



Okinawa Institute of Science and Technology
Graduate University

Mini-Symposium: Dynamics of Viscoelastic and Inertioelastic Flows

Day 1: 18th January 2018 (location: C210, Level C, Center Bldg. ** morning session only)

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

Session 1: Free-surface flows (chair: Simon Haward, OIST)

9:30-10:30 Gareth McKinley, MIT, USA

Title: **“Jetting, spraying & splashing: Free surface inertio-elastic flows”**

10:30-10:45 Coffee break

10:45-11:45 Justin Cooper-White, UQ, Australia

Title: **“Exploring impacts of upstream nozzle kinematics on downstream droplet breakup and spray drift”**

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

**** Venue changed to next door (C209) from the afternoon session until the last session.**

Session 2: Turbulent flows and drag reduction I (chair: Tamer Zaki, JHU, USA)

14:00-15:00 Pinaki Chakraborty, OIST, Japan

Title: **“The spectral link in turbulent frictional drag (and implications for polymer-doped flows)”**

15:00-16:00 Bjorn Hof, IST, Austria

Title: **“The nature of the maximum drag reduction asymptote”**

16:00-16:15 Coffee break

16:15-17:15 Takahiro Tsukahara, Tokyo University of Science, Japan

Title: **“Viscoelastic effects on roll cells in wall-bounded shear flow: Toward clarifications of DR and EIT”**

18:00-20:00 Dinner (closed) at **Restaurant floor (Level B, Center Bldg.)**

Day 2: 19th January 2018 (location: C209, Level C, Center Bldg.)

Session 1: Elastic Turbulence (chair: Rob Poole, Liverpool University, UK)

9:15-10:15 Victor Steinberg, Weizmann Institute, Israel

Title: **“Elastic turbulence, inertial effect and drag reduction”**

10:15-10:45 Gareth McKinley, MIT, USA

Title: **“Superhydrophobic and polymer drag reduction in turbulent Taylor-Couette flow”**

10:45-11:00 Coffee break

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

Title: **“Elastic instabilities in planar elongational flows of polymer solutions”**

11:30-13:00 Lunch (closed)

Session 2: Instabilities in Intersecting Flows (chair: Paulo Arratia, UPenn, USA)

13:00-14:00 Rob Poole, Liverpool University, UK

Title: **“Flow instabilities in the cross slot geometry: characterisation, exploitation and cure”**

14:00-14:30 Noa Burshtein (PhD Student, OIST, Japan)

Title: **“Inertioelastic flow instability at a stagnation point”**

14:30-15:00 San To Chan (PhD Student, OIST, Japan)

Title: **“Microscopic investigation of vortex breakdown in a dividing T-junction flow”**

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

19:00-21:00 Dinner (closed) **Restaurant floor (Level B, Center Bldg.)**

Day 3: 20th January 2018 (location: C209, Level C, Center Bldg.)

Session 1: General Viscoelastic Flows (chair Gareth McKinley, MIT, USA)

9:00-10:00 Marie Oshima, University of Tokyo, Japan

Title: **“Development of measurement techniques using microscopy for spherical particles in microchannels”**

10:00-10:30 Francesco Del Giudice (OIST, Japan)

Title: **“High throughput viscoelastic ordering of particles in a straight microfluidic channel”**

10:30-10:45 Coffee break

10:45-11:45 Hirofumi Notsu, Kanazawa University, Japan

Title: **“Numerical analysis of viscoelastic models”**

11:45-13:15 Lunch (closed)

Session 2: Turbulent flows and drag reduction II (chair: Takahiro Tsukahara, TUS, Japan)

13:15-14:15 Tamer Zaki, Johns Hopkins University, USA

Title: **“Natural transition and turbulence in viscoelastic channel flow”**

14:15-15:15 Paulo Arratia, University of Pennsylvania, USA

Title: **“Characterizing Elastic Turbulence in Parallel Shear flows”**

15:15-15:30 Coffee break

15:30-16:30 Mike Graham, University of Wisconsin Maddison, USA

Title: **“Dynamics and structures of viscoelastic turbulence in channel flow: from MDR to micelles”**

16:30-18:30 Free time

19:00-21:00 Dinner, Sakae restaurant (external speakers only)