

Leonardo PACCIANI-MORI

PERSONAL DATA

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RESEARCH EXPERIENCE

APR 1ST 2019 – SEP 30TH 2019 Fellow of the Department of Physics, **Harvard University**, Cambridge (MA)
Supervisors: Dr. Andrea GIOMETTO, Prof. Andrew MURRAY, Prof. David NELSON
I have worked as a visiting graduate student in the groups of Andrew Murray and David Nelson, supervised by Andrea Giometto



EDUCATION

OCT 1ST 2017 – DEC 16TH 2020 Ph.D. student in *Physics*, **University of Padua**, Padua (Italy)
Thesis: *Two improved approaches to the study of competition in microbial communities*
Formal supervisor: Prof. Flavio SENO
Supervisor: Prof. Amos MARITAN
Co-supervisor: Prof. Samir SUWEIS
FINAL EVALUATION: Excellent



OCT 1ST 2015 – SEP 26TH 2017 Master's Degree in *Physics*, **University of Padua**, Padua (Italy)
Theoretical course of study
Thesis: *A physics approach to ecosystem dynamics*
Advisor: Prof. Amos MARITAN
FINAL GRADE: 110/110 *cum laude*



OCT 1ST 2012 – JUL 22ND 2015 Bachelor's Degree in *Physics*, **University of Padua**, Padua (Italy)
Thesis: *Curvature effect on patterning dynamics on spherical membranes*
Advisor: Prof. Enzo ORLANDINI
FINAL GRADE: 108/110



PUBLICATIONS

- Pacciani-Mori L., SUWEIS S., MARITAN A. AND GIOMETTO A. (2021) Constrained proteome allocation affects coexistence in models of competitive microbial communities, *The ISME Journal*. DOI: [10.1038/s41396-020-00863-0](https://doi.org/10.1038/s41396-020-00863-0)
- Pacciani-Mori L., GIOMETTO A., SUWEIS S. AND MARITAN A. (2020) Dynamic metabolic adaptation can promote species coexistence in competitive microbial communities, *PLOS Computational Biology*, 16(5): e1007896. DOI: [10.1371/journal.pcbi.1007896](https://doi.org/10.1371/journal.pcbi.1007896).

ATTENDED CONFERENCES, WORKSHOPS AND SCHOOLS

JAN 14TH – MAR 18TH 2021 **Forum on Microbial Metabolism**
Online workshop, Kavli Institute of Theoretical Physics
at *University of California, Santa Barbara*
[Website](#)

- JAN 19TH – 21ST 2021 **Workshop on Limits to Diversity Assembly**
Online workshop, *International Centre for Theoretical Physics*, Trieste
[Website](#)
- NOV 30TH – DEC 18TH 2020 **Winter School on Quantitative Systems Biology: Quantitative Approaches in Ecosystem Ecology**
Online school, *International Centre for Theoretical Physics*, Trieste
Lectures held: TUTORIAL ON NONLINEAR DYNAMICS
[Website](#)
- NOV 12TH – 13TH 2020 **Paris Biological Physics Community Day**
Online conference
Contributed talk: CONSTRAINED PROTEOME ALLOCATION AFFECTS COEXISTENCE IN MODELS OF COMPETITIVE MICROBIAL COMMUNITIES
[Website](#)
- JAN 7TH – 10TH 2020 **English for Academic Writing**
Forlì campus, *University of Bologna*
[Website](#)
- MAR 6TH – 10TH 2019 **Quinta Conferenza Italiana degli Studenti di Fisica (5th Italian Conference of Physics Students)**
Department of Physics, *University of Milan*
Contributed talk: STRATEGIE METABOLICHE ADATTIVE: UNA RISPOSTA (APPARENTEMENTE) SEMPLICE ED EFFICACE A MOLTI PROBLEMI IN ECOLOGIA E MICROBIOLOGIA
(Adaptive metabolic strategies: an (apparently) simple and effective answer to many challenging problems in ecology and microbiology)
Contributed poster: ADAPTIVE CONSUMER-RESOURCE MODELS CAN EXPLAIN DIAUXIC SHIFTS AND THE VIOLATION OF THE COMPETITIVE EXCLUSION PRINCIPLE
[Website](#)
- DEC 20TH 2018 **The physics of complex systems IV: from Padova to the rest of the world and back**
Department of Physics and Astronomy, *University of Padua*
Invited talk: ADAPTIVE METABOLIC STRATEGIES: AN (APPARENTLY) SIMPLE AND EFFECTIVE ANSWER TO MANY CHALLENGING PROBLEMS IN ECOLOGY AND MICROBIOLOGY
- SEP 23RD – 28TH 2018 **Conference on Complex Systems 2018**
Vellidio Convention Center, *Aristotle University of Thessaloniki*
Contributed talk: ADAPTIVE METABOLIC STRATEGIES EXPLAIN DIAUXIC SHIFTS AND PROMOTE SPECIES COEXISTENCE
[Website](#)
- SEP 17TH – 21ST 2018 **104^o Congresso della Società Italiana di Fisica (104th Congress of the Italian Physical Society)**
Department of Physics, *University of Calabria*
Invited talk: FISICA ED ECOSISTEMI: IL DILEMMA DEL RAPPORTO STABILITÀ-BIODIVERSITÀ
(Physics and ecosystems: the dilemma of the stability-biodiversity relationship)
[Website](#)
- APR 20TH – 23RD 2018 **Quarta Conferenza Italiana degli Studenti di Fisica (4th Italian Conference of Physics Students)**
Department of Physics, *University of Pisa*
Contributed talk: FISICA ED ECOSISTEMI: IL DILEMMA DEL RAPPORTO STABILITÀ-BIODIVERSITÀ
(Physics and ecosystems: the dilemma of the stability-biodiversity relationship)
[Website](#)
- APR 5TH – 7TH 2018 **Stochastic Models in Ecology and Evolutionary Biology**
Venetian Institute of Sciences, Letters and Arts, Venice
Contributed talk: THE ROLE OF METABOLIC TRADE-OFFS IN THE ESTABLISHMENT OF BIODIVERSITY

- FEB 19TH – MAR 16TH 2018 **Spring College on the Physics of Complex Systems**
International Centre for Theoretical Physics, Trieste
[Website](#)
- AUG 7TH – 13TH 2017 **32nd International Conference of Physics Students**
University of Turin
 Attended as *national delegate* of the Italian Association of Physics Students
[Website](#)
- MAY 11TH – 13TH 2017 **Terza Conferenza Italiana degli Studenti di Fisica**
(3rd Italian Conference of Physics Students)
Department of Physics, University of Bari
 Attended as *spokesperson of the Local Committee of Padua of the Italian Association of Physics Students*
[Website](#)
- OCT 3RD – 6TH 2016 **Venice meeting on fluctuations in small complex systems III**
Venetian Institute of Sciences, Letters and Arts, Venice
- APR 22ND – 24TH 2016 **Seconda Conferenza Italiana degli Studenti di Fisica**
(2nd Italian Conference of Physics Students)
Department of Physics, University of Turin
[Website](#)

HONORS AND AWARDS

Best contributed talk at the 4th Italian Conference of Physics Students.

Best poster at the 5th Italian Conference of Physics Students.

ORGANIZED CONFERENCES, WORKSHOPS AND SCHOOLS

- OCT 2016 – MAY 2017 **Sei Spritz Facili**
University of Padua, Department of Physics and Astronomy
Series of six informal lectures held by professors for the students of Physics and Astronomy, covering the areas over which research is carried out in the Department.
Activity of the Padua Local Committee of the Italian Association of Physics Students.

TEACHING EXPERIENCE

- NOV 30TH – DEC 1ST 2020 **Tutorial on nonlinear dynamics**
International Centre for Theoretical Physics
Introductory online lectures on nonlinear dynamics, part of the Winter School on Quantitative Systems Biology
[Website](#)
- DEC 6TH – 13TH 2018 **TeX for dummies: guida di sopravvivenza per fisici**
(TeX for dummies: a survival guide for physicists)
Department of Physics, University of Padua
Introductory 4-lecture course on TeX for complete beginners, organized with the Padua Local Committee of the Italian Association of Physics Students.
[Website](#)

SERVICE AND MEMBERSHIPS

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| OCT 22 ND 2019 – PRESENT DAY | Member of the Association of PhD students and graduates in Italy |
| OCT 20 TH 2018 – SEP 30 TH 2019 | Vicepresident of the Italian Association of Physics Students |
| SEP 23 RD 2018 – PRESENT DAY | Member of the Complex Systems Society |
| OCT 1 ST 2017 – SEP 30 TH 2019 | Secretary of the Italian Association of Physics Students Elected during the 3 rd Italian Conference of Physics Students |
| MAY 2 ND 2016 – SEP 30 TH 2017 | President of the Local Committee of Padua of the Italian Association of Physics Students |
| FEB 26 TH 2016 – PRESENT DAY | Member of the Italian Association of Physics Students |

LANGUAGE SKILLS

ITALIAN: Native
ENGLISH: Fluent
SPANISH: Intermediate

Other languages studied (mainly for personal interest and at basic or elementary level):
Japanese, Chinese (Mandarin), Esperanto, Greek (modern), German.