ETH zürich

Institute of Fluid Dynamics
Institute of Energy and Process Engineering

Kolloquium Thermo- und Fluiddynamik

Turbulence and transport of particles: at the frontiers of environmental fluid mechanics

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I present recent progress in our understanding of turbulence and transport of particles in environmental flows. I will focus on (i) planktonic organisms in turbulence, highlighting how they have adapted to vigorous flow by synchronizing their swimming behavior to turbulence, allowing them to limit dispersal, interact and mate, (ii) the role of Lagrangian coherent structures in organizing the entrainment of particles from quiescent into turbulent flow regions and (iii) a novel approach to probe turbulence with elongated fibers suspended in the water, where I show how measuring the tumbling rate of single fibers provides the statistical data necessary to characterize turbulence.

Date: 02.03.2022
Time: 16:15h
Place: ETH Zurich, ML H 44
Host: Prof. Filippo Coletti, IFD

Further information: https://ifd.ethz.ch/events/ktf.html

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