# Matteo Tomasini

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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 (featured session, accepted), YOUMARES 13, Berlin, Germany
- Aug 2022 How do species ranges respond to the effects of counteracting environmental gradients? (accepted), European Society for Evolutionary Biology Congress 2022, Prague, Czech Republic
- 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

#### Scientific activities

#### Scientific publishing

Reviewer Molecular Ecology, Genetics, Mathematical Biosciences

#### Committees

Oct 2021 – present Steering committee, Linnaeus Centre for Marine Evolutionary Biology, University of Gothenburg

## Memberships

May 2022 – present Nordic Research Software Engineers association

Apr 2021 – present Linnaeus Centre for Marine Evolutionary Biology, University of Gothenburg

Mar 2015 – Jul 2019 Swiss Institute of Bioinformatics

#### Scientific dissemination

Mar 2012 - Mar 2022 Co-admin, Meccanica Quantistica: gruppo serio (largest Facebook page of quan-

tum physics dissemination to the large public in Italian language, with  ${\sim}34'000$ 

subscribers)

#### IT skills

Operating systems Ubuntu, Windows

Programming C++, Python, R Programming, Bash, Matlab

Tools Slurm, Visual Studio Code, (Neo)Vim, git, LATEX, Microsoft Office, LibreOffice

Software SLiM, Wolfram Mathematica, Stan

#### Miscellaneous

## Past research experience (in other fields)

Jan 2014 – 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.

## Languages

ItalianNative languageEnglishFull professional working proficiencyFrenchFull professional working proficiencyGermanLimited working proficiencySwedishElementary proficiency (A1/A2)SpanishElementary proficiency

#### Extra-scientific activities

Jun 2009 – Apr 2019 Company Sergeant Major, Swiss Army.

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.