

ALESSANDRO PELIZZOLA: CURRICULUM VITAE

Full professor, Theoretical Physics
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Academic positions and degrees

Since 2020: full professor in Theoretical Physics, Department of Applied Science and Technology, Politecnico di Torino

2011-2019: associate professor in Theoretical Physics, Physics Department (now called Department of Applied Science and Technology), Politecnico di Torino

1997-2010: researcher, permanent, in Theoretical Physics, Physics Department, Politecnico di Torino

1996-1997: post-doc, Physics Department, Politecnico di Torino

1995-1996: post-doc, National Institute for the Physics of Matter

1991-1994: PhD in Physics, Physics Department, Politecnico di Torino; supervisor prof. Carla Buzano; thesis on "Surface critical phenomena"

1990: degree (laurea) in Physics, Torino University; supervisors profs. Ferdinando Gliozzi and Mario Rasetti; thesis on "Generalized coherent states for dynamical superalgebras"; 110/110 cum laude

Research interests

Statistical physics of simple exclusion processes and their generalizations (with interactions, position-dependent hopping rates, Langmuir kinetics, extended particles, stochastic resetting): non-equilibrium stationary states and relaxation toward them; inverse problems and applications to biological systems.

Statistical physics of out of equilibrium models: approximate methods.

Effective temperatures in statistical physics models far from equilibrium and applications to biological systems.

Statistical physics models of biopolymer folding.

Vertex models with domain wall boundary conditions: frozen phases and arctic lines.

Teaching activity: organization

2009-2012: member of the organizing committee of the international (Paris/Torino/Trieste) Master's Degree in Physics of Complex Systems (<http://www.polito.it/pcs>), taking care in particular of students' applications, implementation of the mobility scheme, fund raising, local web site.

2011-2018: member of the organizing committee of the "International School on Physics of Complex Systems" (<http://areeweb.polito.it/didattica/pcs/springschool.htm>).

2012-2018: local coordinator for Politecnico di Torino of the international (Paris/Torino/Trieste) Master's Degree in Physics of Complex Systems (<http://www.polito.it/pcs>)

Teaching activity: supervision of post-docs, PhD students and master students

2017-2019: supervisor of the PhD thesis of Davide Botto on “Dynamical transitions in driven diffusive models”, Department of Applied Science and Technology, Politecnico di Torino

2009-2011: supervisor of the PhD thesis of Michele Caraglio on “Mechanical unfolding of biological macromolecules”, Physics Department, Politecnico di Torino

2006-2008: supervisor of the PhD thesis of Marco Zamparo on “Statistical mechanics of heterogeneous models of biological systems”, Physics Department, Politecnico di Torino

2006-2008: supervisor of a post-doc, Alberto Imparato, working on the nonequilibrium statistical physics of biological microsystems

Since 1997: supervisor of B.Sc. and M.Sc. theses in Physics (University of Torino), Nuclear Engineering (Politecnico di Torino), Physical Engineering (Politecnico di Torino) and Physics of Complex Systems (Politecnico di Torino)

Publications

Author and coauthor of 82 papers in international peer-reviewed journals,

Referee for many journals, including: Physical Review Letters, Physical Review B, Physical Review E, Journal of Biological Physics, Journal of Physics A, Journal of Physics: Condensed Matter, Journal of Statistical Mechanics, Europhysics Letters, European Journal of Physics B, Biophysical Journal, Scientific Reports

Grants

2014-2016: principal investigator of the research contract "Sviluppo di piattaforme ad alte prestazioni computazionali per l'analisi di reti biologiche" (Human Genetics Foundation, 180 Keur)

2006-2009: research unit coordinator in the CIPE project “Statistical mechanics and graph theory for cellular networks” (Regione Piemonte, 30 Keur)

2006-2008: research unit coordinator in the PRIN project “Statics and dynamics of polymers subject to topological constraints” (Ministry of University and Research, 34 Keur)

2006-2008: principal investigator of the Lagrange project “Statistical mechanics of heterogeneous models of biological systems” for a PhD fellowship (CRT foundation)

2004-2007: principal investigator and research unit coordinator of the FIRB project “Statistical and dynamical analysis of biological microsystems” (Ministry of University and Research, 350 Keur total budget, 65 Keur budget of research unit)

2002-2003: principal investigator of the PAIS project “Cluster variation method as an inference algorithm for graphical model” (National Institute for the Physics of Matter, 44 Keur)

Since 1997: participant in various national and international research projects