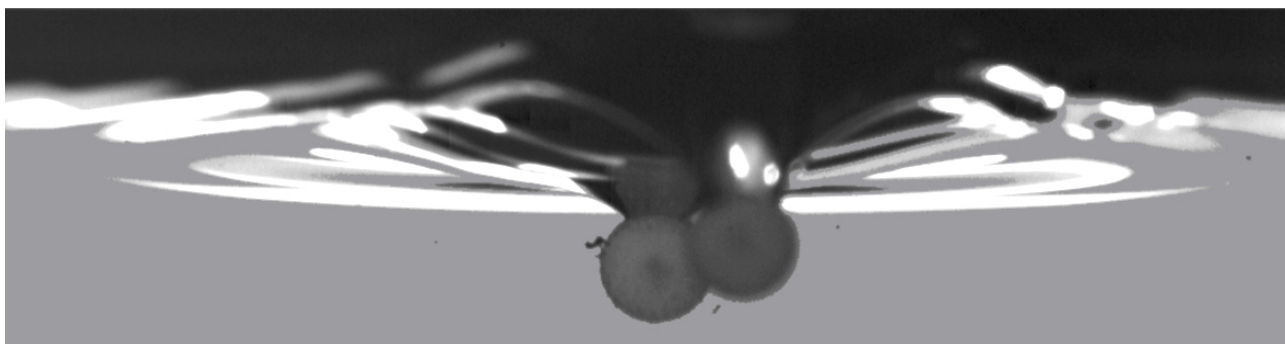


NCS 5 @ NYU TANDON

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5TH NORTHEAST COMPLEX FLUIDS AND SOFT MATTER WORKSHOP



The Northeast Complex Fluids and Soft Matter Workshop brings together researchers working on the science and engineering of complex fluids and soft matter, including polymers, granular materials, biomaterials, colloids, foams, and liquid crystals. This informal workshop will bring together researchers to exchange ideas and foster collaborations. The workshops host a mix of invited talks, short presentations, and networking time.

INFORMATION

The 5th Northeast Complex Fluids and Soft Matter (NCS) workshop will be held at [NYU Tandon School of Engineering](#) in Brooklyn, NY on January 15th, 2016. The NCS workshop is a one-day event hosted bi-annually at research universities in the NJ/NY/CT area. Previous workshops were held at Rutgers University, City College of New York, New Jersey Institute of Technology, and Stony Brook University.

Registration is free; however, in order to participate pre-registration is required by January 7th, 2016, using the form below. Please indicate on the registration form if you wish to participate in a presentation (oral or poster) and if you wish to be considered for the poster competition.

Lunch will be provided for all attendees.

PLENARY SPEAKERS

- [Karen Kasza](#), Columbia University
Spatiotemporal control of the active forces that shape living tissues
- [Andrej Kosmrlj](#), Princeton University
Statistical mechanics of thin spherical shells
- [Alban Sauret](#), CNRS
Wetting and drying in fibrous media
- [Mark Shattuck](#), The City University of New York
Statistics of frictional granular system: experiment and simulation

- [Michael Shelley](#), NYU Courant Institute
Models of Microtubule and Motor-Protein Assemblies
- [Howard Stone](#), Princeton University
Fluid-structure interaction problems at low Reynolds numbers

TENTATIVE PROGRAM (MAY BE SUBJECT TO CHANGE)

8:20-9:00	Breakfast and Registration	Rogers Hall, Ground Floor Lobby (Jay Street Entrance) and Jacobs Academic Building, Room JAB475
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	Invited Talks	25' (+5')
9:00-9:30	Howard Stone (Princeton University)	Fluid-structure interaction problems at low Reynolds numbers
9:30-10:00	Karen Kasza (Columbia University)	Spatiotemporal control of the active forces that shape living tissues

10:00-10:20	Coffee and tea	
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10:20-11:45	Presentations: session I	7' (+1')
1	Rémi Dreyfus (CNRS/Solvay/UPenn)	Self-assembling colloids and emulsions into 2D hyperuniform systems
2	Sangwoo Shin (Princeton University)	Control of colloid transport via solute gradients in dead-end channels
3	Jay Tobia (Rutgers University)	Controlling liquid bridge separation with electrowetting to minimize material crossover for droplet based multi-material 3D printing
4	Zhong Zheng (Princeton University)	Healing capillary films
5	Miao Yu (Rutgers University)	Ellipsoidal relaxation of electrodeformed vesicles
6	Archit Dani (City College of New York)	Hydrodynamics of two brownian particles at an oil-water interface
7	Amir M. Rahmani (Stony Brook University)	Thermally activated imbibition and drainage of nanostructured surfaces
8	Jie Feng (Princeton University)	Nanoemulsions obtained via bubble-bursting at a compound interface
9	Jin Montclare (NYU Tandon)	Intelligent biomaterials and assemblies on the nano to macroscale

	Invited Talk	25' (+5')
11:45-12:15	Michael Shelley (NYU Courant)	Models of microtubule and motor-Protein assemblies

