Workshop: Fluid flows: from graphene to planet atmospheres

Events for:
Monday, March 20 - Friday, March 24

Monday, March 20th

9:30am **Coffee - SCGP Cafe**

10:00am **Kin Chung Fong - SCGP 102**

Title: Listening to the hydrodynamic noise in graphene

10:45am **Andrew Lucas - SCGP 102**

Title: Hydrodynamics of the Dirac fluid in graphene

11:30am **Mykola Semenyakin - SCGP 102**

Title: AC currents in viscous electronics

12:00pm **Lunch - SCGP Cafe**

2:00pm **Leonid Levitov - SCGP 102**

Title: Higher-than-ballistic conduction in electron fluids

2:45pm **Marco Polini - SCGP 102**

Title: Viscous electron flow in two spatial dimensions: from nonlocal transport to point contacts

3:30pm **Tea Time - SCGP 515**

4:00pm **Boris Spivak - SCGP 102**

Title: Kinetic theory of Weyl metals

4:45pm **Dmytro Pesin - SCGP 102**

Title: Chiral transport in gapless condensed matter phases

Tuesday, March 21st

9:30am **Coffee - SCGP Cafe**

10:15am **Dmitri Kharzeev - SCGP 102**

Title: New quantum effects in relativistic magnetohydrodynamics

11:00am **Paul Wiegmann - SCGP 102**

Title: Quantization of 2d vortex flows

12:00pm **Lunch - SCGP Cafe**

2:00pm **Denis Bernard - SCGP 102**

Title: From ballistic to diffusive transport, and localization, in 1D critical systems

2:45pm **David Dritschel - SCGP 102**

Title: V-states at finite deformation length

3:30pm **Tea Time - SCGP 515**

4:15pm **Gregory Falkovich - SCGP 103**

Wednesday, March 22nd

9:30am **Coffee - SCGP Cafe**

10:15am **Rory Cerbus - SCGP 102**

Title: Janus Spectra in Two-Dimensional Flows

11:00am **Evgeny Kuznetsov - SCGP 102**

Title: Tendency to breaking and two-dimensional hydrodynamic turbulence for direct cascade

12:00pm **Lunch - SCGP Cafe**

2:00pm **Helen Burgess - SCGP 102**

Title: Vortex scaling ranges in two-dimensional turbulence

2:45pm **Anna Frishman - SCGP 102**

Title: Culmination of the inverse cascade - mean flow and fluctuations

3:30pm **Tea Time - SCGP 515**

4:00pm **Richard Scott - SCGP 102**

Title: The interplay of jets and turbulence in geophysical flows

4:45pm **Antoine Venaille - SCGP 102**

Title: Topological Origin of Geophysical Waves

Thursday, March 23rd

9:30am **Coffee - SCGP Cafe**

10:15am **Alexandros Alexakis - SCGP 102**

Title: Critical Transitions in Thin Layer Turbulence

11:00am **Guido Boffetta - SCGP 102**

Title: Dimensional transitions in thin fluid layers

12:00pm **Lunch - SCGP Cafe**

2:00pm **Gregory Eyink - SCGP 102**

Title: Cascades and Dissipative Anomalies in Relativistic Fluid Turbulence

2:45pm **Theodore Drivas - SCGP 102**

Title: Point-Splitting vs. Coarse-Graining Regularizations in Fluid Turbulence

3:30pm **Tea Time - SCGP 515**

4:00pm **Alexei Kritsuk - SCGP 102**

Title: Cascades and Scaling in Two-dimensional Compressible Turbulence

4:45pm **Stefano Musacchio - SCGP 102**

Title: Magnetic condensate in 2D Magnetohydrodynamics

Abstract: By means of numerical simulations, we investigate the phenomenon of the self-organization of the magnetic field in a large-scale coherent structure, which occurs in two-dimensional magneto-hydro-dynamics in presence of a magnetic forcing. We show that the Lorentz force induced by the condensate is able to sustain a turbulent flow, but does not cause the development of a large-scale coherent vortex. The temporal correlation of the external forcing affects the mechanisms which allow to attain a statistically steady state, and influences the statistical properties of the magnetic condensate.

Friday, March 24th

9:30am **Coffee - SCGP Cafe**

10:15am **Natalia Vladimirova - SCGP 102**

Title: Is there such thing as 2d channel turbulence?

11:00am **Steve Tobias - SCGP 102**

Title: Generation of Mean Flows in Stochastic and Thermally Driven Two-Dimensional Flows

12:00pm **Lunch - SCGP Cafe**

2:00pm **Boris Khesin - SCGP 102**

Title: Characterization of steady solutions to the 2D Euler equation

3:30pm **Tea Time - SCGP 515**