

Paolo Maria Mariano

Curriculum Vitae

Department of Civil and Environmental Engineering (DICEA)
Università degli Studi di Firenze
via Santa Marta 3, I-50139 Firenze, Italy



paolomaria.mariano@unifi.it

Personal information

Place and Date of Birth Galatina (Italy), May 19th, 1966
Citizenship Italian

Education

PhD Università di Roma “La Sapienza” – Program in Structural Engineering - 1997
Laurea (Master Degree) Università di Roma “La Sapienza” – Civil Engineering (sector Structural Engineering) - 1993
Diploma (High School Degree) Humanities – Liceo Classico “P. Colonna” – Galatina - 1984

Academic career

- 2017 Qualification for *Full Professorship* in Mathematical Physics (SSD MAT/07) in the Italian National Competition for Academic Habilitation.
- 2017 Qualification for *Full Professorship* in “Scienza delle Costruzioni” (SSD ICAR/08) in the Italian National Competition for Academic Habilitation.
- 2005 – present *Associate Professor* of “Scienza delle Costruzioni” (SSD ICAR/08) in the University of Florence.
- 2011 – 2013 *Adjunct Professor* of Theoretical Mechanics in the Scuola Normale Superiore in Pisa.
- 2009 – 2010 In charge of the course “Mechanics of complex materials” in the Scuola Normale Superiore in Pisa.
- 2008 – 2009 In charge of a series of seminars on “Mechanics of complex materials” in the Scuola Normale Superiore in Pisa.
- 2009 – 2010 *Adjunct Professor* of Mechanics of Solids in the Gonzaga University, Campus Florence.
- 1997 – 2001 *Adjunct Professor* of Mechanics of Solids in the University of Rome “La Sapienza”.
- 1996, 2003, 2004 *Research Associate* to the University of Pisa, Department of Mathematics.

Coordination of research groups in the employer institution

2022 – present *Coordinator* of the Interdepartmental Research Group “Mathematical Models, Analysis, and Structures” of the University of Florence.

Coordination Activity in other Institutions of High Education

2008 – present *Coordinator* (together with A. Mielke, WIAS Berlin) of the *Research Group in Theoretical Mechanics* at the “Centro di Ricerca Matematica E. De Giorgi” (CRM) of the Scuola Normale Superiore in Pisa.

November 25th-29th, 2013 *Coordinator* (together with C. Le Bris, CEREMADE Paris) of the intensive school *Multi-scale and Multi-field Representations of Condensed Matter Behavior* at CRM – Pisa.

November 7th-12nd, 2011 *Coordinator* (together with A. Mielke, WIAS Berlin) of the intensive school *Mathematical Principles for and Advances in Continuum Mechanics* at CRM – Pisa.

October 1st-7th, 2007 *Coordinator* (together with A. Mielke, WIAS Berlin) of the intensive school *Structures of the Mechanics of Complex Bodies* at CRM – Pisa.

Visiting Positions (with lectures delivered at research level)

February 2020 *Czech Academy of Sciences* (seminars on the mechanics of complex materials and fracture mechanics).

May 2012 *University of Tartu*, Department of Mathematics (course on the mechanics of complex materials).

June 2012 *Polytechnic University of Madrid*, Department of Materials Science (on the mechanics of complex materials and fracture mechanics).

July 2011

September 2010

May-June 2009

September 2008

October – December 2009 *University of Zürich*, Department of Mathematics (course on fluid-dynamics).

February 2004 *Polish Academy of Sciences*, Center of Excellence in Advanced Materials and

April – May 2004 *Structures* (lectures on damage mechanics).

Honors

2019 – present *Corresponding Member* of the “Accademia Peloritana dei Pericolanti” (elected on January 8th, 2019).

April 14th, 2020 *Nomination in Line 1* (there are three lines) to the Class of Mathematical, Physical, and Engineering Science of the “Accademia dei Lincei”.

