



Dr. Cinzia Soresina

Tenure-track Assistant Professor

(from January 2nd, 2024)

December 27, 2023

Personal details

- June 13, 1986
- Italy
- cinzia.soresina@uni-graz.at, cinzia.soresina@unitn.it cinzia.soresina@gmail.com
- <https://sites.google.com/view/dr-cinzia-soresina>
- ORCID iD: 0000-0002-0247-3632
- Italiano (mother tongue), English (fluent), Deutsch (B2/C1), Portugues, Français (basic)
- Department of Mathematics, University of Trento,
Office 2.22, via Sommarive 14, 38123 Povo (TN) Italy

Profile My research focuses on topics arising from biology and ecology, developing different aspects of the projects, from modeling and theoretical study to discretization, numerical methods and programming. I appreciate working in an interdisciplinary team.

Research topics Bifurcations analysis, numerical continuation, Turing instability, pattern-formation, reaction cross-diffusion systems, population dynamics, epidemiological models, stage-structured populations, dynamical networks, optimal control.

Scientific computing skills *Programming languages:* Python, Fortran, R, C++, Pascal
Mathematical software packages: MATLAB/Octave, Numpy/Scipy, Maple
Specialized mathematical software: MatCont, pde2path

Employment

- 2024 **Tenure-Track Assistant Professor - RTDb, UniTn (Italy)** (from 02/01/2024)
Department of Mathematics, University of Trento
SSD MAT/07 Mathematical Physics
- 2020 **Universitätsassistentin mit Doktorat, UniGraz (Austria)** (01/09/2020–31/08/2026)
Institut für Mathematik und Wissenschaftliches Rechnen, Universität Graz
Applied Analysis Group, led by Prof. Dr. Klemens Fellner
- 2018 **Marie Curie Post Doctoral Fellow, TUM (Germany)** (01/12/2018–31/08/2020)
Eurotech Postdoc Programme - Marie Skłodowska-Curie COFUND project under Horizon 2020
Zentrum Mathematik, Technische Universität München
Multiscale and Stochastic Dynamics Group, led by Prof. Dr. Christian Kuehn
- 2018 **INdAM Visiting Postdoc, Paris 7 (France)** (01/09/2018–30/11/2018)
Funded by INdAM - Istituto Nazionale di Alta Matematica "F. Severi", Roma (Italy)
Host institution: Institut de Mathématiques de Jussieu - Paris Rive Gauche, Paris 7
- 2018 **Post Doctoral Fellowship, CMAFcIO Lisbon (Portugal)** (01/01/2018–31/08/2018)
Centro de Matemática, Aplicações Fundamentais e Investigação Operacional
Faculdade de Ciências da Universidade de Lisboa
Mentors: Prof. J.F. Rodrigues, Prof. C. Rebelo Gonçalves
- 2017 **Post Doctoral Fellowship, CNR-IMATI Milano (Italy)** (01/01/2017–31/12/2017)
Consiglio Nazionale delle Ricerche - Istituto di Matematica Applicata e Tecnologie Informatiche
Project: Invasive population dynamical models
Supervisor: Dr. S. Pasquali

Memberships

- since 2022 COLIBRI (Complexity of Life in Basic Research and Innovation, Field of Excellence, Uni Graz)
- since 2022 ÖMG (Österreichische Mathematische Gesellschaft)
- since 2021 SIAM (Society for Industrial and Applied Mathematics)
- since 2019 MCAA (Marie Curie Alumni Association)
- since 2019 EWM (European Women in Mathematics)
- since 2019 UMI (Italian Mathematical Union)
- since 2018 ESMTB (European Society for Mathematical and Theoretical Biology)
- since 2014 SIMAI (Italian Society of Applied and Industrial Mathematics)
- since 2014 INdAM-GNFM (Mathematical Physics National Group, Italy)

