

GIUSEPPE PUCCI

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National Research Council of Italy, CNR-Nanotec - Ponte P. Bucci, Cubo 33C, Rende 87036 Italy
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I am a **researcher in physics** in the National Research Council of Italy (CNR), located in the Department of Physics at the University of Calabria. Previously I worked at Università della Calabria, Université Paris Diderot, Massachusetts Institute of Technology, Brown University and Institut de Physique de Rennes. I am fascinated by the possibility of exploring fundamental questions in physics by working on relatively simple, table-top experiments. My primary research lies in phenomena at fluid interfaces, including active systems and macroscopic analogs of quantum phenomena. My research approach also benefits from mathematical modelling and continuous collaboration with theoreticians.

EDUCATION

University of Paris VII Denis Diderot and University of Calabria. France/Italy
Ph.D. in Physics: Fluid Dynamics and Science of Mesophases. 2008–2011

Mention: *Very Honorable, with Committee Praise.*

Committee composed of:

Riccardo Barberi (Università della Calabria, co-supervisor);
Roberto Bartolino (Università della Calabria, examiner);
Martine Ben Amar (École Normale Supérieure, examiner);
Christophe Clanet (CNRS - École Polytechnique, president);
Yves Couder (Université Paris VII Denis Diderot, supervisor);
Francesco Mantegazza (Università di Milano Bicocca, referee);
Marc Rabaud (Université Paris-Sud, referee).

- Research on the Faraday instability in floating drops: an example of a hydrodynamic instability in a domain with flexible boundaries.
Collaboration with Prof. Martine Ben Amar (Ecole Normale Supérieure).
 - Experimentally characterized and theoretically rationalized the equilibrium shapes of floating liquid drops deformed by the radiation pressure of surface waves.
 - Experimentally characterized the non-equilibrium behavior of floating drops deformed by radiation pressure; rationalized their self-propulsion.
- Research on electrohydrodynamics and topological defects in nematic liquid crystals.
 - Characterized the variation of the threshold of a topological transition in nematic mixtures as a function of the concentration of the components.

University of Calabria. Rende (CS), Italy
Master in Physics of Matter. 110/110 cum laude 2006–2008

- Six-month internship at University Paris VII: Faraday instability in deformable domains.
 - Investigated the equilibrium shapes of drops deformed by the radiation pressure of surface waves.

University of Calabria. Rende (CS), Italy
Bachelor in Physics. 110/110 cum laude 2003–2006

- Three-month internship at University of Calabria: “A novel method to create probes for atomic force spectroscopy”.
 - Developed a new technique to obtain probes for the Atomic Force Microscope with a typical curvature radius of 100 nm.

RESEARCH EXPERIENCE

National Research Council of Italy (CNR), Institute of Nanotechnology. Rende, Italy
Researcher 2021–present

- Research topics: classical analogs of quantum mechanics, wave-particle interactions, active systems, fluid dynamics, physics education.

Institute of Physics of Rennes, CNRS and University of Rennes 1. Rennes, France
Researcher funded by the program CNRS-Momentum. 2018–2020

- PI of the project “Self-organization of fluid and solid structures on fluid interfaces at the macroscopic scale”. Supervising a post-doc. Topics:
 - Active volatile drops on liquid baths.
 - Faraday instability in a rotating liquid.
 - Capillary surfers: wave-driven particles at a fluid interface (with Prof. D. Harris at Brown University).

Brown University, School of Engineering. Providence (RI), USA
Post-doctoral Research Associate in the group of Prof. Daniel M. Harris. 2017–2018

- Research subject: Forces on capillary floaters.
 - Experimentally characterized and theoretically rationalized the friction experienced by centimetric objects that slide on water.
 - Experimentally characterized and theoretically rationalized the capillary attraction between centimetric objects resting on water (“Cheerios effect”).

