



## SCHEDULE

- 9:00 - 9:15 AM**      **Registration & Coffee**  
Shapiro Campus Center, Room 236
- 9:15 - 10:00 AM**      **Research Talk:** Shapiro Theater (30 minutes + 15 discussion)  
**Christina M. Bailey-Hytholt**, Assistant Professor of Chemical Engineering at Worcester Polytechnic Institute  
*"Lipid-based systems: from therapeutics to in vitro models"*
- 10:00 - 11:00 AM**      **Sound Bites I:** Shapiro Theater  
(Four minute updates of current research)
- Bansil, Rama  
*Gastric mucus generated in human gastric organoids exhibits viscoelastic properties*
- Barotta, Jack  
*Reversible wave-propelled capillary spinners*
- Chisholm, Nicholas  
*Active colloids at fluid interfaces: flow and micromixing*
- Davidson, Zoey  
*Laser damage to liquid crystal alignment materials in ordinary and extraordinary modes*
- Dickie, Joshua  
*From diffusion to convection, the effect of microtubule-kinesin active fluid in self-mixing*
- Huynh, Simon  
*Elastic instability of cylindrical vessels immersed in fluid*
- Kroo, Laurel  
*Adaptive and sensory machines: active foam and swimming rheometers*
- Lou, Wan  
*Flow states of active gels driven by external shear*
- Micale, Sophia  
*Uncovering how cell fusion impacts subcellular organization*
- Murphy, Ian  
*Quantifying binding ratios for dna oligonucleotides on urease*
- Najma, Bibi  
*Extensile to contractile transitions in 3d active microtubule network*
- Seyforth, Hunter  
*Characterizing composition of binary crystals of DNA-coated colloids*

Stehnach, Michael

*Making active matter systems run forever with microfluidics*

Talreja, Hriday

*Droplet coarsening subject to activity-generated advection*

Toole, Sasha

*Probing microtubule-kinesin active matter in a low activity regime*

Vessel, Theadora

*Effect of collagen and ddr2 on neuroblastoma cell dynamics and cell migration*

Zarei, Zahra

*Structured illumination for active matter experiments*

**11:00 - 11:15 AM**

**Coffee:** Shapiro Center, Room 236

**11:15 AM - 12:45 PM**

**Industrial Panel (University to Industry),** Shapiro Center, Room 236

*Entrepreneurs and industrial scientists will describe creating and working in companies, discuss what qualities they seek in applicants and give advice for navigating the transition from academics to industry.*

**Joia Miller, Dewpoint**

**Stephen DeCamp, Generate Biomedicine**

**Gabriel Redner, Google**

**Ian Hunter, E Ink**

**Rajnish Kaushik, Director of Licensing and Strategic Alliances, Brandeis University**

**12:45 - 2:00 PM**

**Lunch and informal discussions with panel:** Shapiro Center, Room 236

**2:00 - 3:15 PM**

**Sound Bites II:** Shapiro Theater

Four-minute updates of current research

Alvarado, Izaiah

*Characterization of actin monomer turnover factor *srv2* in polymerization-driven motile beads*

Asadi, Sima

*Producing shape-engineered alginate particles using viscoplastic fluids*

Attia, Lucas

*Core-shell hydrogel particles for the formulation of hydrophobic small-molecule APIs*

Borja, Marco

*Liquid-liquid phase separation of programmable DNA nanostars*

Hayakawa, Daichi

*Geometrically programmed self-limited assembly of tubules using DNA origami colloids*

Hegde, Omkar

*Liquid-liquid phase separation of multivalent "DNA nano-stars"*

Huang, Tina

*Asymmetric polymer-lipid vesicles*

Johnson, Silverio

*Run and tumble analysis of enterobacter sp. sm3 in dilute aqueous media*

Kim, Chungman

*Multiscale structure and properties measurement using a single platform: tribo-rheometry*

Koretsky, Adrian

*Using DNA nanostars as linkers in dna-coated nanoparticle crystallization*

Krug, Thomas

*Salt-dependent RNA condensate gelation*

Lee, Lani

*Mechanical characterization of aging in primary mouse pulmonary fibroblasts*

Mata, Josselyn

*Paper powered pharmaceutical manufacturing*

Paine, Amelia

*Viral capsid permeability measurements using fluorescent intercalating dyes*

Saha, Rupam

*Curvature controlled self-limited assembly using dna origami building blocks*

Shiiba, Isabelle

*Measuring active stresses in microtubule-based 3D active gel*

Videbaek, Thomas

*Controlling interparticle mechanical properties for self-limited assemblies*

Wei, Wei-Shao

*Hierarchical assembly is more efficient than egalitarian assembly in synthetic capsids*

**3:15 – 4:00 PM**

**Research Talk:** Shapiro Theater (30 minutes + 15 discussion)

**William Shih**, Professor of Biological Chemistry and Molecular Pharmacology at Harvard Medical School

*“Multi-micron crisscross structures grown from DNA-origami slats”*

**Registration (free) required:** <https://complexfluids.org>

Registration deadline: Monday 8am, September 19, 2022

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