Congratulations to Dr. Brenton Graveley who has been invited to serve on the National Advisory Council for Human Genome Research for a four year term. This prestigious appointment at NIH will better align UConn’s genomics efforts with the funding interests of the NIH and vice versa.

President Obama’s Precision Medicine Initiative: In his State of the Union address, President Obama announced a new $215 million precision medicine/genomics initiative to treat disease and improve health (link to fact sheet)

Linda D. Strausbaugh Fellowship in Genetics and Genomics Fund has been established with the UConn Foundation. This fund provides fellowship support to graduate students conducting research in the field of genetics and/or genomics.

Single Cell Biology and Genomics Workshops

The ISG in collaboration with Fluidigm and JAX are pleased to announce two workshops for focused on Single Cell Biology Applications. Hosted by Rachel O’Neill, Director of the Center for Genome Innovation and Paul Robson, Director of the Single Cell Biology at JAXGM, both of these 1/2 day events will include seminars, by scientific leaders in the field, technical overview presentations by application specialists and workshop discussions to allow interested faculty/scientists to explore project design, applications, collaborations and implementation. The first workshop will be held in Storrs at the CGI on the morning of Feb 25 and the second will be held in Farmington at JAXGM the afternoon of Feb 26 to allow interested faculty, scientists at each of the three campuses an opportunity to learn more about the single cell applications and facilities emerging in CT. Full schedules of speakers and session times will be posted shortly.
ISG PhD

The Institute for Systems Genomics has received the final approval from the Board of Trustees for the establishment of a new Ph.D. Program in Systems Genomics. The ISG is now accepting applications for the inaugural Systems Genomics Ph.D. Class for Fall 2015 enrollment. Below are some key elements in the SG Ph.D. training program:

- Students in the program will have opportunities to spend time on the Bar Harbor, Farmington and Storrs campuses.
- A “Foundations in Systems Genomics” core course will compress topics traditionally touched upon in many courses into a more in-depth, intensive, modular course. Each module is fully interdisciplinary with co-instructors from genetics/genomics and mathematical/computational fields. Each module fully integrates conceptual and problem-solving/wet-lab elements.
- Each student will have intensive, interdisciplinary, team-oriented “practicums” as the research focus in the first year of the program; these will be personalized and might involve research experiences in generating systems genomics data, practical experiences in programming and sequence data analysis, career-specific experiences in diagnostics, screening by whole genome sequencing and other translational research problems, as well as counseling, etc.
- As appropriate to the specific area of concentration within the Systems Genomics Ph.D., students will participate in advanced courses and special modules.
- Faculty from Farmington and Storrs campuses of the University of Connecticut, from the Jackson Laboratory, and from other appropriate institutions or companies participate as teachers, research supervisors and advisory committee members. Although there will be a single major advisor of record for administrative purposes, the program will move away from the traditional concept of “single” Ph.D. mentor to dual or multidisciplinary team mentorship with an emphasis on significant and intense practical “in-the-trenches” experiences in genomics and sequence analysis and interpretation.
- Ethics, responsible conduct of research, and personalized genomic medicine will be integrated throughout the program through specialized courses, seminars and workshops.
- Students in the program are supported by teaching/research assistantships for the duration of their training in the program. Health insurance is subsidized by the University of Connecticut.
- Apply online at [http://grad.uconn.edu/prospective-students/applying-to-uconn/](http://grad.uconn.edu/prospective-students/applying-to-uconn/)

Grants and Gifts:

- **Steven Szczepanek** was awarded a USDA NIFA for his proposal titled: “Broadening Immunity To Foot And Mouth Disease Virus In Swine”.

- **Steven Geary** was awarded a USDA NIFA for his proposal titled: ”Next Generation Mycoplasma gallisepticum Vaccine Built Using Synthetic Genomics”.

- **Chris Heinen** was awarded a NCI R21 for his proposal titled: “Pluripotent stem cells as a novel model to test hereditary cancer variants”.

- **Linda Pescatello** - Principal Investigator, A Prescription for Health and Fitness Based on Your Genes. [https://experiment.com](https://experiment.com), $6,200, 2014-2015

- **Linda Pescatello** - Co-Investigator, Test of a Theory-Based Weight Loss Program for Couples: Project TEAMS, National Institutes of Health, National Institutes of Health and National Heart, Lung, and Blood Institute, R211 HL125157, $432,705, 2014-2016

- **Yongku Cho** was awarded a NARSAD Young Investigator Grant for his proposal titled: “Modulation of Targeted Protein Turnover Using Intracellular Antibodies Source of Support” from the Brain and Behavior Research Foundation.
Awards:

Yong-Jun Shin, Assistant Professor of Biomedical Engineering, received a cloud computing research award from Microsoft.

