

SAMIR SUWEIS - CURRICULUM VITAE (19/09/2025)

• PERSONAL INFORMATION



Family Name: Suweis; First Name: Samir; Second Name: Simon

Researcher unique identifier ORCID: 0000-0002-1603-8375; SCOPUS ID: 36087945400

Nationality: Italian. Date of birth: 21.02.1984 in Padova, Italy.

Lab Homepage: www.LIPhlab.com

• EDUCATION

2008-2011. Ph.D. in Science, Department of Civil and Environmental Engineering, Ecole Polytechnique Fédérale Lausanne (EPFL) – Lausanne (Switzerland). Supervisor: *Andrea Rinaldo*.

I have obtained my Ph.D. title on 06/12/2011.

2003-2008. Bachelor and Master in Physics, Physics Department, University of Padua, Padua (IT)

• CURRENT POSITION

From **06/2022** Associate professor, Physics and Astronomy Department, Padova University, Italy.

• ACTIVE ANVUR NATIONAL SCIENTIFIC ABILITATION(S)

0/01/2023. National Scientific Abilitation in Theoretical Physics of Matter (SC 02/B2) - I Fascia

08/08/2018. National Scientific Abilitation in Theoretical Physics of Matter (SC 02/B2) - II Fascia

12/09/2018. National Scientific Abilitation in Applied Physics (SC 02/D1) - II Fascia

12/09/2018. National Scientific Abilitation in Applied Physics (SC 02/D1) - I Fascia

• PREVIOUS POSITIONS

06/2019 – 06/2022. Assistant Professor (RTDB), Physics & Astronomy Department, Padova University

04/2016 – 06/2019. Researcher (RTDA), Physics & Astronomy Department, Padova University

01/12/2015-31/03/2016 *Post-Doc Researcher*, Physics and Astronomy Department, Padova University. Research grant “Interaction networks in living systems”.

01/12/2013-31/11/2015. *Post-Doc Researcher*, Physics and Astronomy Department, Padova University. *Senior* grant “Statistical Physics of Ecological networks: from Patterns to Principles”.

01/12/2011-31/11/2013. *Post-Doc Researcher* at the LIPh Lab (Laboratory of Interdisciplinary Physics) - Physics and Astronomy Department, Padova University. Research grant “Spatial-temporal processes in ecosystems dynamics”. Supervisor: Prof. A. Maritan

• FELLOWSHIPS

- **Young Scholar Fellowship** (2013-2015), Physics & Astronomy Department, University of Padova, Italy (18000 E). This fellowship was aimed to fund the creation of a young European collaboration networks of physicists working on ecological problems.

- **Visiting research student fellowship** (05/2010- 01/2011). Civil and Environmental Engineering Department, Princeton University, NJ (USA) (13500\$). Laboratory of prof. Ignacio Rodrigo Iturbe.

- **FARB** (01/2018). Fellowship per le attività base di ricerca (3000E)

- **International Universities Cooperation** (2017, 2020). Fellowship per attività di collaborazione internazionale.

- **RESEARCH OVERVIEW**

I am one of the three PI of the Collaborative Lab. of Interdisciplinary Physics (www.liphlab.com), where I follow several projects related to the Physics of Living systems, ranging from dynamics of ecological systems to neuroscience. My main research themes can be classified in three broad areas: 1) The formulation of simple principles to explain self-organization and emergent simplicity in nature; 2) Data analysis and complex network modeling and non-linear dynamics in socio-ecological systems; 3) Criticality in living systems, with a particular focus on brain criticality. In particular, my work focuses on the study of complex living systems under a theoretical framework provided by statistical mechanics. I address the above topics from a comprehensive framework that include data mining, theoretical modeling (both computational and analytical) and statistical analysis. Specific projects that I'm leading or where I'm involved can be found here: <https://www.liphlab.com/>.

My publications include 1 in Nature, 3 in Science Advance, 4 in Nature Communications, 2 Nature Sustainability, 11 in PNAS, 1 in Nature ISME Journal, 1 Nucleic Acid Research, 2 Physical Review Letters, 1 Review of Modern Physics.

Index*	Scholar	Scopus
Publications	102	102
Citations	6309	4081
h-index	40	32

Our research has been mentioned in American Scientist, Nature News & Views PNAS Commentary, European Commission DG Environment and Unesco Global Water Forum.

