



# Universality: Turbulence Across Vast Scales

## Monday, December 2, 2019

**Contributed Speaker: Blakesley Burkhart: New Turbulence Diagnostics for Astrophysics and Beyond** - 2nd flr Auditorium (9:50 AM - 10:10 AM)

**Contributed Speaker: Philip Mocz: Dense structures in compressible turbulence** - 2nd flr Auditorium (10:10 AM - 10:30 AM)

**Contributed Speaker: Joanna Slawinska: Vector-valued spectral analysis of complex turbulent flows** - 2nd flr Auditorium (10:30 AM - 10:50 AM)

**Contributed Speaker: Gavin Portwood: Interpretable artificial neural networks outperform canonical LES closures** - 2nd flr Auditorium (12:00 PM - 12:20 PM)

**Contributed Speaker: Alexander Migdal: Turbulence, Topology, Area Law and Ising Model** - 2nd flr Auditorium (12:20 PM - 12:40 PM)

**Contributed Speaker: Joerg Schumacher: Large-scale patterns in turbulent convection flows** - 2nd flr Auditorium (12:40 PM - 1:00 PM)

**Contributed Speaker: Dwight Barkley: The route to turbulence in wall-bounded flows** - 2nd flr Auditorium (2:30 PM - 2:50 PM)

**Contributed Speaker: Katepalli Sreenivasan: Quantum loops and circulation around closed loops in 3D turbulence: the excitement of recent progress** - 2nd flr Auditorium (3:30 PM - 3:50 PM)

## **Tuesday, December 3, 2019**

**Contributed Speaker: Yue Hu: Magnetic Fields and Turbulence in Interstellar Media with Velocity Gradients Technique - 2nd flr Auditorium (9:40 AM - 10:00 AM)**

**Contributed Speaker: Shmuel Bialy: Molecules as probes of turbulence in the interstellar medium - 2nd flr Auditorium (10:00 AM - 10:20 AM)**

**Contributed Speaker: Vadim Semenov: The role of interstellar turbulence in regulation of star formation in galaxies - 2nd flr Auditorium (10:20 AM - 10:40 AM)**

**Contributed Speaker: Drummond Fielding: The Anatomy of Radiative Turbulent Mixing Layers - 2nd flr Auditorium (11:50 AM - 12:10 PM)**

**Contributed Speaker: Hubert Klahr: The role of Turbophoresis for structure formation in dust-laden turbulence - 2nd flr Auditorium (12:10 PM - 12:30 PM)**

**Contributed Speaker: Massimo Gaspari: Raining onto Black Holes: The Key Role of Turbulence - 2nd flr Auditorium (2:30 PM - 2:50 PM)**

**Contributed Speaker: Jesus Salas: The turbulent dynamics at the heart of the Milky Way - 2nd flr Auditorium (2:50 PM - 3:10 PM)**

**Contributed Speaker: Yuan Li: Direct Detection of Black Hole-Driven Turbulence in the Centers of Galaxy Clusters - 2nd flr Auditorium (3:10 PM - 3:30 PM)**

**Contributed Speaker: Alexei Kritsuk: Spectral Energy Fluxes in Compressible Turbulence - 2nd flr Auditorium (4:40 PM - 5:00 PM)**

## Wednesday, December 4, 2019

**Contributed Speaker: Jun Zhang: Interplay between boundary and flow structures in turbulent thermal convection - 2nd flr Auditorium (9:40 AM - 10:00 AM)**

**Contributed Speaker: James Phillips: Globular Protein Hydrodynamics - 2nd flr Auditorium (10:00 AM - 10:20 AM)**

**Contributed Speaker: Andrea Scagliarini: A shell model approach to active turbulence - 2nd flr Auditorium (10:20 AM - 10:40 AM)**

**Contributed Speaker: Jinghui Liu: Topological turbulence on the membrane of a living cell: Observation and characterization. - 2nd flr Auditorium (11:50 AM - 12:10 PM)**

**Contributed Speaker: Pearson W Miller: Topological turbulence on the membrane of a living cell: Approaching complex patterns with minimal models - 2nd flr Auditorium (12:10 PM - 12:30 PM)**

**Contributed Speaker: Fabian Waleffe: Equation-driven investigations of turbulence structures and scaling laws - 2nd flr Auditorium (2:45 PM - 3:05 PM)**

**Contributed Speaker: Dimitris Giannakis: Quantum mechanics for data assimilation in complex systems - 2nd flr Auditorium (3:05 PM - 3:25 PM)**

# Thursday, December 5, 2019

**Contributed Speaker: Boris Galperin: Energy spectra in atmospheric and oceanic turbulence - 2nd flr Auditorium (9:40 AM - 10:00 AM)**

**Contributed Speaker: Oliver Buhler: Geophysical turbulence - 2nd flr Auditorium (10:00 AM - 10:20 AM)**

**Contributed Speaker: Adam Jermyn: Angular Momentum Transport in Stellar Convection - 2nd flr Auditorium (10:20 AM - 10:40 AM)**

**Contributed Speaker: Daniel Lecoanet: Turbulence in Stellar Convection - 2nd flr Auditorium (11:50 AM - 12:10 PM)**

**Contributed Speaker: Siyao Xu: Turbulent dynamo in diverse astrophysical media - 2nd flr Auditorium (12:10 PM - 12:30 PM)**

**Contributed Speaker: Ethan T. Vishniac: Turbulent Dynamos in Stars and Galaxies - 2nd flr Auditorium (2:00 PM - 2:20 PM)**

**Contributed Speaker: Itzhak Fouxon: Multifractal density and magnetic dynamo in supersonic turbulence - 2nd flr Auditorium (3:00 PM - 3:20 PM)**

**Contributed Speaker: Federico Fraternali: Observed scaling of turbulence in the inner and outer heliosheath - 2nd flr Auditorium (3:20 PM - 3:40 PM)**

**Contributed Speaker: Daniel Groelj: Kinetic Turbulence in Astrophysical Plasmas: Waves and/or Structures? - 2nd flr Auditorium (4:10 PM - 4:30 PM)**

**Contributed Speaker: Rohit Supekar: Linearly Driven Flow on a Rotating Sphere - 2nd flr Auditorium (4:30 PM - 4:50 PM)**

## **Friday, December 6, 2019**

**Contributed Speaker: James Cho - 2nd flr Auditorium (9:40 AM - 10:00 AM)**

**Contributed Speaker: James Beattie: Anisotropies in observed, highly-magnetised, supersonic turbulent clouds - 2nd flr Auditorium (10:00 AM - 10:20 AM)**

**Contributed Speaker: Luca Comisso: The interplay of magnetically-dominated turbulence and magnetic reconnection in producing nonthermal particles - 2nd flr Auditorium (10:50 AM - 11:10 AM)**

**Contributed Speaker: Emanuele Sobacchi: Relativistic turbulence with a fast radiative cooling - 2nd flr Auditorium (11:10 AM - 11:30 AM)**