

Curriculum vitae

Personal data

- **Born** January 1, 1983 in Treviglio (BG), Italy. Italian citizen.
- **Current work address** Dipartimento di Informatica; L.go Pontecorvo, 3; 56127 Pisa; Italy.
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Academic positions

- 2017–present **Professore associato**, *University of Pisa, department of Computer Science*, Pisa, Italy.
- 2012–2017 **Ricercatore universitario**, *University of Pisa, department of Computer Science*, Pisa, Italy.
Research-oriented position at the assistant professor level. Permanent after a 3-year tenure track.
- 2011–2012 **A. von Humboldt Postdoctoral Fellow**, *Technische Universität Berlin, institute of Mathematics*, Berlin, Germany.
Info: http://en.wikipedia.org/wiki/Humboldt_Foundation.
- 2011 **Wissenschaftlicher Mitarbeiter**, *Technische Universität Berlin, institute of Mathematics*, Berlin, Germany.
Temporary research assistant position.

Education

- 2008–2010 **Perfezionamento (Ph.D.) in Mathematics**, *Scuola Normale Superiore*, Pisa, Italy.
Thesis *Algorithms for Quadratic Matrix and Vector Equations*.
Advisors D. A. Bini and B. Meini.
Legally equivalent to a European PhD and to the Italian title of *dottore di ricerca*.
- 2002–2008 **Diploma di corso ordinario**, *Scuola Normale Superiore*, Pisa, Italy.
Five-year honours programme complementing the bachelor/master studies at the University of Pisa. The Scuola Normale is a public higher learning institution on the model of the French *grandes écoles*.
Info: http://en.wikipedia.org/wiki/Scuola_normale.
- 2005–2007 **Laurea Specialistica (M.Sc.) in Mathematics**, *University of Pisa*, Pisa, Italy.
- 2002–2005 **Laurea (B.Sc.) in Mathematics**, *University of Pisa*, Pisa, Italy.

Research interests

Field: numerical linear algebra. Main topic: **matrix equations: numerical algorithms** for their solution and theoretical aspects. In particular, **algebraic Riccati equations** and other nonlinear equations related to generalized eigenvalue and invariant subspace problems.

After my studies in pure and computational mathematics, I have expanded my horizons by participating in **multidisciplinary collaborations** with several researchers from **applications** in which these equations appear (**control theory**, applied probability and **queuing theory**, **econometric time series**), getting familiar with the problems and language of these fields.

Publications

Over 30 papers in peer-reviewed journals, including top journals in the field such as *Mathematics of Computation*, *Numerische Mathematik*, *SIAM Journal on Matrix Analysis and Applications*.

One **research book** based on my PhD thesis: *Algorithms for Quadratic Matrix and Vector Equations* <http://www.springer.com/it/book/9788876423833>.

Scopus profile: <http://www.scopus.com/authid/detail.url?authorId=56071560300>.

Google Scholar: <https://scholar.google.com/citations?user=Sc-AccMAAAAJ>.

Other scientific activities

Editorial service

2020–present **Editorial board, member**, *Linear and Multilinear Algebra*.

2019 **Guest editor**, *Stochastic Models*, special issue devoted to the MAM10 conference.

Conference organization

2020 **ALAMA2020-ALN2gg joint meeting**, *Alcalá de Henares, Spain*, organizing committee.

2019 **10th International Conference on Matrix-Analytic Methods in Stochastic Models (MAM)**, *Hobart, Australia*, program co-chair.

2017 **7th Workshop on Matrix Equations and Tensor Techniques (METT)**, *Pisa*, local organizing committee.

2016 **Mathematical Models and Computational Methods for Complex Networks**, *Pisa*, local organizing committee.

2015 **Minisymposium on Numerical Methods for Markov Chains and Stochastic Models**, *SIAM conference on applied Linear Algebra, Atlanta, USA*, invited minisymposium organizer.

2011 **Young Researchers Minisymposium on algebraic Riccati equations**, *17th ILAS Conference, Braunschweig, Germany*, minisymposium co-organizer with T. Reis.

2010 **16th ILAS Conference**, *Pisa, Italy*, local organizing committee.

Roles in scientific societies

2020–present **Outreach and Membership Committee, member**, *International Linear Algebra Society*.

2009–present **Commissione Olimpiadi, member**, *Unione Matematica Italiana*.

See below under “outreach” for details.

Research visits

2014, '15, '18 **University of Adelaide, Australia**, hosts: G. Nguyen, N. Bean.

2017 **École Polytechnique Fédérale, Lausanne, Switzerland**, hosts: R. Luce, D. Kressner.

