PROGRAM SCHEDULE

Monday, June 1

8:00-8:45 a.m.	Registration + coffee and pastries	GITC 3700 Lobby
	Set Up Posters	GITC 3720
	Poster session all day	

8:45-9:00 a.m.   **Introductory Remarks**   GITC 3730
Daljit S. Ahluwalia, Chair
Department of Mathematical Sciences

Welcoming Address   GITC 3730
 Fadi P. Deek, Dean of the College of Science and Liberal Arts

9:00-10:00 a.m.   **Plenary Lecture I**   GITC 3730
John Rinzel, New York University
Dynamics of Perceptual Bistability
 Introduced by Robert M. Miura

10:00-10:20 a.m.   Coffee Break   GITC 3700 Lobby

MINISYMPOSIA I			
	GITC 3710 **Modeling & Biophysics I** *Chair: Sarah Waters, University of Oxford*	GITC 3730 **Neuroscience I** *Chair: Victor Matveev, NJIT*	GITC 3740 **Biostatistics I** *Chair: Manish Bhattacharjee, NJIT*
10:20 a.m. -10:50 a.m.	**Leah Band** University of Nottingham *Multiscale Modelling of Hormone Transport in Plant Roots*	**Jonathan Rubin** University of Pittsburgh *Rhythmic Activity in Central Pattern Generators*	**Joseph Heyse** Merck Research Laboratories *False Discovery Rates for Discrete Data*
10:50 a.m. -11:20 a.m.	**Tom Chou** UCLA *Mechanisms of Viral Entry*	**Rodica Curtu** University of Iowa *Mixed-Mode Oscillations in a Firing Rate Model for Neural Competition*	**Sanat K. Sarkar** Temple University *On Storey's q-value Method for Small-Scale Multiple Testing*
11:20 a.m. -11:50 a.m.	**David Rumschitzki** City College of New York *How Aquaporin-1 affects Transmural Water Flow in Large Arteries: Possible Link to Early Aatherosclerosis*	**Victoria Booth** University of Michigan *Simulating Microinjection of Neurotransmitter Agonists and Antagonists in a Novel Model of the Sleep-Wake Regulatory Network*	**Wenge Guo** NIEHS, NIH *Adaptive Multiple Testing Procedures under Dependence*

11:50 a.m. -12:20 p.m.	Martin Mueller École Normale Supérieure *Modeling the Growth of Thin Soft Tissues*	Robert Clewley Georgia State University *Action Potential Redux: A Case Study in Qualitative Reasoning for Design and Optimization of Neural Dynamic Models*	Daniel Zelterman Yale University *A Distribution for P-Values*

12:20 - 1:15 p.m.   Lunch   GITC 3700 Lobby

1:15 - 2:15 p.m.   **Plenary Lecture II**   GITC 3730
Stuart Pimm, Duke University
What Makes Food Webs Click?
Introduced by Gareth Russell

2:15 – 3:00 p.m.   Panel Discussion Sponsored by NSF   GITC 3730
Future Roles for Mathematics and Statistics in the Biological Sciences

3:00 - 3:20 p.m.   Coffee Break   GITC 3700 Lobby

MINISYMPOSIA II			
	GITC 3710 **Networks I** *Chair: Daniel Bunker, NJIT*	GITC 3730 **Neuroscience II** *Chair: Farzan Nadim, NJIT*	GITC 3740 **Biostatistics II** *Chair: Sunil Dhar, NJIT*
3:20 - 3:50 p.m.	Serguei Saavedra CABDyN Complexity Centre *Common Organizing Mechanisms in Ecological and Socio-economic Networks*	Janet Best Ohio State University *Sleep-Wake Cycle Dynamics: Insights from Infants*	David Rindskopf City University of New York *Using Latent Class Analysis in Medical Diagnosis*
3:50 - 4:20 p.m.	Dan Fiscus Frostburg State University *Theory and Applications of an Ecological Network Model of Life Toward a Sustainable Human-Environment Relation*	Gennady Cymbalyuk Georgia State University *Neurons with Multiple Personalities: Co-existence of Silent and Oscillatory Regimes*	Zahur Islam Novartis Pharmaceuticals Corp. *Interim Analysis of Clinical Trials in Pharmaceutical Industry*
4:20 - 4:50 p.m.	Nina Fefferman Rutgers University *Network Representations and the Evolution of Social Complexity*	Andrea Barreiro University of Washington *Transfer of Correlations in Neural Oscillators*	Liam Paninski Columbia University *Statistical Models for Neural Encoding, Decoding, and Optimal Stimulus Design*
4:50 - 5:20 p.m.	Gustavo Stolovitzky IBM Corporation	Christoph Börgers Tufts University	Changwon Lim NIEHS, NIH

	Ordered Cyclic Motifs Contribute to Dynamic Stability in Biological and Engineered Networks	*Synchronization of Type II Neurons by Inhibitory Pulses*	*Robust Statistical Theory and Methodology for Nonlinear Models with Application to Toxicology*

5:30 – 6:45 p.m.   Poster Session and Reception   GITC 3700 Lobby
                                             GITC 3720

7:00-9:00 p.m.   Banquet   Eberhardt Hall 112
Remarks by Interim Provost Donald H. Sebastian

