# Dr. Francesca Collet

*Curriculum Vitae*

## PERSONAL DETAILS


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|---|---|
| *Working address* | Università degli Studi di Verona<br>Dipartimento di Informatica<br>Strada le Grazie 15, 37134 Verona, Italy |
| *Homepage* | `https://sites.google.com/site/collethomepage/` |
| *Contact Info* | `francesca.collet@univr.it`<br>+39 349 28 03 151 (I) |
| *Birth* | December 13, 1981 in Feltre (BL), Italy |
| *Nationality* | Italian |
| *Language skills* | Italian (native), English, French, Spanish |
| *Computer skills* | Mathematica, LaTeX |


## CURRENT POSITION

**Senior fixed-term assistant professor (RTD-B)** Dec 01, 2021 – present

*Department of Computer Science, University of Verona (I)*

Probability and Mathematical Statistics group

**Qualifications:**

- Italian Scientific Qualification (**ASN**) as associate professor in Analysis, Probability and Mathematical Statistics (valid from 30.06.2020 to 30.06.2031)
- Italian Scientific Qualification (**ASN**) as associate professor in Mathematical Physics (valid from 08.07.2020 to 08.07.2031)

## PREVIOUS ACADEMIC POSITIONS HELD

- Mar 18, 2019 – Nov 30, 2021. **Junior fixed-term assistant professor** (RTD-A) in Probability and Mathematical Statistics. Department of Mathematics "Tullio Levi-Civita", University of Padova (I).
- Mar 15, 2016 – Mar 14, 2019. **Postdoctoral fellow** in the project "Large deviations and gradient flows: beyond equilibrium". Institute of Applied Mathematics, Delft University of Technology (NL).

- Jan 1, 2013 – Dec 31, 2015. **Postdoctoral fellow** in the FIRB project "Stochastic processes and interacting particle systems: duality, metastability and their applications". Department of Mathematics, University of Bologna (I).

- Jul 1, 2012 – Dec 31, 2012. **Postdoctoral fellow** in the project "Interacting stochastic systems and percolation". Department of Mathematics, University of Bologna (I).

- Jan 31, 2011 – Jun 30, 2012. **Postdoctoral fellow** in Applied Mathematics. Department of Material Science and Chemical Engineering, University Carlos III of Madrid (E).

- Jan 1, 2010 – Aug 31, 2010. **Research fellow** in the project "Probabilistic models for the statistical mechanics of polymers, interacting particle systems and applications". Department of Mathematics, University of Padova (I).

## EDUCATION

**Ph.D. in Mathematics** Nov 12, 2009
*Department of Mathematics, University of Padova (I)*
Thesis title: The impact of disorder in the critical dynamics of mean-field models
Advisor: Prof. Paolo Dai Pra

**Master's Degree in Mathematics, 110/110 cum laude** Mar 22, 2005
*Department of Mathematics, University of Padova (I)*
Thesis title: On the Kuramoto dynamical synchronization model (in Italian)
Advisor: Prof. Franco Cardin

## RESEARCH INTERESTS

My research activity mainly concerns probability theory applied to statistical mechanics and complex systems. In particular, I am interested in scaling limits and fluctuations for interacting particle systems; emergence of macroscopic collective behavior in interacting particle systems; stochastic dynamics, relaxation times and metastability.

*Major skills*: bifurcation analysis for dynamical systems, large deviations techniques, perturbation theory for Markov processes, stochastic differential equations, stochastic processes.

## GRANTS AND AWARDS

- Jan 2024. **Grant** [2500 €], awarded by the Italian Analysis and Probability group INdAM-GNAMPA, to fund the one-year research project "Ferromagnetism versus synchronization: how does disorder destroy universality?".

- Apr 2020. **Grant** [1350 €], awarded by the Italian Analysis and Probability group INdAM-GNAMPA, to fund the one-year research project "Criticality and universality: the disordered Kuramoto model". The initial project duration has been extended for 6 months due to the Covid-19 pandemic.