I have disseminated my research through various invited national and international talks or lectures. Furthermore, over the years I have established extensive collaborations with leading researchers and institutions, both nationally and internationally, which have resulted in joint publications, funded projects, and long-term research partnerships. My main collaborators include Paolo D'Odorico (University of California, Berkeley); Ignacio Rodríguez-Iturbe (Princeton University); Jayanth Banavar (University of Maryland); Stefano Allesina (University of Chicago); Miguel A. Muñoz (University of Granada); Andrea Rinaldo (EPFL/University of Padova); Amos Maritan (University of Padova); Tommaso Bellini (University of Milano);

* Accessed on 06/09/2025

- **RESEARCH GRANTS & THIRD-PARTY FUNDING**

- **INSIGHT PNRR project** (2024-2025 ~ 150.000 Euros) “Unraveling Brain Dynamics in DMM Patients: A Multi-Modal Imaging Approach Through System Theory”, coPI UNIPD (PI Physics unit).

- **DARE PNRR project** (2023-2026 ~ 140.000 Euros) “Digital Lifelong Prevention), coPI DFA unit

- **PRIN National Grant** (2023-2025 ~ 70.000 Euros) “Anchialos: diversity, function, and resilience of Italian coastal aquifers upon global climatic changes”, PI of the UNIPD unit

- **UNIPD Strategic Research Departmental Grant** (2023-2025 ~ 70.000 Euros) “Response theory for brain network discovery and control”, Principal Investigator

- **UNIPD Strategic Research Departmental Grant** (2021-2023 ~ 53.000 Euros) “Statistical Physics of Synthetic Biodiversity”, Principal Investigator

- **UNIPD - Ateneo Grant for teaching innovation** (2022-2023 ~ 50.000 Euros) “Physics of Data and

Digital Transformation”, Principal Investigator

- **FSE Grant** (09/2020-12/2021 ~ 42.000 Euros) “Urban Data Mobility: Exploiting mobility data to optimize the organization of public transport services by road” in collaboration with Prof. A. Pin and L. Ballan. I am the PI for the Physics & Astronomy Dept.

- **UNIPD - Ateneo Grant for teaching innovation** (2019-2021 ~ 60.000 Euros) “AI society and teaching innovation” co-PI with Prof. A. Pin and L. Ballan. I was the PI for the Physics & Astronomy Dept. (2021-2022 ~ 30.000 Euros) “The law of Big Data” co-PI with Prof. A. Pin

- **STARS Grant** (03/2018 -03/2020~ 140.000 Euros). “Biodiversity, Robustness, Adaptability and Critical Transitions in living interacting systems. Investment program "Talent in Research" from the University of Padova, aimed at supporting excellent research to be conducted on its premises. I’m the PI and the writer of the project.

- **TEAMS Grant** (12/2019-12/2020~30.000 €): Towards an Ecological Approach of InforMation. Fondazione Cassa di Risparmio di Padova e Rovigo.

- **SID Grant** (11/2017-11/2018 ~ 41.000 Euros) “*Quantitative Characterization of Biodiversity in Macro-biomes: a Statistical Physics Approach*”, funded by the University of Padova as strategic departmental investments. I’m the PI and the writer of the project.

- **Senior Research Grant** (12/2013 -12/2015 ~ 55.000 Euros) “Statistical Physics of Ecological Networks: from Patterns to Principles” funded by the University of Padova within the Young Scholars Project - aimed at support innovative and excellent research proposed by young scientists. I was the PI and the writer of the project.

- **Ateneo Grant for teaching innovation** (2018-2019, 40.000 Euros) “The Law of Big Data” in collaboration with Prof. A. Pin. I was the PI for the Physics & Astronomy Dept., while prof. Pin was the PI for the Department of Comparative Public, International and Community Law.

- **SUPERVISION OF THESES, GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

I’ve supervised:

- 7 Ph.D. students (Chengyi Tu (2017); Ilenia Apicella (2019); Giorgio Nicoletti (2022), Giacomo Barzon (2024), Benedetta Mariani (2024), Jacopo Pasqualini (2024), Emanuele Pigani (2025).

- 8 Post-docs (Elvezia Paraboschi (now Clinical and Research Scientist · JUNO Genetics EU), Anna Tovo (now teacher at high school), Francesco Mambretti (now post-doc at IIT Genova), Carlos Plata (now PI at University of Sevilla), Meghdad Seedian (now post doc at Imperial College), Silvia Lazzardi (now research technician at University of Cagliari), Jesus Encinas, Luca Martinoia.

I currently supervise:

- 6 Ph.D students (Andrea Veronese, Kobe Simeons, Luca Tavarello, Marcello Seppi, Marco Zenari, Fabio Menegazzo) and

- 2 Post docs (Giacomo Barzon, Benedetta Mariani)

- **TEACHING ACTIVITIES**

Current Teaching

2024 -now: Lecturer (32 hrs) for the Master course “Physical Model of Living Systems”, Degree in Physics of Data, Department of Physics & Astronomy, University of Padova.

2022 -now: Lecturer (32 hrs) for the course (BA level) “Physics”, Degree in “Science and Technology for the Environment”, Department of Chemistry UNIPD.

