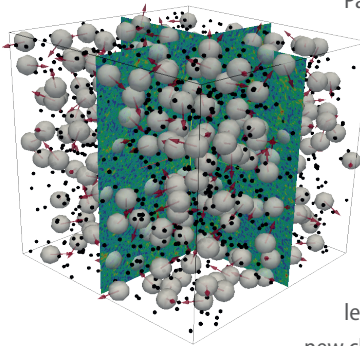


From Stokesian suspension dynamics to particulate flows in turbulence

August 29th September 2nd - Toulouse (France)

Chairman : M.R. Maxey (Brown Univ., USA).

E. Climent (IMFT), M. Abbas (LGC), E. Keaveny (Imperial College, UK).



Particle-laden flows span scales ranging from the microscopic fluid-structure interactions observed in cellular biology and microsystems, to the large-scale transport of sediments by turbulent environmental flows and engineering processes.

Fundamental to understanding these processes are computational methods and numerical techniques, including LBM, IBM, FCM, DPD, SPH, SD,... The leading experts in the computational methods will share the state-of-the-art progress and compare techniques. Additionally, leading experimental researchers will also attend to provide new challenges and ground discussion in the application to physical phenomena.



<https://iutamsymposium.sciencesconf.org/>

Contact the organizer, eric.clement@imft.fr

List of invited and keynote lectures

Invited Lectures

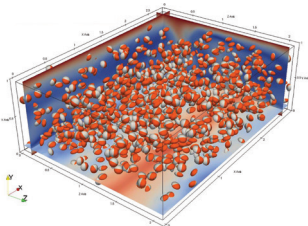
- **S. Balachandar (Univ. of Florida, Dept. of Mechanical and Aerospace Eng., USA)**
Physics-informed data-driven multiphase flow approaches – from micro to macroscale
- **George Karniadakis (Brown Univ. Dept. of Applied Math, USA)**
Hidden Fluids Mechanics
- **Jeffrey Morris (CCNY Levich Institute - USA) - Inertial flows of suspensions**

Keynote lectures

- **Mickael Bourgoïn (Laboratoire de Physique, France)**
Multi-way couplings in particle laden turbulent flow
- **Elisabeth Lemaire (Institut de Physique de Nice, France)**
Rheology of non-Brownian suspensions: a contact story
- **Marco Ellero (Basque Center for Applied Math., Spain)**
Fluid Dynamics of coffee extraction
- **Sarah Hormozi (Cornell University, USA) - Nonlinear suspensions**
- **Blaise Delmotte (LadHyX, Ecole Polytechnique - France)**
Large scale simulations of active and reactive suspensions

Topics (Selected topics for abstract submission):

- Lagrangian and Eulerian approaches for particulate flows
- Suspension flow at low Reynolds numbers (simulations and experiments)
- Experiments and simulations of finite size particles and interaction with turbulence
- New advances on the force balance for solid particles and feedback on the flow
- Short-range interactions, lubrication, contact and friction modelling and measurements
- Fixed Cartesian mesh, dynamic re-meshing, automatic mesh refinement, meshless methods for the simulation of particles in fluids
- New advances in experimental techniques (MRI, X-Ray, Tomo-PIV, PTV ...)
- Data analysis, machine learning techniques related to particulate flows



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| ABSTRACT SUBMISSION OPENS | February, 1st 2022 |
| ABSTRACT SUBMISSION DEADLINE | March, 15th 2022 |
| NOTIFICATION OF ACCEPTANCE | March, 30th 2022 |
| EARLY BIRD REGISTRATION OPEN | April, 1st 2022 |
| EARLY BIRD REGISTRATION DEADLINE | May, 30th 2022 |
| FINAL DEADLINE FOR REGISTRATION | June, 30th 2022 |

Templates for abstract submission

<https://iutamsymposium.sciencesconf.org/resource/page/id/6>