Massachusetts Institute of Technology, Dept. of Mathematics. Cambridge (MA), USA
Post-doctoral Research Associate in the group of Prof. John W. M. Bush. 2015–2017

- Research subject: Walking droplets as a hydrodynamic analog of microscopic systems.
 - Characterized the non-specular reflection of a walking droplet from a planar wall.
 - Characterized the interaction of walking droplets with single and double slits.
 - Characterized the refraction-like behavior of walking droplets experiencing a reduction in liquid depth.
 - Experimentally investigated the diffusion of a droplet bouncing on a field of standing waves.
 - Experimentally investigated the spin lattices of walking droplets.

University of Calabria, Dept. of Physics. Rende (CS), Italy
Post-doc in the group of Prof. Riccardo Barberi 2012–2015

- Research on the project “Innovative nanotechnologic platforms for drugs delivery in Ophthalmology”. Collaboration with Marco Lombardo (Doctor of Medicine, Vision Engineering Italy).
 - PI of the group investigating the interaction of ultraviolet light with the human cornea.
 - Designed an apparatus that mimics the physiological conditions of the eye for the purpose of measuring the light absorbance of the human cornea and detecting the presence of clinical solutions inside the tissue.
 - Tested a number of trans-epithelial commercial solutions: assessed which solutions were effectively absorbed and could be used for medical treatment.
- Research subject n.2: electro-convective instabilities and topological defects in nematic liquid crystals.
 - Discovered curved patterns of electro-convection in nematics with planar-periodic alignment.
 - Characterized the topologically non-equivalent textures generated by the electrohydrodynamics of nematic liquid crystals.

- RESEARCH VISITS

ESPCI Paris Paris, France
One-month visit to the laboratory "Physique et Mécanique des Milieux Hétérogènes" (PMMH). 2023

- Research subject: hydroelastic waves.

Brown University, School of Engineering. Providence (RI), USA
Two-month visit to the group of Prof. Daniel M. Harris. Summer 2022

- Research subject: wave-mediated interactions of surface spinners.

Brown University, School of Engineering. Providence (RI), USA
Two-month visit to the group of Prof. Daniel M. Harris. Summer 2019

- Research subject: capillary surfers, wave-driven particles at a vibrating fluid interface.

Massachusetts Institute of Technology, Dept. of Mathematics. Cambridge (MA), USA
Eight-month visit as a post-doctoral Fellow in the group of Prof. John W. M. Bush. 2014

- Experimentally demonstrated and theoretically rationalized the partial coalescence of a soap bubble with a soap film.
- Designed and set up an experiment for the study of walking droplets interacting with a single slit.

GRANTS

Short-Term Mobility grant. CNR-Nanotec, Rende, Italy
National Research Council of Italy (CNR). 2022

To visit the Harris' Laboratory in the School of Engineering at Brown University (RI), USA.

Short-Term Mobility grant. CNR-Nanotec, Rende, Italy
National Research Council of Italy (CNR). 2021

- 2100€ for the visit to CNR-Nanotec of Antonin Eddi, researcher in the French CNRS.

Project grant. Institute of Physics of Rennes, France
French National Center for Scientific Research (CNRS), Momentum program. 2018–2020

- About 350 k€ (included a personal salary and two-year salary for a post-doc).

Workshop grant. Brown University, USA
National Science Foundation of U.S.A. (NSF), Condensed Matter Physics program. 2018

- 5000 \$ for organizing the workshop "Hydrodynamic Quantum Analogs 8" (with Prof. Daniel Harris, award number 1841840).

Mobility grant. University of Paris VII, France
Université Franco-Italienne. 2009–2011

- About 4500 € to spend for travels during the Ph.D.

FELLOWSHIPS

Post-doctoral Fellowship University of Haifa, Israel
The Hatter Departement of Marine Technology. 2015–2016

- To spend at the Massachusetts Institute of Technology, Cambridge (MA).

Ph.D. fellowship.

Ph.D. funded by Université Franco-Italienne

University of Paris VII, France

2008–2011

- To spend at University of Paris VII (main institution) and University of Calabria (secondary institution).