November 27th, 2020 *Lectio Lincea 2020*: “Il senso della natura per la matematica” (The Sense of Nature for Mathematics).

Aug. 30th – Sept. 2nd, 2010 *Plenary talk* at STAMM-2010, Berlin.

May 29th – June 7th, 2010 *Plenary talk* at CPEA-2010, Ráckeve, Hungary.

2006 Cover of the *Journal of Computational and Theoretical Nanoscience*, vol. 3, issue 4.

Summary of publications

Research works

94 papers in international journals (38 as a single author);
3 monographs (Birkhäuser-Springer, 2015, with modified version published by Bollati-Boringhieri in 2017; two under completion in 2022 for Birkhäuser-Springer and the American Mathematical Society);
18 books and special issues edited;
14 volume chapters in collective books;
34 full articles in conference proceedings;
33 extended abstracts.

In addition

15 editorials;
24 journal papers and book chapters on history and philosophy of science;
2 monographs on philosophy of science (one under completion);
2 didactic books in Italian;
7 book reviews (plus **124** reviews on Mathematical Reviews, including other three book reviews);
several articles on newspapers and **2** books (one in press) for a variegated audience (public engagement).

Editorial Activity

- 2018 – present Editor-in-Chief (together with C. Dafermos and R. D. James) of the book series *Advances in Continuum Mechanics*, Springer-Verlag.
- 2018 – present Editorial Board Member of *Philosophical Transactions of the Royal Society*.
- 2010 – present Advisory Editor of *Mathematical Methods in the Applied Sciences*, Wiley.
- 2017 – present Associate Editor of *Journal of Optimization Theory and Applications*, Springer-Verlag.
- 2013 – present Editorial Board Member of *Structural Engineering and Mechanics*, Techno-Press.
- 2013 – present Editorial Board Member of *Structural Maintenance and Monitoring*, Techno-Press.
- 2016 – present Editorial Board Member of *Journal of Multiscale Modeling*, World Scientific.
- 2015 – present Editorial Board Member of *Coupled Systems Mechanics*, Techno-Press.
- 2017 – present Scientific Committee Member of *Florence University Press*.
- 2012 – 2020 Editorial Board Member of *Prometeo* (Italian Quarterly on History and Philosophy of Science), Mondadori.
- 2012 – 2013 Editorial Board Member of *Materials Sciences and Applications*, Scientific Research.
- 2012 – 2017 Editorial Board Member of *ISRN Engineering Mechanics*, Hindawi.
- 2012 – 2016 Editorial Board Member of *Mathematical Problems in Engineering*, Hindawi.
- 2017 – 2019 *Springer Consulting Editor for book series*.
- Reviewer for **(1)** *Math. Rev.*, **(2)** *Proc. Royal Soc. London A*, **(3)** *Int. J. Num. Meth. Eng.*, **(4)** *J. Physics A: Math. Theor.*, **(5)** *J. Math. Phys.*, **(6)** *Rendiconti Lincei*, **(7)** *J. Geom. Phys.*, **(8)** *Il Nuovo Cimento B*, **(9)** *Phys. Lett. A*, **(10)** *Physica B*, **(11)** *Comp. Meth. Appl. Mech. Eng.*, **(12)** *Physica Status Solidi B*, **(13)** *Int. J. Solids Struct.*, **(14)** *J. Elasticity*, **(15)** *Appl. Math. Mod.*, **(16)** *Math. Meth. Appl. Sci.*, **(17)** *Int. J. Fracture*, **(18)** *Boll. UMI B*, **(19)** *ASCE J. Eng. Mech.*, **(20)** *Comp. Struct.*, **(21)** *Comp. Math.*, **(22)** *Meccanica*, **(23)** *Int. J. Math. Math. Sci.*, **(24)**

