University**

Recent graduates and postdocs are encouraged to apply to the Lane Fellows Program in the Carnegie Mellon University Computational Biology Dept. Please visit the website for details. The application deadline is March 15, 2016.

4. Other Useful Information

• **Winter course of interest: WRITING 630: Advanced Writing for Graduate Students**

Writing 630 is designed for graduate students who have made significant progress in their degree programs and are thinking about larger, ongoing writing projects: a prospectus, a conference paper, or an article for publication. Writing 630 targets projects that are as essential to a graduate student’s success, *but are not part of the dissertation*. The first five weeks will be spent in a traditional discussion forum, reviewing the basics of clear academic writing and of the demands of writing in graduate school. Topics will include argumentation, drafting, revision, grammar, audience, tone, and incorporating sources. During the next four to five weeks you will share portions of your work, in class, for peer review and discussion. These meetings will focus on the materials you have been working on during the semester. The course will then progress to individual conferences with the instructor to discuss the results of the peer reviews and their application to your work.

**To apply:** please complete a hard copy of the application form and return it along with 5 pages of academic writing (excerpts from longer works are welcome) to Laura Schuyler, Sweetland Center for Writing, 1310 North Quad, 1285. *Electronic applications will not be accepted.*

**Submission deadline:** Monday, November 30, 2015.

Decisions will be made and students notified by December 11, 2015.

**Questions?** Contact Laura Schuyler, schuyler@umich.edu.
The Writing 630 application is available on the Sweetland website:
http://www.lsa.umich.edu/sweetland/graduate/courses/writing630

• **NCBI Hackathon: Jan. 4 – 6, 2016**

From January 4th to 6th, NCBI will host a genomics hackathon focusing on advanced bioinformatics analysis of next generation sequencing data. This event is for students, postdocs and investigators already engaged in the use of pipelines for genomic analyses from next generation sequencing data.
*Working groups of 5-6 individuals will be formed for twelve teams, in the following sections: Network Analysis of Variants, Structural Variation, RNA-Seq, Streaming Data and Metadata, and Neuroscience / Immunity. The working groups will build pipelines to analyze large datasets within a cloud infrastructure. Please see the application for specific team projects.*

*Specific projects are available to other developers or mathematicians.*

After a brief organizational session, teams will spend three days analyzing a challenging set of scientific problems related to a group of datasets. Participants will analyze and combine datasets in order to work on these problems.

This course will take place at the National Library of Medicine on the NIH main campus in Bethesda, MD. Datasets will come from the public repositories housed at NCBI. During the course, participants will have an opportunity to include other datasets and tools for analysis. Please note, if you use your own data during the course, we ask that you submit it to a public database within six months of the end of the hackathon.

All pipelines and other scripts, software and programs generated in this course will be added to a public GitHub repository designed for that purpose. A manuscript outlining the design of the hackathon and describing participant processes, products and scientific outcomes will be submitted to an appropriate journal.
To apply, complete this form: https://docs.google.com/forms/d/1cjTUDLcfVcioWJkjc47tna5Ex-zbmOpSgFE96B5wuPE/viewform

Application deadline: Dec. 1, 5:00 p.m. ET. Participants will be selected from a pool of applicants; prior students and prior applicants will be given priority in the event of a tie. Please note: applicants are judged based on the motivation and experience outlined in the form itself. Accepted applicants will be notified on December 4th by 2 pm ET, and have until December 7th at 5 pm to confirm their participation. Please include a monitored email address, in case there are follow-up questions.

Note: Participants will need to bring their own laptop to this program. A working knowledge of scripting (e.g., Shell, Python) is necessary to be successful in this event. Employment of higher level scripting or programming languages may also be useful. Applicants must be willing to commit to all three days of the event. No financial support for travel, lodging or meals can be provided for this event. Also note that the course may extend into the evening hours on Monday and/or Tuesday. Please make any necessary arrangements to accommodate this possibility.

Please contact ben.busby@nih.gov with any questions.

5. Job Opportunities

• Master’s student wanted: bioinformatics analyses on mRNA-seq and ChIP-seq data
The Mueller Lab, in the Department of Human Genetics, is seeking a Master’s Student to perform bioinformatics analyses on mRNA-seq and ChIP-seq data. The student should have some experience analyzing next-generation sequencing data, using programs such as Bowtie (Tophat), Cufflinks, DEseq, and R. The student will examine expression profiles of genes involved in testis and ovary development via differential expression across a developmental time course and from specific sorted cell populations. The student will have the opportunity to work closely with Dr. Mueller throughout the analyses and be a member of a lab that balances both wet and dry lab experiments. The position will be for the winter semester for credit or hourly pay and extension into the following academic year.
Please contact Dr. Mueller (jacobmu@umich.edu) to apply.

• Postdoc positions in computational genomics: Carnegie Mellon University
The Computational Biology Dept. at Carnegie Mellon University seeks postdocs with a focus on computational genomics. Details and application information can be found here.