AWARDS

Gallery of Soft Matter Physics Award.

American Physical Society - Division of Soft Matter

Las Vegas (NV), USA

Mar. 2023

- Video “Mermaid cereal”.

Second best presentation in Physics of Matter, Italian Physical Society.

Meeting of the Italian Physical Society.

Italy (virtual)

2021

- Presentation “Hydrodynamic Spin Lattices”.

Gallery of Fluid Motion Award.

American Physical Society - Division of Fluid Dynamics

Denver (CO), USA

Nov. 2017

- Video “Spin lattices of walking droplets”.

Travel award.

American Physical Society - Division of Fluid Dynamics.

Denver (CO), USA

Nov. 2017

- 500\$ to participate to the meeting of the Division of Fluid Dynamics of the American Physical Society.

Milton van Dyke Award.

American Physical Society - Division of Fluid Dynamics.

Boston (MA), USA

Nov. 2015

- Video “The merger of a bubble and a soap film”.

Milton van Dyke Award.

American Physical Society - Division of Fluid Dynamics.

San Francisco (CA), USA

Nov. 2014

- Video “Faraday instability in floating drops”.

Best presentation in Physics of Matter, Italian Physical Society.

Meeting of the Italian Physical Society.

Naples, Italy

2012

- Presentation “Faraday instability in deformable domains”.

TEACHING EXPERIENCE

- Teaching ‘Mentoring Projects in Experimental Physics’.** Univ. of Calabria, Italy
Bachelor students in Physics. Spring 2024
- ‘Excellence Program’ (percorso di eccellenza) of the Department of Physics.
- Instructor of ‘Foundations of Quantum Mechanics’.** Univ. of Calabria, Italy
Bachelor students in Physics. Fall 2023
- ‘Excellence Program’ (percorso di eccellenza) of the Department of Physics.
- Teaching ‘Projects in Experimental Physics’ (PhyExp).** Univ. of Calabria, Italy
Advanced development of an experimental project with master students in Physics. Spring 2023
- ‘Excellence Program’ (percorso di eccellenza) of the Department of Physics.
- Teaching Assistant of Lab. of Mechanics and Thermodynamics.** Univ. of Calabria, Italy
Developing experimental projects with bachelor students in Physics. Spring 2022, 2023 and 2024
- Teaching Assistant of Scientific Data Acquisition and Processing.** Univ. of Calabria, Italy
Developing experimental projects with master students in Physics. Fall 2021, 2022 and 2023
- Instructor of Macroscopic Quantum Analogs.** Univ. of Calabria, Italy
PhD students in Physical, Chemical, Materials Sciences and Technologies. Summer 2021, Fall 2022
- Assistant Instructor of Electricity and Magnetism.** Univ. of Calabria, Italy
Bachelors in Electronic Engineering. Spring 2021
- Assistant Instructor of Fluid Mechanics.** Univ. of Rennes 1, France
Master in Fundamental Physics. Fall 2019 and 2020
- Instructor of Fluid Mechanics.** Univ. of Rennes 1, France
Master in Fundamental Physics. Fall 2018
- Teaching Assistant (Instructor) of Differential Equations.** MIT, USA
1st year bachelor level. Overall rating: 6.2/7. Spring 2017
- Assistant Instructor of Quantum Mechanics and General Physics.** Univ. of Calabria, Italy
Bachelors in Materials Science and Architectural Engineering. 2012–2013
- Assistant Instructor of Physics and Mathematics.** Univ. of Paris VII, France
Bachelors in Physics, Chemistry and Life Sciences. 2008–2011

- HIGH SCHOOL

- Instructor of Experimental Physics.** Liceo “A. Volta”, Reggio Calabria, Italy
Teaching in the context of the project entitled “Liceo Matematico”. Spring 2023 and 2024
- Experiments on fluid statics, optics and diffraction with water and light waves.

TEACHING QUALIFICATIONS

- French Qualification for Assistant Professor.** France
Maitre de conférences. 2017

Italian Qualification for teaching in high schools.

