# Daniele Coslovich – Brief CV


### Personal information

*Date of birth:* 30/01/1980
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### Current position

**Associate Professor** ..... 2020–
Dipartimento di Fisica, Università di Trieste (Italy)

### Academic track

**Abilitazione scientifica nazionale, professore di seconda fascia settore 02/B2** ..... 2018
MIUR (Ministero dell'Istruzione, dell'Università e della Ricerca), Italy

**Habilitation à diriger des recherches (HDR)** ..... 2017
"*Models and computer simulations of glass- and cluster-forming systems*"
University of Montpellier, France

**Maitre de conférences (Associate Professor)** ..... 2011–2020
Laboratoire Charles Coulomb, University of Montpellier, Montpellier (France)

**Maitre de conférences (Associate Professor)** ..... 2010–2011
Laboratoire de Colloïdes, Verres et Nanomatériaux, University of Montpellier 2, Montpellier (France)

**Post-doc** ..... 2008–2010
Soft Matter Theory group, Technische Universität Wien, Austria

**Ph.D. in Physics** ..... 2005–2008
"*Connections between structure, dynamics, and energy landscape in simple models of glass-forming liquids*"
Supervisor: Giorgio Pastore; University of Trieste, Italy

**Fellowship CNR-INFM** ..... 2004–2004
"*Large-scale atomistic simulations*"
Centro di simulazione CNR-INFM "Democritos", Trieste, Italy

**Laurea in Physics** ..... 1999–2004
"*Superfici d'energia, ergodicità e dinamica come indicatori della transizione liquido-vetro*"
Supervisor: Giorgio Pastore; University of Trieste, Italy; Grade: 110/110 cum laude

## Research

- **Research interests**: theory and simulation of supercooled liquids and glasses; soft condensed matter; sampling algorithms; machine learning; reproducible research
- Developer of the atooms Python framework for particle-based simulations and FOSS software for scientific computing
- 42 peer-reviewed articles (full list)
- 20 invited talks and 11 contributed talks at international conferences, 16 seminars (full list)
- h-index = 26 (Web Of Science, 2024)

### Selected publications

- "*Dimensionality reduction of local structure in glassy binary mixtures*"
  D. Coslovich, R. L. Jack, J. Paret, The Journal of Chemical Physics **157**, 204503 (2022)

- "*A localization transition underlies the mode-coupling crossover of glasses*"
  D. Coslovich, A. Ninarello, L. Berthier, SciPost Physics **7**, 077 (2019)
  → *Selected as Scipost Select*
- "*Configurational entropy measurements in extremely supercooled liquids that break the glass ceiling*"
  L. Berthier, P. Charbonneau, D. Coslovich, A. Ninarello, M. Ozawa, S. Yaida, Proceedings of the National Academy of Sciences **114**, 11356 (2017)
- "*Models and Algorithms for the Next Generation of Glass Transition Studies*"
  A. Ninarello, L. Berthier, D. Coslovich, Physical Review X **7**, 021039 (2017)
  → *Highly Cited Paper in the Web of Science database.*
- "*Novel approach to numerical measurements of the configurational entropy in supercooled liquids*"
  L. Berthier, D. Coslovich, Proceedings of the National Academy of Sciences **111**, 11668 (2014)
- "*Locally preferred structures and many-body static correlations in viscous liquids*"
  D. Coslovich, Physical Review E **83**, 051505 (2011)
- "*Single-Particle and Collective Slow Dynamics of Colloids in Porous Confinement*"
  J. Kurzidim, D. Coslovich, G. Kahl, Physical Review Letters **103**, 138303 (2009)

## Fellowships and awards

- IOP Outstanding Reviewer Award 2022 ..... 2022
- JSPS Invitational Fellowship for Research in Japan (Short Term) ..... 2019
  University of Tokyo and University of Nagoya
- Prime d'encadrement doctoral et de recherche (PEDR) ..... 2018
- Top reviewer award for the Journal of Chemical Physics ..... 2012
- ICTP Award, International Center for Theoretical Physics (ICTP) ..... 2004
- Luciano Fonda scolarship for undergraduate students in Physics ..... 2000
  Corso di Laurea in Fisica, University of Trieste

## Research projects

- Participant in ERC project ..... 2012–2017
  "*Statistical physics of dense particle systems in the absence of thermal fluctuations*"
- Principal investigator in PRACE project ..... 2014–2015
  "*Amorphous order in glassy silica*"
- Principal investigator in PRACE project ..... 2013–2014
  "*Multi-GPU parallel tempering simulations*"