- Dec 2016. **FSMP grant** [4240 €], awarded by the French excellence foundation *Fondation Sciences Mathématiques de Paris* (FSMP) to fund a ten-week stay [Apr 7–Jun 16, 2017] at the Institut Henri Poincaré, Paris (F), in occasion of the trimester "Stochastic dynamics out of equilibrium".

- Sep 2016. **STAR visitor grant** [1120 €], awarded by the Dutch stochastic network *Stochastics – Theoretical and Applied Research* (STAR) to fund the visit of an international guest at the Institute of Applied Mathematics, Delft University of Technology (NL).

- Sep 2015. **FSMP grant** [3500 €], awarded by the French excellence foundation *Fondation Sciences Mathématiques de Paris* (FSMP) to fund a eight-week stay [Jan 19–Mar 13, 2015] at the Institut Henri Poincaré, Paris (F), in occasion of the trimester "Disordered systems, random spatial processes and some applications".

- Academic Years 2010–2011 and 2011–2012. Recognition of excellent teaching for the courses *Calculus 2* and *Applied Differential Calculus*, University Carlos III of Madrid (E).

## PUBLICATIONS

- Alessandra Bianchi, FC and Elena Magnanini. Limit theorems for exponential random graphs. Accepted for publication in *Ann. Appl. Probab.*, 2024

- Elisa Marini, Luisa Andreis, FC and Marco Formentin. Noise-induced periodicity in a frustrated network of interacting diffusions. *Nonlinear Differ. Equ. Appl.*, 30, paper no. 34: 1–35, 2023

- Alessandra Bianchi, FC and Elena Magnanini. The GHS and other correlation inequalities for the two-star model. *ALEA, Lat. Am. J. Probab. Math. Stat.*, 19(2), 1679–1695, 2022

- FC, Fabrizio Leisen and Steen Thorbjørnsen. Completely random measures and Lévy bases in free probability. *Electron. J. Probab.*, 26, paper no. 49: 1–41, 2021

- FC and Richard C. Kraaij. Path-space moderate deviations for a class of Curie-Weiss models with dissipation. *Stoch. Proc. Appl.*, 130(7): 4028–4061, 2020

- FC, Matthias Gorny and Richard C. Kraaij. Path-space moderate deviations for a Curie-Weiss model of self-organized criticality. *Ann. Inst. H. Poincaré Probab. Statist.*, 56(2): 765–781, 2020

- FC and Marco Formentin. Effects of local fields in a dissipative Curie-Weiss model: Bautin bifurcation and large self-sustained oscillations. *J. Stat. Phys.*, 176(2): 478–491, 2019

- FC and Richard C. Kraaij. Path-space moderate deviation principles for the random field Curie-Weiss model. *Electron. J. Probab.*, 23, paper no. 21: 1–45, 2018

- FC and Richard C. Kraaij. Dynamical moderate deviations for the Curie-Weiss model. *Stoch. Proc. Appl.*, 127(9): 2900–2925, 2017

- FC, Fabrizio Leisen and Fabio Spizzichino. Merging exchangeable occupancy distributions: the family $\mathcal{M}^{(a)}$ and its connection with the maximum entropy principle. *Methodol. Comput. Appl. Probab.*, 18(4): 979–997, 2016

- FC, Marco Formentin and Daniele Tovazzi. Rhythmic behavior in a two-population mean field Ising model. *Phys. Rev. E*, 94(4): 042139, 2016

- FC and Wioletta Ruszel. Synchronization and spin-flop transitions for a mean-field XY model in random field. *J. Stat. Phys.*, 164(3): 645–666, 2016
- Luisa Andreis, David Barbato, FC, Marco Formentin and Luigi Provenzano. Strong existence and uniqueness of the stationary distribution for a stochastic inviscid dyadic model. *Nonlinearity*, 29(3): 1156–1169, 2016
- FC, Paolo Dai Pra and Marco Formentin. Collective periodicity in mean-field models of cooperative behavior. *Nonlinear Differ. Equ. Appl.*, 22(5): 1461–1482, 2015
- FC. Macroscopic limit of a bipartite Curie-Weiss model: a dynamical approach. *J. Stat. Phys.*, 157(6): 1301–1319, 2014
- FC, Fabrizio Leisen, Fabio Spizzichino and Florentina Suter. Exchangeable occupancy models and discrete processes with the generalized uniform statistics property. *Probab. Engrg. Inform. Sci.*, 27(4): 533–552, 2013
- FC and Paolo Dai Pra. The role of disorder in the dynamics of critical fluctuations of mean field models. *Electron. J. Probab.*, 17, paper no. 26: 1–40, 2012
- FC, Paolo Dai Pra and Elena Sartori. A simple mean field model for social interactions: dynamics, fluctuations, criticality. *J. Stat. Phys.*, 139(5): 820–858, 2010
- FC. *The impact of disorder in the critical dynamics of mean-field models.* PhD Thesis, Department of Mathematics, University of Padova, 2009
  Available at `http://paduaresearch.cab.unipd.it/2100/`