2017 **J. Strossmayer University of Osijek, Croatia**, host: N. Truhar.

2014 **Federal University of Rio De Janeiro, Brazil**, host: I. Nisoli.

2013 **University of Manchester, UK**, host: V. Noferini.

2012 & 2013 **Rouen Business School, France**, host: G. Sbrana.

2010 & 2013 **Technische Universität Berlin, Germany**, host: V. Mehrmann.

Grants

2015 & 2017 **Progetto di Ricerca di Ateneo, Università di Pisa**.

Participant to two research projects funded by the university (1-year and 2-year respectively, ca. 15 people each).

2014, **Progetto di Ricerca, GNCS/INDAM**.

2016–2019 Participant to multiple 1-year research projects funded by an Italian funding agency, INDAM (ca. 8 people each).

2013 **Progetto di Ricerca, GNCS/INDAM**.

Principal investigator of a 1-year research project (8 people).

2012 & 2014 **Progetto Giovani Ricercatori, GNCS/INDAM**.

Recipient of a small single-person grant for young researchers, in two separate years.

Teaching

Video recordings of my lectures are available for several courses; links on <http://fph.altervista.org/dida/index.html>.

- 2018–2020 **Metodi di Approssimazione**, *Università di Pisa*, graduate course for Mathematics students on several research topics in numerical linear algebra, main instructor.
- 2017–2020 **Computational Mathematics for Learning and Data Analysis**, *Università di Pisa*, graduate course for Computer Science students, main instructor of the numerical linear algebra module. Taught in English.
- 2013–2017, 2019–2020 **Calcolo Numerico (esercitazioni)**, *Università di Pisa*, undergraduate course on numerical computing for biomedical engineering students, exercise classes supporting the course.
- 2016–2020 **Modelli Matematici Ambientali (laboratorio)**, *Università di Pisa*, graduate course on modelling with differential equations for environmental science students, lab classes supporting the course.
- 2018 **Matrix functions and network analysis**, *Pisa-Hokkaido-Roma2 summer school*, for master students in Mathematics, mini-course taught together with P. Boito.
- 2016 **Numerical Methods and Optimization**, *Università di Pisa*, graduate course for Computer Science students, main instructor of the numerical linear algebra module. Taught in English.
- 2015 & 2016 **Matematica Discreta e Algebra Lineare (lezioni)**, *Università di Pisa*, undergraduate course for computer science students, main instructor of the linear algebra module.
- 2014 **Laboratorio di Matematica Computazionale (lezioni)**, *Università di Pisa*, graduate lab course on applications of numerical mathematics and linear algebra, main instructor.
- 2008,09,10,12 **Laboratorio di Analisi Numerica (laboratorio)**, *Università di Pisa*, computer lab classes supporting an undergraduate numerical analysis course for maths students.
- 2008–10 **Complementi di Analisi (tutorato)**, *Scuola Normale Superiore, Pisa*, weekly tutoring activities and advanced exercises for a group of first-year Maths and Physics honours students of the Scuola Normale.

Awards

- 2011 **Shortlisted for the XIV Householder Award**.
Shortlist = qualified in the top 6. The Householder award is a prize for the best dissertation in numerical linear algebra in a 3-year period. Nominations are gathered worldwide.
- 2007 **2nd Matrix Prize for Young Speakers**, *International Conference in Matrix Methods and Operator Equations*, Moscow.
- 2003 **Championnat International de Jeux Mathématiques**, *1st place*, category L2 (undergrad).
The CIJM is an international contest in elementary and recreational mathematical problems.
- 2002 **43rd International Mathematical Olympiad**, *Bronze Medal (17 points)*.
Highest score *ex aequo* among the 6-people Italian team. The IMO, held annually, is the most important international problem-solving contest in mathematics for pre-collegiate students.
- 2001 **42nd International Mathematical Olympiad**, *Honorable Mention (9 points)*.

Outreach

- 2009–present **Commissione Olimpiadi, member**, *Unione Matematica Italiana*.
Since 2003, I take part actively in the training activities, the organization, and the grading of the Italian Mathematical Olympiad, after several participations as a contestant (see *Awards*). Since 2009, I am a member of the organizing board. I was **deputy leader** of the Italian team in the 2014 International Mathematical Olympiad, and followed the Italian team to several other international competitions as a member of the scientific staff. I taught in over 25 local and national **training camps** for high-school students, and in 3 professional education courses for high-school teachers.

2017–present **Supervisor for museum educational activities**, *Museum of Computing Instruments, Pisa*.
Appointed in charge of organizing educational and outreach activities for children in this museum,
which is part of the museum network of the University of Pisa.

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