Italy

Active Formative Apprenticeship, for teaching Mathematics and Physics. Score 99/100.

2015

- Apprenticeship in a high school.
- Attended classes on the teaching of Mathematics and Physics, Pedagogy and didactics for inclusion, Didactical techniques for inclusion, History of Pedagogy, Theory and Methods of evaluation.

SUPERVISION

Post-docs**Benjamin Reichert**

Institute of Physics of Rennes, France

Post-doc within the program CNRS-Momentum.

2018–2020

- Thermal active drops and Faraday instability in a rotating liquid.

PhD students**Wilson Reino**

CNR-Nanotec, Italy

Joint supervision with Prof. R. Barberi, Univ. of Calabria, Italy

Jan. 2022 - Dec. 2024

- Capillary surfers.

Master students**Samuel Carneiro**

CNR-Nanotec, Italy

Master student, École Nationale d'Ingénieurs de Brest, France.

Mar–July 2023

- Setups for the demonstration of experiments in fluid dynamics .

Capucine Eudes

CNR-Nanotec, Italy

Master student, École Nationale d'Ingénieurs de Brest, France.

Mar–July 2022

- Wave field of capillary surfers.

Antoine Bellaigue

Institute of Physics of Rennes, France

Master student in Physics, University of Rennes 1, France.

May–July 2020

- Numerical simulations of a classical wave-particle duality interacting with single and double slits.

Jérémy Archer

Institute of Physics of Rennes, France

Master student in Physics, University of Rennes 1, France.

May–July 2020

- Surface reconstruction of Faraday instability patterns.

Paul Remigereau

Institute of Physics of Rennes, France

Master student in Physics, University of Rennes 1, France.

May–July 2019

- Faraday instability in a rotating fluid.

Bachelor students**Alessia Cirimele**

CNR-Nanotec, Italy

Bachelor student, University of Calabria, Italy.

Apr–July 2022

- Diffraction with a pilot-wave model.

Co-supervisor of Pierluigi Bilotto and Giuseppe Di Nardo

University of Calabria, Italy

Bachelor students, final internship.

2014

- Walking droplets interacting with a single slit.
- Analogies between the De Broglie-Bohm pilot-wave theory and walking droplets.

MENTORING

- Giuseppe Accurso, Francesco Greco, Gian Marco Rizzo** CNR-Nanotec, Italy
Bachelor students in Physics, University of Calabria, Italy. Sep. 2023 – present
- A point-mass approach to the motion of rigid bodies down an inclined plane.
- Levon Tabirian** CNR-Nanotec, Italy
Bachelor student in Physics from Princeton University, USA. June. 2023
- Building and testing a droplet generator.
- Alessia Cirimele and Mariagabriella Marrella** CNR-Nanotec, Italy
Master students in Physics, University of Calabria, Italy. Mar. 2023 – present
- Skylight polarization.
- Francesco Conidi, Andrea De Luca, Alessandra Mercuri and Davide Meringolo** CNR-Nanotec, Italy
Master students in Physics, University of Calabria, Italy. Feb. 2022 – present
- The spinning of an Euler disk.
- Sara Careaga** CNR-Nanotec, Italy
Master students in Physics, University of Calabria, Italy. Feb. 2022 – present
- Detection of an acoustic source in two dimensions.
- Paul Massiot** Institute of Physics of Rennes, France
Master student in Physics, University of Rennes 1, France. Sep. 2019 – Jan. 2020
- Technique for the reconstruction of a perturbed fluid surface.
- Ian Ho** Brown University, USA
Bachelor student. Jan.–July 2018
- Centimetric objects sliding on water and their mutual interaction due to capillary forces.
- Roy Glavanitz** Brown University, USA
Bachelor student from Munich University of the Federal Armed Force. May–July 2018
- Design and implementation of a swimmer at intermediate Reynolds number.
- Alexis Goujon** MIT, USA
Master student from Ecole Polytechnique. Spring 2017
- Spin lattices of walking droplets.
- Jean-Baptiste Moiroud** MIT, USA
Master student from Ecole Polytechnique. Spring 2017
- Walking drops in double and triple cavities. Tunneling of walking drops.
- Crystal Owen, Andrew M. Fiore and Filip Twarowski** MIT, USA
Ph.D. and master students, for projects of the course Interfacial Phenomena. Spring 2016
- Vibration of soap bubbles.

