PROGRAM SCHEDULE
Friday, May 21

8:00-8:45 a.m. Registration + coffee and pastries Kupfrian 1st Floor Lobby
Set Up Posters Kupfrian 103, 107
Poster session all day

8:45-9:00 a.m. **Introductory Remarks** Theater
Daljit S. Ahluwalia, Chair
Department of Mathematical Sciences
Welcoming Address Theater
Fadi P. Deek, Dean of the College of Science and Liberal Arts

9:00-10:00 a.m. **Plenary Lecture I** Theater
Margaret Cheney, Rensselaer Polytechnic Institute
Synthetic-Aperture Radar Imaging
Introduced by Daljit S. Ahluwalia

10:00-10:20 a.m. Coffee Break Kupfrian 1st Floor Lobby

Minisymposium I				
	Mathematical Biology Kupfrian 117 *Chair: Victor Matveev, NJIT*	**Fluid Dynamics** Kupfrian 118 *Chair: Linda Cummings, NJIT*	**Statistics** Kupfrian 108 *Chair: Sundar Subramanian, NJIT*	**Waves** Kupfrian 106 *Chair: Roy Goodman, NJIT*
10:20 – 10:50	**Frances Skinner** Toronto Western Research Institute *Interneuron Networks – Details that Matter?*	**Silas Alben** Georgia Institute of Technology *Swimming and Flapping in Vortex Wakes*	**Richard Chappell** University of Wisconsin *Bent Line Quantile Regression with Application to an Allometric Study of Land Mammals' Speed and Mass*	**Jason Fleischer** Princeton University *Rayleigh-Taylor Instability in Nonlinear Schrödinger Flow*
10:50 – 11:20	**Tim Lewis** University of California *The Effect of Voltage-gated Gap Junctions on Phase-*	**Eric Lauga** University of California *Optimization of Locomotion without Inertia*	**Charles Geyer** University of Minnesota *Aster Models for Life History Analysis*	**Benjamin White** ExxonMobil Corporate Strategic Research *On the Chance of Freak Waves at Sea*

	locking in Neuronal Networks			
11:20 – 11:50	**Arthur Sherman** NIDDK *Predictions and Tests of the Dual Oscillator Model*	**Shravan Veerapaneni** Courant Institute *Large Scale Simulations of Vesicles Suspended in 3D Viscous Flows*	**Michael Jones** University of Iowa *Estimation of Group-Specific Survival Functions from Case-Cohort Data*	**Goery Genty** Tampere University of Technology *Optical Rogue Waves and Extreme-events in Optics*
11:50 – 12:20	**Richard Bertram** Florida State University *Mixed Mode Oscillations as a Mechanism for Pseudo-Plateau Bursting*	**Lisa Fauci** Tulane University *The Action of Waving Cylindrical Rings in a Stokes Fluid*	**Rebecca Betensky** Harvard University *Methods for Multiply Truncated Survival Data: Application to Age of Onset of ALS*	**Philippe Guyenne** University of Delaware *Hamiltonian Modulation Equations for Surface Water Waves*

12:20-2:00 p.m.   Lunch and Poster Session   Kupfrian 1st Floor Lobby
                                                     Kupfrian 103, 107

2:00-3:00 p.m.   **Plenary Lecture II**   Theater
Russel Caflisch, University of California
Multiscale Mathematics for Plasmas
Introduced by Michael Siegel

Minisymposium II				
	Mathematical Biology Kupfrian 117 *Chair: Robert Miura, NJIT*	**Fluid Dynamics** Kupfrian 118 *Chair: Michael Booty, NJIT*	**Statistics** Kupfrian 108 *Chair: Chung Chang, NJIT*	**Waves** Kupfrian 106 *Chair: Yassine Boubendir, NJIT*
3:00 – 3:30	**Bard Ermentrout** University of Pittsburgh *An Optimal Motor Velocity for Actin Filament Alignment*	**Barbara Niethammer** University of Oxford *Effective Evolution and Screening in Dilute Diblock-copolymer Systems*	**Shaw-Hwa Lo** Columbia University *Discovering Influential Variables: A Method of Partitions*	**Hoai-Minh Nguyen** Courant Institute *Cloaking for the Helmholtz Equation*
3:30 – 4:00	**Tasso Kaper** Boston University *TBA*	**Osman Basaran** Purdue University *Electrohydrodynamic Tip Streaming and Emission of Charged Drops from*	**Joseph Cappelleri** Pfizer, Inc. *Confidence Interval Estimation for Inter-Rater*	**Roy Goodman** New Jersey Institute of Technology *Pitchfork and Hopf Bifurcations of*