Andrew Arnold has been elected a Fellow of the American Association for the Advancement of Science. AAAS Fellows are elected for their scientifically or socially distinguished efforts to advance science or its applications.

The Health Care Genetics Program was approved for National Affiliation as a Professional Science Master’s, under Dr. Judy Brown’s leadership.

Featured Publications:

- The Mouse Genome Database (MGD): facilitating mouse as a model for human biology and disease.
- Gene expression analysis of human induced pluripotent stem cell-derived neurons carrying copy number variants of chromosome 15q11-q13.1
- The relationship between the blood pressure response to exercise following training and detraining periods.
- Noninvasive Prenatal Testing for Early Sex Identification
- Genome-wide analysis of Drosophila circular RNAs reveals their structural and sequence properties and age-dependent neural accumulation.
- Analysis of nascent RNA identifies a unified architecture of initiation regions at mammalian promoters and enhancers. Also this news and views article was written about this work: http://www.nature.com/ng/journal/v46/n12/full/ng.3152.html

Book Chapter:


Seminars/Symposiums/Workshops:

The Institute for Systems Genomics held a workshop on December 15, 2014 at The Jackson Laboratory (JAX) for Genomic Medicine. The workshop consisted of brief presentations in the morning, followed by an afternoon session on Bio-computing (systems biology, softwares/pipelines, infrastructure/data management, computational biology education).

Link to Institute for Systems Genomics Networking final program
Center for Genome Innovation:

The **Center for Genome Innovation (CGI)** within the Institute for Systems Genomics offers a variety of training opportunities as well as NextGen sequencing and genotyping services. These services are available to UCONN-affiliated researchers across all campuses and range from single run instrument access through full-service NextGen library preparation and sequencing. Please visit our website for a comprehensive look at all the CGI has to offer! (http://cgi.uconn.edu)

**Services:** A full list of services and associated costs can be found by visiting the CGI Service Rates page (for services not listed, contact us to discuss developing your protocols as we work to add new applications as they emerge): [http://cgi.uconn.edu/cgi_service_rates/](http://cgi.uconn.edu/cgi_service_rates/)

**Training:** In addition to genomics services, the CGI offers laboratory-based workshops for NextGen sequencing, genotyping, workflows and data analysis as well as seminars and application specialist “office hours” that feature the vendors, instrumentation and applications available in the CGI. If you or members of your lab are interested in training opportunities, please contact bo.reese@uconn.edu.

**Grant and project support:** We can work with you to develop your project design, grant or project budgets for proposals, as well as provide letters of support for your grant applications.

**Listserv** - Be sure to subscribe to the CGI ListServ to receive email notifications on all upcoming CGI activity: [https://listserv.uconn.edu/scripts/wa.exe?A0=CENTER_FOR_GENOME_INNOVATION-L](https://listserv.uconn.edu/scripts/wa.exe?A0=CENTER_FOR_GENOME_INNOVATION-L)

Open Faculty Positions:

- **Department of Kinesiology**
  
  Contact: Linda Pescatello
  The **Department of Kinesiology** invites applications for an Assistant/Associate Professor position in Exercise Science. The Department of Kinesiology is nationally ranked and offers opportunities to work alongside nationally and internationally recognized research faculty in the biological and behavioral health sciences at UConn in collaboration with UConn Health and Jackson Laboratories. The doctoral program in the Department of Kinesiology holds the prestigious rankings of being the number one doctoral program by the National Academy of Kinesiology in its latest rankings (2010-2015) and the number one graduate program for research productivity by the National Research Council in its most recent evaluation. The Department of Kinesiology houses a state-of-the-art Human Performance Laboratory spanning over 7,800 ft² that consists of several laboratory suites including systems physiology, biochemistry, molecular and cellular biology, biomechanics, and an environmental chamber. Further supporting the interdisciplinary research of the Department of Kinesiology, the University provides its faculty with access to exceptional facilities and resources to support their research including cutting-edge information technology, and statistical and grant writing consultation services. Apply now, go to: [Husky Hire Website](http://cgi.uconn.edu/cgi_service_rates/). Search 2015183

- **Department of Molecular and Cell Biology and Institute for Systems Genomics**
  
  Contact: J. Peter Gogarten
  The **Department of Molecular and Cell Biology** in the **College of Liberal Arts and Sciences** and the recently established **Institute for Systems Genomics** invite applications for a tenure-track faculty position at the assistant professor level, with an expected start date of August 23, 2015. We are particularly interested in candidates working on microbiomes, host associated microbial communities, or microbiome ecology and evolution. The Department has strengths in microbial ecology, evolutionary biology and symbiosis research, as well as other research clusters in cell biology, genetics, genomics, structural biology, biochemistry and biophysics. Information on microbiological research at the University of Connecticut can be found at the **Center for Microbial Systems Ecology and Evolution**. Apply now, go to: [Husky Hire Website](http://cgi.uconn.edu/cgi_service_rates/).
• **Department of Pharmaceutical Sciences and the Institute of Systems Genomics**

