

**PDE and Fluids
Schedule
L4**

Monday 29 September

- 9:30-10:30 Diego Córdoba, *Vortex layer cascades and finite time singularities for incompressible fluids*
10:30-11:00 Coffee
11:00-12:00 Laure Saint-Raymond, *Fluctuations in kinetic and fluid models*
12:00-14:00 Lunch
14:00-15:00 Matthew Novack, *Dissipative Euler solutions and helicity*
15:00-15:30 Coffee
15:30-16:30 Steve Shkoller, *The sad story of the steepening soundwave*

Tuesday 30 September

- 9:30-10:30 Maria Colombo, *Non-uniqueness and instability in vanishing viscosity solutions of the Euler equations*
10:30-11:00 Coffee
11:00-12:00 Zaher Hani, *Longtime derivation of the Boltzmann and fluid equations*
12:00-14:00 Lunch
14:00-15:00 Thomas Hou, *Nonuniqueness of Leray-Hopf solutions to the unforced incompressible 3D Navier-Stokes Equation*
15:00-15:30 Coffee
15:30-16:30 Javier Gómez-Serrano, *Discovery of unstable singularities*

Wednesday 1 October

- 10:00-11:00 Vladimir Šverak, *A report on the Navier-Stokes Problem*
11:00-11:30 Coffee
11:30-12:30 Chris Skinner, *The Birch—Swinerton-Dyer Conjecture: a millennium prize problem at 25*
12:30-14:30 Lunch
14:30-15:30 Martin Hairer, *Yang-Mills and the Mass Gap*
15:30-16:00 Coffee
16:00-17:00 Avi Wigderson, *P vs NP*
17:00 Reception in Mathematical Institute
19:00 Dinner at Exeter College for invited guests

Thursday 2 October

- 10:00-11:00 Jeff Brock, *3-manifolds after Perelman: topology, geometry, and effective rigidity*
11:00-11:30 Coffee
11:30-12:30 Bruce Kleiner, *Ricci flow after Perelman*
12:30-14:30 Lunch
14:30-15:30 Burt Totaro, *The Hodge conjecture: geometry and analysis*
15:30-16:00 Coffee
16:00-17:00 Kannan Soundararajan, *Progress on zeta and L-functions motivated by the Riemann hypothesis*

Friday 3 October

- 9:30-10:30 Jacob Bedrossian, *What would be a mathematical theory of turbulence?*
10:30-11:00 Coffee
11:00-12:00 Klaus Widmayer, *Global axisymmetric Euler flows with rotation*
12:00-14:00 Lunch
14:00-15:00 Tarek Elgindi, *Aspects of the long-time behavior of ideal fluids*
15:00-15:30 Coffee
15:30-16:30 Alexander Kiselev, *Singularity suppression by fluid flow*