Education and academic degrees

- January 2022 **Italian National Scientific Habilitation (ASN-MUR)**
as Associate Professor in the sector 01/A4 “Mathematical Physics”
(from 31/01/2022 to 31/01/2032, art. 16, comma 1, Legge 240/10)
- April 11, 2017 **Ph.D. in Mathematics, University of Milano (Italy)**
Thesis: *Predator-prey models: bifurcations, cross-diffusion and Turing instability*
Supervisors: G. Naldi (Uni. Milano), L. Desvillettes (Uni. Paris 7), M. Groppi (Uni. Parma)
- July 18, 2013 **M.Sc. in Mathematics (110/110 cum laude), University of Parma (Italy)**
Thesis: *Stability of the synchronous state of a neural network on a regular graph*
Supervisors: M. Groppi, R. Burioni, M. di Volo (Uni. Parma)
- December 16, 2009 **B.Sc. in Mathematics 103/110, University of Parma (Italy)**
Thesis: *Effects of prey undercrowding in a predator-prey systems*
Supervisors: M. Groppi (Uni. Parma), G. Buffoni (CNR-IMATI, Milano)

Awards, funding & grants

*: ongoing

Funded projects & grants

- *2023–25 COLIBRI Bridge PhD (3-years PhD position), with B.P. Chagnaud (co-applicant)
- *2023 Bando di Ateneo 2022 per la Ricerca (UniPr-MUR), €57K (co-applicant)
D.M. 737/2021 - PNR - PNRR - NextGenerationEU
Project: Collective and self-organised dynamics: kinetic and network approaches
- *2022–23 WTZ-OeAD bilateral project AT-FR, €4.8K (PI)
- 2022 NAWI Graz Visiting Award 2022 - IMSC Young Investigator Fellowship, €1.5K (PI)
Project: Fractional cross-diffusion equations
- 2022 NAWI-GRAZ Young Researchers grant, €15K (PI)
- 2021 Research prize Young Investigator Training Program (ACRI), €3K (PI)
Project: The scaling invariance problem for reaction-diffusion equations
- 2020–22 Marie Curie Project “FLARe” 891212 H2020-MSCA-IF-2019, €162.8K, declined (PI)
Project: FLARe - Fractional Laplacian Advanced Research: A dynamical system approach
- 2019–22 IGSSE Project Team grant (TUM) - 14th cohort (PTL)
Project: SEND - Synchronization in co-Evolutionary Network Dynamics
- 2018–20 EuroTech postdoctoral fellowship - Eurotech Postdoc Programme (MSCA cofund) (PI)
Project: CompQSSA Computational Quasi Steady State Approximation
- 2017 INdAM visiting scholarship, €6K (PI)
Project: Reaction-cross-diffusion systems and Turing instability
- 2017 CNR-IMATI Simulation of population dynamics (participant postdoc)
- 2014–16 PhD fellowship for 3 years (University of Milano)
- 2005 INdAM scholarship for undergraduate students, €4K

Other funding

- 2022–23 Organization of the workshop “Modelling Diffusive Systems” in 2023, £28.3K (ICMS, HIMR, ESMTB)
- 2021 Organization of the workshop “Topics in multiple time scale dynamics” in 2022 (BIRS)
- 2021 Organization of the School “Diffusive Systems” in Spring 2022 (HCM Bonn)
- 2020 Organization of the workshop “Modelling Diffusive Systems” in 2021 (ICMS Edinburgh)
- 2019 Organization of the School “Diffusive Systems” in Spring 2021 (HCM Bonn)

Travel grants (selected, since 2018)

- 2023 PostDoc Mobility Grant (PostDoc Office - UniGraz)
- 2021 Kovalevskaya travel grant to attend ICM2022 (Deutsche Mathematiker Vereinigung)
- 2021 Travel grant to attend SIMAI Congress (European Women in Mathematics)
- 2018 Travel grant to attend the YWMP2018 (University of Bonn)

Awards

- 2020 Seal of Excellence for the project “FLARe” 891212 H2020-MSCA-IF-2019 (European Commission)
- 2019 Best-poster award, EuroTech postdoc workshop (EPFL Lausanne)

Visiting experience (selected)