Eng. Struct., (25) *Mech. Struct. Mach. (presently closed)*, (26) *ZAMM*, (27) *SIAM J. Math. Analysis*, (28) *Multiscale Mod. Simul.*, (29) *Mech. Res. Comm.*, (30) *Comm. Nonlinear Sci. Num. Simul.*, (31) *Discr. Cont. Dyn. Systems - B*, (32) *Mech. Mat.*, (33) *J. Mech. Mat. Struct.*, (34) *Rep. Math. Phys.* (35) *Arch. Rational Mech. Anal.* (36) *J. Math. Anal. Appl.*, (37) *Math. Mech. Solids*, (38) *ZAMP*, (39) *J. Mat. Sci.: Materials in Electronics*, (38) *Theor. Appl. Frac. Mech.*, (39) *Appl. Phys. Lett.*, (40) *Nonlinear Anal. Real World Appl.*, (41) *Adv. Math. Phys.*, (42) *J. Nonlinear Sci.*, (43) *Cont. Mech. Thermodyn.*, (44) *Int. J. Heat Mass Trasf.*, (45) *European J. Mechanics B-Fluids*, (46) *Nonlinear Analysis: Theory Meth. Appl.*, (47) *AIMS Mathematics*, (48) *Acta Mechanica*.

Journal Special Issues Edited (details in the list of publications) (1) *Int. J. Solids Structures*, Elsevier, vol 38, n° 6-7, 2001, 939-1264 (with G. Capriz); (2) *Meccanica*, Springer, vol. 40, n° 4-6, 2005, 327-525 (with G. Capriz); (3) *Computers & Mathematics*, Elsevier, vol. 55, n° 2, 2008, 131-318 (with G. Capriz and P. Giovine); (4) *Physica D*, vol. 239, n° 15, 2010, 1379-1502 (with G. Frosali and G. Modica); (5) *Algorithms*, MDPI, 2009 (with S. Mariani and P. Venini); (6) *Math. Meth. Appl. Sci.*, Wiley, vol. 35, n° 15, 2012, 1737-1929; (7) *Discrete Cont. Dyn. Systems B*, vol. 17, n° 2, 2012, 445-733 (with M. Focardi); (8) *Phil. Trans. Royal Society of London*, issue 2066, 2016; (9) *Meccanica*, Springer, vol. 54, n° 4-5, 2018, 595-748 (with P. Giovine, G. Mortara, K. Soga), vol. 54, n° 4-5; (10) *Int. J. Solids Structures*, Elsevier, vol. 167, 2019, (with C. Di Prisco, P. Giovine, S. Kyriakides, G. Mortara), vol. 187, pp. 1-162; (11) *J. Opt. Theory Appl.*, Springer, 2020, vol. 184, n° 1, pp. 1-314.

Books edited (details in the list of publications) Birkhäuser, 2004, pp. 263 (with G. Capriz); Elsevier, 2007, pp. 342 (with G. Capriz); Lecture Notes in Mathematics, Springer, 2008, pp. 232 (with G. Capriz and P. Giovine); Birkhäuser, 2018, 2020 (two volumes edited with P. Giovine and G. Mortara; the first one pp. 418, the second one pp. xii+280), Birkhäuser, 2022, pp. xi+309.

Mentoring

PhD Theses 5 – among those students [1] **F. L. Stazi** has been recipient of 2003 ECCOMAS prize for the best PhD thesis in computational mechanics; [2] **P. Paoletti** is presently lecturer in the University of Liverpool after a post-doc at Harvard; [3] **M. Bacci** presently leads the modeling team of Blue Marble Insurance, Chiasso, after a post-doc in the University of Zürich and a research associate position in the EAWAG; [4] **L. Sabatini** is adjunct professor in the Dept. of Mathematics of the University of Rome “La Sapienza” (moving from the high school)

Master and Bachelor Theses 10 master theses (four of them in collaboration with GeorgiaTech, École Nationale de Ponts et Chaussées, INRIA Lyon, Institut Polytechnique Bordeaux) – among those students [1] **F. Maresca** is presently assistant professor in Gröningen, after a post-doc period in the EPF, [2] **G. Franchetti** is research associate in the University of Bath, after a post doc in the Heriot-Watt University and a position of research associate in the University of Turin, [3] **F. Masi** is presently research associate in the École Centrale de Nantes; 20 bachelor theses.

