

NCS12 @  MANHATTAN
COLLEGE

12th Northeast Complex Fluids and Soft Matter Workshop

Friday, January 17th, 2020

Manhattan College, Riverdale, NY

- 08:15 - 08:55 a.m. **Breakfast and Registration**
Registration and poster setup in Kelly Commons 5th Floor
- 08:55 - 09:00 a.m. **Welcome Remarks**
- 09:00 - 09:30 a.m. **Invited Talk: Chris Boyce**, Columbia University
“MRI, Optical Imaging and Computational Modeling of Fluidized Gas-Granular Flows”
- 09:30 - 10:00 a.m. **Invited Talk: Luc Deike**, Princeton University
“Similarity Solutions Describing Bubble Pinch-off in Turbulence and Bubble Bursting at a Free Surface”
- 10:00 - 10:25 a.m. **Coffee Break**
- 10:25 - 11:45 a.m. **Short Presentations I: 3 min (+1 min)**
1. **Hammad Aziz**, The University of Queensland.
“Viscoelastic properties of metallurgical coal”
 2. **Subhabrata Das**, Columbia University.
“A Multiscale Mesoscopic Model Simulating Hydrodynamics of Emulsions laden with Ellipsoidal particles”
 3. **Priya Katyal**, New York University.
“Self-assembled coiled-coil protein hydrogels”
 4. **Quentin Brosseau**, University of Pennsylvania.
“Gravity Drives Nanorods Up the Wall”
 5. **Navid Bizmark**, Princeton University.
“Colloidal transport in porous media: Pore-scale interplay of advection, deposition, and erosion”
 6. **Shuaijun Li**, The City College of New York.
“Fluid Flow with Suspended Soft Particles in Porous Media”
 7. **Nancy Lu**, Princeton University.
“Controlling capillary fingering using pore size gradients in disordered media”
 8. **Jonathan Singer**, Rutgers University.
“Electrospray of Polymer Nanowire Conformal Coatings”

9. **Christopher Browne**, Princeton University.
“Bistability in the flow of polymer solutions through porous media”
10. **Tapomoy Bhattacharjee**, Princeton University.
“Collective migration of bacteria in disordered media”
11. **Fred Wiebke**, TA Instruments.
“Rheology: Strategies for Better Data”
12. **Jenna Ott**, Princeton University.
“Capillary Oscillatory Shear (CaOS) of particulates in polymer solutions”
13. **Yuan-Nan Young**, New Jersey Institute of Technology.
“A hybrid approach to model lipid bilayer membranes beyond the Helfrich free energy”
14. **Julian Silverman**, Manhattan College.
“Thixotropic Biobased Fuel Gels Derived from Waste”
15. **Lingzhi Cai**, Princeton University.
“Follow the Dotted Line”
16. **Suchandra Das**, New Jersey Insitute of Technology.
“Electric field induced self-assembly of monolayers of gold nanoparticles for surface enhanced Raman scattering applications”
17. **Etienne Jambon-Puillet**, Princeton University.
“Deformation and bursting of elastic capsules impacting a rigid wall”
18. **Troy Singletary**, Stony Brook University.
“Molecular Dynamics Study of Nanoparticle Adsorption: The Role of Hydration Forces on Surface Diffusivity”
19. **Michael Grzenda**, Rutgers University.
“Low Density Electronics Coatings for Protection against High Hydrostatic Pressure”

11:45 - 12:15 p.m.

Invited Talk: Ilona Kretzschmar, The City College of New York
“Active Janus and Patchy Particles Near Boundaries”

12:15 - 1:45 p.m.

Lunch and Poster Presentations

01:45 - 02:15 p.m.

Invited Talk: Daeyeon Lee, University of Pennsylvania
“Infiltration of Polymers into Disordered Nanoparticle Packings: Polymers under Extreme Nanoconfinement”

02:15 - 02:45 p.m.

Invited Talk: David J Pine, New York University
“In Pursuit of Colloidal Diamond”

02:45 - 03:30 p.m.

Short Presentations II: 3 min (+1 min)

1. **Joanna Schneider**, Princeton University.
“Using colloidal deposition for trapped oil mobilization in porous media”
2. **Jean-Francois Louf**, Princeton University.
“Dynamics of inhalation: flexible tubes network opening driven by elasto-capillarity”
3. **Daniel Seeman**, Brookhaven Instruments.
“A case study on diffusive motions in High-Mw polymer solutions: Applications of multi-angle Dynamic Light Scattering”
4. **Subhendra Sarkar**, New York City College of Technology/CUNY and McLean Hospital/ Harvard Medical School.
“Non-destructive Testing of Composite Materials Using High Field MRI”
5. **Akm Rahman**, New York City College of Technology.
“Rigid Nanofiber Reinforced Organosilicon Polymer as a Model Bio-material for Imaging and Spectroscopy.”
6. **Aishwarya Kanchi Ranganath**, Rutgers University.
“Protein condensates with altered sequences have differing phase behavior and yet retain liquid-like properties”
7. **Sean Fancher**, University of Pennsylvania.
“Fluid flow dynamics in networks of compliant vessels”
8. **Shang-Huan Chiu**, New Jersey Institute of Technology.
“Viscous Transport in Eroding Porous Media”
9. **Christopher Ushay**, Princeton University.
“Multiphase flow through hairy channels”
10. **Trevor Jones**, Princeton University.
“Bubble Casting Programmable Soft Robotics”
11. **Benjamin Yavitt**, Stony Brook University.
“In-operando studies of structure and dynamics in polymer nanocomposites during additive manufacturing processes”