- 2023 May 29–June 1 University of Vienna (Austria), hosted by A. Iuorio
- 2022 October 10–12 **École Polytechnique** (France), hosted by M. Breden
- 2022 September 12–16 **University of Leiden** (the Netherlands), hosted by V. Rottschäfer
- 2022 February **University of Trento** (Italy), hosted by A. Pugliese
- 2021 June–August **University of Parma** (Italy), Young Investigator Training Program
- 2019 April–June **DTU** (Denmark), hosted by M. Brøns and U.H. Thyegsen
- 2019 April 16–18 **University of Parma** (Italy), hosted by M. Groppi
- 2018 September–November **IMJ-PRG Paris** (France), hosted by L. Desvillettes
- 2015–2017 short visits **IMJ-PRG Paris** (France), hosted by L. Desvillettes
- 2015 January 25–29 **Politecnico di Torino** (Italy), hosted by R. Monaco

Papers in peer review journals

- (17) C. Kuehn, C. Soresina, *Cross-diffusion induced instability on networks*, accepted in Journal of Complex Networks, to appear. Preprint available at [arXiv:2304.12473](https://arxiv.org/abs/2304.12473).
- (16) M. Bisi, M. Groppi, G. Martalò, C. Soresina, A chemotaxis reaction–diffusion model for Multiple Sclerosis with Allee effect, *Ricerche di Matematica*, online first, 2023.
- (15) C. Soresina, *Hopf bifurcations in the full SKT model and where to find them*, *Discrete and Continuous Dynamical Systems - S*, 15(9):2673–2693, 2022.
- (14) C. Kuehn, N. Berglund, C. Bick, M. Engel, T. Hurth, A. Iuorio, C. Soresina, *A general view on double limits in differential equations*, *Physica D: Nonlinear Phenomena*, 431:133105, 2022.
- (13) S. Pasquali, C. Soresina, E. Marchesini, *Mortality estimate driven by population abundance field data in a stage-structured demographic model. The case of Lobesia botrana*, *Ecological Modelling*, 464:109842, 2022.
- (12) M. Breden, C. Kuehn, C. Soresina, *On the influence of cross-diffusion in pattern formation*, *Journal of Computational Dynamics*, 8(2):213–240, 2021.
- (11) N. Estand, C. Kuehn, C. Soresina, *Numerical continuation for fractional PDEs: sharp teeth and bloated snakes*, *Communications in Nonlinear Science and Numerical Simulation*, 98:105762, 2021.
- (10) C. Rebelo, C. Soresina, *Coexistence in seasonally varying predator–prey systems with Allee effect*, *Nonlinear Analysis: Real World Applications*, 55:103140, 2020.
- (9) C. Kuehn, C. Soresina, *Numerical continuation for a fast-reaction system and its cross-diffusion limit*, *SN Partial Differential Equations and Applications*, 1:7, 2020.
- (8) S. Pasquali, C. Soresina, G. Gilioli, *The effects of fecundity, mortality and distribution of the initial condition in phenological models*, *Ecological Modelling*, 402:45–58, 2019.
- (7) L. Desvillettes, C. Soresina, *Non triangular cross-diffusion systems with predator–prey reaction terms*, *Ricerche di Matematica*, 68:295–314, 2019.
- (6) F. Conforto, L. Desvillettes, C. Soresina, *About reaction–diffusion systems involving the Holling-type II and the Beddington–DeAngelis functional responses for predator–prey models*, *Nonlinear Differential Equations and Applications*, 25:24, 2018.
- (5) L. Bolzoni, E. Bonacini, C. Soresina, M. Groppi, *Time-optimal control strategies in SIR epidemic models*, *Mathematical Biosciences*, 292:86–96, 2017.
- (4) E. Bonacini, M. Groppi, R. Monaco, A.J. Soares, C. Soresina, *A network model for landscape evolution: stability analysis and numerical tests*, *Communication in Nonlinear Sciences and Numerical Simulations*, 48:569–584, 2017.
- (3) G. Buffoni, M. Groppi, C. Soresina, *Dynamics of predator–prey models with a strong Allee effect on the prey and predator-dependent trophic functions*, *Nonlinear Analysis: Real World Applications*, 30:143–169, 2016.
- (2) E. Bonacini, R. Burioni, M. di Volo, M. Groppi, C. Soresina, A. Vezzani, *How single node dynamics enhance synchronization in neural networks with electrical coupling*, *Chaos, Solitons & Fractals*, 85:32–43, 2016.
- (1) G. Buffoni, M. Groppi, C. Soresina, *Effects of prey over-undercrowding in predator–prey systems with prey-dependent trophic functions*, *Nonlinear Analysis: Real World Applications*, 12:2871–2887, 2011.