Post-docs and research fellows [1] Dr. **L. Bisconti** (2017/2018, presently tenured researcher in the Dept. of Mathematics in the University of Florence), [2] Dr. **L. Salvatori** (2005/2010, presently associate professor in the Dept. of Civil Eng. In the University of Florence), [3] Dr. **J. Polikarpus** (2021/2022, presently tenured researcher in the Dept. of Mathematics of the Tartu University).

Scientific-Administrative Responsibilities

- 2009-2010 Member of two committees for tenure track/tenure transition of associate professors in Italy.
- 2005 – present Reviewer for the “Université Franco-Italienne” of the joint research projects France-Italy.
- 2012 – present Reviewer for ANVUR (Italian National Agency for University Evaluation).
- 2017 – present Reviewer of research project of the Estonian Research Council.
- 2017 – 2019 President of the Librarian System for the Technological Pole of the University of Florence.
- 2016 Reviewer for JSC “National Centre of Science and Technology Evaluation”, Kazakhstan (appointment renewed in 2020).
- 2015 Member of the committee for the evaluation for associate professorship of Dr. Abdul Majid, Faculty of Science, University of Gujrat, Pakistan.
- 2020 Called to be member of the committee for the evaluation for full professorship of Dr. Abdul Majid, Faculty of Science, University of Gujrat, Pakistan.
- 2016 Reviewer of Skoltech (Skolkovo Institute of Science and Technology), Oblast’ of Moscow.

Organization of Congresses and Symposia

- February 25th, 2022 *Organizer* with A. Salvadori (Brescia) of the Symposium on “Biomeccanica e Meccanobiologia nel tempo presente”, Firenze.
- May 28th – June 1st, 2018 *Scientific Board Member* of the Conference on Micro-to-Macro Modeling in Soil Mechanics, Reggio Calabria.
- January 25th – 26th, 2018 *Organizer* of the 17th GAMM Seminar on Microstructures, together with G. Dolzmann and K. Weinberg, Firenze.
- July 18th – 20th, 2017 *Conference Chairman*, together with F. Aliabadi (London), S. Baragetti (Milan), C. Pappalettere (Bari), C. Casavola (Bari), of the 15th International Conference on Fracture and Damage Mechanics, Firenze.
- August 24th – 28th, 2014 *Scientific Committee Member* of the 2014 International Conference Advances in Structural Monitoring and Maintenance, BEXCO in Budan, Korea.
- September 9th – 11th, 2013 *Scientific Committee Member* of the 2013 IUTAM Symposium on Multiscale and Uncertainty Quantification of Materials and Structures, Santorini.
- June 21st – 25th, 2010 *Organizer*, with M. Focardi (Florence) of the Symposium “Geometrical and Analytical Problems in Continuum Mechanics” within SIMAI 2010, Cagliari.
- March 6th, 2009 *Organizer* of the Symposium “Modelli e problemi nella meccanica dei materiali”, Firenze.
- April 2008 *Organizer* with G. Frosali and G. Modica (Firenze) of the Symposium “Evolution Equations in Pure and Applied Sciences”, Firenze.
- September 1st – 3rd, 2007 *Organizer* of the Symposium “Mathematical Lectures”, on behalf of CRM, Scuola Normale Superiore, Lizzano (Lecce).
- July 16th – 20th, 2007 *Organizer* with T. J. Pence (East Lansing) and E. Vanden-Ejinden (New York) of the Symposium “Geometric and Stochastic Aspects of the Mechanics of Complex Bodies”, within ICIAM-2007, Zürich.
- May 22th – 26th, 2006 *Organizer* of the Symposium “Models of Multi-Scale Phenomena in Simple and

- Complex Bodies”, within SIMAI-2006, Baia Samuele.
- Sept. 11th – 15th, 2005 *Organizer* with G. Capriz (Pisa) of the “Minisymposium Nanotechnologies: Building up Structures at the Nano and Meso-Scales”, within AIMETA 2005, Firenze.
- September 2001 *Organizer* with G. Capriz (Pisa) of the “Minisymposium on Multifield Theories”, within AIMETA-2001, Taormina.

