

Paolo Perinotti

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Born: April 24, 1975—Vercelli, Italy
Nationality: Italian

Current position

Full Professor, Dipartimento di Fisica “A. Volta”, Università degli studi di Pavia

Areas of specialisation

Theoretical Physics; Quantum Mechanics, Quantum Information and Computation, Quantum Foundations

Appointments held

2017-2025	Associate Professor at University of Pavia, Physics Department
2011-2017	Staff Researcher at University of Pavia, Physics Department
2011	Research contractor—COQUIT project at Dipartimento di Fisica “A. Volta”, Università di Pavia
2006-2011	Post-doc at Dipartimento di Fisica “A. Volta”, Università di Pavia
2006	Research Contractor of “Dipartimento di Fisica A. Volta” of the University of Pavia
2005	Research Contractor of INFN Unità di Pavia
2003-2005	Post-doc at Istituto Nazionale di Fisica della Materia (INFN)

Education

2003	PHD in Physics, University of Milano (advisor: prof. L. Lanz)
1999	MSc in Physics, University of Pavia, Italy (Advisors: profs. G. M. D’Ariano and C. Macchiavello)

Grants, honours & awards

2016	“Birkhoff-von Neumann prize” for research in quantum foundations (IQSA).
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MEMBERSHIP

- 2013-present Member of FQXi (Foundational Questions Institute)
2001-present Member of IQSA (International Quantum Structures Association)

OFFICES

- 2024-2026 Member of the Council of the International Quantum Structures Association
2024-present Nominator for the VinFuture prize
2020-present “Incarico di Ricerca” at INFN (National Institute for Nuclear Physics)
2021-2026 Coordinator of the Pavia unit of the BELL network at INFN
2018-2022 Member of the Council of the International Quantum Structures Association

Research

BIBLIOGRAPHIC INDICES

TOTAL PUBLICATIONS: 127 published papers
H-INDEX: 38 (google scholar) · 39 (ResearchGate) · 31 (Scopus) · 28 (WOS)
TOTAL CITATIONS 8725 (google scholar) · 8696 (ResearchGate) · 4932 (Scopus) · 4542 (WOS)

RESEARCH INTERESTS

Quantum Information and Quantum Foundations. Quantum Cellular Automata and Quantum Field Theory. Operational probabilistic theories. Quantum Theory of Measurements and Open Systems. Quantum Information Processing and Optimization. Quantum networks, causal structures and higher order information processing. Emergent space-time.

ADDITIONAL EXPERTISE

Quantum Mechanics, Quantum Computing, Quantum Optics, Group Theory, Lie algebras, C^* - and von Neumann algebras, Frame Theory, Quantum Field Theory, Statistical Mechanics, Differential Geometry.

FUNDED PROJECTS

- 2023-2025 P. I. of PRIN-2022 QCAPP (Quantum Cellular Automata via Photonic Platforms)
2023-2025 Participant of PRIN-2022-PNRR DISTRUCT (Discrete Quantum Simulators with Structured Light) (P. I. Alessandro Bisio)
2022-2025 Critical Mass of Spoke 1, National Quantum Science and Technology Institute NQSTI23
2016-2019 Local P. I. in the network project *Quantum Causal Structures* led by Časlav Brukner and Rob Spekkens, funded by the John Templeton Foundation.
2014 Proponent with Lorenzo Maccone of the funded project *A quantum-digital universe*, funded by Fondazione Banca del Monte di Lombardia

P.P. participated in the European projects ATESIT (FP6), CORNER and COQUIT (FP7), in three Italian national projects (PRIN), and in the Project “Quantum Digital Universe”, funded by the John Templeton Foundation.

Publications & talks

125 published papers, 3 book chapters, 91 invited talks and seminars.

BOOKS

- 2017 G. M. D’Ariano, G. Chiribella, P. Perinotti, *Quantum theory from first principles: an informational approach*, Cambridge University Press
- 2017 G. Jaegger, A. Khrennikov and P. Perinotti (eds.), *Second quantum revolution: foundational questions*, Special issue of *Philosophical Transactions of the Royal Society A*, The Royal Society publishing
- 2020 G. M. D’Ariano and P. Perinotti (eds.), *Quantum information and foundations*, Special issue of *Entropy*, MDPI

Teaching

COURSES

- 2022-present *Quantum Mechanics*, bachelor course in physics at University of Pavia
- 2012-present *Theoretical Physics of Information*, master course in physics at University of Pavia
- 2023-present *Foundations of Quantum Mechanics*, master course in physics at University of Pavia
- 2020-2023 *Statistical Mechanics*, bachelor course in physics at University of Pavia
- 2015-2021 *Quantum Mechanics: exercise module*, bachelor course in physics at University of Pavia
- 2016-2020 *Mathematical Methods for Theoretical Physics*, master course in Physics at University of Pavia
- 2018-2019 *General Physics II*, bachelor course in chemistry at University of Pavia
- 2009-2010 *General Physics—exercises*, bachelor course in biology at University of Pavia
- 2001-2002 *Pre-course for Mathematical Analysis* for 1st year physics students at University of Milano
- 2001-2002 *Experimental physics—practical lectures* course in Mechanical and Air and Space Engineering at Politecnico di Milano

POST-DOC SUPERVISION

- 2023-2025 P. Meda
- 2022-2024 L. Vaglini
- 2018-2022 M. Erba
- 2018-2019 N. Mosco

Co-supervisor of F. Buscemi, G. Chiribella, A. Bisio, S. Facchini.

THESIS SUPERVISION

PhD

- 2024-present T. Brambilla
- 2024-present S. Rota
- 2023-present A. Pizzamiglio
- 2022-present L. S. Trezzini

- 2022-2025 D. Rolino, *Complementarity, incompatibility, and irreversible disturbance. A Resolution to the Debate Between Bohr and Heisenberg*
- 2019-2023 M. Lugli, *One-dimensional Cellular Automata in Quantum and Fermionic Theories*
- 2019-2023 L. Vaglini, *Towards a generalised Shannon theory: information content of a source*

Co-supervisor of 5 PhD theses; Supervisor of 9 Master theses; Co-supervisor of 11 master theses; Supervisor of 28 BSc theses.

SECONDMENT SUPERVISION

- 2025 V. Kunte (PhD student, Grenoble)
- 2023-2024 K. Barsse (Master student, Paris Saclay)

EDITORIAL ACTIVITY

- 2024-present Member of the editorial board of the Journal *Quantum Information and Computation*
- 2020-present Member of the editorial board of the Journal *Entropy*
- 2020 Guest editor for a special issue of *Entropy*, entitled *Quantum information and foundations*
- 2000-present Referee for various international journals, among which Quantum, Nature, Physical Review X, Physical Review Letters, Physical Review, Physics Letters, EPL, New Journal of Physics, Foundations of Physics

Date: April 18, 2026