

Emanuele PIGANI



PERSONAL DATA

PLACE AND DATE OF BIRTH: San Daniele del Friuli, Italy | 1st May 1995
ADDRESS: Via Vigonovese 98/C, 35020 Padova, Italy
STATUS: Married. Two children.
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RESEARCH

FROM APRIL 2025



Post-doc at Quantitative Life Sciences **International Center for Theoretical Physics**, Trieste

EDUCATION

OCT 2021 - MAR 2025



Ph.D. at **Stazione Zoologica**, Napoli, and Laboratory of Interdisciplinary Physics, **University of Padova**, Padova

Supervisor: Dr. DANIELE IUDICONE

Co-supervisors: Prof. SAMIR SUWEIS, Prof. SANDRO AZAELE

Research topic: Modeling Macroecological Patterns in Marine Ecosystems: From Community structures to Gene Expressions

NOV 2020 - SEP 2021



Research Grant on STATISTICAL MECHANICS OF SPATIAL ECOSYSTEMS at the Laboratory of Interdisciplinary Physics, **University of Padova**, Padova

PI: Prof. AMOS MARITAN

JAN 2020 - OCT 2020



Research Grant on OPINION DYNAMICS at the ICT Center of **Fondazione Bruno Kessler**, Trento

PI: Dr. BRUNO LEPRI

OCT 2017 - OCT 2019



Master's Degree in PHYSICS, **University of Padova**, Padova

Thesis: *Analysis and modelling of information ecosystems*.

Advisor: Prof. SAMIR SUWEIS

Co-Advisors: Dr. CATERINA DE BACCO, Dr. CARLOS ALBERTO PLATA

FINAL GRADE: 110/110

GPA: 29/30

JUL 2019 - SEP 2019



Master Thesis Traineeship at the PHYSICS FOR INFERENCE AND OPTIMISATION GROUP, **Max Planck Institute for Intelligent Systems**, Tübingen

Supervisor: Dr. CATERINA DE BACCO

APR 2018 - SEPT 2018



Erasmus semester at the DEPARTMENT OF PHYSICS AND ASTRONOMY, **Ruprecht-Karls-Universität, University of Heidelberg**, Heidelberg

Theoretical Biophysics, Nonequilibrium Thermodynamics and Statistics, Computational Statistics and Data Analysis, Standard Model.

OCT 2014 - SEPT 2017



Bachelor's Degree in PHYSICS, **University of Padova**, Padova

Thesis: *Applications of Voter Model to Ecosystems*

Advisor: Prof. SAMIR SUWEIS

FINAL GRADE: 107/110

GPA: 28/30

SELECTED PUBLICATIONS

Science Advances 10 (2024)	E. Pigani , B. Hay Mele, L. Campese, E. Ser-Giacomi, D. Iudicone, S. Suweis <i>Deviation from neutral species abundance distributions unveils geographical differences in the structure of diatom communities.</i>
PNAS 119 (2022)	E. Pigani , D. Sgarbossa, S. Suweis, A. Maritan, S. Azaele <i>Delay effects on the stability of large ecosystems.</i>
Nature communications 12 (2021)	G. Cencetti, G. Santin, A. Longa, E. Pigani , A. Barrat, C. Cattuto, S. Lehmann, B. Lepri. <i>Digital proximity tracing on empirical contact networks for pandemic control.</i>
Physical Review Research 3, 013070 (2021)	C.A. Plata, E. Pigani , S. Azaele, V. Callejas, M.J. Palazzi, A. Solé-Ribalta, S. Meloni, J. Borge-Holthoefer, S. Suweis. <i>Neutral Theory for competing attention in social networks.</i>

CONFERENCES, TALKS AND WORKSHOPS

13 TH JUN 2024	SIFS Young seminars , Italian Society of Statistical Physics, Italy. <i>Invited talk</i>
23 RD - 28 TH JUN 2024	Synergy Summer School: Complexity and emergence in marine ecosystems/seascape , Ischia, Italy.
3 RD - 7 TH JUN 2024	International Physics of Living Systems Annual Meeting , ICTP, Trieste, Italy. <i>Contributed talk</i>
2 ND - 13 TH OCT 2023	Advanced School on Quantitative Principles in Microbial Physiology: from Single Cells to Cell Communities , ICTP, Trieste, Italy. <i>Contributed talk</i>
15 TH - 18 TH MAY 2023	CEODOS and AtlantECO Workshop , Santiago, Chile. <i>Contributed talk</i>
19 TH - 23 RD FEB 2023	LiphLab Winter Workshop 2023 , Gallio, Italy.
14 TH - 15 TH FEB 2023	HFSP Kick-off meeting , Padova, Italy.
1 ST - 3 RD OCT 2022	AtlantECO meeting , Sesimbra, Portugal. <i>Contributed talk</i>
7 TH - 10 TH JUN 2022	Tara Oceans retreat , Niece, France. <i>Contributed talk</i>
30 TH MAR - 2 ND APR 2022	LiphLab Spring Workshop 2022 , Asiago, Italy.
16 TH - 18 TH JUL 2020	LiphLab Winter Workshop 2020 , Folgaria, Italy.
1 ST - 3 RD JULY 2019	First Italian Conference on Complex Systems , Bruno Kessler Foundation, Trento.
16 TH - 18 TH DEC 2018	LiphLab Winter Workshop 2018 , Folgaria, Italy.

TEACHING EXPERIENCES

NOV 2021 - PRESENT	Tenure Teacher of Physics and Math, MIM, Italy.
OCT 2023 - JUN 2024	Teaching Assistant of Calculus and Physics, School of Agricultural Sciences and Veterinary Medicine, University of Padova, Padova.
OCT 2023 - JAN 2024	Teaching Assistant of Models of Theoretical Physics, Department of Physics and Astronomy, University of Padova, Padova.
OCT 2021 - DEC 2021	Teaching Assistant of Calculus and Physics, School of Agricultural Sciences and Veterinary Medicine, University of Padova, Padova.
OCT 2020 - DEC 2020	Teaching Assistant of Calculus and Physics, School of Agricultural Sciences and Veterinary Medicine, University of Padova, Padova.
NOV 2019 - DEC 2019	High School Math teaching , ISIS "A. Malignani", Udine.

IT SKILLS

Advanced Knowledge: Python, Julia, Mathematica, C++, LINUX, ~~TEX~~ L^AT_EX, GitHub
Good Knowledge: ROOT, Fortran, LabView, Wordpress, R

LANGUAGES

ITALIAN: Native.
ENGLISH: Fluent. C1 IELTS certificate (2021)
GERMAN: Intermediate. C1 level for the Erasmus OLS language assessment (2018).

AWARDS AND RELEVANT ACTIVITIES

SEP 2022	On board experience on the Tara schooner during the oceanic cruise “Mission Microbiome”, from Senegal to Portugal.
APR 2019	Student in charge of the exhibition “The White Rose - Faces of a friendship”, sponsored by the University of Padova.
MAY 2018 - OCT 2019	Student representative , Physics Course, Physics and Astronomy Department, University of Padova, Padova.
NOV 2014 - APR 2016	Student representative , “Commissione Paritetica”, School of Science, University of Padova, Padova.
2011 - 2013	Student representative , Consulta Provinciale degli Studenti, Udine.
2012 - 2014	Captain of his high school Math team. 1 st place at the Provincial Math Team Cup, Udine, 2014. 14 th place at the nationwide Italian Math Team Cup, Cesenatico, 2013.
FEB 2012	Honorable mention at the nationwide literary competition “Colloqui Fiorentini”, in collaboration with MIUR, Firenze.

NON-PROFIT EXPERIENCES

OCT 2021 - PRESENT	Tutoring , Portofranco, Padova. Volunteer as math and physics tutor for secondary school students.
OCT 2014 - OCT 2019	Customer service volunteer , CUSL Nuova Vita, Padova. Volunteer for a non-profit copy shop maintained by students.
OCT 2013 - JUN 2014	Tutoring , Il Pellicano, Udine. Volunteer as tutor for secondary school students.