- Non-linear phenomena in a liquid-on-liquid wetting system.
- Faraday-wave propelled boat.

Benjamin Aubin

Master student from Ecole Polytechnique.

MIT, USA

Apr.–July 2016

- Refraction of walking droplets.

Clément Fontaine

Bachelor student.

University of Paris VII

May 2010

- Faraday instability in a rotating fluid.

ORGANIZATION OF MEETINGS

International

Co-organizer of the meeting Hydrodynamic Quantum Analogs 8 Brown University, USA

July 2018

- About 30 participants from: MIT, University of Liège, IMPA (Rio de Janeiro), New Jersey Institute of Technology, National Autonomous University of Mexico, University of Bath (UK), California Polytechnic State University, Monash University (Australia) and Brown University.

Co-organizer of the meeting Hydrodynamic Quantum Analogs 5

Calabria, Italy

July 2015

- About 25 participants from: MIT, University of Liège, IMPA (Rio de Janeiro), KAUST (Saudi Arabia), New York University, Max Planck Institute for Dynamics and Self-organization (Göttingen), University of Bath (UK) and University of Calabria.

Local

Co-organizer of the PhysiCal Seminar Series

Univ. of Calabria, Italy

Nov. 2023 - present

- Joint Seminar Series in Physics between the Department of Physics of the University of Calabria and the local section of the Institute of Nanotechnology of the National Research Council of Italy.

Co-organizer of a joint Workshop in Physics

Univ. of Calabria, Italy

Dec. 2022

- Joint Workshop in Physics between the Department of Physics of the University of Calabria and the local section of the Institute of Nanotechnology of the National Research Council of Italy.
6 speakers and more than 30 participants from both institutions.

ACADEMIC SERVICE

Member of preliminary examination Ph.D. committee.

Brown University, USA (online)

Defended by Jack-William Barotta.

Mar. 2024

- Thesis Proposal: “Wave-driven propulsion and collective motion of chiral active matter.”

Invited member of Ph.D. defense committee.

Paris Sciences et Lettres University, France

Defense by Federigo Ceraudo.

Dec. 2022

- Title of the thesis: “Topological insulators and artificial crystals for Hydro-Elastic Waves”.

Member of Academic Board. Univ. of Calabria, Italy
Doctoral School in Physical, Chemical and Materials Sciences and Technologies. 2022–present

Elected representative of Ph.D. students. University of Paris VII, France
Doctorate School “Condensed Matter and Interfaces”. 2009–2011

Elected representative of Physics students. Univ. of Calabria, Italy
Laurea Course Council, addressing organization of classes and course work. 2006–2008

OUTREACH

Seminar at Liceo ‘A. Volta’ (high school). Reggio Calabria, Italy
For the 100th anniversary of the National Research Council of Italy (CNR). Oct. 2023

- Title of the seminar: ‘Analogie quantistiche in fenomeni macroscopici’ (Quantum analogs in macroscopic phenomena).

Seminar at Liceo ‘Scorza’ (high school). Cosenza, Italy
 Mar. 2023

- Title of the seminar: ‘Analogie quantistiche in fenomeni macroscopici’ (Quantum analogs in macroscopic phenomena).

Seminar and visit at Liceo ‘Pizi’ (high school). Palmi, Italy
Invited by Prof. Sergio Polito to a one-day visit to the high school. Apr. 2022

- Included seminar with title ‘Analogie quantistiche in fenomeni macroscopici’ (Quantum analogs in macroscopic phenomena) and assistance to students performing experiments in physics.