PROGRAM SCHEDULE

Tuesday, June 2

8:00-9:00 a.m.	Coffee and pastries	GITC 3700 Lobby
	Poster session (half day)	GITC 3720
9:00-10:00 a.m.	**Plenary Lecture III**	GITC 3730
	Martine Ben Amar, LPS, Paris	
	Morphogenesis of Living Systems: A Biomechanical Point of View	
	Introduced by Linda Cummings	
10:00-10:20 a.m.	Coffee Break	GITC 3700 Lobby

MINISYMPOSIA III			
	GITC 3710 **Modeling & Biophysics II** *Chair: Linda Cummings, NJIT*	GITC 3730 **Neuroscience III** *Chair: Jorge Golowasch, NJIT*	GITC 3740 **Biostatistics III** *Chair: Sundar Subramanian, NJIT*
10:20-10:50 a.m.	**Edward Green** MBI, The Ohio State University *Non-local Models for the Formation of Hepatocyte-Stellate Cell Aggregates*	**Yixin Guo** Drexel University *Thalamocortical Model with Human Gpi Data and the Map Reduction of the Model*	**Jianwen Cai** University of North Carolina *Joint Modeling of Longitudinal Categorical Data and Survival Data*
10:50-11:20 a.m.	**Sarah Waters** University of Oxford *Mathematical Models for Tissue Engineering Applications*	**Eric Shea-Brown** University of Washington *Neural Coding and Dynamics under Cochlear Implant Stimulation*	**Yanqing Sun** University of North Carolina at Charlotte *A Semiparametric Random Effects Model for Multivariate Competing Risks Data*
11:20 a.m. -11:50 a.m.	**Anita Layton** Duke University *Multistable Dynamics Mediated by Tubuloglomerular Feedback in a Model of Coupled Nephrons*	**Kresimir Josic** University of Houston *Correlation Transfer in Neuronal Populations*	**Haesook T. Kim** Harvard School of Public Health *Competing Risks Data: Design and Analysis*
11:50 a.m. -12:20 p.m.	**Bruce Ayati** University of Iowa *Biofilm as a Physiologically Structured Fluid*	**Duane Nykamp** University of Minnesota *Toward a Second Order Description of Neuronal Networks*	**Chung Chang** New Jersey Institute of Technology *Non-Parametric Estimation of a Lifetime Distribution with Incomplete Censored*

			Data
12:20 p.m. -12:40 p.m.	**Junghyo Jo** LBM/NIDDK/NIH *Dynamics of Fat Tissue Growth*	**Svitlana Zhuravytska** Drexel University *Transitions to Bursting in the Stochastic Model of Electrically Coupled Beta Cells*	**Sarosh Fatakia** NIDDK, NIH *Comparative Genomic Analysis Involving Information Theory to Investigate Evolutionary Traits with G Protein-Coupled Receptor Superfamilies*

12:40-1:40 p.m.	Lunch and Poster Session Removal of posters	GITC 3700 Lobby GITC 3720
1:40-2:40 p.m.	**Plenary Lecture IV** **Larry Abbott**, Columbia University *Random Matrices and Neural Networks* Introduced by Victor Matveev	GITC 3730
2:40-3:00 p.m.	**Coffee Break**	GITC 3700 Lobby

MINISYMPOSIA IV			
	GITC 3710 **Networks II** *Chair: Amitabha Bose, NJIT*	GITC 3730 **Neuroscience IV** *Chair: Horacio Rotstein, NJIT*	GITC 3740 **Biostatistics IV** *Chair: Chung Chang, NJIT*
3:00-3:30 p.m.	**Alexey Kuznetsov** IUPUI *Interlocked Artificial Regulatory Oscillators*	**Carson Chow** NIH *Effective Theories for Neural Networks*	**R. Todd Ogden** Columbia University *Regression Models with Signals or Images as Predictors*
3:30-4:00 p.m.	**Ram Ramaswamy** Jawaharlal Nehru University *The Effect of miRNA on the Dynamics of Regulatory Networks*	**Michael Buice** NIH *Chaos and Stochastic Dynamics*	**Ying Keun Cheung** Columbia University *Randomized Selection Trials with an Active Control*
4:00-4:30 p.m.	**Matteo Convertino** University of Padova *River Networks: From Geomorphic Auto-Organization to Biodiversity Pattern Dynamics*	**Berton Earnshaw** University of Utah *A Diffusion-Activation Model of CaMKII Translocation Waves in Dendrites*	**Lin Huang** Children's Hospital Boston *Sequential Test for Right Censored Data with Linear Transformation Model*
4:30-5:00 p.m.	**Daniel Bunker** New Jersey Institute of Technology *Quantifying Ecological Functional Diversity*	**Georgi Medvedev** Drexel University *Reliability and Frequency Control in Stochastic Neuronal*	**Xiaodong Luo** Mount Sinai School of Medicine *Pseudo-Partial Likelihood Estimators for*

	with Convex Hull Volume	*Networks*	*the Cox Regression Models with Missing Covariates*
5:00-5:20 p.m.	**Renita Machado** New Jersey Institute of Technology *Clustered Wireless Sensor Networks*	**Choongseok Park** IUPUI *Irregular vs. Synchronized Activity in Basal Ganglia*	**Fabio Demarqui** University of Connecticut *A New Bayesian Model for Survival Data Using a Piecewise Exponential Model with a Random Time Grid*

End of conference