  Contact: Xiaobo Zhong

  The [Department of Pharmaceutical Sciences](https://www.jax.org) and the [Institute for Systems Genomics](https://www.isg.jax.org) invite applications for a 9-month tenure-track faculty position at the assistant professor or associate professor level, with an expected start date of August 23, 2015. The Department and the Institute are seeking a scientist with a research focus in the areas of systems pharmacology, pharmacogenomics, toxicogenomics, or personalized medicine. Areas of expertise may include but are not limited to systems genomics, computational genomics, epigenomics, metabolomics, or investigation of the microbiome for the identification of new drug targets or studies of pharmacodynamics, pharmacokinetics, or the toxicological effects of drugs for personalized medicine. Apply now, go to: [Husky Hire Website](https://jobs.uchc.edu).

• **Department of Computer Science and Engineering and the Institute of Systems Genomics**

  Contact: Dong-Guk Shin

  The [Department of Computer Science and Engineering](https://cs.uconn.edu) and the [Institute for Systems Genomics](https://www.isg.jax.org) invite applications for a tenure-track faculty position at the assistant professor, associate professor, or professor level, with an expected start date of August 23, 2015. The research specialities of interest include, but are not limited to, big data analysis in genomics, genomics data interpretation, machine learning and visualization, biological databases, biomedical literature mining, bioinformatics, systems biology, and related areas. Successful candidate will be expected to actively engage in collaborative research projects and teach in the new Institute-based graduate programs. Apply now, go to: [Husky Hire Website](https://jobs.uchc.edu), search 2015127.

• **Tenure-track faculty positions in Genomic Medicine**

  Contact: Marc Lalande

  The [Jackson Laboratory for Genomic Medicine (JAX-GM)](https://jaxgenomics.org) and the University of Connecticut Schools of Medicine and Dental Medicine are inviting applications for multiple tenure-track faculty positions at the Assistant, Associate, and Full Professor levels. Successful applicants will have the opportunity to participate in the highly interactive and cooperative culture established by the partnership between JAX-GM and UConn Health. Faculty appointed to these unique positions will hold a joint faculty appointment at JAX-GM and tenure track/tenured appointment in the appropriate academic Department at UConn Health, and will work in the new, state-of-the-art JAX-GM facility in Farmington, CT. S/he will also be cross-appointed with the [UCONN Institute for Systems Genomics](https://isg.jhu.edu). Successful candidates would be consummate team players in a highly interdisciplinary environment that brings together clinicians, biologists, molecular geneticists, computer scientists, and quantitative scientists. These collaborative research positions are intended to use genetic and genomic strategies to advance precision medicine, understand human biology, identify the complex functional networks underlying health and disease, and develop novel diagnostics and therapeutics. Areas of particular interest include, but are not limited to:

  - Translational and Clinical Genomics
  - Computational Biology and Bioinformatics
  - Functional Genomics and Genomic Technologies
  - Genome Editing and Engineering
  - Genomics/genetics of Metabolic and Cardiovascular diseases
  - Genetics of Longevity and Aging
  - Microbial Genomics, Microbiome, and Infectious Diseases
  - Statistical and Systems Genomics
  - Cancer Genomics

  Apply now, go to: [https://jobs.uchc.edu](https://jobs.uchc.edu), search (2014-1059)
Service on NIH/NSF Study Section:
- Judy Blake - 2014 NIH BD2K special emphasis panel ZRG1 BST-N (50) Development of Software and Analysis Methods for Biomedical Big Data in Targeted Areas of High Need (U01). Oct 23-24
- Chris Heinen - NCI Exploratory/Developmental Research Grant Program study section (Nov 2014)

Media/Outreach:
- John Malone was interviewed on WHUS, 91.7 Storrs, Science Friction radio show hosted by Dr. Jeffrey McCutcheon, Chemical and Biomolecular Engineering

JAXGM – Grand Opening:

![Image of JAXGM building]

The Jackson Laboratory for Genomic Medicine held its official grand opening ceremony on October 7, 2014, followed by the inaugural scientific symposium on October 8.

JAXGM will focus on discovering genomic causes of disease, developing individualized diagnostic treatments and cures, and helping to build Connecticut’s bioscience industry.

ISG Membership:

If you are interested in becoming a member of the ISG, please email your NIH Biosketch that includes a brief statement summarizing your expertise in genomics or a related discipline (e.g. ELSI) to Stephanie Holden at sholden@uchc.edu.