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12:15-1:45	Lunch and Poster presentations	Rogers Hall, Room, RH203-205 Poster competition from 1:15pm-1:45pm. Students should be next to their posters.
	Invited Talk	25' (+5')
1:45-2:15	Alban Sauret, CNRS	Wetting and drying in fibrous media
2:15-3:40	Presentations: session II	7' (+1')
1	Yuan-Nan Young (NJIT)	Fluctuations and dynamics of a lipid bilayer membrane under an electric field: leaky dielectric and electrokinetic models
2	Katarzyna Somszor (NYU Tandon)	Drops spreading on flexible fibers
3	Szu-Pei Fu (NJIT)	Efficient Brownian dynamics simulation of DNA molecules with hydrodynamic interactions in linear flows
4	Mohammad Rahimi (Princeton University)	Shape dynamics and surface hydrodynamics of bilayer membranes
5	Samaneh Farokhirad (City College of CUNY)	Self-propelled jumping of particle-laden droplets on superhydrophobic surfaces
6	Clarissa Schönecker (Princeton Univ./MPI for Polymer Research)	Local flow and slippage over a superhydrophobic surface
7	Pejman Sanaei (NJIT)	Optimum permeability profile and fouling in membrane filters
8	Valeria Barra (NJIT)	Interfacial dynamics of thin viscoelastic films and drops
9	Aaron Mazzeo (Rutgers University)	Fluid-elastomer interactions for aero- and hydrodynamic applications
3:40-4:00	Coffee and Cookies	Winner of the poster competition will be announced during the break
	Invited Talks	25' (+5')
4:00-4:30	Andrej Kosmrlj (Princeton University)	Statistical mechanics of thin spherical shells
4:30-5:00	Mark Shattuck (City College of New York)	Statistics of frictional granular system: experiment and simulation
5:00-5:10	Closing remarks	

LIST OF CONTRIBUTED POSTERS

12:15 - 1:45 PM

The poster will need to be mounted on a 30" by 40 " board. The board, push pins, and a stand to hold the poster will be provided. Please let us know if you have any questions. The poster session will occur in Rogers Hall, Room RH203-205, during and after the lunch. In particular, the poster competition will take place from 1:15pm-1:45pm. Students should be next to their posters.

1	Joonsuk Oh (NYU)	High-Density PEO-b-DNA Brushes on Polymer Particles for Colloidal Superstructures
2	Siqi Du (Rutgers University)	Gravity driven deterministic lateral displacement for suspended particles in a reconfigurable 3D obstacle array
3	Tianya Yin (Rutgers University)	Mathematical model and simulation study on the motion of suspended particles in 3D deterministic lateral displacement
4	David Cunningham (Rutgers University)	Flow-induced stresses in self-affined rock fractures: an experimental investigation
5	Robert Weir (Rutgers University)	Capillary interaction between hollow janus cylinders
6	Lindsay Hill (SUNY Downstate / NYU Tandon)	Development of a protein-based ferrofluid for theranostic applications
7	Filippo Cellini (NYU Tandon)	Mechanochromic soft materials for fluid sensing
8	Deborah Barkley (Stony Brook University)	Nanostructured arrays of self-organizing dendronized macromolecules
9	Adel Shams (NYU Tandon)	Pressure reconstruction in water impact problems
10	Violet Mwaffo (NYU Tandon)	Active matter of shoaling zebrafish: self-propelled systems with time-dependent noise
11	Dylan Bargteil (NYU)	Self-Assembly of emulsion droplets into polymer chains
12	Roni Barak Ventura (NYU Tandon)	Improving the assembly and stability of engineered phosphotriesterase through computational design and experimentation
13	John Sperduto (Rutgers University)	Flapping-based energy harvesting with tunable elastomeric structures
14	Sumayya Vawda and Teeba Jihad (NYU Tandon)	Stabilization of a self-assembling protein-based biomaterial for drug delivery
15	Nicole Schnabel (NYU Tandon)	Engineering biomaterials as drug delivery agents for the treatment of osteoarthritis
16	Jingjin Xie (Rutgers University)	Elastomeric actuators on airfoils for aerodynamic control of lift and drag
17	Anthony Palumbo (Stevens Institute of Technology)	Effects of electropolymerization parameters of PPy(DBS) surfaces on the droplet flattening behaviors during redox
18	Chen Wang (NYU)	Holographic characterization of protein aggregates

*The 5th Northeast Complex Fluids and Soft Matter
Workshop: NCS5 @ NYU TANDON*

Explore new and fascinating work on soft materials

Invited talks, short presentations, student posters, with plenty of networking opportunities and chances to learn about collaborations and job possibilities.

Invited Speakers:

Karen Kasza *Columbia University*
Spatiotemporal control of the active forces that shape living tissues

Andrej Kosmrlj *Princeton University*
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**January
15th**

NYU Tandon School of Engineering
6 MetroTech Center, Brooklyn, NY 11201

Registration is **FREE**.
Pre-registration is required by **January 7th, 2016**:
engineering.nyu.edu/piflab/NCS5/NCS.html

engineering.nyu.edu



NYU

**TANDON SCHOOL
OF ENGINEERING**

DIRECTION

The workshop will take place at NYU Tandon School of Engineering, at 6 MetroTech Center (see [campus map](#)) in Brooklyn, NY. If you take the subway to Brooklyn, more details are available [here](#) and enter through the main entrance of the building. If you drive to MetroTech, use one of the many city parkings in the neighborhood.

CONTACT

- [Emilie Dressaire](#), *NYU Tandon School of Engineering, Department of Mechanical and Aerospace Engineering*
- [Rastislav Levicky](#), *NYU Tandon School of Engineering, Department of Chemical and Biomolecular Engineering*

Additional contact: [Shahab Shojaei-Zadeh](#) and [German Drazer](#), *Rutgers University, Mechanical and Aerospace Engineering, Institute for Advanced Materials, Devices and Nanotechnology*

We acknowledge financial support from the MAE and CBE department at NYU Tandon School of Engineering and the ACS Petroleum Research Fund.



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**TANDON SCHOOL
OF ENGINEERING**



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