## RESEARCH ACTIVITIES

**Research projects:**

- 2024, **Principal investigator** of the research project *"Ferromagnetism versus synchronization: how does disorder destroy universality?"*, funded by the Italian Analysis and Probability group INdAM-GNAMPA.
- 2020 – 2021. **Principal investigator** of the research project "*Criticality and universality: the disordered Kuramoto model*", funded by the Italian Analysis and Probability group INdAM-GNAMPA.
- 2019 – 2020. **Research team member** in the PRIN project "*Large Scale Random Structures*", funded by the Italian research funding agency (MIUR).
- 2016 – 2019. **Research team member** in the project "*Large deviations and gradient flows: beyond equilibrium*" [TOP-1 grant 613.001.552], funded by The Netherlands Organisation for Scientific Research (NWO).
- 2013 – 2015. **Research team member** in the project "*Stochastic processes and interacting particle systems: duality, metastability and their applications*" [FIRB research grant RBFR10N90W], funded by the Italian research funding agency (MIUR).
- 2012 – 2013. **Research team member** in the PRIN project "*Random fields, percolation and stochastic evolution of systems with many components*", funded by the Italian research funding agency (MIUR).

**Research visits:**

- 2023 (2 weeks). Mathematical Institute, Utrecht University (NL), at the invitation of Prof. Wioletta M. Ruszel.
- 2017 (10 weeks). Henri Poincaré Institute, Paris (F), in occasion of the thematic trimester "Stochastic dynamics out of equilibrium".
- 2015 (8 weeks). Henri Poincaré Institute, Paris (F), in occasion of the thematic trimester "Disordered systems, random spatial processes and some applications".
- 2014 (4+2 weeks), 2013 (1 week). Institute of Applied Mathematics, Delft University of Technology (NL), at the invitation of Prof. Wioletta M. Ruszel.
- 2014 (1 week). School of Mathematics, Statistics and Actuarial Sciences, University of Kent, Canterbury (UK), at the invitation of Prof. Fabrizio Leisen.
- 2014 (1 week), 2013 (1 week). Department of Mathematics, "La Sapienza" University of Roma (I), at the invitation of Prof. Fabio Spizzichino.
- 2012 (1 week). Department of Mathematics, University of Paris 7 (F), at the invitation of Prof. Giambattista Giacomin.

**Other activities:**

- Co-organizer of the workshop *A journey through complex systems: from interacting particles to games. A workshop in honor of Paolo Dai Pra's 60th birthday*, held at Palazzetto dei Nobili (L'Aquila, Italy) on 21-24 September 2022.
- Co-organizer of the workshop *One day – Young researcher seminars: Maths, Applications & Models*, held at Polo Santa Marta (Verona, Italy) on 8 July 2022.
- Organizer of the contributed session *Stochastic processes motivated by applications in life and social sciences* in the conference *Third Italian Meeting on Probability and Mathematical Statistics*, held at Complesso Belmeloro (Bologna, Italy) on 13-16 June 2022.
- Co-organizer of the workshop *Stochastic Models in Ecology and Evolutionary Biology* held at Istituto Veneto di Scienze, Lettere ed Arti (Venezia, Italy) on 5-7 April 2018.
- Referee for the following journals: *Annales Henri Poincaré*; *Annales de l'Institut Henri Poincaré*; *Electronic Communications in Probability*; *Journal of Dynamics and Differential Equations*; *Journal of Economic Dynamics and Control*; *Journal of Mathematical Physics*; *Journal of Statistical Physics*; *Mathematical Physics, Analysis and Geometry*; *Stochastic Processes and their Applications*.