• Postdoc position: Argonne National Laboratory, Division of Global Security Sciences
The Global Security Sciences division is seeking a Postdoctoral Applicant to participates as a collaborative member of a multidisciplinary group of professional staff engaged in the analysis of economic, environmental, and natural resource implications of complex adaptive systems that are important to sustainable energy and national security.
For further details and to apply, please visit: http://www.anl.gov/careers/apply-job/postdoctoral-applicants
Requisition Number: 400355
Location: Lemont, IL
Functional Area: Research and Development
Ph.D. is required; a year or more of postdoctoral research experience are preferred.

Work status: An applicant must be approved to work in the United States; we will consider extremely qualified applicants in need of visa support.

To apply: Please contact Dr. Joseph Klobusicky (jjklobusicky@geisinger.edu).
Research Area Specialist Intermediate, Division of Gastroenterology, University of Michigan

Responsibilities
The Department of Internal Medicine, Division of Gastroenterology, invites applications for a staff scientist to work on genetic epidemiology projects related to obesity, liver disease, and cardiovascular disease. Work will involve leading analyses related to human genetic data from genotyping and next generation sequencing platforms at the genome wide level. Work will involve integration of genomic data with expression, metabolomics, and regulatory motif data.

Qualifications:
A strong quantitative background with a degree in Biostatistics, Genetics, Epidemiology, Computer Programming or a related discipline is required. Knowledge of statistics, programming, and human genetics with experience with statistical software and management of large datasets is desirable. Familiarity with a Unix/Linux environment is a must. A strong work ethic, the ability to work independently combined with willingness to work in a highly interactive and collegial group is needed. Excellent written and oral communication skills is beneficial as is post-doctoral training and other professional experience. This is an opportunity to work in a challenging and rewarding research area that constantly poses new scientific and statistical problems.

To apply: Applicants should email/send resume, academic transcripts (if graduated within the last 5 years), and at least three letters of reference to: Elizabeth Speliotes M.D., Ph.D., M.P.H., c/o Jeff Cole 6520E MSRB I, SPC 56822 1150 West Medical Center Drive, Ann Arbor, MI 48109-56822, email: jcole@med.umich.edu. Applicant review will begin immediately and continue until the positions are filled. The University of Michigan is an equal opportunity/affirmative action employer. Women and minorities are encouraged to apply.

Postdoctoral Fellow, Division of Gastroenterology, University of Michigan

The Department of Internal Medicine, Division of Gastroenterology, invites applications for a post-doctoral fellow to work on genetic epidemiology projects related to obesity, liver disease, and cardiovascular disease. Work will involve leading analyses related to human genetic data from genotyping and next generation sequencing platforms at the genome wide level. Work will involve integration of genomic data with expression, metabolomics, and regulatory motif data.

Qualifications include a PhD degree in Biostatistics, Genetics, Epidemiology, Computer Programming or a related discipline; knowledge of statistics, programming, and human genetics as well as experience with statistical software and management of large datasets is highly desirable. Familiarity with a Unix/Linux environment is a must. The ability to work independently combined with willingness to work in a highly interactive and collegial group is helpful as are excellent written and oral communication skills. This is an opportunity to work in a challenging and rewarding research area that constantly poses new scientific and statistical problems.

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• **2 Postdoc positions: University of Cambridge Metabolic Research Laboratories**

Two high calibre postdocs with experience in human genetics who are either interested in genomics / computational biology or in classical rare disease genetics, interpretation of exome/genome sequencing are available.

Inquires should be sent to Dr. Farooqi.

Prof. Sadaf Farooqi PhD, FRCP, FMedSci
Wellcome Trust Senior Clinical Fellow and Professor of Metabolism and Medicine
University of Cambridge Metabolic Research Laboratories
Level 4, Wellcome Trust-MRC Institute of Metabolic Science
Box 289, Addenbrooke’s Hospital
Cambridge CB2 0QQ
United Kingdom
Email: isf20@cam.ac.uk

**GOOS website:** [www.goos.org.uk](http://www.goos.org.uk)

• **Postdoctoral Investigator, Harbor Branch Oceanographic Institute, Florida Atlantic Univ.**

Florida Atlantic University’s Harbor Branch Oceanographic Institute, located in Ft. Pierce, FL, seeks a highly self-motivated Postdoctoral Investigator to study marine natural product biosynthesis within the Marine Biomedical and Biotechnology Research program. Our aim is to identify gene clusters responsible for the biosynthesis of marine natural products, to characterize key catalytic machineries involved, and to engineer related metabolic pathways. Interdisciplinary approaches of Genetics, Biochemistry and Chemistry will be applied. The initial job appointment is one year. Renewal is possible based on available funding and work performance.


• **Multiple faculty positions, Univ. of Texas Health Science Center @ Houston**

The School of Biomedical Informatics (SBMI) at The University of Texas Health Science Center at Houston (UTHHealth) is excited to announce a minimum of four tenured/tenure-track faculty positions. Funding for these positions has been appropriated by the Texas Legislature to enhance biomedical and health informatics education and research in the State of Texas in the era of big data and precision medicine.

All interested parties should apply at: [https://jobs.uth.tmc.edu](https://jobs.uth.tmc.edu) (search Requisition #160616 for the Center for Precision Health faculty posts).

For questions, please contact Judy Young at judy.e.young@uth.tmc.edu.