

Synthetic Curriculum Vitae of Giampaolo Mistura

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Current position:

Full Professor of Experimental Physics of Matter, Padua University.

Head of the Laboratory of Surfaces and Interfaces Physics (<http://lafsi.dfa.unipd.it/index.php/en/>), dedicated to the study of phenomena at the solid-liquid interface.

Research appointments

1/01/2005 - 30/11/2017: Associate Professor of Physics, Padua University.

1/07/1998 - 31/12/2004: Assistant Professor of Physics, Padua University.

1/08/1996 - 30/06/1998: Postdoc Padua University. Supervisor: [REDACTED].

1/01/1996 - 30/07/1996: Postdoc MPI-CNRS High-Magnetic Field Laboratory, Grenoble (F). Supervisor: [REDACTED].

1/08/1994 - 31/12/1995: Postdoc, Konstanz University (D). Supervisor: [REDACTED].

1/01/1994 - 30/05/1994: Postdoc Penn State University. Supervisor: [REDACTED].

Studies

1988-1993 Ph.D. in Physics, Penn State University (USA). Thesis advisor: [REDACTED].

1981-1986 Laurea in physics, magnum cum laude, Padua University. Thesis advisor: [REDACTED].

Research topics

- Control, both active and passive, of the motion of liquid drops on engineered surfaces.
- Manipulation of ferrofluid drops with magnetic fields.
- Rheology of suspensions confined in microchannels.
- Development of novel microfabrication techniques for the realization of microfluidic chips.
- Measurement of the elastic properties of biomolecules.
- Adsorption of simple gases on ordered nanoporous materials.
- Study of atomic friction with the quartz crystal microbalance technique.

Scientific Publications

Author of more than 100 publications in refereed journals and 4 book chapters.

Recognition and awards

- The article by L. Bruschi, A. Carlin and G. Mistura, *Depinning of atomically thin Kr films on gold*, Phys. Rev. Lett. 88, 046105 (2002) has been selected as Highlight 2003 by Istituto Nazionale di Fisica della Materia.

-The article by M. Pierno et al., *Nanofriction of neon films on superconducting lead*, Phys. Rev. Lett. 105, 016102 (2010) has been selected by APS Editor to appear in the Physics web page (physics.aps.org).

- The article by M. Pierno et al., *Frictional transition from superlubric islands to pinned monolayers*, Nature Nanotechnology 10, 714-718 (2015), has been selected as Highlight 2015 by CNR.

- The article by C. Semprebon et al., *Deviation of sliding drops at a chemical step*, Soft Matter, 12, 8268-8273 (2016), has been selected for the cover of the issue 40, volume 12 of Soft Matter.

- The article by P. Sartori et al., *Motion of Newtonian drops deposited on liquid-impregnated surfaces induced by vertical vibrations*, Journal of Fluid Mechanics, 876, R4 (2019), has been selected by the Journal Editors for Focus on fluids (doi:10.1017/jfm.2019.798).

Invited talks at Conferences and seminars

- Author of more than 30 invited talks at conferences, of 20 invited seminars and of more than 30 other talks at conferences.

Editorial activities

- Member of the Editorial Board of Micromachines (MDPI, ISSN: ISSN 2072-666X, IF:2.55).

Coordination research projects

- Local Scientific Investigator of the MIUR-PRIN project titled *Understanding and tuning friction through nanostructure manipulation* (2019-2021).
- Principal Investigator of the project CARIPARO Visiting Programme 2018 titled *Time-resolved force spectroscopy of single DNA molecule* (2019-20).
- Coordinator of a new inter-department single molecule laboratory based on Optical Tweezers funded by Padua University (2017).
- Supervisor workpackage “*Functionalization surface detectors*” of European Project TAp WATER RAdioactivity Real Time Monitor TAWARA_RTM, 7th EU RTD Framework Program (2013-2016).
- Italian coordinator of a Vigoni project with the Max Planck Institute of Goettingen (Germany) dedicated to the study of morphological transitions in liquid films on micropatterned surfaces (2011).
- Principal Investigator of the MIUR-PRIN titled *Tribology of nano-objects on solid surfaces* (2010-2012).
- Partner co-founder of *Mischa* (Microfluidics Laboratory for Scientific and Technological Applications) at Padua University, funded in 2008 by Cariparo Foundation.
- Principal Investigator of the MIUR-PRIN titled *Nonlinear properties of nanofriction* (2007-2008).
- Local Scientific Investigator of the MIUR-PRIN project titled *Nanotribology* (2005-2006).
- Principal Investigator of the Padua University project *Hydrophobic hydration of flat and patterned surfaces* (2004-2005).
- Local Scientific Investigator of the MIUR-FIRB project titled *Micro-structures and nano-structures based on carbon* (2003-06).
- Project Manager of the Advanced Research Project funded by INFM titled *Nanorub*, for the study of the microscopic mechanisms of the friction of nanoscopic films (2001-2003).

Organization of meetings and conferences

- Member scientific committee FisMat2019, Catania, 30 September, 4 October 2019.

Research evaluation activities

- Reviewer of national programs (PRIN, FARE and Rita Levi Montalcini funded by the Italian Ministry of University and Research, projects and postdoc fellowships by Padua University) and international programs (National Scientific Foundation, European Research Council).
- Referee for various journals including Nature Mater., Nature Comms, Sci. Reports, PRL, Nanoscale, Lab on Chip, Sensors and Actuators B, Langmuir, Soft Matter, Micromachines... In the last 12 months, he has 18 certified reviews (97th percentile of the Publons reviewers) for different journals with an average impact factor comprised between 3 and 5.

Institutional activities

- Member of the Physics department council (2002-2004);
- member of the Physics Colloquia Committee (since 2006) and President of the same since 2008;
- member of the Graduate School in Materials Science (2007-12);
- member of the Graduate School in Physics (2013-);
- member of the Scientific Committee of the Physics department (2008-2016);
- member of the evaluation panel for research projects funded by Padua University (2010):

- member of the evaluation panel for postdoc fellowships in Physics funded by Padua University (2010-11);
- president of the search committees for two Assistant Professors (2010), one Associate Professor (2018) and one Full Professor (2020) in Experimental condensed matter physics at Padua University;
- member of the admission committee to the Galilean School, the school of excellence of Padua University (2013-15);
- coordinator of the Physics Matter group at the Department of Physics and Astronomy that includes more than 50 members among researchers, postdocs and PhD students working in physics of matter;
- coordinator of the Bachelor and Master programs in Physics (2017-20).

Teaching

- He teaches Fluid dynamics and Advanced Laboratory to the Physics students.
- Thesis advisor of 8 Ph.D. students and about 100 master and bachelor students in Physics and Materials Science.