

COLLOQUIUM FÉDÉRATION FRIEDEL JACQUINOT

Mercredi 19 Février 2025 - Amphi A1 du Batiment Hbar

12h00 : Lunch box

12h30 : Séminaire de Roberto Zenit (Brown University)

Hydrodynamic instabilities in modern artistic painting

Fluid mechanics is a subject that is relevant to every aspect of human activity. Art is not an exception. Artists, mostly painters but not exclusively, learn how to manipulate the material properties and the flow of liquids to produce textures, shapes, and forms to create their objects of aesthetic value. As opposed to what is desired in industrial painting, where uniform and fast coatings are needed, artistic painting uses color gradients and non-uniform paint layers. In this talk, a survey of a few modern painting techniques will be discussed. Interestingly, in most cases, the appearance of non-uniformities is governed by hydrodynamic instabilities. Understanding how these instabilities emerge, and how can they be controlled, can be a powerful tool for understanding art and exploring new avenues of artistic creation. Conducting research in this area is inspiring and engaging.

Roberto Zenit received his PhD from the Mechanical Engineering Department at Caltech in 1998. After a postdoctoral period at Cornell University, he moved to Mexico City in 2000 to become a faculty member at the Universidad Nacional Autónoma de México (UNAM), eventually becoming a Full Professor of Mechanical Engineering and a researcher at the Instituto de Investigaciones en Materiales, both at UNAM. He is now the Royce Family Professor of Teaching Excellence in Engineering at Brown University. He is a fellow of the APS, a member of the Mexican Academy of Sciences and the Academy of Engineering of Mexico. His area of expertise is fluid mechanics; he has worked in a wide variety of subjects including multiphase and granular flows, biological flows, rheology, and more recently, the physics of artistic painting.

