

# MUSCATS Workshop

## Fluid-solid flows with anisotropic particles

**IFP Energies nouvelles - Lyon,  
March 18<sup>th</sup> & 19<sup>th</sup>, 2024**

### Overview

Dense liquid-solid flows are commonly encountered in industrial fluidized beds and environmental systems. They often involve anisotropic particles and a wide range of scales.

The ANR funded project **MUSCATS** (MUlti-Scale modeling of fluidized/ebullated bed reactors involving Anisotropic parTicleS) aims at modeling liquid-solid fluidized beds of anisotropic particles thanks to a multi-scale approach.

The **Toulouse Institute of Fluid Mechanics** (IMFT), the **Chemical Engineering Laboratory** (LGC) and **IFP Energies Nouvelles** are pleased to invite you to the final MUSCATS workshop. During this event, the most important results of the project will be shared. Researchers from industrial and academic worlds working on fluid-solid fixed and fluidized beds, anisotropic particle dynamics, turbulent flows with complex particles, and dense particulate flows are invited to contribute to the discussion. This conference will provide an ideal opportunity to develop new collaborations and to meet experts.

### Keynotes

**PR. OLIVIER SIMONIN**

Toulouse INP-ENSEEIH, IMFT

*“Challenges of modeling liquid-solid fluidized beds of anisotropic particles”*

**PR. JULIAN TALBOT**

Research Director at CNRS, Sorbonne University

*“Statistical modelization of granular flows of ellipsoidal particles”*

**PR. FABIEN CANDELIER**

Associate professor, Aix-Marseille University

*“Inertial effects on spherical or anisotropic particle dynamics”*

**PR. AURORE NASO**

Research Director at CNRS, MFAE-LMFA

*“Anisotropic particles and turbulence”*

**PR. JULIEN CHAUCHAT**

Associate professor, LEGI, ENSE3

*“Modeling particle-laden geophysical flows using multiphase flow approaches: from fine-scale processes to practical sand transport formula for waves”*

### Program

Monday, March 18

- 08:30–09:45 Registration desk opens
- 09:45–10:00 Welcome and introduction
- 10:00–12:30 Keynotes 1 & 2 and Conference sessions
- 12:30–14:00 Lunch break
- 14:00–17:00 Keynote 3 and Conference sessions
- 17:00–18:00 Open discussions
- 20:00–23:00 Conference banquet at Georges' brewery

Tuesday, March 19

- 09:00–10:30 Keynote 4 and Conference sessions
- 11:00–12:30 Keynote 5 and Conference sessions
- 12:30–14:00 Lunch break
- 14:00–15:00 Conclusions

### Registration

**On invitation only.** The registration includes coffee breaks, lunches and Monday evening banquet. [Inscription web page.](#)

### Organizing Committee

- VÉRONIQUE ROIG @ – IMFT
- OLIVIER SIMONIN @ – IMFT
- RIM BRAHEM @ – IFPEN - Lyon
- LIONEL GAMET @ – IFPEN - Lyon
- JEAN-LOU PIERSON @ – IFPEN - Lyon
- RENAUD ANSART @ – LGC

### Venue

The workshop will be held in the city of Lyon (France), at **IFP Energies nouvelles, Etablissement de Lyon, Rond-point de l'échangeur de Solaize, BP 3, 69360 Solaize**, easily accessible by taxi, train or bus from the city center.