## CONFERENCES ATTENDED AND PRESENTATIONS

2024 Conference "Fourth Italian Meeting on Probability and Mathematical Statistics" (Roma (I), Jun 10-12; **invited talk**); Workshop "A Spring Day in Probability and Statistical Physics" (Firenze (I), Apr 19).

2023 Workshop "An Autumn Day in Probability and Statistical Physics" (Firenze (I), Nov 20). Workshop "New Frontiers in Probability" (Leiden (NL), Sep 28-29); Workshop "A Spring Day in Probability and Statistical Physics" (Firenze (I), Apr 21).

2022 Workshop "A journey through complex systems: from interacting particles to games" (L'Aquila (I), Sep 21-24; **organizer**); Workshop "Francesca Romana Nardi: a life in probability, building communities across Europe" (Firenze (I), Jul 18-22); Conference "Third Italian Meeting on Probability and Mathematical Statistics" (Bologna (I), Jun 13-16; **invited talk + organizer of a contributed session**).

2020–2021 Weekly seminar "One World Probability Seminar" (online, 2h per week). Webpage: `https://www.owprobability.org`.

2019 Workshop "An Autumn Day in Probability and Statistical Physics" (Firenze (I), Nov 22); Workshop "Half-day in Stochastic Analysis and Applications" (Padova (I), Oct 30); Workshop "Large Scale Random Structures" (Milano (I), Jul 11; **contributed talk**); Conference "Second Italian Meeting on Probability and Mathematical Statistics" (Vietri sul Mare (I), Jun 17-20).

2018 Workshop "Stochastic Models in Ecology and Evolutionary Biology" (Venezia (I), Apr 05-07; **organizer**); Workshop "Transformations and Phase Transitions" (Bochum (DE), Jan 29-31; **invited talk**); Workshop "Inhomogeneous Random System" (Henri Poincaré Institute, Paris (F), Jan 23-24).

2017 Stochastic Meeting Lunteren 2017 (Lunteren (NL), Nov 13-15); Workshop "Stochastic Dynamics out of Equilibrium" (Henri Poincaré Institute, Paris (F), Jun 12-16); **Invited seminar** in the "Séminaire Probabilités et Statistique" series (Department of Mathematics, Paris-Sud (F), Jun 01); Workshop "Life Sciences" (Henri Poincaré Institute, Paris (F), May 16-18; **invited talk**); Workshop "Numerical Aspects of Nonequilibrium Dynamics" (Henri Poincaré Institute, Paris (F), Apr 25-28); School on "Stochastic Dynamics out of Equilibrium" (CIRM, Marseille (F), Apr 03-07; **poster**).

2016 **Invited seminar** in the "Stochastics Seminar" series (Mathematical Institute, Utrecht (NL); Dec 21); Workshop "Guided Tour: Random Media" (Eindhoven (NL), Dec 12-16); **Seminar** in the "Probability and Statistics Seminar" series (Institute of Applied Mathematics, Delft (NL), Dec 06); Stochastic Meeting Lunteren 2016 (Lunteren (NL), Nov 14-16); Workshop "Transformations in Statistical Mechanics: Pathologies and Remedies" (Leiden (NL), Oct 10-14); Workshop "Metastability in Statistical Mechanics and Stochastic Processes" (Eindhoven (NL), Apr 18-22); Workshop "Stochastic Analysis Day" (Delft (NL); Mar 31; **invited talk**).