Proceedings

- C. Soresina, B.Q. Tang, B.-N. Tran, *Fast-reaction limits for predator–prey reaction-diffusion systems: improved convergence*, accepted in “Topics in Multiple Time-Scale Dynamics”, AMS Contemporary Mathematics book series, Edt. H. Jardón-Kojakhmetov, M. Engel, and C. Soresina, forthcoming. (2024). Preprint available at [arXiv:2305.09775](https://arxiv.org/abs/2305.09775).

Papers in preparation

- * F. Giannino, A. Iuorio, C. Soresina, *The effect of toxicity in plant-growth dynamics: a cross-diffusion model*.
- * C. Reisch, C. Soresina, B.Q. Tang, *Turing instability driven by non-locality in heterogeneous reaction–diffusion equations*.
- * J. Morgan, C. Soresina, B.Q. Tang, N.-B. Tran, *Aggregation and fast reaction limits for plant growth involving toxicity*.
- * B. Buonomo, C. Soresina, *Behavioural effects in epidemics modelled by cross-diffusion*.
- * G. Buffoni, G. Gilioli, S. Pasquali, C. Soresina, *On the effective use of demographic models for the numerical simulations of pest infestations of farmings*.

Book Chapters

- F. Achleitner, G. Akagi, C. Kuehn, J.M. Melenk, J.D.M. Rademacher, C. Soresina, J. Yang, *Fractional Dissipative PDEs*. In: “Fractional Dispersive Models and Applications, Recent Developments and Future Perspectives”, Edt. P. Kevrekidis and J. Cuevas, *Nonlinear Systems and Complexity book series*, Springer–Verlag, forthcoming. Preprint available at [arXiv:2312.05606](https://arxiv.org/abs/2312.05606), 2023.

Miscellaneous

- C. Soresina, *Multistability and time-periodic spatial pattern in the cross-diffusion SKT model*, *Oberwolfach Workshop Reports*, Nr. 2021,37, 2021.
- M. Groppi, S. Panizzi, C. Soresina, *An example of deterministic chaos: the tent map*, article for the educational book “Uno Sguardo Matematico sulla Realtà - Laboratori PLS 2010–2013”, CLEUP Padova (2014), edited by M. Belloni, A. Zaccagnini, Department of Mathematics and Computer Science, University of Parma.

Invited talks (selected)

