

## EUROMECH COLLOQUIUM 628

### *Complex Particles in Turbulent Flow* (Nice, 03–05 May 2023)

Invited talks: 40+5 min, Contributed talks: 20+5 min, Poster presentations: 3 min

#### WEDNESDAY 03 May

12:30 BUFFET

13:45 INTRODUCTION

**14:00 Coletti**, *Particle transport on the free surface of turbulent water*

14:45 **Lecrivain**, *Adhesion force measurement and resuspension of glass particles from a wall surface functionalized with well-defined microasperities*

15:10 **Berti**, *Surface light modulation by sea ice and phytoplankton survival in a convective flow model*

15:35 **Jiang**, *Turbulent effect on the bubble-particle collision efficiency*

16:00 COFFEE BREAK

**16:30 Naso**, *The role of fluid inertia on the orientation of settling anisotropic particles – Application to cloud microphysics*

17:15 **Smink**, *Design and production of microfibers using in-air microfluidics for the use in particle-laden turbulence*

17:40 **Boffetta**, *Turbulence induced by sedimenting particles*

18:05 END

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#### THURSDAY 04 May

**9:00 Verhille**, *Rotational dynamics of long fibers in turbulence*

9:45 **Patra**, *Droplet growth in warm cumulus clouds*

10:10 **Perrard**, *Transport of inertial particles in a turbulent boundary layer*

10:35 COFFEE BREAK

11:05 **Marchioli**, *Deformation and rotation of flexible fibers in turbulent channel flow*

11:30 **Pandey**, *Kolmogorov turbulence co-exists with pseudo-turbulence in buoyancy-driven bubbly flows*

11:55 **Gerosa**, *Clusters of heavy particles in two-dimensional Keplerian turbulence*

12:20 **Schmitt**, *Turbulence and plankton dynamics: experimental studies using the Agiturb laboratory turbulence generation system*

12:45 LUNCH

**14:00 Cencini, *Learning pursuing and evasion strategies in a hydrodynamic environment***

14:45 **Flapper, *Tracking methods for chiral particles***

15:10 **Poster Presentations**

15:35 COFFEE BREAK + POSTER SESSION

16:15 **Casciola, *Drag reduction in turbulent pipe flows of realistic polymer solutions at high Weissenberg number***

16:40 **Van Gorder, *Induce a flow to modify a Turing pattern***

**17:05 Bagheri, *A closer look inside shallow cumulus clouds***

17:50 APERITIF + POSTER SESSION

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## FRIDAY 05 May

**9:00 Brandt, *Turbulence modulation by inertial-range finite size particles***

9:45 **Puggioni, *Enhancement of drag and mixing in a dilute solution of rodlike polymers at low Reynolds numbers***

10:10 **Raynal, *Phoresis in cellular flows***

10:35 COFFEE BREAK

11:05 **Gorce, *Turbulence generated by the erratic motion of magnets***

11:30 **Piumini, *Chirality of particles doesn't matter in strong turbulence***

11:55 **Hangan, *Clustering method for precipitation data analysis***

12:20 LUNCH

**13:45 Seminara, *A fish with legs and alternation strategies for navigating turbulence***

14:30 **Ibarra, *Thin flexible disc trapped in a vortical flow: reconstruction and analysis***

14:55 **Henry, *Evidence of collision-induced effects in particle resuspension***

15:20 **Mazzino, *Using slender objects for sensing flow properties***

15:45 END

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## POSTERS

1. **El-Khiyati, *Steering undulatory micro-swimmers in a fluid flow through reinforcement learning***
2. **Gey, *Fiber aggregation in flows***
3. **Israilov, *Maximizing swimming thrust of bio-inspired robotic fish using machine learning***
4. **Mouet, *Torque reduction in turbulent bubbly von Karman flow***
5. **Poncellet, *Flexible fibers' transport in homogeneous and isotropic turbulent flow: experimental study***
6. **Rivière, *Bubble shape fluctuations in turbulence***
7. **Van Buuren, *Design and construction of a large jet grid for the Twente Water Tunnel***
8. **Yerasi, *Spirographic motion in a vortex***