03:30 - 04:00 p.m.

Coffee Break

04:00 - 04:30 p.m.

Invited Talk: Darrin J. Pochan, University of Delaware
“Biomolecules for Non-biological Things: Materials Construction through Peptide Design and Solution Assembly”

04:30 - 05:00 p.m.

Invited Talk: Yaling Liu, Lehigh University
“Blood Cell Damage in Medical Device: Soft Membrane Mechanics under Extreme Conditions”

Closing Remarks

List of contributed posters:

The poster will need to be mounted on a 36" by 48" board. The board, push pins, and a stand to hold the poster will be provided.

1. **Faiz Khan**, The Ohio State University.
"Scalable synthesis of polymer nanoparticles"
2. **Qingjian Li**, Stevens Institute of Technology.
"Bubble transport in porous media in the presence of nanoparticles"
3. **Alimohammad Anbari**, The City College of New York.
"Characterization of Breast Cancer Cell Migration, Captured in a Dual-gel Dual-porosity 3D ECM Mimics"
4. **Alexandre Morin**, New York University.
"Building diamonds with pyramids"
5. **Siqi Liu**, Stevens Institute of Technology.
"Dynamics of Ionic Liquids in the Presence of Polymer-Grafted Nanoparticles"
6. **Constantina Drakontis**, Manhattan College.
"Design of Sustainable Color Cosmetic Emulsions with Biosurfactants and Silica Particle Mixtures"
7. **Daniel Amchin**, Princeton University.
"Traveling Waves of Bacteria in Porous Media"
8. **Audrey Shih**, Princeton University.
"Polymer Flow Structure in Porous Media"
9. **Aina Radiance Davies**, Manhattan College.
"Microstructure Design of BTAC:FA and CTAC:FA Lamellar Gels for Optimized Rheology Performance Utilizing Automated Formulation Platform"
10. **Samyukta Pingali**, Manhattan College.
"Engineering Surface Activity and Bulk Rheological Performance Through Controlled Interactions of Biopolymers with Biosurfactants"
11. **Constantina Drakontis**, Manhattan College.
"Designing High Performance Color Cosmetics Through Optimization of Powder Flow Characteristics"
12. **Farzana Begum**, Manhattan College.
"Investigating the Influence of Polysorbate 20/80 and Poloxamer P188 On Bovine Serum Albumin and Lysozyme Aggregation, Rheology & Interfacial Properties"
13. **Amanda Peterman**, Manhattan College.
"Manufacture of Collagen Nanofibrils and their Biomedical and Environmental Applications"
14. **Tetiana Soloviova**, New York City College of Technology, CUNY.
"Fabrication and Imaging Characterization of Poly (Dimethyl Siloxane)/SiC Nano-fillers Samples as Model Biomaterials"

15. **Chunsheng Wen**, The City College of New York.
“Fabrication of Nanoporous Films by Sintering Silica Mesoporous Particles”
16. **Yara Suleiman**, Manhattan College.
“Study of the Effect of Rheological Properties of High-Concentration Protein Solutions on the Injectability of Protein Therapeutics”
17. **Thitiporn (Orm) Kaewpetch**, Lehigh University.
“Microstructure and instabilities in drying colloid-polymer films”
18. **Aravind Suresh**, Manhattan College.
“Development of polymer deposition instrument at Manhattan College as part of NSF-MRI grant”
19. **Alimohammad Anbari**, The City College of New York
“Characterization of Breast Cancer Cell Migration, Captured in a Dual-gel Dual-porosity 3D ECM Mimics”
20. **Adeline Benhur**, Manhattan College
“Effect of Rhamnolipid Biosurfactant on SLES/CAPB Surfactant System: A Macro and Microrheological Study”
21. **Kamia Puniua & Jay Kang**, NYU Tandon School of Engineering
“Photo-triggerable Engineered Protein Drug-Delivery System”

Sponsors:

We would like to acknowledge support from the Chemical and Mechanical Engineering departments at Manhattan College and our co-sponsors TA Instruments, Anton Paar, and Malvern Panalytical.



-The local organizing committee
 Samiul Amin
 Lina Baroudi