



ACCADEMIA NAZIONALE DEI LINCEI

CENTRO LINCEO INTERDISCIPLINARE «BENIAMINO SEGRE»

NEW DIRECTIONS IN COMPLEX FLOWS

9-10 October, 2025

Organizing Committee: Luca Biferale (Tor Vergata University and INFN, Rome - Italy), Michele Buzzicotti (Tor Vergata University and INFN, Rome - Italy), Massimo Cencini (CNR ISC and INFN, Rome - Italy), Alessandra S. Lanotte (CNR NANOTEC and INFN, Lecce - Italy), Miguel Onorato (Università of Turin - Italy, coordinator), Mauro Sbragaglia (Tor Vergata University and INFN, Rome - Italy), Renzo Piva (Accademia Nazionale dei Lincei di Roma),

PRELIMINARY PROGRAMME

Thursday the 9th

1st Session

OUT-OF-EQUILIBRIUM STATISTICAL MECHANICS OF COMPLEX FLUIDS AND TURBULENCE

- 9.00 Registration
- 9.30 Michele CILIBERTO (Director of the Centro Linceo and SNS, Pisa): *Opening address*
- 9.40 Roberto BENZI (University of Rome "Tor Vergata"): *The distribution of inter-event times in avalanche dynamics*
- 10.00 Antonio CELANI (ICTP): *Decoding behavior*
- 10.20 Alexei MAILYBAEV (IMPA): *Spontaneous stochasticity and renormalization group*
- 10.40 **Coffee break**
- 11.10 Giovanni GALLAVOTTI (Lincei fellow, University of Rome "Sapienza"): *Fluid friction and irreversibility*
- 11.30 Rainer GRAUER (Ruhr-Universität Bochum): *Is the instanton calculus useful for understanding turbulence?*
- 11.50 Chiara CALASCIBETTA (Université Côte-d'Azur): *Optimal strategies to catch a drifting target in turbulence*
- 12.10 Moritz LINKMANN (University of Edinburgh): *T.B.A*
- 12.30 Guido BOFFETTA (University of Turin): *Turbulent sedimentation of finite-size particles: a new form of convection*
- 12.50 **End session and Lunch break**

2nd Session Session
NEW CHALLENGES IN COMPLEX FLUIDS AND TURBULENCE:
FROM PASSIVE TRANSPORT TO ACTIVE MATTER

- 14.30 Uriel FRISCH (Côte d'Azur Observatory): *T.B.A.*
- 14.50 Jérémie Bec (Université Côte-d'Azur): *Eulerian vs. Lagrangian intermittency in homogeneous isotropic turbulence*
- 15.10 Kristian GUSTAVSSON (University of Gotheborg): *T.B.A.*
- 15.30 Angelo VULPIANI (University of Rome "Sapienza"): *The real butterfly effect: from mathematics to physics*
- 15.50 **Coffee break**
- 16.20 Minping WAN (SUSTech): *Reconstruction of turbulent boundary layer flows: from physical modeling to machine learning*
- 16.40 Patricio CLARK DI LEONI (Universidad de San Andres): *Estimating dimensionality in turbulent flows*
- 17.00 Andrea SCAGLIARINI (CNR-IAC, Rome): *Forced active suspensions: hydrodynamics and confinement matter*
- 17.20 Itamar PROCACCIA (Weizmann Institute of Science): *Dipole induced topological transition in three-dimensional amorphous solids*
- 17.40 **End of the session**

- 19:30-20:30 Round table with young participants - Horti14 Restaurant - Via di San Francesco di Sales 14
- 20:30-22:30 Workshop Dinner - Horti14 Restaurant - Via di San Francesco di Sales 14

Friday the 10th
3rd Session
FROM DATA TO MODELS FOR COMPLEX FLUIDS AND TURBULENCE

- 9.30 Charles MENEVEAU (John Hopkins University): *T.B.A.*
- 9.50 Federico TOSCHI (Technical University of Eindhoven): *Turbulence in odd fluids*
- 10.10 Alexandros ALEXAKIS (ENS-Paris): *How far does turbulence spread?*
- 10.30 **Coffee break**
- 11.00 Roberto VERZICCO (University of Rome "Tor Vergata"): *Effects of turbulence in cardiovascular flows*

- 11.20 Stefano MUSACCHIO (University of Turin): *Transition to the buoyancy-dominated regime in a planar temporal forced plume*
- 11.40 Achim WIRTH (Université Grenoble Alpes): *Turbulent air-sea interaction*
- 12.00 Carlo M. CASCIOLA (University of Rome "Sapienza"): *On the dynamics of liquid/vapor phase change*
- 12.20 Detlef LOHSE (University of Twente): *Melting & tipping: From the lab to the ocean*
- 12.40 Giorgio PARISI (Lincei fellow, University of Rome "Sapienza"): *Closing remarks*
- 13.00 **Conclusion of the conference & Lunch Break**

ROMA - PALAZZO CORSINI - VIA DELLA LUNGARA, 10

Segreteria del convegno: centrolinceo@lincei.it

Tutte le informazioni per partecipare al convegno sono disponibili su:

<https://www.lincei.it/it/manifestazioni/new-directions-complex-flows>

Per partecipare al convegno è necessaria l'iscrizione online tramite il presente

>>[LINK](#)<<

o tramite codice QR



Fino alle ore 10 è possibile l'accesso anche da Lungotevere della Farnesina, 10
i lavori potranno essere seguiti dal pubblico anche in streaming

L'attestato di partecipazione al convegno viene rilasciato esclusivamente a seguito di partecipazione in presenza fisica e deve essere richiesto al personale preposto in anticamera nello stesso giorno di svolgimento del convegno

The workshop is organized in collaboration with:

