



Dr. Annalisa Iuorio

Tenure-track Assistant Professor (RTDb)



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Research Interests

Analytical: PDEs; ODEs;
reaction-diffusion(-ODE) systems; pattern
formation; travelling waves; bifurcations;
Geometric Singular Perturbation Theory
Interdisciplinary: vegetation dynamics;
pedestrian dynamics; MEMS;
microstructures; neuroscience.

Languages

Italian, mother tongue
English, fluent (TOEFL certificate, 112/120)
German, fluent (C1.2 certificate, 17/20)

Programming

Languages: Mathematica, MATLAB,
Fortran
Software: AUTO, pde2path
Graphics: Gimp, Xfig

Selected Grants

INDAM research grant (3.Κ€)
FWF Hertha Firnberg Postdoctoral
Fellowship (243.Κ€)
Christiana Hörbiger Award (5.Κ€)

Scopus Data

22 journal publications,
185 citations,
h-index 8

Memberships

GNFM (INDAM), UMI, SMB, ESMTB, EWM, AWMP

Positions

since 2023	Tenure-track Assistant Professor (RTDb)	Uni Parthenope (IT)
2021–2023	FWF Hertha Firnberg Postdoctoral Fellow	Uni Vienna (AT)
2019–2020	Postdoctoral Researcher	RICAM (AT)
2017–2019	Scientific Manager and Postdoctoral Researcher	TU Vienna (AT)

Education

since 2024	National Scientific Habilitation (ASN-MUR) as Associate Professor in the area 01/MATH-04 <i>Mathematical Physics</i>	(IT)
2014–2018	Ph.D. in Mathematics <i>Geometric analysis of multi-scale solutions in regularized models of microstructures and touchdown phenomena in MEMS</i>	TU Vienna (AT)
2011–2013	M.Sc. in Mathematics (110/110 cum laude) <i>Mathematical Models for Vegetation Pattern Formation</i>	Uni Naples (IT)
2007–2011	B.Sc. in Mathematics (110/110 cum laude) <i>On nonparametric inference statistical methods: The Wilcoxon Test</i>	Uni Naples (IT)

Selected Publications

2025	<i>Far-from-equilibrium travelling pulses in sloped semi-arid environments driven by autotoxicity effects</i> G. Grifò, A. Iuorio, F. Veerman SIAM J. Appl. Math., 85.1: 188-209	
2024	<i>Travelling pulses on three spatial scales in a Klausmeier type vegetation-autotoxicity model</i> P. Carter, A. Doelman, A. Iuorio, F. Veerman Nonlinearity 37, 095008	
2024	<i>Travelling waves due to negative plant-soil feedbacks in a model including tree life-stages</i> A. Iuorio, M. Baudena, M.B. Eppinga, F. Giannino, M. Rietkerk, F. Veerman Math. Biosci. 368, 109128	
2023	<i>Canards in a bottleneck</i> A. Iuorio, G. Jankowiak, P. Szmolyan, M.T. Wolfram Physica D, 133768	
2019	<i>Singular perturbation analysis of a regularized MEMS model</i> A. Iuorio, N. Popović, P. Szmolyan SIAM J. Appl. Dyn. Syst., 18(2):661–708	

Selected Invited Talks

2025	Seminar @ <i>Laboratorio di Matematica per la Biologia</i>	Trento (IT)
2024	Lorentz Workshop “Multiple Scales: Theory & Applications”	Leiden (NL)
2023	SIAM Conference on Applications of Dynamical Systems (DS23)	Portland (US)
2022	Workshop on “Topics in Multiple Time Scale Dynamic” @ BIRS	Banff (CA)
2021	Workshop on “Dynamics of Waves and Patterns”	Oberwolfach (DE)

Selected Research Visits

2025	Collaboration with Cinzia Soresina	Trento (IT)
2022–2023	Collaboration with Frits Veerman and Max Rietkerk	Leiden & Utrecht (NL)
2021	Collaboration with Christian Kuehn	TU Munich (DE)
2018	Collaboration with Nikola Popović	Uni Edinburgh (UK)

Selected Organised Events

2025	Conference on Dynamical Systems Applied to Biology and Natural Sciences (DSABNS2025)	Naples (IT)
2021/23/26	Workshop “MoDiS: Modelling Diffusive Systems”	Edinburgh (UK) & Vienna (AT)
2021/22	Hausdorff School “Diffusive Systems”	Bonn (DE)

Teaching Experience

since 2023	Meccanica Razionale (Mathematical Physics) (9 ECTS)	Uni Parthenope (IT)
2023	VO+UE Biomathematik & Spieltheorie (7 ECTS)	Uni Vienna (AT)
2022	VU Linear Algebra for Computational Science (6 ECTS)	Uni Vienna (AT)
2021	UE Tutorials on Ordinary Differential Equations (2 ECTS)	Uni Vienna (AT)