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Colloquium Thermo- and Fluid Dynamics

Bayesian olfactory search in realistic turbulent flows

Dr. Robin Heinonen

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Source-tracking using chemical cues is an important search paradigm in biological and robotics applications. In many settings, the search takes place in a turbulent flow, which mixes the cues into a complex, stochastic landscape. Here, spatiotemporal intermittency means cue encounters can be rare, and typically local gradients are absent or otherwise unhelpful. How can one craft a search policy which effectively exploits the limited information which can be gleaned from rare, randomized encounters?
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Robin Heinonen is a postdoctoral fellow at the University of Rome, «Tor Vergata,» working in the group of Luca Biferale. He grew up in Minnesota, USA, and obtained his PhD in Physics at the University of California, San Diego, in 2021.

Date: Wednesday, 19 June 2024
Time: 16:00 - 17:00h
Place: ETH Zurich, LEE E 101
Host: Prof. George Haller

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

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