- **/06/2024 EquaDiff2024, MS “Nonlinear waves in reaction–diffusion systems”, Karlstad (Sweden)
- *28/02/2024 Bio-PDE Days, TU Vienna (Austria)
- 30/11/2023 Workshop on Applied Mathematics: Quantum and Classical Models, Firenze (Italy)
- 07/09/2023 Congresso UMI Pisa 2023, Sezione S9 “Modelli e applicazioni”, Pisa (Italy)
- 06/07/2023 University of Oldenburg (Germany)
- 03/07/2023 MCMSLOT Meeting, Palermo (Italy)
- 31/05/2023 PDE Afternoon, University of Vienna (Austria)
- 14/04/2023 Seminars on Partial Differential Equations, University of Huston (USA)
- 02/03/2023 Cross-diffusion systems: analysis and stochastics, Konstanz (Germany)
- 10/01/2023 Séminaire du pole analyse, École Polytechnique (France)
- 06/12/2022 Axiom Seminar, IMAG Montpellier (France)
- 13/10/2022 Women in PDE, Karlsruhe (Germany)
- 13/09/2022 Dynamical Systems Seminar, Leiden University (the Netherlands)
- 02/09/2022 SIAM-NW 2022, MS “Discrete and Continuous Systems with Nonlocal Interactions”
- 30/07/2022 Scicade 2021, MS “Diff. Eq. Models for Complex Empirical Systems in Biol. and Eco.”, Reykjavík (Iceland)
- 09/06/2022 Université Evry Val d’Essonne, Paris (France)
- 23/03/2022 Mathematical Biology Seminar, Iowa State University (USA)
- 10/03/2022 DEG1 Webinars
- 10/02/2022 University of Trento (Italy)
- 01/10/2021 DMV-ÖMG, MS “Dynamics, stability and control in infinite dimensions”
- 02/09/2021 SIMAI 2020+21, MS “Recent results in kinetic theory and applications”
- 31/08/2021 SIMAI 2020+21, MS “Mathematical models in ecology and epidemiology”
- 09/08/2021 MFO Dynamics of Waves and Patterns, Oberwolfach (Germany)
- 14/07/2021 ENSPM2021, MS “Variational and topological methods for diff. equations”
- 09/07/2021 Seminar serie Multiscale phenomena in Continuum Mechanics
- 25/05/2021 SIAM-DS 2021, MS “Algorithms and Software for Parameter Continuation in Complex Systems”
- 18/05/2021 IITE Webinar Series
- 25/02/2021 FMF Symposium “Chain Reactions”, University of Groningen (the Netherlands)
- 19/02/2021 virtual Applied Mathematics Seminars, Warwick (UK)
- 16/02/2021 virtual Floris Takens Seminar, Groningen (the Netherlands)
- 15/12/2020 online Biomathematics Seminars, University of Helsinki (Finland)
- 22/01/2020 Utrecht University (the Netherlands)
- 17/06/2019 Women in PDE @Vienna (Austria)
- 01/05/2019 Mathematics Lunch Seminar, DTU-COMPUTE, Copenhagen (Denmark)
- 30/03/2018 Mini-workshop on extraordinary Differential Equations, Foz do Arelho (Portugal)
- 26/10/2017 Oberseminar Dynamics, TU München (Germany)
- 16/03/2017 Franco-italian meeting on kinetic theory and singular parabolic equations, Paris 7 (France)
- 29/11/2016 Particle Systems and PDE’s V, University of Minho (Portugal)

Contributed talks (selected)

- 22/09/2022 European Conference on Mathematical and Theoretical Biology, Heidelberg (Germany)
- 14/06/2022 Models in Population Dynamics, Ecology and Evolution, Torino (Italy)
- 31/05/2022 Mathematical Modeling of Self-Organization, Palermo (Italy)
- 20/04/2022 Spatial Ecology Workshop, Sheffield (UK)
- 01/09/2021 SIMAI 2020+21, YITP Minisymposium
- 04/02/2020 Dynamical Systems Applied to Biology and Natural Sciences, Trento (Italy)
- 04/09/2019 Congresso dell’Unione Matematica Italiana, Pavia (Italy)
- 12/09/2018 Kinetic and Transport Equations, Parma (Italy)
- 25/07/2018 European Conference on Mathematical and Theoretical Biology, Lisbon (Portugal)
- 20/07/2018 Portuguese Meeting in Biomathematics, Aveiro (Portugal)
- 09/02/2018 Dynamical Systems applied to Biological and Natural Sciences, Torino (Italy)
- 14/12/2017 Italian Research Group on Models for Plant Protection, University of Brescia (Italy)
- 14/06/2017 Conference on Waves and Stability in Continuous Media, Bologna (Italy)
- 15/09/2016 Summer School on Mathematical Physics, Ravello (Italy)
- 17/09/2015 Summer School on Mathematical Physics, Ravello (Italy)
- 18/09/2014 Summer School on Mathematical Physics, Ravello (Italy)
- 12/05/2014 Reading Group Seminar, Dep. of Mathematics, University of Milano (Italy)

Poster presentations (selected)

