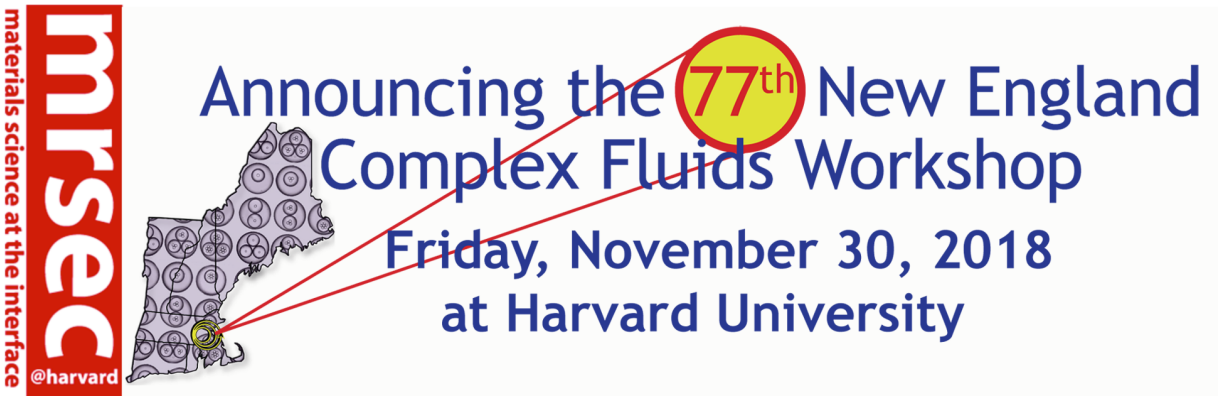

AGENDA

8:00–8:55 a.m. **Breakfast and Registration**, *Maxwell-Dworkin, Ground Floor Lobby*

Morning Presentations, *Maxwell-Dworkin, Room G115*

9:00–9:30 a.m. **Sound Bites Session I** (*early bird)

Perry Ellis*, Harvard University
"Identifying pathogenic bacteria by phenotyping individual cells"

Bobby Tyrell Haney*, Florida A&M University
"Stable pickering emulsions using amphiphilic microgel particles via microfluidics"

Maria Torres Arango, Brookhaven National Laboratory
"Understanding nano-scale dynamics in nano-composite inks during 3D printing processes"

Yujun Feng, Sichuan University
"Smart viscoelastic soft materials for enhancing oil recovery"

Sam Dillavou*, Harvard University
"Virtual frame technique: Ultrafast imaging with any camera"

Ryan McKeown*, Harvard University
"From rings to smoke: Visualizing the breakdown of colliding vortex rings"

Lisa Lee, Harvard University
"Growing and healing of air-liquid biofilms"

Zhaoyu Xie, Tufts University
"Exploiting percolation transition in Thomson problem"

Khoi Nguyen, Yale University
"Fluid-to-solid transition in muscles"

Edward Guzman*, University of Colorado at Boulder
"Nano-phase segregating groups in bent-core SmAP mesogens"

Pedro Saenz, Massachusetts Institute of Technology
"Spin lattices of walking droplets"

Ryan Garry, Harvard University
"High-throughput hydro-gel encapsulated cell sorting using Traveling Surface Acoustic Waves (TSAW)"

Weiyue Xin*, University of Massachusetts at Amherst
"The impact of curvature on solid domains in multicomponent phospholipid vesicles"

9:30–10:00 a.m. **Nick J. Carroll,** University of New Mexico
"Programming assemblies of phase-separated polypeptide liquids"

10:00–10:30 a.m. **Ho Cheung [Anderson] Shum**, Hong Kong University
"Assembly at aqueous-aqueous interfaces"

10:30–11:00 a.m. Coffee, *Maxwell-Dworkin, Ground Floor Lobby*

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

Zsolt Terdik, Harvard University
"Stresses and strains in colloidal glasses"

Shima Parsa*, Harvard University
"Emulsions in porous media"

Nicolle Lima*, Harvard University
"Foam formation during drainage of a surfactant solution by gas injection"

Saraf Nawar, Harvard University
"Wettability patterning of PDMS microfluidic dropmakers using surfactants"

Sami Yamani, Massachusetts Institute of Technology
"Submerged turbulent jets of polymer solutions"

Stefano Aime*, Harvard University
"Impact of interfacial rheology on two-phase flow in porous media"

Guillaume Sintes*, Massachusetts Institute of Technology
"Drying of colloidal droplets: The influence of particle concentration"

Sergej Filippov*, Harvard University
"Fluorophilic-lipophilic-hydrophilic poly-2-oxazolines block copolymers as MRI contrast agents: from synthesis to self-assembly"

Nabila Tanjeem, Harvard University
"2D crystals in confinement: how non-equilibrium defects appear from equilibrium crystal growth"

Rausan Jewel, Clark University
"Finger-like instability due to granular beads in miscible fluids"

