



Okinawa Institute of Science and Technology  
Graduate University

**Mini-Symposium:**  
**Fluid-Structure Interactions: From Engineering to Biomimetic Systems**

**Day 1:** 14<sup>th</sup> January 2020 (location: C210, Level C, Center building, OIST Main Campus)

9:00-9:30 Opening remarks by Prof. Amy Q. Shen

**Session 1** (chair: Simon Haward, OIST)

9:30-10:30 Alexander Morozov, University of Edinburgh, UK

Title: **“Passive and active particles in Stokes flows”**

10:30-10:45 Coffee break

10:45-11:45 Takuji Ishikawa, Tohoku University, Japan

Title: **“Biomechanics as a tool for understanding microorganisms”**

11:45-14:00 Lunch (closed) and campus tour

**Session 2** (chair: Amy Shen, OIST)

14:00-15:00 Shigeyuki Komura, Tokyo Metropolitan University, Japan

Title: **“A three-sphere microswimmer in a structured fluid”**

15:00-16:00 Sangwoo Shin, University of Hawaii, USA

Title: **“Trapping of colloidal particles in flow junctions and porous media via fluid-solute-colloid-boundary interactions”**

16:00-16:15 Coffee break

16:15-17:15 Minami Yoda, Georgia Tech, USA

Title: **“Near-wall dynamics and assembly of colloidal particles driven by shear flow and electric field”**

18:00-20:00 Dinner (closed) at **Restaurant Fugetsurou, Fuchaku Onna**

**Day 2:** 15<sup>th</sup> January 2020 (location: Seminar Room at OIST Seaside House)

**Session 1** (chair: Sangwoo Shin, University of Hawaii, USA)

9:15-10:15 Jonathan Rothstein, UMass Amherst, USA

Title: **“Inducing motion in flexible solid structures through elastic flow instabilities”**

10:15-10:30 Coffee break

10:30-11:30 Cameron Hopkins, OIST, Japan

Title: **“Purely elastic fluid-structure interactions in microfluidics”**

11:30-12:00 Simon Haward, OIST, Japan

Title: **“The asymmetric flow of polymer solutions around cylinders”**

12:00-13:00 Lunch (closed)

**Session 2** (chair: Minami Yoda, Georgia Tech, USA)

13:00-14:00 Kenta Ishimoto, Kyoto University, Japan

Title: **“Bacterial swimming instability via fluid-structure interactions”**

14:00-15:00 Roger Kamm, MIT, USA

Title: **“Vascular networks on a chip and their applications”**

15:00-18:30 Free time/excursion (Cape Zanpa, Okashi Goten Sweet Factory, Yomitan Pottery Village).

19:00-21:00 Dinner (closed) at **Chura Hall, OIST Seaside House**

**Day 3:** 16<sup>th</sup> January 2020 (location: Seminar Room at OIST Seaside House)

**Session 1** (chair : Jonathan Rothstein, UMass Amherst, USA)

9:15-10:15 Patrick Anderson, Eindhoven University of Technology, Netherlands

Title: **“Bio-inspired microfluidic pumping by artificial cilia”**

10:15-10:45 Daniel Carlson, OIST, Japan

Title: **“Flow-induced vibrations for a square prism with crossflow-inline freedom”**

10:45-11:00 Coffee break

11:00-12:00 Anke Lindner, ESPCI, France

Title: **“Morphological transitions of flexible filaments in viscous flows”**

12:00-13:00 Lunch (closed)

**Session 2** (chair: Anke Lindner, ESPCI, France)

13:00-14:00 Joung-Sook Hong, Seoul National University, Korea

Title: **“Interfacial rheological study on interfacial layer formation of mineral particles with surfactants”**

14:00-14:30 Vikram Rathee, OIST, Japan

Title: **“Role of particle orientational order during shear-thickening in suspensions of colloidal rods”**

14:30-14:45 Coffee break

14:45-15:15 Marco Rosti, OIST, Japan

Title: **“The effect of elastic and porous walls on the rheology of suspensions”**

15:15-16:15 Nate Cira, Harvard University, USA

Title: **“Droplets structured by surface tension gradients on high energy surfaces”**

16:15-18:30 Free time

19:00-21:00 Dinner at **Chura Hall, OIST Seaside House**