The Systems & Integrative Biology (SIB) and Vision Training Grants are both long-standing predoctoral training programs at Penn, supported by the NIGMS (SIB) and NEI (Vision). Associated with these training programs is this Annual Retreat, which showcases the research progress by Current and Former (but still pre-PhD) Trainees. These programs also host an annual Visiting Scholar, who attends and speaks at the Annual Retreat, then remains in Residence for two additional days. During these additional days, the Visiting Scholar (1) meets individually with many Current and Former Trainees to discuss their Thesis Research and Career Goals, (2) gives a second seminar, for graduate students only, and (3) meets with a subset of faculty.

Each Visiting Scholar is identified by focusing on senior neuroscientists with international reputations who are also highly regarded for their (1) enthusiasm for interacting with graduate students, (2) breadth of interests, and (3) communication skills. The previous Visiting Scholars include:

2002 Michael Stryker, UCSF
2003 Carol Barnes, Univ. AZ, Tucson
2004 Holly Cline, Scripps Research Clinic, LaJolla, CA
2006 David Perkel, Univ WA, Seattle
2007 Carol Mason, Columbia Univ.
2008 Gina Turrigiano, Brandeis Univ.
2009 Leslie Griffith, Brandeis Univ.
2010 Michael Shadlen, Univ. WA, Seattle
2011 Sascha du Lac, Salk Institute, CA
2012 Nick Spitzer, Kavli Brain-Mind Institute, UCSD
2013 Maria Feller, UC Berkeley
2014 Tom Otis, UCLA
2015 Rich Krauzlis, PhD, National Eye Institute, NIH
2016 Cynthia Moss, Johns Hopkins Univ.

The 2017 Visiting Scholar is Alla Karpova, PhD, of Janelia Farm. Alla Karpova and her research group focus on decision-making in rodents with the aim of using molecular as well as other new technologies to study the underlying mechanisms. Her work is dedicated to understanding the neural circuits underlying the selection of appropriate behavioral strategies in complex environments and how these mechanisms are dysfunctional in neurological disorders.

The structure and function of the human cone photoreceptor mosaic
Learning to represent motion from unlabeled video

Coffee, Tea, Juice, Danish and Bagels (Barchi Library, 140 JMB)
Introduction: Joshua Gold, PhD, Co-PI, SIB TG
Jessica Morgan, PhD, Assistant Professor of Ophthalmology

Drew Jaegle, Daniilidis and Contreras Labs
Learning to represent motion from unlabeled video

Coffee Break

Noam Roth, Rust Lab
The impact of different sources of variability on IT performance during visual target search
Graham Baum, Satterthwaite and Bassett Labs
Modular segregation of structural brain networks supports the development of executive function in youth

Lunch (Barchi Library, 140 JMB)

Kim Kridsada, Luo Lab
Roof plate-derived radial glial cells promote longitudinal axon growth during spinal cord development
Patti Murphy, Granato Lab
Roles for rob2 in target-specific peripheral nerve regeneration
Scott Dooley, Bennett Lab
Harnessing pre-mRNA trans-splicing to treat Leber Congenital Amaurosis Type 10 (CEP290)
Bailey Baumann, Dunaief Lab
Retinal iron transport: the role of multi-copper ferroxidases, ferroportin and hepcidin
Shachee Doshi, Kalb Lab
Neuropeptide signaling regulates C. elegans response to anoxia

Coffee Break

Visiting Scholar: Alla Karpova, PhD, Janelia Farm
Decision-making under uncertainty: Probing the neural basis of mental models

Dinner, Jordan Medical Education Building Atrium