Genomic biology combines information about genes and their functions and unique methodologies to develop a predictive understanding of biological systems and behavior relevant to solving medical, energy and environmental challenges. This course will introduce learners to genes and genomes and explore technological advances in genome research and how these advances are impacting society. Faculty will be drawn from the Carl R. Woese Institute for Genomic Biology (IGB), one of the premier institutes of its kind in the country.


**September 22nd: Roderick Mackie**, Professor, Animal Sciences, UIUC. IGB themes: Energy Biosciences Institute and Biocomplexity. Functional and comparative genomics of microbial populations. He will utilize examples from his own research to discuss microbial ecology, evolution and its impact on society.

**September 29th: Jessica Brinkworth**, Assistant Professor, Anthropology, UIUC. IGB theme: Computing Genomes for Reproductive Health. Evolutionary immunology and genomics. Her lecture will discuss the impact of human social rank and associated stress on the genomic expression of immunity.

**October 6th: Gene Robinson**, Professor, Integrative Biology, UIUC. Director of IGB. Evolution and mechanisms of social behaviors. He will discuss how he uses honey bees to solve the nature-nurture problem.

**October 13th: Yong-Su Jin**, Associate Professor, Food Science and Human Nutrition, UIUC. IGB theme: Energy Biosciences Institute and Biosystems Design. Metabolic engineering of microorganisms to produce biofuels and chemicals from renewable biomass. He will discuss how engineering beneficial genetic perturbations can elicit efficient production of biofuels, nutraceuticals and food ingredients.

**October 20th: Monica Uddin**, Associate Professor, Psychology, UIUC. IGB theme: Computing Genomes for Reproductive Health. Genetic and epigenetic risk factors in mental disorders. Uddin will discuss the genetic and epigenetic underpinnings of stress-related mental disorders in humans.

**October 27th: Nathan Schroeder**, Assistant Professor, Crop Sciences, UIUC. IGB theme: Gene Networks in Neural & Developmental Plasticity. Genes involved in neuronal plasticity and behavior. Utilizing examples from his own research in *c. elegans*, Schroeder will discuss how animals sense, survive and thrive in adverse and changing environments.
**November 3rd: Alfred Roca**, Associate Professor, Animal Sciences, UIUC. IGB theme: Computing Genomes for Reproductive Health and Gene Networks in Neural & Developmental Plasticity. Comparative Genomics. He will utilize his research in exotic wildlife to discuss how genomics is used to understand biodiversity, evolution and conservation biology.

Brief biography of Megan Dailey, organizer:
Dailey is an Assistant Professor in the Department of Animal Sciences and a member of the Regenerative Biology and Tissue Engineering theme at the Carl R. Woese Institute for Genomic Biology. Dailey is a physiologist interested in diet-induced intestinal adaptation and the gut-brain crosstalk as it relates to obesity and metabolic disorders. Research in the lab is currently focused on studying the effect of nutrients on the epigenetic modulation of adult intestinal stem cells and its impact on tissue function. Beyond research, Dailey is involved in teaching and outreach education and has been a part of the National Science Foundation Faculty Institutes for Reforming Science Teaching.
Megan J. Dailey  
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Education  
2002-2007  Doctor of Philosophy  
Department of Biology, Georgia State University, Atlanta, GA  
2000-2002  Postbaccalaureate Study  
Department of Psychology, University of Pennsylvania, Philadelphia, PA  
1994-1997  Bachelor of Arts  
Department of Psychology, University of South Florida, Tampa, FL

Employment  
2015-present  Faculty Affiliate, Regenerative Biology and Tissue Engineering, Carl R. Woese Institute for Genomic Biology  
2013-present  Assistant Professor, Department of Animal Sciences, University of Illinois at Urbana-Champaign  
2008-2013  Postdoctoral Fellow, Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine  
2009-2012  Instructor, Department of Biology, Towson University  
2008  Graduate Instructor, Department of Nutrition, University of Maryland-College Park  
2003-2006  Undergraduate lab instructor, Georgia State University

Honors and Awards  
2013  Society for the Study of Ingestive Behavior Presidential Symposium Lecturer: The Next Generation  
2009-2011  National Science Foundation Faculty Institutes for Reforming Science Teaching (NSF FIRST IV) Postdoctoral Scholar  
2008  Society for the Study of Ingestive Behavior New Investigator Award  
2006  Georgia State University Department of Biology Outstanding Teaching Award

Outreach Activities  
2014-present  Head of organizing the University of Illinois Neuroscience program’s workshops at local middle schools  
2014-present  Head of organizing the University of Illinois Neuroscience program’s yearly public Brain Awareness Day event  
2004-2006  Participant in Brains Rule! Neuroscience Exposition at Zoo Atlanta  
2003-2004  Participant in Brain Awareness Month In-Class Workshops, Atlanta middle schools  
2003  Participant in Teacher Professional Development Workshop to train Atlanta public school teachers in Neuroscience education
**Mentoring Activities**

2008-2013  Johns Hopkins University Undergraduate Research Mentor, 11 students
2008-2011  Johns Hopkins University Honor’s Thesis Mentor, 2 students
2008-2011  Johns Hopkins University Presidential Undergraduate Research Award Mentor, 1 student
2005-2007  Georgia State University’s Honor’s Thesis Mentor, 3 undergraduate students
2005 & 2007  Center for Behavioral Neuroscience, Institute on Neuroscience summer high school program, 2 high school students
2004 & 2007  Center for Behavioral Neuroscience BRAIN summer undergraduate mentor program, 2 undergraduates

**Selected Peer-reviewed Publications**


**Two Professional Teaching References**

David Miller, Professor  
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Kelly Swanson, Professor  
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**Additional needed information**

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3. UIN# 659002116
4. I am currently employed at the University of Illinois in the College of Agriculture, Consumer
and Environmental Sciences, Department of Animal Sciences