Matteo Tomasini

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Citizenship: Switzerland

Birthdate: 1989-11-21



Experience

Research

Mar 2021 – Present **Postdoctoral research fellow**, *Modelling of range expansions in marine environments and the Baltic Sea*, Department of Marine Sciences, University of Gothenburg, Principal Investigator: Prof. M. Rafajlović.

Sep 2019 – Dec 2020 **Postdoctoral research associate**, *Development of methods for statistical inference from patterns of isolation by distance*, Department of Integrative Biology, Michigan State University, Principal Investigator: Prof. G. Bradburd.

Feb 2015 – Jun 2019 **PhD student**, On the theory of rapid adaptation in the presence of gene flow, Interfaculty Bioinformatics Unit, Universität Bern, Supervisors: Dr. S. Peischl and Prof. L. Excoffier.

Teaching

Sep 2017 – Jun 2019 **Substitute lecturer**, *Applied Biostatistics I and II*, Universität Bern, Main lecturers: Dr. A. Hauser, Dr. S. Peischl.

Substitution of main lecturer in case of absence.

Sep 2015 – Jun 2019 **Teaching assistant**, *Applied Biostatistics I and II*, Universität Bern, Main lecturers: Dr. A. Hauser, Dr. S. Peischl.

 $\label{eq:management} \mbox{Management of exercise sessions and support for MSc students, correction of exercise sheets.}$

Sep 2015, 2016, 2017 **Teaching assistant**, *Introduction to R*, Universität Bern, Main lecturers: Prof. L. Exand 2018 coffier, Dr. S. Peischl, Dr. V. Sousa.

Teaching assistant during a 5 days introductory course to the R language.

Education

Feb 2015 – Jun 2019 **PhD studies in ecology & evolution**, *Universität Bern*, Supervisors: Dr. S. Peischl and Prof. L. Excoffier.

Relevant courses and workshops: best practices in programming, introduction to Markov models, machine learning. Main topic: theoretical population genetics.

Sep 2012 – Oct 2014 MSc in physics (orientation theoretical physics), Université de Genève.

Relevant courses: cosmology, group theory, introduction to nanoelectronics, introduction to perturbative methods, non-linear dynamics, phase transitions and critical phenomena, quantum field theory.

Sep 2009 – Aug 2012 **BSc in physics**, *Université de Genève*.

Relevant courses: algebra, calculus; analytical mechanics, electrodynamics, experimental physics, general relativity, quantum mechanics, statistical mechanics, thermodynamics; introduction to C++.

Other relevant training

Jan 2020 SLiM Workshop, Cornell University, Ithaca, NY. Trainer: Dr. Ben Haller

Publications

- 3. **M. Tomasini**, S. Peischl, (2022), *The role of spatial structure in multi-deme models of evolutionary rescue*, Journal of Evolutionary Biology, in press
- 2. **M. Tomasini**, S. Peischl, (2020), *When does gene flow facilitate evolutionary rescue?*, Evolution, 74(8), 1640 1653
- 1. **M. Tomasini**, S. Peischl, (2018), *Establishment of locally adapted mutations under divergent selection*, Genetics, 209(3), 885 895

Preprints

1a. **M. Tomasini**, M. Eriksson, K. Johannesson, M. Rafajlović (2022), *Species' ranges and the steepening-gradient hypothesis*, bioRxiv, https://doi.org/10.1101/2022.03.19.484973

Grants

750€ International Council for the Exploration of the Sea (ICES) Early Career Scientist funding, Baltic Sea Science Congress 2021

Rejected with Seal of *The evolution of marine species in continuous space*, Marie Skłodowska-Curie Excellence Actions – Individual Fellowship 2020, Evaluation Score: 90.40%

Symposia and oral presentations

- Oct 2022 Fight or flight? The role of adaptation in shaping future species' distributions in light of climate change (symposium, accepted), YOUMARES 13, Berlin, Germany
- Oct 2021 Range expansions along multiple environmental gradients, Baltic Sea Science Congress 2021, Aarhus, Denmark
- Oct 2021 Range expansions along multiple environmental gradients, Centre for Evolutionary Marine Biology Assembly, Tjärnö, Sweden
- Jun 2019 Effects of gene flow and fragmentation on evolutionary rescue, Modelling Ecology & Evolution Zurich 2019, Zurich, Switzerland
- Aug 2018 Evolutionary rescue in structured habitats (poster), Second Joint Congress of Evolutionary Biology, Montpellier, France
- Jun 2016 Evolutionary rescue in the stepping stone model (poster), Mathematical and Computational Evolutionary Biology, Montpellier, France

Volunteering

Member Steering committee, Linnaeus Centre for Evolutionary Marine Biology

Reviewer Genetics, Mathematical Biosciences

Miscellaneous

Past research experience

- Sep 2013 Oct 2014 **MSc student**, Effect of snow covering and ocean mixed layer on the irreversibility of sea ice retreat, Institut des Sciences de l'Environnement, Université de Genève, Supervisors: Dr. M. Brunetti and Dr. S. Marshall.
 - Feb 2012 **BSc student**, *Measures of polarization of the solar light around the Balmer Jump*, Istituto Ricerche Solari Locarno and Université de Genève, Supervisors: Dr. M. Bianda and Dr. M. Audard.

IT skills

Regular user Python, R; SLiM, STAN; LaTeX; git

Intermediate user $\,$ Matlab, $\,$ Mathematica; $\,$ Bash, $\,$ C++

Basic knowledge Julia; Maple; Jekyll, Django

Operating systems **Ubuntu**; Windows

Editors Neovim, RStudio, VS Code; IDLE, PyCharm

Languages

written / spokenItalianNative languagewritten / spokenFrenchFull professional working proficiencywritten / spokenEnglishFull professional working proficiency

spoken German

Limited working proficiency
written / spoken Swedish

Elementary proficiency (A1/A2)

Extra-scientific activities

Mar 2012 – Mar 2022 **Co-admin**, *Meccanica Quantistica: gruppo serio*.

Co-administrator and moderator of the largest Facebook page of quantum physics dissemination in Italian language (\sim 34'000 subscribers).

Aug 2009 – Apr 2019 Battery Sergeant Major, Swiss Armed Forces.

Responsible for logistics in an artillery battery – in particular personnel, equipment, ammunition, health service and barracks administration – during the yearly one month service.

Nov 2015 - Jun 2018 Head of refereeing, Swiss Tchoukball.

Head of the refereeing commission and member of executive committee of the Swiss federation of tchoukball; development of refereeing in the sport and referees' formation.