The New England Complex Fluids Meeting

University Hall, 2nd floor, Auditorium 2120, UMass Boston

Friday, June 10, 2022

Schedule

08:30 – 08:55 Registration & Coffee

08:55 – 09:00 Opening Remarks, Organizing Committee

Session 1

09:00 – 09:40. **Shannon L. Stott**, MGH. *Microfluidics in the clinic: from cancer to COVID19*

09:40 – 10:20 **Irmgard Bischofberger,** MIT. *Instabilities and flow-induced structures in lyotropic chromonic liquid crystals*

10:20 – 10:50 Tea/Coffee Break & Networking

Session 2

10:50 – 11:30 **Spencer Smith**, Mount Holyoke College. *Braiding Dynamics in Active Nematics*

11:30 – 12:30 **Sound Bite Session #1**

1. **Bate, Teagan;** Megan Varney, Ezra Taylor, Joshua Dickie, Chih-Che Chueh, Michael Norton, Kun-Ta Wu. Worcester Polytechnic Institute. *Self-mixing in microtubule-kinesin active fluid from nonuniform to uniform distributions of activities.*

2. **Zhang, Xingcai.** Harvard/MIT. *Microfluidic bioreactor for high-throughput screening, co2 fixation, and sustainable co-harvesting of biomass and biodiesel in microalgae, microalgae nanomedicine, and microalgae biosensor*.

3. **Fu, Changshuo;** Mohamed Amine Gharbi. UMass Boston. *Effect of airflow rate on the assembly of 2d liquid crystal foam.*

4. **Nguyen, Khoi;** Christopher T. Nguyen. MGH. *Magnetic resonance elastography using noise-correlation of diffuse shear waves*.

5. **Chen, Jiazhang;** Jiaxin Gong, Yang Xiang, Qi Wen. Worcester Polytechnic Institute. *Local mechanosensation of neuron in drosophila larvae.*

6. **Ghanbarpour Mamaghani, Sara;** Joanna Dahl. University of Massachusetts Boston. *Precise measurement of hydrogel viscoelastic properties using a microfluidic extensional flow device*.

7. **Kim, Chungman;** Jaewon Shim, Sangmin An, Manhee Lee, David A. Weitz, Wonho Jhe. SNU, Harvard SEAS. *Multiscale rheometer based on quartz tuning fork-afm*.

8. **Hamad-Schifferli, Kim;** Josselyn Mata-Calidonio, Jose Gomez-Marquez. Department of Engineering, School for the Environment, University of Massachusetts Boston & PopUp Labs. *Paper powered pharmaceutical manufacturing*.

9. **Seide, Medaelle;** Mathew C. Doran, Dipti Sharma (PhD). Emmanuel College. *Can 5cb liquid crystal be analyzed using logger pro?*

12:30 – 14:00 Lunch

Session 3

14:00 – 14:40 **Gulden Camci-Unal**, UMass Lowell. *Unconventional Biomaterials to Improve Human Health*

14:40 – 15:20 **Joanna B. Dahl**, UMass Boston. *Measuring the Mechanical Behavior of Small, Squishy Bio-Things Using Microfluidics*

15:20 – 15:50 Tea/Coffee Break & Networking

Session 4

15:50 – 16:50 **Sound Bite Session #2**

1. **Saadat, Milad;** Mohammadamin Mahmoudabad, Safa Jamali. Northeastern University. *Data-driven selection of thixotropic models via rheology-informed neural networks (rhinns).*

2. **Nere, Rachel;** Meghann L. Dunn, Changshuo Fu, and Mohamed Amine Gharbi. University of Massachusetts Boston. *Effects of air flow on the fabrication of confined smectic foam.*

3. **Tyukodi, Botond;** Farzaneh Mohajerani, Michael Hagan. Brandeis University, Babes Bolyai University. *Capsids under compression*.

4. **Nicastro, Simon.** UMass Boston. *New Experimental Platforms for Studying Multicomponent Vesicle Dynamics in Shear Flow*.

5. **Zimmer, Daniel;** Christina M. Bailey-Hytholt, Ph.D. Worcester Polytechnic Institute. *Formation of liposomes using a microfluidic platform*.

6. **Dunn, Meghann;** Rachel N. Nere, Changshuo Fu, and Mohamed Amine Gharbi. UMass Boston, Department of Physics. *Investigating the geometric confinement on liquid crystal foam fabrication.*

7. **Harkess, Miranda;** Niraj Kumar. UMass Boston. *Stochastic modeling for studying the effects of bet inhibitors on the modulation of ptefb levels and hiv transactivation*.

8. **Wang, Shengwei;** Changshuo Fu, Mohamed Amine Gharbi, Chandra S Yelleswarapu. University of Massachusetts Boston. Z-scan study for nonlinearity of gold nanoparticles dispersed in degenerate and oriented nematic liquid crystals.

9. **Williams, LaNell;** Rees Garmann, Vinothan N. Manoharan. Harvard University. *Bulk light-scattering measurements of viral capsid self-assembly around rna*.

10. **Badha, Vajra,** Mohamed A Gharbi. University of Massachusetts Boston. *Behavior of motile bacteria near a liquid crystal interface*.

11. **Kyeremah, Charlotte;** Jeffrey La, Mohamed Amine Gharbi, Chandra S. Yelleswarapu. UMass Boston. *Voltage Dependent Nematic Liquid Crystals for Quantitative Fourier Phase Contrast Microscopy.*

16:50 – 17:00 Closing remarks, Organizing Committee

Organizers: Mohamed Amine Gharbi & Joanna Dahl

Sponsored by: College of Science and Mathematics, Office of Research & Sponsored Programs, Department of Physics, and Department of Engineering at UMass Boston.