118th Statistical Mechanics Conference
Rutgers University, Busch Campus, Hill Center, Room 114
Sunday, December 17, 2017 - Tuesday December 19, 2017
Honorees
Guenter Ahlers, Shelly Goldstein, and Cristina Marchetti

Sunday, Dec 17th 2017
Registration and Breakfast 8:00 - 9:00
9:00 - 9:25  Charles Doering - University of Michigan
            Wall to Wall Optimal Transport

9:25 - 9:50  Peter Constantin - Princeton University
            On the Inviscid Limit

9:50 - 10:15 Aparna Baskaran - Brandeis University
            Dynamics of an active nematic under confinement

10:15 - 10:45 Coffee Break

10:45 - 11:10 Mark Bowick - Kavli Institute for Theoretical Physics and UC Santa Barbara
            Statistical Mechanics of Thermalized Graphene Kirigami

11:10 - 11:35 Jim Dufty - University of Florida
            Kinetic Theory for Matter Under Extreme Conditions

11:35 - 12:00 Alessandro Giuliani - University of Roma Tre
            Plate-nematic phase in a 3D hard-core particle system

12:00 - 12:25 Ian Jauslin - Institute for Advanced Study
            Nematic liquid crystal phase in a system of interacting dimers

Lunch 12:25 - 1:55
1:55 - 2:20  Leo Radzihovsky - Colorado University
            Disorder-driven transition in Dirac semimetals and semiconductors

2:20 - 2:45  Gabi Kotliar - Rutgers University
            The strong correlation problem. How fermionic quasiparticles emerge from atomic excitations

2:45 - 3:10  Bingkan Xue - Institute for Advanced Study
            Bet Hedging over Growth and Survival under Demographic Fluctuations

3:10 - 3:40  Coffee Break

3:40 - 4:05  Sriram Ramaswany - Indian Institute of Science
            Time-reversal, mock inertia and entropy production in active matter

4:05 - 4:30  Shiladitya Banerjee - University College London
            Adaptation by shape-shifting

4:30 - 4:55  Moumita Das - Rochester Institute of Technology
            Mechanical structure function properties of cytoskeletal and extracellular networks

4:55 - 5:20  Xingbo Yang - Harvard University
            Correlating Cell Shape and Cellular Stress in Motile Confluent Tissues

5:20 - 5:45  Silke Henkes - University of Aberdeen
            Epithelial cell sheets as active matter
5:50 Cocktails & Concert sponsored by Springer (All are invited)
8:00 Banquet at Busch Dining Hall - Reservation required

Monday, Dec 18 2017
Registration and Breakfast 8:00 - 8:45
8:45 - 10:00 Short Talks: Session A
Coffee Break 10:00 - 10:30
10:30 - 10:55 Eva Andrei - Rutgers University
Physics of Magnetic Moments in Imperfect Graphene
10:55 - 11:20 Herbert Levine - RICE
Elasticity and Plasticity of Extracellular Matrix Materials
11:20 - 11:45 Dmitry Krotov - Institute for Advanced Study
Dense Associative Memories and Deep Learning
11:45 - 12:10 Alex Morozov - Rutgers University
Bayesian inference of global network statistics using random walks
12:10 - 12:35 Ovidiu Costin - Ohio State University
Nonperturbative time dependent solution of a simple ionization model
Lunch 12:35 - 2:00
2:00 - 2:25 Herbert Spohn - TUM
Hydrodynamics of integrable classical and quantum systems
2:25 - 2:50 Harry Swinney - University of Texas at Austin
Observation of the onset of crystallization of sheared hard spheres
2:50 - 3:15 Eberhard Bodenschatz - Max Planck Gesellschaft
Pattern-Formation in Moist Convection
Coffee Break 3:15 - 3:45
3:45 - 4:10 Eberhard Bodenschatz - Laudatio for Guenter Ahlers
4:10 - 4:35 Detlef Durr - Department of Mathematics, LMU, Munich
Shelly Goldstein - unorthodoxly orthodox
4:35 - 5:00 Tim Maudlin - NYU
(Information) Paradox Lost
5:00 - 5:25 Michael Kiessling - Rutgers University
General Relativity at the (Sub-)Atomic Scale (In celebration of Shelly Goldstein's 70th birthday)
5:25 - 5:50 Sue Coppermith - Laudatio for Cristina Marchetti

6:00 Cocktails and Dinner at the Hill Center - 7th Floor

Tuesday, Dec 19 2017
Registration and Breakfast 8:00 - 8:30
8:30 - 9:30 Short Talks
Coffee Break 9:30 - 10:00
10:00 - 10:25 Laura Greene - National MagLab and Florida State University
Topological Kondo insulator SmB6: Surface states interacting with bulk spin excitons
10:25 - 10:50 Sue Coppersmith - University of Wisconsin Madison
Qubits and nonlinear dynamics

10:50 - 11:15  **Ned Wingreen** - Princeton University  
Magic numbers in protein phase separation

11:15 - 11:40  **Eugene Shakhnomic** - Harvard University  
Understanding evolution on multiple scales: from protein physics to population genetics and back

11:40 - 12:05  **Jean-Francois Joanny** - Curie Institute  
Cell motion and organization in tissue monolayers

12:05 - 12:30  **Laura Green - Human Rights of Science Diplomacy**

**Lunch 12:30 - 1:30**

1:30 - 1:55  **Valia Allori** - Northern Illinois University  
Determinism, indeterminism and the statistical postulate

1:55 - 2:20  **Valerio Lucarini** - University of Reading  
Response Formulae for n-point Correlations in Statistical Mechanical Systems and Application to a Problem of

2:20 - 2:45  **Peter Pickl** - Ludwig Maximilian University of Munich  
Derivation of the Vlasov equation

2:45 - 3:10  **Roderick Tumulka** - Eberhard-Karls University  
Probability of Particle Creation and Interior-Boundary Conditions for Fock Space