

# Marco Favretti

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Born: 3 maggio 1965—Vittorio Veneto (TV), Italia  
Nationality: Italiano

## Current position

*Ricercatore Confermato Settore A07-Fisica Matematica*

## Research Area

Mathematical physics, Maximum Entropy Principle

## Education

1994 DOTTORATO IN MATEMATICA Università di Padova

1990 LAUREA IN FISICA Università di Padova

## Grants, honours & awards

1992 Borsa di studio Fondazione Gini Padova

1994 Borsa CNR, Borsa INDAM

1996 Borsa di Studio Post-Doc Università di Padova

## Recent Publications

### JOURNAL ARTICLES

2024 Favretti, M. *Entropic Dynamics of Mutations in SARS-CoV-2 Genomic Sequences*, *Entropy* vol 26

2024 Formentin, M. Chignola, R. Favretti, M. *Optimal entropic properties of SARS-CoV-2 RNA sequences*, *Royal Society Open Science* vol 11

2022 Favretti, M. *Exponential Families with External Parameters*, *Entropy*

- 2022 Favretti, M. Geometry and control of thermodynamic systems described by generalized exponential families, *Journal of Geometry and Physics*
- 2020 Favretti, M. Lagrangian submanifolds of symplectic structures induced by divergences, *Entropy*
- 2019 Favretti, M. Replicated point processes with application to population dynamics models, *Theoretical Population Biology*
- 2018 Cardin, F. Favretti, M. Lovison, A. Masci, L. Stochastic and geometric aspects of reduced reaction diffusion dynamics, *Ricerche di Matematica*
- 2018 Tovo, A. Favretti, M. The distance decay of similarity in tropical rainforests. A spatial point processes analytical formulation, *Theoretical Population Biology*
- 2018 Favretti, M. Maximum Entropy Theory of Ecology: A Reply to Harte, *Entropy*
- 2017 Remarks on the Maximum Entropy Principle with Application to the Maximum Entropy Theory of Ecology, *Entropy*
- 2017 Tovo, A. Suweis, S. Formentin, M. Favretti, M. Azaele, S, Maritan, A. Upscaling species richness and abundances in tropical forests, *Science Advances*
- 2017 Cardin, F. Favretti, M, Lovison, A. Inertial Manifold and Large Deviations Approach to Reduced PDE Dynamics, *J. of Statistical Physics*
- 2016 Tovo, A. Formentin, M. Favretti, M. Maritan, A. Application of optimal data-based binning method to spatial analysis of ecological datasets, *Spatial Statistics*

## BOOKS

- 2013 Cardin F. Favretti, M. *Modelli Fisico Matematici*, Cleup, Padova ISBN 9788867871018

## Teaching

- 2021,2022 Meccanica Razionale, LT in Ingegneria Meccanica e Aerospaziale, DII
- 2020 Mathematical Physics\* (9CFU) LM in Control System Engineering
- 2018-present Continuum Mechanics\* (6 CFU), LM in Mathematical Engineering, (mutuato da)
- 2000-present Modelli Fisco Matematici (6 CFU), LT in Matematica
- 2010-2019 Meccanica Analitica (7 CFU), LT in Astronomia  
Fisica Matematica (con F. Cardin), LT In Matematica
- 2012 Elementi di Statistica, LT in Geologia  
\* insegnamenti impartiti in Inglese

## Thesis Supervisor

- 2016-2019 supervisore della tesi di Dottorato in Matematica:  
Tovo A. *Mathematical Modelling and Statistics of Biodiversity*
- 2000-present supervisore di circa 30 tesi tra Tesi Triennali a Matematica e Fisica, Tesi di Laurea Magistrale a Matematica, Fisica, Mathematical Engineering

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