Organizer of a stand for a Science Festival. Rennes, France
Stand of the Soft Matter Department of the Institute of Physics of Rennes. Oct. 2020

Guide of high school students during the Science Week. University of Paris VII, France
One-day visit of students from Lycée Charles de Foucault of Paris. Oct. 2010

Guide of University students. University of Paris VII, France
One-day visit of the Physics Students Association of Perugia, Italy. Nov. 2010

- Includes a meeting with Prof. Atef Asnacios.

SEMINARS

Non-exhaustive list.

Hydrodynamic Quantum Analogs with focus on diffraction Wrocław, Poland
Institute for Theoretical Physics, Wrocław University of Science and Technology May 2024

Capillary surfers and spinners on a vibrating liquid bath. Viterbo, Italy
Ph.D. school of the Department of Economics, Engineering, Society and Business organization, Tuscia University. Mar. 2024

Hydrodynamic spin lattices. Stockholm, Sweden
Workshop ‘Hydrodynamics at all scales’ at the Nordic Institute for Theoretical Physics. Sep. 2023

Capillary surfers and spinners on a vibrating liquid bath. <i>FAST Laboratory, University Paris-Saclay.</i>	Orsay, France <i>Apr. 2023</i>
Capillary surfers and spinners on a vibrating liquid bath. <i>PMMH Laboratory, ESPCI - Paris Sciences et Lettres University.</i>	Paris, France <i>Apr. 2023</i>
Wave-driven particles at a fluid interface <i>Department of Physics of La Sapienza and CNR - Institute for Complex Systems.</i>	Rome, Italy <i>Sep. 2021</i>
Wave-driven particles at a fluid interface <i>Department of Physics, University of Padua.</i>	Padua, Italy <i>Sep. 2021</i>
Capillary surfers <i>Laboratoire Gulliver - ESPCI.</i>	Paris, France (virtual) <i>May 2021</i>
Hydrodynamic spin lattices <i>Joint GSSI - Sapienza Webinars on Statistical Mechanics.</i>	Italy (virtual) <i>May 2021</i>
Water sliders, capillary attraction and capillary surfers <i>Laboratoire Matière et Systèmes Complexes.</i>	Paris, France (virtual) <i>Feb. 2021</i>
Capillary surfers: Self-propelling particles at an oscillating fluid interface <i>Fluids at Brown and Fluids and Thermal Sciences Joint Seminar Series.</i>	Providence (RI), USA (virtual) <i>Apr. 2020</i>
Hydrodynamic analogs on a vibrating bath <i>Pprime Institute.</i>	Poitier, France <i>Feb. 2019</i>
Soap bubbles, walking drops and sliders at fluid interfaces <i>Laboratories IRPHE and IUSTI, University of Aix-Marseille.</i>	Marseille, France <i>Oct. 2018</i>
Drops, sliders and bubbles at the liquid surface <i>Rennes School on Complex Systems.</i>	Rennes, France <i>Oct. 2018</i>
Soap bubbles, walking drops and sliders at fluid interfaces <i>Laboratories FAST and LIMSI, University of Paris-Sud.</i>	Orsay, France <i>Sep. 2018</i>
Three experiments with drops and bubbles on fluid interfaces <i>School of Engineering at Brown University.</i>	Providence (RI), USA <i>Nov. 2017</i>
Walking droplets interacting with boundaries <i>Institute of Light and Matter, University Claude Bernard Lyon 1.</i>	Lyon, France <i>Oct. 2017</i>
Hydrodynamic analogs <i>Department of Physics at the University of Massachusetts, Boston.</i>	Boston (MA), USA <i>Apr. 2017</i>
Walking droplets interacting with submerged boundaries <i>Institute of Physics of Rennes, University of Rennes 1.</i>	Rennes, France <i>Dec. 2016</i>
Three experiments with drops and bubbles on fluid interfaces <i>Marine Technology Research Institute (INSEAN).</i>	Rome, Italy <i>May 2015</i>
Faraday instability in deformable domains <i>Physical Mathematics group, Dept. of Mathematics, Massachusetts Institute of Technology.</i>	Cambridge (MA), USA <i>Feb. 2014</i>
The Faraday instability in deformable domains <i>Jean le Rond d'Alembert Institute, University Pierre et Marie Curie (UPMC).</i>	Paris, France <i>Jan. 2012</i>