- 23/09/2019 EuroTech Postdoc Workshop, Lausanne (Switzerland)
- 24/09/2018 Young Women in Mathematical Physics, Bonn (Germany)
- 11/06/2016 Methods and Models of Kinetic Theory, Porto Ercole (Italy)
- 01/12/2015 School of Brain Cells & Circuits Camillo Golgi, Erice (Italy)
- 31/08/2015 MathCompEpi2015, Erice (Italy)

Events organization

*: upcoming event

Workshops

- 2023 ICMS Workshop “Modelling diffusive systems”, together with V. Giunta (U. Sheffield), A. Iuorio (UniWien), September 11–15, 2023, ICMS Edinburgh (UK).
- 2023 Workshop MSE, together with D. Breda (UniUd), B. Buonomo (UniNa), F. Diele (IAC-CNR), A. Pugliese (UniTn), M. Zanella (UniPv), May 18–19, Napoli (Italy).
- 2022 BIRS Workshop “Topics in multiple time scale dynamics”, together with M. Engel (FU Berlin), H. Jardón Kojakhmetov (Uni. Groningen), B. Sandstede (Brown Uni.), 27.11–02.12, 2022, Banff International Research Station (Canada).
- 2021 ICMS Workshop “Modelling diffusive systems”, together with E.S. Daus (TU Wien), A. Iuorio (RICAM), A. Manhart (UCL), September 6–12, 2021, ICMS Edinburgh (UK).

Schools

- 2022 Hausdorff School “Diffusive systems”, together with L. Kanzler (Paris Sorbonne) and A. Iuorio (UniWien), Follow-up event at Hausdorff Center for Mathematics in Bonn (Germany).
- 2021 Hausdorff School “Diffusive systems”, together with E.S. Daus (UniWien) and A. Iuorio (UniWien), April 12–15, Hausdorff Center for Mathematics in Bonn (Germany).

Minisymposia

- *2024 Special Session “Nonlinear Patterns and Waves in Biological Systems”, together with A. Iuorio (Uni-Parthenope) and M.S. Avery (Boston Uni), UMI–AMS Joint Meeting, Palermo (Italy).
- *2024 Special Session “Recent Advances in Biological, Epidemiological and Social Dynamics”, together with M. Garavello (UniMib) and A. Viguerie (CDCand GSSI), UMI–AMS Joint Meeting, Palermo (Italy).
- 2023 Minisymposium “PDEs and Mathematical Biology”, together with K. Fellner and B.Q. Tang (UniGraz), OeMG Tagung, Graz (Austria).
- 2023 Special Session “SS2 Mathematics for Life Sciences”, together with C. Giverso (PoliTo) and M. Zanella (UniPv), UMI Congress, Pisa (Italy).
- 2022 Minisymposium “Multi-scale phenomena in biology: modelling and analysis”, ECMTB2020 (Germany).
- 2021 Minisymposium “Advances in the mathematical understanding of COVID-19 epidemic”, SIMAI 2020+2021 (Parma, Italy), together with M. Zanella (UniPv).

Seminar series

- 2021–23 UMI-MSE Online Seminars “Advances in Socio-Epidemic Mathematical Modelling”.
- 2021–23 online Applied Analysis Seminars, University of Graz.

Miscellaneous

- 2021 Technical/logistic support at the congress SIMAI 2020+2021 (Parma, Italy).
- 2018 Technical/logistic support at the conference ECMTB2018 (Lisbon, Portugal).

Guests

*: planned

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|------|------------------|----------------------------------------------------------------------------------------------------------|
| 2023 | Sept–Dec | Cordula Reisch (TU Braunschweig, Germany)
thanks to DAAD Stipendienprogramme fuer Auslandsaufenthalte |
| 2022 | Dec 11–15 | Maxime Breden, Maxime Payan (École Polytechnique) |
| 2023 | June 5–8 | Paolo Gidoni (University of Udine, Italy) |
| 2022 | Oct 3–7 | Cordula Reisch (TU Braunschweig, Germany) |
| 2022 | Sept 19–21 | Maxime Breden, Maxime Payan (École Polytechnique) |
| 2022 | June 27 – July 1 | Elisabetta Brocchieri (La Sapienza University of Rome) |