## Academic service

- Member of hiring committee for tenure-track researcher (RTT) ..... 2023
  Università di Roma La Sapienza
- System administration of HPC cluster ..... 2022–
  Theory and Simulation of condensed matter group, University of Trieste
- International relations delegate ..... 2022–
  Department of Physics, University of Trieste
- Coordinator of seminars' organization ..... 2022–
  Department of Physics, University of Trieste
- Member of Ph.D. board ..... 2021–
  Ph.D. in Applied Data Science and Artificial Intelligence, University of Trieste
- Member of hiring committee for associate professor ..... 2021
  University of Trieste
- Member of hiring committee for senior post-doc (RTDa) ..... 2021
  University of Trieste
- Member of admission committee for the Collegio "Luciano Fonda" ..... 2020
  Collegio "Luciano Fonda", University of Trieste

- Member of Ph.D. hiring committee ..... 2019
  École doctorale I2S, University of Montpellier
- Head of the "Statistical Physics" group at the Charles Coulomb Laboratory ..... 2016–2019
  University of Montpellier
- Member of "comité de section" (expert pool) CNU 28 ..... 2017–
  University of Montpellier

### Conferences' organization

- Member of programme committee, "International Workshop on Dynamics in Viscous Liquids" ..... 2015
  Montpellier (France)
- Co-organizer of mini-colloquium "Fluids in confinment in and out of equilibrium" ..... 2014
  Journées de la Matière Condensée 14, Paris (France)
- Co-organizer of "Complex dynamics of fluids in disordered and crowded environments" ..... 2010
  CECAM workshop, Lyon (France)

### Refereeing and evaluation

- **Referee for peer-review journals:** Communications Physics, European Journal of Physics B, Journal of Chemical Physics, Journal of Non-Crystalline Solids, Journal of Physical Chemistry B, Journal of Physics: Condensed Matter, Journal of Statistical Mechanics, Nature Communications, Nature Physics, Physical Review B, Physical Review E, Physical Review Letters, Physical Review Research, Physical Review X, Proceedings of the National Academy of Sciences, Soft Matter, Science Advances, Scientific Reports, SciPost Physics,
- **Reviewer for research funding agencies:** Agence Nationale de la Recherche (ANR, French national research agency), Deutsche Forschungsgemeinschaft (DFG, German national funding agency), Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO, Dutch Research Council), Swiss National Science Foundation (SNSF), Natural Sciences and Engineering Research Council of Canada (NSERC), Université franco-allemande (France-Germany), Fondo Sociale Europeo, Regione Friuli Venezia-Giulia (Italy), Programma "Rita Levi Montalcini" (MIUR, Italian Ministry of University and Research), Labex PALM, Paris-Saclay (France),
- Member of 9 **Ph.D. committees**

## Teaching

- **Taught topics**: classical mechanics, thermodynamics, waves, dynamical systems, simulations methods, parallel computing, code optimization, software management.
- Courses at the Licence, Master and Ph.D. level ..... since 2023
  University of Trieste
- Tutorials on revision control methods (git) and reproducible research ..... 2021–
  Laurea magistrale in Fisica, Università di Trieste
- Courses at the Licence and Master level ..... 2010–2020
  Faculté de Sciences at the University of Montpellier
- Tutorials on "Atomsitic simulations on graphics cards (GPU)" ..... 2016–2020
  Licence en Physique, Université de Montpellier

### Teaching in foreign institutions

- Lab session on "Molecular Dynamics / Glasses" (3h) ..... 20/09/2015
  DPG School on Computational Physics of Complex and Disordered Systems, Bad Honnef (Germany)
- Lab session "Python for physicists" on the Python language (3h) ..... 19/03/2019
  Department of Physics, University of Tokyo (Japan)

## Teaching service

- Coordinator of the teaching committee on thermodynamics and statistical physics courses ..... 2019
  Département d'enseignement de Physique, University of Montpellier
- Teaching supervisor of the 2nd year of Physics ("responsable d'année") ..... 2015–2020
  University of Montpellier
- Member of the teaching committee to organize Physics courses ..... 2013
  Département d'enseignement de Physique, University of Montpellier

## Students' supervision

- Advisor of 3 **Ph.D. students**
- Co-advisor of 2 **Ph.D. students**
- Advisor of 8 **master students**
- Advisor of projects and internships for 8 **undergraduate students**