Crystal Owens, Massachusetts Institute of Technology
"3D printing of custom, disposable vanes for measurements of yield-stress fluids"

Abraham Meles, Navajo Technical University
"Physics at Navajo Technical University"

Parker LaMascus, Harvard University
"Exploring the state variable of crumpling paper: Scaling and machine learning"

Mark Menesses, Boston University & Universite Paris Diderot
"Evaporation induced stabilization of bubbles at the free surface of volitile liquids"

Jeong-Hyun Kim, Brown University
"Depletion of micrometric water droplets on rough hydrophobic surfaces"

Xiaoyu Yang*, Harvard University
"Strong host-guest interaction induced supported amorphous/crystalline hetero-phase Pd nanoclusters for highly efficient performance in tandem catalysis"

Anqui Chen, Harvard University
"Microfluidic generation of multiple emulsion-templated lipid vesicles"

Matthew Giso, Tufts University
"Sculpting high aspect ratio particles from oil-in-water emulsions"

Akram Abbasi, University of Rhode Island
"Gold on fractal nanoparticles as highly active surface-enhanced Raman scattering substrate"

Tina Huang, Harvard University
"*Microfluidic fabrication of asymmetric lipid vesicles*"

Godwin Ifere, Navajo Technical University
"Using lipid vesicles as characteristics of cell membrane bilayers to understand how different sterols determine the mechanical properties of cells"

Yoav Green*, Harvard University
"Current rectification in nanochannel systems"

Seongsoo Kim*, Harvard University
"Experimental verification of the curvature dependent surface tension in nanoscale"

Weixia Zhang*, Harvard University
"Controllable fabrication of inhomogeneous microcapsules for triggered release by osmotic pressure"

Zhiqiang Shen, University of Connecticut
"Aggregation of polyethylene glycol polymers suppresses receptor-mediated endocytosis of PEGylated liposomes"

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

12:00–1:30 p.m. Lunch, *Maxwell-Dworkin, Room 119*

Afternoon Presentations, *Maxwell Dworkin, Room G115*

1:30–2:00 p.m. **Sarah J. Codd,** Montana State University
"Magnetic resonance of complex fluids: RheoNMR and dynamics of polymer solvent phase transitions"

2:00–2:30 p.m. **Thomas C. Halsey**, ExxonMobil
"Erosion of unconsolidated beds by turbidity currents"

2:30–3:30 p.m. **Sound Bites Session III** (*early bird)*"*

Julie Brouchon*, Harvard University
"Microfluidics for high-throughput single-cell analysis of immune cells"

Dipti Sharma, Wentworth Institute of Technology
"Multiple kinetics of new generation glassy alloy $Se_{76}Te_{20}Sn_2Cd_2$"

Naiwen Cui, Harvard University
"Ultra high-throughput targeted sequencing in single cells using droplet barcoding microfluidics"

Wenshan Zheng, Harvard University
"Massively parallel, single bacterium whole genome sequencing in drop-based microfluidics"

Liyuan Zhang, Harvard University
"Explore embryogenesis using microcapsules"

Xingcai Zhang*, Harvard University
"Multifunctional drugs/vaccines delivery system"

Xun Wang, Columbia University
"The role of cell-cell adhesion in tissue mechanics and morphogenesis"

Maria Gabriela Paraje, University of Cordosa
"Gold nanoparticles: Antifungal effect and reduction of biofilms in sessil persistent cells"

Yuan Yuan*, Harvard University
"Droplet-based assay for activated immune cell detection and sorting"

Nan Jiang*, Harvard University
"Three-dimensional bioprinted porous hydrogels by using aqueous two-phase emulsion bioink"

Julian Thiele*, Leibniz Institute in Dresden, Germany
"Design of microscopic polymer materials by droplet microfluidics and additive manufacturing for cell-free biotechnology"

Yinan Shen, Harvard University
"Microrheology of microtubule-actin-vimentin composite cytoskeletal networks"

Thomas Cochard*, Harvard University
"Hydraulic fracturing dynamics in natural and artificial low-permeability porous media"

Nikolay P. Ionkin*, Brown University
"A versatile 3D-printed droplet-on-demand generator"

Marjan Shayegan, Harvard University
"Active multi-point microrheology of biopolymer networks"

Hao Wan, University of Massachusetts at Amherst
"The interplay of tension, curvature, and morphology in lipid membranes containing coexisting fluid and solid domains"

Gao Xiao, Harvard University
"Biomass-inspired multifunctional materials"

Amin Dehkharghani, Tufts University
"Navigation of magnetotactic bacteria is impaired by porous microstructure"

Joerg Werner*, Harvard University
"Double emulsion drops in electric fields"

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

4:00 p.m. Applied Physics Colloquium, Maxwell Dworkin, Room G115
Gareth H. McKinley, Massachusetts Institute of Technology
"Optimal Fourier transform rheology for probing the linear viscoelasticity of gels and time-evolving soft materials"