		Electrified Liquid Cones	Reliability in a Two-Factor Random-Effects Design	Defect Modes
4:00 – 4:30	**Sara Solla** Northwestern University *Decoding Neural Signals for the Control of Movement*	**Howard Stone** Princeton University *The Formation of Bacterial Streamers in Laminar Curved Channel Flows*	**Dorota Dabrowska** UCLA *A Class of Semi-parametric Modulated Renewal Processes*	**Michael Weinstein** Columbia University *Solitons, Defect Modes and Effective Mass*
4:30 – 5:00	**Andrey Shilnikov** Georgia State University *Polyrhythms of Synchronous Bursting in Models of Multifunctional Central Pattern Generators*	**Gareth McKinley** Massachusetts Institute of Technology *'Beads on a String' Structures and Extensional Rheometry using Jet Breakup*	**Wenbin Lu** North Carolina State University *Dimension Reduction and Variable Selection for Censored Regression*	**Victor Roytburd** Rensselaer Polytechnic Institute *Propagation of Extremely Short Pulses in Doubly-resonant Optical Media*

5:00–5:30 p.m.   Coffee Break   Kupfrian 1st Floor Lobby

5:30 – 6:30 p.m.   **Plenary Lecture III**   Theater
Leah Keshet, University of British Columbia
Mathematical Adventures in Cell Biology
Introduced by Robert M. Miura

6:30-8:30 p.m.   Banquet   Campus Center 3rd Fl. Dining Room
Remarks by Provost Ian Gatley

PROGRAM SCHEDULE

Saturday, May 22

8:00-8:50 a.m.	Coffee and pastries	Kupfrian 1st Floor Lobby

8:55 a.m.   **Welcoming Remarks**   Theater
President Robert Altenkirch

9:00-10:00 a.m.   **Plenary Lecture** AMS   Theater

Minisymposium III		
	Mathematical Biology Kupfrian 117 *Chair: Horacio Rotstein, NJIT*	**Waves** Kupfrian 118 *Chair: Peter Petropoulos, NJIT*
10:00 – 10:30	**William Kath** Northwestern University *A State-Mutating Genetic Algorithm to Design Ion Channel Models*	**Alexander Barnett** Dartmouth University *A New Integral Representation for Quasi-periodic Fields and its Application to Periodic Scattering and Bloch Eigenvalue Problems*
10:30 – 11:00	**Rachel Kuske** University of British Columbia *Routes to Mixed-mode Oscillations in Stochastic Systems*	**Xavier Antoine** IECN *Analytical Preconditioning of Integral Equations in Acoustic Scattering*
11:00 – 11:30	**Astrid Prinz** Emory University *Variability and Robustness in Neuronal Networks*	**Christoph Geuzaine** University of Liege *A Model Reduction Algorithm for Solving Multiple Scattering Problems at High-frequencies*
11:30 – 12:00	**Cecilia Behn** University of Michigan *Modeling the Interaction between Circadian and Sleep-wake Regulatory Systems* **Srdjan Ostojic** Columbia University *Firing Rate Dynamics of Integrate-and-fire Neurons*	**Bhavin Dalal** New Jersey Institute of Technology *Electric Field Induced Self-assembly of Particles on Fluid Interface* **Sathish Gurupatham** New Jersey Institute of Technology *Spontaneous Dispersion of Particles on Liquid Surfaces*
12:00 – 12:30	**Margaret Watts** Florida State University *Characterization of the Roles Played by Slow Variables in Phantom Bursting* **Sajiya Jalil** Georgia State University	**Matthew Causley** New Jersey Institute of Technology *The Frequency-dependent Havriliak-Negami Dielectric Permittivity Model* **Kaitlyn Voccola** Rensselaer Polytechnic Institute *Polarimetric Synthetic-aperture*

	Synchronization in a Bursting Half-center Oscillator with Slow-to-fast Reciprocal Inhibition	*Inversion in the Presence of Noise and Clutter*

12:30-2:30 p.m.   Lunch and Poster Session   Kupfrian 1st Floor Lobby
                                                                                    Kupfrian 103, 107

2:30-4:00 p.m.   **Panel Discussion**   Kupfrian 118
                 Russel Caflisch, Margaret Cheney, Leah Keshet, and Benjamin White

4:00–4:30 p.m.   **Funding Opportunities at NSF** (Victor Roytburd, NSF)   Kupfrian 118

