CSCAMM

KI-Net: Kinetic description of emerging challenges in multiscale problems of natural sciences

An NSF Research Network in Mathematical Sciences

Conference Announcement

Mixing and Mixtures in Geo- and Biophysical Flows: A Focus on Mathematical Theory and Numerical Methods

May 23-27, 2016

Center for Scientific Computation And Mathematical Modeling
University of Maryland

Organizers

Jacob Bedrossian	University of Maryland
Dider Bresch	Savoie Mont-Blanc University
Pierre-Emmanuel Jabin	University of Maryland
Konstantina Trivisa	University of Maryland

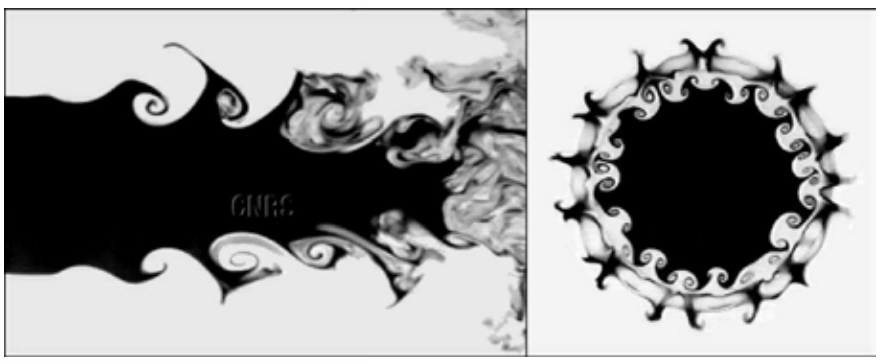
Confirmed Participants

David Ambrose	Drexel University
Gianluca Crippa	University of Basel
David Gérard-Varet	Université Paris Diderot - Paris 7
Matthieu Hillairet	Université de Montpellier
David Lannes	IMB Bordeaux
Josef Málek	Charles University in Prague
Michael Renardy	Virginia Tech
Lenya Ryzhik	Stanford University
Vlad Vicol	Princeton University
Andrej Zlatoš	University of Wisconsin

A limited number of openings are available.
To apply, complete the online application before **April 30, 2016**.

For more information and to apply:
www.ki-net.umd.edu

KI-Net Hubs



From CNRS website: http://phototheque.cnrs.fr

Scientific Background

New environmental issues call for a better understanding of numerous complex and highly heterogeneous behaviors in Geo- and Biophysical Flows, such as mixtures for granular media and for breaking waves, and mixing in turbulence or other high Reynolds number regimes. These challenges have inspired mathematicians to formalize new questions in Fluid Mechanics. The solution of these questions requires new mathematical tools, either theoretical, or numerical while maintaining close links with the theory.

This workshop focuses on several recent advances furthering our understanding of interactions between small and macroscopic scales (through mixing in particular) and of several co-existing velocities in a fluid (mixtures, compressible flows, etc.).

Goals

This workshop has a dual goal of targeting researchers at an early stage of their career through mini-courses and bringing together a group of experts in Applied Mathematics and Mathematical Physics.

Mini Courses

Activated fluids: continuum description, analysis and computational results

Josef Málek, Charles University in Prague

Mixing and dissipation in fluid

Jacob Bedrossian, University of Maryland