



The **69th** New England Complex Fluids Workshop Friday, December 2, 2016 at Harvard University

AGENDA

8:00–8:30 a.m. **Breakfast and Registration**, *Maxwell-Dworkin, Ground Floor Lobby*

Morning Presentations, *Maxwell-Dworkin, Room G115*

8:30–9:30 a.m. **Sound Bites Session I** (*early bird)

***Zsolt Terdik**, Harvard University
“Traction force rheology of colloidal solids”

***Sam Dillavou**, Harvard University
“Memory in the frictional interface”

***Will Steinhardt**, Harvard University
“Understanding hydraulic fracture using brittle hydrogels”

***Zach Gault**, Harvard University
“Study of mechanical properties and memory formation in transparent filled rubber”

***Liheng Cai**, Harvard University
“Decoupling the roles of surface adhesion and bulk viscoelasticity on energy dissipation in soft gels”

***Yaniv Edery**, Harvard University
“Surfactant variations in porous media localize capillary instabilities during Haines jumps”

Liyuan Zhang, Harvard University
“Nanoparticles for control of flow conformance in porous media”

Jules Thiery, Harvard University
“Drying regimes in homogeneous porous media from macro to nanoscale”

Yoav Lahini, Harvard University
“Memory in elastic foams”

Nicolas Waisbord, Tufts University
“Fluidization of yield stress fluid in porous media”

***Amin Dehkharghani**, Tufts University
“Bacterial trapping in porous media flows”

Gilad Kaufman, Yale University
“An unsolved mystery: the self-assembly of an amphiphilic protein at the air/water interface in the presence of surfactants”

***Aakash Sane**, Brown University
“Surface tension of a flowing soap film”

***Pejman Sanaei**, New Jersey Institute of Technology
“Flow and fouling in membrane filters: Effects of membrane morphology”

***Zhenkun Zhang**, Brandeis University
“Colloidal worm”

***Emily Gehrels**, Harvard University
"Light-driven colloidal control"

Nabila Tanjeem, Harvard University
"Colloidal crystal on a cylinder"

Zhaoyu Xie, Tufts University
"Sphere packings on surfaces with negative Gaussian curvature"

Andrew DeBenedictis, Tufts University
"Holey nematics: Equilibrium shapes of tactoids with isotropic inclusions"

***Willem Kasper Spoelstra**, Harvard Medical School
"Blowing bubbles on the microscale: OLA"

9:30–10:00 a.m. **Jing Fan**, City University of New York
"Packing structure of drops and microgels and coupled transport"

10:00–10:30 a.m. Coffee, Maxwell-Dworkin, Ground Floor Lobby

10:30–11:00 a.m. **Chris H. Rycroft**, Harvard University
"The reference map technique for simulating complex materials and multi-body interactions"

11:00–12:00 p.m. **Sound Bites Session II** (*early bird)

Dan Beller, Harvard University
"Coalescence of genetic lineages in range expansions with obstacles and superdiffusive sector boundaries"

Amir Azadi, Harvard University
"Specular reflections from fluctuating membranes and interfaces"

***Zhenlu Cui**, Fayetteville State University
"Hydrodynamic modeling of active suspensions"

***Alex Klotz**, Massachusetts Institute of Technology
"Dynamics of knots in stretched DNA"

***Ian Hunter**, Brandeis University
"Attractor states of networks as a function of connectivity and dynamics"

Omer Gottesman, Harvard University
"Crumpling dynamics and the evolution of damage networks"

Vikrant Yadav, University of Massachusetts at Amherst
"Programmable active matter: Active filaments on patterned surfaces"

Maria Eleni Moustaka, Brandeis University
"Study of a microfluidic three-ring chemical oscillator network"

Max Eggersdorfer, Novartis, Switzerland
"Dripping to jetting transition in step emulsification"

Roy Ziblat, Harvard University
"Matching proteins to lipid compositions"

***Joerg Werner**, Harvard University
"Nanoporous polymer microcapsules"

Tina Huang, Harvard University
"Asymmetric lipid vesicles"

***Joanna Dahl**, University of Massachusetts at Boston
"Microfluidic tools and mechanical modeling for detailed, quantitative study of microscale soft bodies"

***Ruihua Ding**, Harvard University
"Sensitive and predictable separation of drops by size"

***Weixia Zhang**, Harvard University
"Microcapsule with inhomogeneous shell for controlled release"

Siddarth Srinivasan, Harvard University
"Buckling of thin viscous sheets"

***Amir Pahlavan**, Massachusetts Institute of Technology
"Saffman-Taylor instability in a rough fracture: Beyond Darcy's law"

Ryan McKeown, Harvard University
"Visualizing the dynamics of colliding vortex rings"

Lisa Lee, Harvard University
"Collective dynamics of bacteria underneath a floating biofilm"

***Dipti Sharma**, Worcester Institute of Technology
"Appearance of temperature lag and time lag in T_g , T_c and T_m transitions of a SeInAg glassy alloy"

12:00–12:45 p.m. Lunch, Maxwell-Dworkin, Room 119

12:45–2:00 p.m. Career Advice with Faculty, Maxwell-Dworkin, Room 119

Afternoon Presentations, Maxwell Dworkin, Room G115

2:00–2:30 p.m. **Sarah L. Perry**, University of Massachusetts at Amherst
"Molecular engineering of Nature-inspired materials"

2:30–3:00 p.m. **Ming Guo**, Massachusetts Institute of Technology
"Mechanics of cell matrix interface in 3D"

3:00–3:30 p.m. **Sound Bites Session III** (*early bird)"

***Jesse Collins**, Harvard University
"Microfluidics for neuroscience"

Julie Brouchon, Harvard University
"Microfluidics for single cell analysis of human antibody-secreting cells"

Kirk Mutafulos, Harvard University
"Acoustic microfluidics for high-speed cell sorting"

***Elad Stolovicki**, Harvard University
"Drop chemostats: White biotechnology on a chip"

David Morse, University of Cambridge
"Single-cell characterization of primary ovarian spheroids"

Natalia Lisitza, Brigham and Women's Hospital
"Studying self-assembly and molecular interactions by NMR"

Dima Bolmatov, Brookhaven National Laboratory
"Lipid membrane phononic gaps as an origin of mechanosensitive responses of living cells"

***Peter Foster**, Harvard University
"Collective organization of microtubule networks by XCTK2"

Li-Wei Chang, University of Massachusetts at Amherst
"Effect of charge patterning on polypeptide-based coacervates"

3:30–4:00 p.m. Coffee and Cookies, Maxwell-Dworkin, Ground Floor Lobby

4:00 p.m. Condensed Matter Seminar, Pierce 209

Sindy Tang, Stanford University
"Order and CHAOS: Collective behavior of crowded drops in microfluidic systems"