Minisymposium IV		
	Fluid Dynamics Kupfrian 117 *Chair: Michael Siegel, NJIT*	**Statistics** Kupfrian 108 *Chair: Sunil Dhar, NJIT*
4:30 – 5:00	**Xiaofan Li** Illinois Institute of Technology *Interfacial Dynamics and Boundary Integral Methods*	**Lynn Kuo** University of Connecticut *Dynamic Frailty and Change Point Models for Recurrent Events Data*
5:00 – 5:30	**Hector Ceniceros** University of California Santa Barbara *Efficient Approaches for the Simulation of Flow-structure Interaction via the Immersed Boundary Method*	**Syed Kirmani** University of Northern Iowa *Length-biased Sampling and Related Estimation in Survival Analysis*
5:30 – 6:00	**Becca Thomases** University of California *A Stokesian Viscoelastic Flow: Transition to Mixing and Oscillations*	**Song Yang** NIH *Improving the Log Rank and Related Tests of Treatment Effect by Incorporating Adaptive Weights with Survival Data*
6:00 - 6:30	**Michael Higley** New Jersey Institute of Technology *Dispersion of Particles through Collision in a Bubbly Liquid* **Michel Tsukahara** New Jersey Institute of Technology *Probability of Granular Jamming in a 2D Hopper: Simple Models and DEM Simulations*	**Paul Gallo** Novartis Pharmaceuticals *Group Sequential Case Study: Early Termination of a Major Cardiovascular Outcomes Megatrial*

PROGRAM SCHEDULE
Sunday, May 23

8:00-9:00 a.m.　　　　Coffee and pastries　　　　　　Kupfrian 1st Floor Lobby

Minisymposium V		
	Fluid Dynamics Kupfrian 117 *Chair: Peter Gordon, NJIT*	**Waves** Kupfrian 118 *Chair: Richard Moore, NJIT*
9:00 - 9:30	**Hong Im** University of Michigan *Identifying Characteristics of Ignition in a Stratified Reactant Mixture Using Computational Singular Perturbation*	**Gino Biondini** SUNY Buffalo *Solitons Reflection in Boundary Value Problems and a Nonlinear Method of Images*
9:30 – 10:00	**Jeffrey Aristoff** Princeton University *Elastocapillary Imbibition* **Dov Rhodes** Technion *The Elongated Shape of a Dielectric Drop Deformed by a Strong Electric Field*	**Andre Nachbin** IMPA *Discrete and Continuous Random Water Wave Dynamics*
10:00 – 10:30	**Stephen Margolis** Sandia National Lab *Propagation of Combustion Waves in Two-Phase-Flow Models of Porous Energetic Materials*	**Guillaume Bal** Columbia University *Equations with Random Coefficients: Convergence to Deterministic or Stochastic Limits and Theory of Correctors*
10:30 – 11:00	**Ehud Yariv** Technion-Israel Institute of Technology *Electro-kinetic Self Propulsion Animated by Inhomogeneous Ion Pumping*	**Tobias Schaefer** College of Staten Island *A Lie Transform Method for Random Dynamical Systems*
11:00-11:30	**Greg Chini** University of New Hampshire *Low-Dimensional Models from Upper Bound and Energy Stability Theory*	**Jinglai Li** Northwestern University *Extracting Solitons from Perturbed and Noisy Signals* **Arnaud Goullet** New Jersey Institute of Technology *Evolution of Large Amplitude Internal Solitary Waves with Varying Bottom Topography using a Regularized Model*

11:30 – 1:30   Lunch and Poster Session   Kupfrian 1st Floor Lobby

                             Removal of posters   Kupfrian 103, 107

Minisymposium VI	
	Applied Mathematics Kupfrian 117 *Chair: Lou Kondic, NJIT*
1:30 – 2:00	**Andreas Muench** University of Oxford *Dewetting of Polymer Films*
2:00 - 2:30	**Qiang Zhang** City University of Hong Kong *Anomalous Phenomena in a Simple Granular System*
2:30 – 3:00	**Ahmed Kaffel** Virginia Tech *On the Stability of Plane Parallel Viscoelastic Shear Flows in the Limit of Infinite Weissenberg and Reynolds Numbers* **Christel Hohenegger** Courant Institute of Mathematical Sciences *Stability of Active Suspensions and the Role of Diffusion*
3:00 – 3:30	**Elizabeth Bouzarth** Duke University *Modeling Immersed Biological Fibers and Fluids with Regularized Stokeslets* **Lei Wang** University of Michigan *A Lagrangian Vortex Method for the Barotropic Vorticity Equation on a Rotating Sphere*

End of Conference