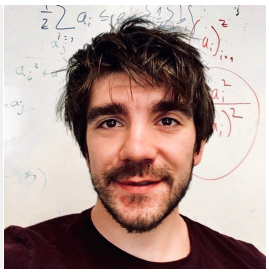

Enrico Gavagnin

Research Associate

Applied mathematician with PhD and 2+ years' post-doctoral experience in theoretical and experimental biology. I love highly interdisciplinary and multi-cultural working environments.

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EXPERIENCE

Research Associate

University of Bristol, School of Life Sciences
2020 - present | Bristol, UK

- Processing and analysing large datasets of social interaction networks
- Conceiving, designing and performing experiments with social insects using automated individual-tracking
- Cross-disciplinary team working, line manager of two lab assistants, Sustainability Lab coordinator
- Conceiving, supervising and time managing master's projects
- Using social insects as biological model to study epidemiological dynamics

PhD

University of Bath, School Mathematical Sciences
2016 - 2020 | Bath, UK

- Theoretical and applied research in the field of mathematical biology. Thesis: "Stochastic multi-scale models of cell behaviour"
- Conceiving and leading interdisciplinary research projects with international collaborations
- First author of five scientific publications in peer reviews journals (Physical Review E, Journal of Theoretical Biology, Biophysical Journal, Elsevier Handbook of Statistics)
- Teaching assistant for the courses Programming, Modelling and dynamical systems, Probability and Statistics
- Visiting scholarship at Queensland University of Technology, Australia

EDUCATION

MSc, Pure and Applied Mathematics

Università degli Studi di Padova
2014 - 2016 | Padova, Italy
Erasmus+ exchange at University of Bristol

BSc, Pure and Applied Mathematics

Università degli Studi di Padova
2011 - 2014 | Padova, Italy

SKILLS

Mathematical modelling
Multi-scale modelling (agent-based/PDE), collective intelligence, data driven models, complex network, bioinformatics, data mining, statistical methods

Programming
Python, Matlab, R, Bash, Linux HPC, C, Git

Laboratory
Microscopy image analysis (ImageJ), Trained in qPCR, experimental planning

Languages
English (proficient), Italian (native), Spanish (intermediate)

AWARDS

Best talk - NWE-IUSSI Winter meeting
Dec 2021 | Oxford, UK
TakeAIM first prize - Smith Institute
Feb 2020 | Oxford, UK
Travel grant - Santander Mobility Award
Aug 2020 | Brisbane, Australia
Landahl Travel grant - Society of Mathematical Biology
Jul 2017 | Salt Lake City, Utah

SELECTED TALKS

University of Queensland - Invited speaker
Apr 2019 | Brisbane, Australia

Modelling stochastic biological systems, BAMC - Co-organizer
Apr 2019 | Bath, UK

Center of Information Services and High Performance Computing, TU - Invited speaker
Dec 2018 | Dresden, Germany

Swiss Federal Institute of Aquatic Science and Technology - Invited speaker
Dec 2018 | Zurich, Switzerland

Multi-scale models of cell behaviour, ECMTB - Co-organizer
Jul 2018 | Lisbon, Portugal

PUBLICATIONS

1. **E. Gavagnin,** S.T. Vittadello, G. Gunasingh, N.K. Haass, M.J. Simpson, T. Rogers, C.A. Yates (2021). "Synchronised oscillations in growing cell populations are explained by demographic noise". *Biophys. J.* vol. 120(8), pp.1314-1322

3. **E. Gavagnin,** M.J. Ford, R.L. Mort, T. Rogers, C.A. Yates (2019). "The invasion speed of cell migration models with realistic cell cycle time distributions". *J. Theor. Biol.* 481, 91-99

5. **E. Gavagnin,** C.A. Yates (2018). "Stochastic and deterministic modeling of cell migration". *Elsevier - Handbook of Statistics*, vol. 39, 37-91

6. **E. Gavagnin**, J.P.Owen, C.A. Yates (2018). "Pair correlation functions for identifying spatial correlation in discrete domains". *Phys. Rev. E* 97, 062104

7. **E. Gavagnin,** C.A. Yates (2018). "Modeling persistence of motion in a crowded environment: The diffusive limit of excluding velocity-jump processes". *Phys. Rev. E* 97, 032416

OUTREACH

Popular Science

Article 'A collective human challenge' for the October issue of IMA Mathematics Today.

Oct 2020

Art and Science

Collaboration with the artist Leonie Bradley, author of "*Wavefront*"

Installation view of Visions of Science at Andrew Brownsword Gallery

Sep 2018 | Bath, UK

TALKS

- "North-West- European IUSSI meeting", aware best talk
  Dec 2021 | Oxford, UK
- "Stochastic Models & Experiments in Ecology and Biology", ECLT
  Jul 2021 | Venice, Italy
- TakeAIM Award Ceremony, Smith Institute
  Feb 2020 | Imperial College - London, UK
- "Summer Solstice Conference on Discrete Models of Complex Systems", Max Planck Institute
  Jul 2019 | Dresden, Germany
- "PDEs in Mathematical Biology: Modelling and Analysis", LMS
  May 2019 | Edinburgh, UK
- Queensland University of Technology, invited seminar speaker
  Apr 2019 | Brisbane, Australia
- University of Queensland, invited seminar speaker
  Apr 2019 | Brisbane, Australia
- "Modelling stochastic biological systems" mini-symposium co-organizer, BAMC
  Apr 2019 | Bath, UK
- Center of Information Services and High Performance Computing, invited seminar speaker , TU
  Dec 2018 | Dresden, Germany
- EAWAG, invited seminar speaker, Swiss Federal Institute of Aquatic Science and Technology
  Dec 2018 | Zurich, Switzerland
- "Multi-scale models of cell behaviour" mini-symposium co-organizer, ECMTB
  Jul 2018 | Lisbon, Portugal
- SIAM - National Student Chapter Conference, University of Bath
  Jun 2018 | Bath, UK
- "Collective dynamics and self-organization in biological sciences", ICMS
  May 2018 | Edinburgh, UK
- "Stochastic Models in Ecology and Evolutionary Biology"
  Apr 2018 | Venice, Italy
- "Society of Mathematical Biology Annual Meeting"
  Jul 2017 | Salt Lake City, Utah