2015 Summer school "Stochastic Analysis with Applications in Biology, Finance and Physics" (Levico Terme (I), Sep 28–Oct 02); Workshop "New challenges in reciprocal processes, Schrödinger bridges and optimal transport with application to control engineering problems for classical and quantum systems" (Padova (I), May 29); *Hypathie Lecture* (Marseille (F), May 22; **invited seminar**, jointly with Prof. Paolo Dai Pra); **Invited seminar** in the "RoDeO" series (Department of Management, Ca' Foscari Venezia (I), May 12); Workshop "Interacting Particle Systems and Non-equilibrium Dynamics" (Henri Poincaré Institute, Paris (F), Mar 09-13); Workshop "Spin Glasses, Random Graphs and Percolation" (Henri Poincaré Institute, Paris (F), Feb 16-20); **Invited seminar** in the "Séminaire Informel de Probabilités et Statistiques" series (Department of Mathematics and Applications, ENS-Paris (F), Feb 03); Workshop "Statistical Physics Methods in Social and Economic Systems" (Henri Poincaré Institute, Paris (F) Jan 26-30).

2014 **Seminar** (Department of Mathematics and Computer Science, Eindhoven (NL), Nov 28); **Seminar** in the "Most Informal Probability Seminar" series (Mathematical Institute, Leiden (NL), May 15); **Seminar** in the "Stochastic Seminar" series (Eindhoven (NL), May 14); **Seminar** in the "Probability and Statistics Seminar" series (Institute of Applied Mathematics, Delft (NL), May 07); Workshop"Inhomogeneous Random System" (Henri Poincaré Institute, Paris (F), Jan 28-29).

2013 **Invited seminar** (Department of Mathematics, Modena e Reggio Emilia (I), Jul 10);

Workshop "Probabilistic Cellular Automata: Theory, Applications and Future Perspectives" (Eindhoven (NL), Jun 10-12; **invited flash talk + poster**); Conference "Dynamical and Disordered Systems" (CIRM, Marseille (F), Feb 11-15); Conference "Equilibrium Statistical Mechanics" (CIRM, Marseille (F), Feb 04-08).

2012 **Invited seminar** in the "Modélisation Stochastique" series (Department of Mathematics, Paris 7 (F), Dec 20); Summer school "Summer School in Probability" (Bologna (I), Sep 03-07; **invited talk**); Workshop "Interacting Particle Systems and Related Topics" (Firenze (I), Aug 27-31; **poster**); Conference "Disorder in Probability and Statistical Mechanics" (Modena (I), Jun 25-29); Conference "Tenth International Conference on Ordered Statistical Data and Their Applications OSDA 2012" (Murcia (E), May 23-25; **contributed talk**).

2011 Workshop "Fluctuation Phenomena in Interdisciplinary Science" (Barcelona (E), Apr 27-29; **invited talk**).

2010 Workshop "A Thermodynamics Day" (Padova (I), Jun 11; **invited talk**); YEP VII 2010 (Young European Probabilists) workshop: Probability, Random Trees and Algorithms (Eindhoven (NL), Mar 08-12).

2009 **Seminar** in the "Seminario Dottorato" series (Department of Mathematics, Padova (I), Mar 11); Workshop "Stochastic Models with Many Degrees of Freedom: Theory and Applications" (Verona (I), Jan 26; **contributed talk**).

2008 Fall school "Random Media, Phase Transition and Information Theory" (Henri Poincaré Institute, Paris (F), Sep 08-19); Conference "3$^{rd}$ La Pietra week in Probability: Stochastic Models in Physics" (Firenze (I), Jun 23-27).

2007 GNAMPA summer school: *"De Ludo Aleae"* on Probability (Roma (I), Sep 10-14); SMI summer courses: Probability (Cortona (I), Jul 29–Aug 18); Conference "Stochastic Processes: Theory and Applications, a conference in honor of the 65th birthday of Wolfgang J. Runggaldier" (Bressanone (I), Jul 16-20); Workshop "Percolation, Random Fields and Evolution of Stochastic Interacting Systems" (Bologna (I), Jun 25-26); Spring school "Stochastic Models of Complex Processes" (Potsdam (DE), Mar 05-09).

## TEACHING EXPERIENCE

**Services as lecturer:**

A.A. 2023/24 (120h)

- (24h) Responsible lecturer for *Teaching Methodologies for Probability and Statistical Analysis of Data*, Training Program for High School Math Teachers, University of Verona (I).
- (16h) Lecturer for *Probability*, Bachelor's Degree in Applied Mathematics, University of Verona (I).
- (48h, **in English**) Lecturer for *Probability for Data Science*, Master's Degree in Data Science, University of Verona (I).
- (32h) Lecturer for *Stochastic Systems*, Bachelor's Degree in Applied Mathematics, University of Verona (I).