Editorial activities

*: ongoing

- Editor of: *Proceedings of the BIRS Workshop “Topics in Multiple Time-Scale Dynamics”, AMS Contemporary Mathematics book series, together with H. Jardón-Kojakhmetov and M. Engel.
- Referee for: Acta Mathematica Scientia, Applied Mathematical Modelling, Applied Mathematics and Computation, Applied Nonlinear Dynamics, Automatica, Boundary Value Problems, Bulletin of the Iranian Mathematical Society, Chaos Solitons & Fractals, Communications in Nonlinear Science and Numerical Simulation, Discrete and Continuous Dynamical Systems-B, Environmental Development and Sustainability, Journal of Biological Dynamics, Journal of Mathematical Analysis and Applications, Journal of Optimization Theory and Applications, Journal of the Royal Society Interface, Mathematical Biosciences, Mathematical Methods in Applied Sciences, Mathematics and Computers in Simulation, Nonlinear Analysis RWA, Nonlinear Dynamics, Physica D, Ricerche di Matematica, zBmath, MathRev.

Committees

2023	Selection Committee for the UMI-MSE Prize	(UMI-MSE)
2023	(Scientific) Panel Member for A. Clark - ERC Profiling Initiative	(UniGraz)
2023	Habilitation Committee for M. Holler and <i>Didaktik-Gutachterin</i>	(UniGraz)
2022	Evaluation Committee for a Professor position in “Algebra”	(UniGraz)
2021	Evaluation Committee for a tenure-track position in “Analysis of PDEs in life sciences”	(UniGraz)
2020–2023	Steering Committee / founding member of the UMI Group “Socio-Epidemiological Modelling”	(UMI-MSE)

Teaching experience

*: planned

<i>Uni. Trento</i>	<ul style="list-style-type: none">· Course “Advanced Topics in Biomathematics” (*SS24 - Master) with S. Pezzuto· Course “Calculus 2” (*SS24 - Bachelor - Engineering) with D.J. Weigull
<i>Uni. Graz</i>	<ul style="list-style-type: none">· Course “Mathematical Modelling in the Natural Sciences” (SS23 - Master)· Course “Modellierung” (SS22, SS23 - Bachelor)· Course “Mathematische Modellierung” (WS21, *WS23 - Master Lehramt), with K. Fellner· Exercise course for “Gewöhnliche Differentialgleichungen” (WS21 - Bachelor)· Exercise course for Numerics for PDE (SS21 - Master)· Exercise course for Calculus of Variations (SS21 - Master)· Exercise course for Partielle Differentialgleichungen (WS20 - Bachelor)· Exercise course for Nonlinear Optimization (WS20 - Master)
<i>TU Munich</i>	<ul style="list-style-type: none">· Tutor (exam supervision/correction) for the undergraduate course “Statistik für BWL” (L. Steinberger), (Spring 2019)
<i>Politecnico of Milano</i>	<ul style="list-style-type: none">· Course “Introduction to Matlab” (for the course “Calculus”, main professor M. Verri), B.Sc. in Mathematical Engineering (Fall 2016, 2017)
<i>Uni. Milano</i>	<ul style="list-style-type: none">· Teaching assistant, “Scientific Computing” (main professors G. Naldi and P. Causin), B.Sc. in Mathematics (Spring 2015–2018)
<i>Uni. Parma</i>	<ul style="list-style-type: none">· Teaching assistant, “Numerical Analysis” (main professor M. Diligenti), B.Sc. in Mathematics (Spring 2015, 2015/2016)

Mentoring

*: ongoing

PhD students

Co-supervisor, University of Graz

*2023 ♂ G.M. Bevitori, Colibri Bridge PhD, together with B. Chagnaud (Biology).

Master students

Co-supervisor, Technical University of Munich (supervisor C. Kuehn)

2019 ♀ N. Ehstand, *Numerical continuation of fractional reaction–diffusion systems in pde2path*.

