**Monday, Oct 31, 2022**

**Multiphase turbulent flows**, Chair: Raymond Shaw (Michigan Technological U)

- 8:50am Lars Bildsten (KITP)  
  Welcome[Video][CC]

- 9:00am Alfredo Soldati (TU Wien)  
  Dynamics of anisotropic fibers in turbulent shear flow[Video][CC]

- 9:30am Rama Govindarajan (ICTS)  
  Aspects of particle transport in vortical flow[Video][CC]

- 10:00am Federico Toschi (TU Eindhoven)  
  How the growth of ice depends on the fluid dynamics underneath[Video][CC]

- 10:30am  
  Morning Break

- 11:00am Herman Clercx (TU Eindhoven)  
  On dispersion, preferential concentration and settling of inertial particles in (stratified) turbulence[Slides][Video][CC]

- 11:45am Jeremie Bec (CNRS)  
  Turbophoresis of heavy inertial particles in statistically homogeneous flow[Slides][Video][CC]

- 12:30pm  
  Lunch Break

**Turbulence and clouds**, Chair: Eckart Meiburg (UCSB)

- 2:00pm Eberhard Bodenschatz (MPI)  
  In situ measurements of cloud microphysics in the field[Video][CC]

- 2:30pm Alain Pumir (ENS Lyon)  
  Settling and collision of ice crystals in turbulent clouds[Slides][Video][CC]

- 3:00pm Sisi Chen (NCAR)  
  Studying ice-droplet-turbulence interactions at an ultra-fine scale via direct numerical simulation[Video][CC]

- 3:30pm  
  Afternoon Break

- 4:00pm  
  Poster Session 1

- 5:30pm  
  SHUTTLE TO BWSCI

**Tuesday, Nov 1, 2022**

**Atmospheric clouds 1**, Chair: Raymond Shaw (Michigan Technological U)

- 9:00am Anna Jaruga (Caltech)  
  Particle-based methods for cloud microphysics: towards learning climate model parameterizations from libraries of particle simulations[Slides][Video][CC]

- 9:30am Graham Feingold (NOAA)  
  Top-down and bottom-up approaches to the complex atmospheric system[Video][CC]

- 10:00am Fabian Hoffmann (U Munich)  
  Zooming out: understanding cloud systems from complex and idealized models[Video][CC]

- 10:30am  
  Morning Break

- 11:00am Ilan Koren (Weizmann Inst.)  
  Cloud fields - living near the bifurcation point[Video][CC]

- 11:30am Franziska Glassmeier (TU Delft)  
  Chances & challenges for capturing mesoscale cloudiness[Video][CC]

- 12:00pm  
  Lunch Break

**Atmospheric clouds 2**, Chair: Anna Jaruga (Caltech)

- 2:00pm Adele Igel (UC Davis)  
  Modulation by cloud droplet size of microphysical and radiative processes and their feedbacks to mixing at cloud top[Video][CC]

- 2:45pm Joao Teixeira (JPL)  
  Turbulence, clouds and climate models[Video][CC]
Wednesday, Nov 2, 2022

Granular/suspension flows: settling, creeping, shearing. Chair: Elisabeth Guazzelli
(Université Paris CitÉ, CNRS)

9:00am Mathew Wells (U Toronto)  Influence of convective sedimentation on particle settling rates beneath river plumes[Video][CC]
9:45am Jeffrey Morris (CCNY)  Two topics in sheared suspensions: Contact force networks and inertial flow transitions[Slides][Video][CC]
10:30am  Morning Break
11:00am Cacey Bester (Swarthmore)  Granular physics with a geological context: Creep in a photoelastic granular medium[Slides][Video][CC]
11:30am Bernhard Vowinckel (TU Braunschweig)  Rheology of sheared sediment beds: Particle resolved simulations[Slides][Video][CC]
12:00pm Franco Tapia (U. Tokyo)  Local rheology: Viscous to inertial transition in dense suspensions[Video][CC]
12:30pm  Lunch Break

Granular/suspension flows: The granularity of particulate flows

2:00pm Pascale Aussillous (Aix-Marseille U)  Flow of immersed granular media: experiments and continuum two-phase modelling[Slides][Video][CC]
2:45pm Tian-Jian Hsu (U Delaware)  The role of turbulent coherent structures on the evolving seabed[Slides][Video][CC]
3:30pm  Afternoon Break
4:00pm Corey O'hern (Yale)  Local fluctuations in the shear modulus of granular beds[Slides][Video][CC]
4:45pm Kyle Strom (Virginia Tech)  Field and laboratory observations of floc aggregates in muddy suspensions[Video][CC]
5:30pm  Cocktail Reception
6:00pm  Dinners
8:00pm  Shuttle to BWSCI

Thursday, Nov 3, 2022

Geophysical flows can be creepy, Chair: Michael Manga (Berkeley)

9:00am Douglas Jerolmack (U Penn)  From creepy to catastrophic: some puzzling behaviors of natural particle-fluid mixtures across the dry to dilute regimes[Video][CC]
9:30am Kimberly Hill (Minnesota)  Considerations of simultaneous influences of climate, local sediments, and hydrology in the behaviors of debris flows on alluvial fans: field measurements and laboratory experiments[Video][CC]
10:00am George Bergantz (UW)  On the remarkable diversity of multiphase processes in volcanic systems[Slides][Video][CC]
10:30am  Morning Break

11:00am Valerie Vidal (ENS Lyon)  Emergence of oscillations during fluid injection in water-saturated sands[Video][CC]

11:45am Nathalie Vriend (CU Boulder)  Bedform dynamics: interaction, attraction and repulsion of dunes[Video][CC]

12:30pm  Lunch Break

Explosive volcanic eruptions, Chair: Michael Manga (Berkeley)

2:00pm Joe Dufek (U Oregon)  Granular and fluid instabilities in explosive volcanic eruptions: Consequences of clustering and collisions in compressible flows[Video][CC]

2:30pm Gert Lube (Massey U)  The turbulence characteristics of pyroclastic density currents and their relationships with flow runout, deposition, and hazard behaviours[Video][CC]

3:00pm Olivier Roche (IRD-UCA)  Factors controlling the runout distance of pyroclastic density currents: statistical analysis and implications[Video][CC]

3:30pm  CONFERENCE END SHUTTLE TO BWSCI *Also available to SB Airport and SB Airbus, Goleta location (See Registration Desk BEFORE THURSDAY to sign up.)