INVITED CONFERENCE PRESENTATIONS

- Capillary disks: sliding friction, capillary attraction and wave-driven propulsion** Paris, France
** Selected for long talk at Rencontre du Non-Linéaire (RNL), then meeting canceled.* 2020
- Spin lattices of walking droplets.** Nice, France
Conference Waves Côte d'Azur. Jun. 2019
- Diffraction and interference of walking droplets** Sevilla, Spain
European Fluid Mechanics Conference. Sep. 2016

OTHER CONFERENCE PRESENTATIONS

Non-exhaustive list.

- Self-propulsion of drops floating on an immiscible liquid bath.** Paris, France
International meeting in memory of Yves Couder. Jun. 2024
- Learning through experience: on the introduction of Projects in Experimental Physics at the University of Calabria.** Fisciano (SA), Italy
Meeting of the Italian Physical Society. Sep. 2023
- Wave-like behavior of wave-driven particles interacting with linear barriers.** Milano, Italy
Joint Conference of the Italian and European Community of Condensed Matter Physics. Sep. 2023
- Exploring diffraction of wave-driven particles.** Milan, Italy
Meeting of the Italian Physical Society. Sep. 2022
- Macroscopic quantum analogs** Tropea, Italy
Fifteenth Biennial Quantum Structure 2022 Conference. Jun. 2022
- Emergent order in hydrodynamic spin lattices** (online)
**Selected for the workshop of the Institute of Nanotechnology of CNR.* Nov. 2021
- Forces on capillary disks** (online)
International Conference of Theoretical and Applied Mechanics Aug. 2021
- Exploring diffraction with a pilot-wave model** (online)
March Meeting of the American Physical Society. Mar. 2021
- Capillary surfers: self-propelling particles at an oscillating fluid interface** (online)
Meeting of the Italian Physical Society. Sep. 2020
- Exploring diffraction with a pilot-wave model** Chicago (IL), USA (online)
Meeting of the Division of Fluid Dynamics of the American Physical Society. Nov. 2020
- Capillary surfers: Self-propelling particles at an oscillating fluid interface** Seattle (WA)
Meeting of the Division of Fluid Dynamics of the American Physical Society. Nov. 2019
- Friction on water sliders** Vienna, Austria
European Fluid Mechanics Conference Sep. 2018
- Spin lattices of walking droplets** Grenoble, France
Condensed Matter Days, French Physical Society. Aug. 2018

Partial coalescence of a soap bubble with a soap film <i>March Meeting of the American Physical Society.</i>	Los Angeles (CA), USA March 2018
Droplets bouncing on a standing wave field <i>Meeting of the Division of Fluid Dynamics of the American Physical Society.</i>	Denver (CO), USA Nov. 2017
Walking drops interacting with submerged boundaries <i>Worskhop “Waves and particles, novel insights”.</i>	Mexico City, Mexico May 2017
Diffraction and interference of walking droplets <i>Meeting of the Division of Fluid Dynamics of the American Physical Society.</i>	Portland (OR), USA Nov. 2016
Walking droplets interacting with planar boundaries <i>Meeting of the Division of Fluid Dynamics of the American Physical Society.</i>	Boston (MA), USA Nov. 2015
Faraday instability in deformable domains <i>Meeting of the Division of Fluid Dynamics of the American Physical Society.</i>	San Francisco (CA), USA Nov. 2014
Order reconstruction in turbulent nematics <i>Meeting of the Italian Liquid Crystal Society.</i>	Ravenna, Italy 2014
Faraday instability in deformable domains <i>Meeting of the Italian Physical Society.</i>	Naples, Italy 2012
Turbulence induces change of topology in calamitic nematics <i>Meeting of the Italian Liquid Crystal Society.</i>	Rome, Italy 2012
Mutual adaptation of a Faraday instability pattern with its flexible boundaries <i>Fluid - DTU Summer School.</i>	Denmark 2011
The interplay of an instability pattern with its flexible boundaries <i>Conference “On growth and forms” in honour of Prof. Yves Couder.</i>	Agay, France 2010
Faraday instability in deformable domains <i>Fluid - DTU Summer School</i>	Denmark 2009
Force measurements at nanoscale by an atomic force microscope <i>Summer course of Scuola Normale Superiore.</i>	Cortona, Italy 2006