A.A. 2022/23 (136h)

- (16h) Lecturer for *Probability and Statistics*, Bachelor's Degree in Computer Science, University of Verona (I).

- (8h) Lecturer for *Statistics*, Bachelor's Degree in Applied Mathematics, University of Verona (I).
- (32h) Lecturer for *Probability and Statistics*, Bachelor's Degree in Applied Mathematics, University of Verona (I).
- (48h, **in English**) Lecturer for *Probability for Data Science*, Master's Degree in Data Science, University of Verona (I).
- (32h) Lecturer for *Stochastic Systems*, Bachelor's Degree in Applied Mathematics, University of Verona (I).

A.A. 2021/22 (132h)

- (8h) Lecturer for *Statistics*, Bachelor's Degree in Applied Mathematics, University of Verona (I).
- (36h) Lecturer for *Probability*, Bachelor's Degree in Applied Mathematics, University of Verona (I).
- (40h, **in English**) Lecturer for *Probability for Data Science*, Master's Degree in Data Science, University of Verona (I).
- (8h) Lecturer for *Stochastic Systems*, Bachelor's Degree in Applied Mathematics, University of Verona (I).
- (40h) Lecturer for *Advanced Probability*, Master's Degree in Statistics, University of Padova (I).

A.A. 2020/21 (72h)

- (48h) Lecturer for *Probability and Statistics*, Bachelor's Degree in Computer Science, University of Padova (I).
- (24h) Lecturer for *Mathematical Statistics*, Bachelor's Degree in Mathematics, University of Padova (I).

A.A. 2019/20 (72h)

- (48h) Lecturer for *Probability and Statistics*, Bachelor's Degree in Computer Science, University of Padova (I).
- (24h) Lecturer for *Mathematical Statistics*, Bachelor's Degree in Mathematics, University of Padova (I).

A.A. 2018/19 (32h)

- Lecturer for *Probability and Statistics*, Bachelor's Degree in Computer Science, University of Padova (I).

A.A. 2015/16 (30h)

- Lecturer for *Mathematics with elements of Statistics*, Bachelor's Degree in Natural Sciences, University of Padova (I).

A.A. 2012/13 (40h)

- (20h) Lecturer for *Probability and Statistics*, Bachelor's Degree in Computer Science and Management, University of Bologna (I).
- (20h) Lecturer for *Probabilistic Models*, Master's Degree in Computer Science, University of Bologna (I).

A.A. 2011/12 (170h)

- (85h, **in English**) Responsible lecturer for *Calculus 2*, Bachelor's Degrees in Telecommunication Technology Engineering, University "Carlos III" of Madrid (E).
- (85h, **in English**) Responsible lecturer for *Applied Differential Calculus*, Bachelor's Degree in Computer Science Engineering, University "Carlos III" of Madrid (E).

A.A. 2010/11 (105h)

- (85h, **in English**) Responsible lecturer for *Calculus 2*, Bachelor's Degrees in Aerospace Engineering, University "Carlos III" of Madrid (E).
- (20h) Lecturer for *Fundamentals of Mathematical Analysis 1*, Bachelor's Degree in Mechanical Engineering, University of Padova (I).

A.A. 2009/10 (30h)

- Lecturer for *Fundamentals of Mathematical Analysis 2*, Bachelor's Degree in Aerospace Engineering, University of Padova (I).

**Services as teaching assistant:**

- a.y. 2017/18 (32h, **in English**), a.y. 2016/17 (32h, **in English**). Instructor for *Linear Algebra and Differential Equations*, Bachelor's Degree in Technology, Policy and Management, Delft University of Technology (NL).
- a.y. 2017/18 (38h, **in English**), a.y. 2016/17 (38h, **in English**). Instructor for *Calculus and Differential Equations*, Bachelor's Degree in Technology, Policy and Management, Delft University of Technology (NL).
- a.y. 2017/18 (28h, **in English**). Instructor for *Calculus*, Bachelor's Degree in Physics, Delft University of Technology (NL).
- a.y. 2010/11 (25h), a.y. 2009/10 (25h), a.y. 2006/07 (25h), a.y. 2005/06 (25h). Instructor for *Statistics*, Bachelor's Degree in Biotechnology, University of Padova (I).
- a.y. 2009/10 (25h), a.y. 2008/09 (25h). Instructor for *Probability and Statistics*, Bachelor's Degree in Mathematics, University of Padova (I).