Teaching in the employer institution

- a.y. 2015/2016 – to – present Scienza delle Costruzioni – 9 CFU (Mech. Eng.).
- a.y. 2006/2007 – to – 2010/2011 Scienza delle Costruzioni – 6 CFU (Mech. Eng.).
- a.y. 2015/2016 – to – present Meccanica Teorica – 6 CFU (Mech. Eng.).
- a.y. 2016/2017 – to – present Laboratorio di Meccanica Teorica – 3 CFU (Mech. Eng.).
- a.y. 2006/2007 – to – 2009/2010 Scienza delle Costruzioni – 6CFU (Mech. Eng.).
- a.y. 2012/2013 – to – 2013/2014 Teoria delle strutture – 6 CFU (Civil Eng.).
- a.y. 2010/2011 – to – 2011/2012 Teoria delle strutture – 9 CFU (Civil Eng.).
- a.y. 2007/2008 – to – 2009/2010 Meccanica delle Micro e Nano Strutture – 6CFU (Mech. Eng.).
- a.y. 2005/2006 Teoria della strutture – 5CFU (Civil Eng.).
- a.y. 2019/2020 Doctoral course: Invariance Principles in Continuum Mechanics.
- a.y. 2020/2021 Doctoral course: Variational Principles in Mechanics – a Primer.
- a.y. 2021/2022 Doctoral course: Topological Continuum Mechanics.

Miscellaneous Information

- June 14th – 18th, 2021 *Invited Lecture* at the Joint European Thermodynamic Conference, Prague.
- January 22nd – 23th, 2010 *Key-note Lecturer* at 9th GAMM Seminar on Microstructures, Stuttgart, Germany.
- August 22nd – 30th, 2006 *Chairman* of a sub-session of the sector Mathematical Physics at the International Congress of Mathematicians ICM 2006, Madrid.
- June 14th – 17th, 2005 *Key-note Lecturer* of a session at the Symposium on Probabilistic Mechanics within the Third MIT Conference on Computational Fluid and Solid Mechanics, Boston.
- Seminars delivered in several universities MIT, Yale, Northwestern, Brown, École Polytechnique, Versailles et Saint Quentin en Yvelines, Poitiers, IPPT Warsaw, WIAS Berlin, Politecnico di Milano, Politecnica delle Marche, Università del Salento, Università di Messina, Charles University Prague, Budapest University of Technology, Università di Pavia, Università di Ferrara.

Public Engagement - summary

- Newspapers Rather regular contributions on the cultural pages of newspapers like “Il Galatino” (collaboration ended in 2020), “Il Riformista” (collaboration ended in 2012), “Il Paese

Nuovo” (currently closed), “Il Sole24ore” (collaboration ended in 2020), and “Il Nuovo Quotidiano di Puglia” (46 articles published since 2017).

January-February 2020 4 seminars delivered in the Academy of Arts in Florence on Euler.

December 15th, 2021 *Seminar* at the Accademia delle Arti e del Disegno, on the role of the aesthetic factor in science.

2020 Monograph: “Gli occhi di Eulero”, Mimesis.

2020 Silloge: “Del fiume e degli alberi”, Thedotcompany.

2022 Monograph: “Vite riflesse in un catino – 23 sogni per Hilbert”, Mimesis (in print).

According to law 679/2016 of the Regulation of the European Parliament of April 27th, 2016, I hereby express my consent to process and use my data provided in this CV for the purposes of the Competition for Full-Professorship position in the University of Florence, SSD ICAR08, Scienza delle Costruzioni, DR 681/2022, prot. 0127616, June 15th, 2022.

Florence, June 19th, 2022.