ACTIVITY AS A REVIEWER

Across the years, I have been a referee for *Physical Review Letters*, *Europhysics Letters*, *European Physical Journal E*, *Physics Letters A*, *Physical Review Fluids*, *European Journal of Physics*, *Physics of Fluids*, *Chaos*.

LANGUAGES

Self-evaluation according to the criteria of the Common European Framework of Reference for Languages.

- Italian: *native tongue, C2.*
- English: *advanced proficient user, C1.*
- French: *advanced proficient user, C1.*

PUBLICATIONS

- [1] A. Hooshanginejad, J.-W. Barotta, V. Spradlin, **G. Pucci**, R. Hunt and D. M. Harris. Interactions and pattern formation in a macroscopic magnetocapillary SALR system of mermaid cereal. *Nat. Commun.* **15**, 5466 (2024).
- [2] A. U. Oza, **G. Pucci**, I. Ho and D. M. Harris. Theoretical modeling of capillary surfer interactions on a vibrating fluid bath. *Phys. Rev. Fluids* **8**, 114001 (2023). Featured in Physics.
- [3] I. Ho*, **G. Pucci***, A. U. Oza and D. M. Harris. Capillary surfers: wave-driven particles at a vibrating fluid interface. *Phys. Rev. Fluids* **8**, L112001 (2023). *Co-first author. Featured in Physics and Editors' suggestion.
- [4] **G. Pucci**. An introduction to hydrodynamic spin lattices. *Il Nuovo Cim.*, **45 C**, 73 (2022).
- [5] B. Reichert, J.-B. Le Cam, A. Saint-Jalmes and **G. Pucci**. Self-propulsion of a volatile drop on the surface of an immiscible liquid bath. *Phys. Rev. Lett.* **127**, 144501 (2021).
- [6] P. J. Sáenz, **G. Pucci**, S. E. Turton, A. Goujon, R. R. Rosales, J. Dunkel and J. W. M. Bush. Emergent order in hydrodynamic spin lattices. *Nature* **596**, 58-62 (2021).
- [7] L. Barnes, **G. Pucci**, and A. U. Oza. Resonant interactions in bouncing droplet chains. *Comptes Rendus Mécanique* **348** (6-7), 573-589 (2020).
- [8] I. Ho, **G. Pucci**, and D. M. Harris. Direct measurement of capillary attraction between floating disks. *Phys. Rev. Lett.* **123**, 254502 (2019). Featured in Physics and Editors' suggestion.
- [9] **G. Pucci**, I. Ho and D. M. Harris. Friction on water sliders. *Sci. Rep.* **9**, 4095 (2019).
- [10] **G. Pucci**, F. Carbone, G. Lombardo, C. Versace, R. Barberi. Topologically non-equivalent textures generated by the nematic electrohydrodynamics. *Liq. Cryst.* **46** (4), 649-654 (2019).
- [11] P. J. Sáenz, **G. Pucci**, A. Gujon, T. Cristea-Platon, J. Dunkel and J. W. M. Bush. Spin lattices of walking droplets. *Phys. Rev. Fluids* **3**, 100508 (2018); winning entry to the Gallery of Fluid Motion of the American Physical Society.
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