**Thesis supervision:**

I am currently supervising seven Bachelor's candidates in Applied Mathematics.

2024

- Aurora Groppi. *Order book dynamics: the Stigler model.* Bachelor's Degree in Applied Mathematics (expected in October), University of Verona (I).
- Giovanni Mori. *The music of J.S. Bach: an entropic analysis of note transitions.* Bachelor's Degree in Applied Mathematics (expected in October), University of Verona (I).
- Francesco Susca. *Potential theory.* Bachelor's Degree in Applied Mathematics (expected in October), University of Verona (I).
- Chiara Bravi. *Pluralism and consensus in opinion formation on a network of several cities.* Bachelor's Degree in Applied Mathematics (14.03.24), University of Verona (I).

2023

- Alessio Gianello. *Classification problems: a machine learning approach*. Bachelor's Degree in Applied Mathematics (06.12.23), University of Verona (I).
- Giacomo Nera. *Random matrices: study of the distribution of the eigenvalues*. Bachelor's Degree in Applied Mathematics (06.12.23), University of Verona (I).
- Edoardo Pomini. *An application of Ehrenfest-Brillouin model to stock price dynamics*. Bachelor's Degree in Applied Mathematics (06.12.23), University of Verona (I).
- Amelio Schiavone. *No-feedback card guessing game with riffle shuffles*. Bachelor's Degree in Applied Mathematics (12.10.23), University of Verona (I).
- Noemi Martina Catino. *Phase transitions for the Curie-Weiss model*. Bachelor's Degree in Applied Mathematics (20.07.23), University of Verona (I).
- Gianluca Minervino. *Branching processes*. Bachelor's Degree in Applied Mathematics (20.07.23), University of Verona (I).

2021

- Matia Bojovic. *A basketball match scoring seen as a random walk*. Bachelor's Degree in Mathematics (24.09.21), University of Padova (I).
- Gianluca Scano. *Survival vs extinction: limit theorems for the Galton-Watson process*. Bachelor's Degree in Mathematics (24.09.21), University of Padova (I).
- Irene Menegazzo. *Percolation on Boolean random graphs*. Bachelor's Degree in Mathematics (23.07.21), University of Padova (I).
- Anthony Palmieri. *Community detection in networks: Stochastic Block Model*. Bachelor's Degree in Mathematics (23.07.21), University of Padova (I).
- Luca Pastrello. *Phase transition in the Curie-Weiss model: a large deviation approach*. Bachelor's Degree in Mathematics (23.07.21), University of Padova (I).

2020

- Cecilia Secchi. *Path coupling for Markov chains and mixing time*. Bachelor's Degree in Mathematics (25.09.20), University of Padova (I).
- Fiammetta Cannavò. *Network navigation by anomalous random walks*. Bachelor's Degree in Computer Science (24.09.20), University of Padova (I).

## OTHER SCIENTIFIC ACTIVITIES AND RESPONSIBILITIES

- 2020–present. Member of the UMI group **PRISMA** (PRobability In Statistics, Mathematics and Applications).
- 2019–present, 2008–2010. Member of the INdAM group **GNAMPA** (Italian Group for Analysis, Probability and their Applications).
- 2006–2007, 2017. Member of the group GNFM (Italian Group for Mathematical Physics).
- a.y. 2021/22, a.y. 2020/21. Member of the *board of the PhD Program in Mathematical Sciences*, University of Padova (I).
- a.y. 2023/24, a.y. 2022/23. Member of the **board of the PhD Program in Mathematics**, jointly operated by University of Verona (I) and University of Trento (I).

- 2024-2026. Member of the Research Committee of the UMI-PRISMA group (Probability In Statistics, Mathematics and Applications).