Bachelor students

Supervisor, University of Graz

*2024 ♀ L. Balke, tbd.

2023 ♂ D. Sulzner, *Epidermale Wundheilung: Zwei verschiedene Modelle*.

2022 ♀ T. Ackerl, *Musterbildung: Die Turing-Instabilität und das Schnakenberg-Modell in rechteckigen Gebieten*.

2022 ♀ T.M. Bösmüller, *Mathematische Modelle zur Beschreibung von Epidemien*.

2021 ♀ H. Bartel, *Modelling the influence of activists in opinion dynamics: two different approaches*.

Co-supervisor, University of Parma (supervisor M. Groppi)

2017 ♀ B. Pietranera, *Instabilità di Turing in modelli preda–predatore con diffusione*.

2016 ♀ A. Teseo, *Instabilità di Turing e formazione di pattern in modelli di reazione–diffusione*.

2015 ♂ D. Micheloni, *Studio qualitativo di un modello epidemiologico con vaccinazione ed incidenza non lineare*.

Gender mainstreaming and equal opportunities

Training activities:

2021 Karriereprogramm für Wissenschaftlerinnen, one-year course for female researchers, UniGraz (Austria)

Invited speaker at events for women in academia to promote gender equality in mathematics:

2022 “Women in PDEs @Karlsruhe” (Germany).

2019 Women in PDE @Vienna (Austria)

Invited speaker at events to increase visibility of women in mathematics:

19/05/2022 talk “*Mathematische Modelle für den Planeten Erde*”, during the event Celebrating women in Mathematics, University of Graz (Austria). Invited by Laura Cossu.

24/03/2021 Seminar “*An introduction to mathematical models*” for high school female students in the framework of the project “Girls just wanna do math”, University of Trento (Italy). Invited by M. Salvioli.

Science to public

Talk “*Mathematische Modelle für den Planeten Erde - können wir die Zukunft vorhersagen?*”:

13/04/2023 Der Tag der offenen Tür 2023, University of Graz (Austria)

Seminar “*An introduction to mathematical models*” for high school students:

12/06/2017 Department of Physics, University of Parma (Italy)

02/04/2016 Department of Mathematics and Computer Sciences, University of Parma (Italy)

21/01/2014 Department of Mathematics and Computer Sciences, University of Parma (Italy)

Teaching activity on Discrete Dynamical Systems for high school students as part of the “Scientific Degrees Project”:

2017 University of Milano (Italy), with G. Bini

2010–2013 University of Parma (Italy) with S. Panizzi and M. Groppi

Other activities

*: ongoing

Training courses

2023 ERC Profiling Initiative (UniGraz)

2021 Fit4Funding (FFG) June

Language courses

2021 German Language Course (C1-Sprachkompetenz) October–January

2021 Intensive German Language Course (C1) September

2021 German Language Course (Grammatic training) March–June

2021 Intensive German Language Course (B2.1) February

2020 German Language Course (B1.2) October–January

2020 Intensive German Language Course (B1.1) September

2020 German Language Course (A2.1) April–June

Miscellaneous

2023 Der Tag der offenen Tür 2023 (UniGraz)

2023 DiNaMa Day (UniGraz)

2022 NAWI Forschung Fora (UniGraz)

2022 Member of the Jury at Mathe-Slam (UniGraz)

2022 Volunteer to the study “Stretching” (UniGraz)

2021 Volunteer to the study “Coordinative activity break” (UniGraz)

2020–23 UMI-MSE Website realization and maintenance

2018 Participation to the Mentorship Program during the ECMTB2018

2018 Foreign testimonial for the project “Why FCUL?”, Universidade de Lisboa

2017 Contribution to the development of online platforms at IMATI (Phenological Models and Dynamics of Invasive Populations) as a support and forecasting tool in pests management in agriculture

2016 Collaboration with the publishing house Zanichelli (Bologna, Italy)

2014–17 Participation in Open Days and recruitment activities at high schools for the University of Parma

2016 Exam corrector at the national finals of the *Mathematical Olympiad*, (Cesenatico, Italy)