2023- now: Lecturer (48 hrs) for the course (BA level) “General Physics I”, Degree in “Astronomy”, Department of Physics & Astronomy, UNIPD.

2018- now: Lecturer (8 hrs) for the Ph.D. course in Neuroscience: “Graph Theory, Null models and Brain Controllability”, PhD in Neuroscience, Padova Neuroscience Center, University of Padova
Past Teaching

Previous Teaching

2022 -2023: Lecturer (48 hrs) for the Master course “Physical Model of Living Systems”, Degree in Physics of Data, Department of Physics & Astronomy, University of Padova.

2018-2022 second semester-Lecturer (10 hrs) for the Ph.D. course “Graph Theory and Null models”, PhD in Neuroscience, Padova Neuroscience Center, University of Padova

2019 - 2022 first semester. Lecturer (48 hrs) for the Master course “Quantitative Life Science”, Degree in Physics of Data, ” Department of Physics & Astronomy, University of Padova.

2018/19-2022 first semester. Lecturer (16 hrs) for the course (BA level) “Statistics and Data Analysis”, Degree in “Optics and Optometric”, Department of Physics & Astronomy, UNIPD.

2018-2019, second semester. Lecturer (12 hrs) for the Ph.D. course “Stochastic processes with applications to complex systems”, Doctoral School in “Physics”, University of Padova

2018-2019 , second semester. Lecturer (48 hrs) for the course “Statistical Mechanics of Complex System”, Master Degree in “Physics of Data”, Department of Physics & Astronomy, UNIPD.

2012-2024. Lecturer for a module (4 hours) on Complex Systems, for the master course “Scientific Communication” organized yearly by the University of Padova.

2017-2018, second semester. Lecturer (28 hrs) for the course (MA level) “Statistical Mechanics of Complex System”, Department of Mathematics Engineering, University of Padova.

2016-2018, second semester. Lecturer (32 hrs) for the course (MA level) “Modern Physics”, Mathematics Department, University of Padova.

2016-2017: Lecturer (8hrs) and class coordinator for the course (graduate level): “Complex System through Basic Examples” Graduate School of Physics, University of Padova.

2016-2017: Lecturer (36 hrs) for the course (BA level) “Experimental Physics 2”, Optic & Optometrics class, Physics and Astronomy Department, University of Padova.

2015-2016: Laboratory Assistant (24 hrs) for the laboratory class (BA level) “Physics 1”, Engineering Department, University of Padova.

2015-2016: Lecturer (26 hrs) for the course (BA level) “Physics”, Biotechnology class, Biology Department, University of Padova.

2015-2016: Lecturer and class coordinator for the course (graduate level): “Complex System through Basic Examples” Graduate School of Physics, University of Padova.

2013-2014: Lecturer and class coordinator for the course (graduate level): “Introduction to Probability on Graphs” Graduate School of Physics, University of Padova.

2013-2015: Lecturer for the BA class “Model of Natural Forms”, the Galilean advanced school of Science, University of Padova. I lectured in succession with Prof. Amos Maritan, and designed the part of the class regarding the topic of Complex Networks (6 out of 15 lectures).

- **INVITED PRESENTATIONS AT NATIONAL OR INTERNATIONAL CONFERENCES/WORKSHOPS**

1. Workshop Challenge Arcidosso, Arcidosso, Italy, 3-6 July 2025
2. International Workshop: Complexity in Living Systems, Palermo, Italy, 9-12 July 2025
3. International Workshop: Complex Spreading: from bacteria to innovations, 2025, Bad Honnef, Germany, 12-17 January 2025
4. International Conference “Statistical Physics of Cognition”, London, UK, 25-26/11/2024
5. International Workshop “Theoretical Challenges in Network Science”, KIAS, Seoul, Korea, 3-8 November 2024
6. ICNC International Conference in Computational Neuroscience, Rome, Italy, 23-25/09/2024.
7. Aspen Summer Workshop 2024, “Physics of Biological Data Analysis”, Aspen USA, July 21-August 18, 2024
8. Statistical and Nonlinear Physics EPS 2024 Prize Conference, Hugo Steinhaus Center, Wrocław, Poland. 14-15 February, 2024
9. Biocean 5D workshop, 8/09/2024, Naples, Italy.
10. XXXI Congresso nazionale SIPF, Siena, Italy, 9-11 Novembre 2023
11. ELLIIT International Symposium “Network Dynamics and Control”, Linköping, Sweden, 20-22 Sept. 2023
12. International Workshop “Ecological perturbations across systems and scales”, Granada, Spain, 15-16 June, 2023
13. International Conference “Criticality in Neural Systems 2022: Collective Behavior, Synchronization, and Complexity, Porter Neuroscience Research Center (National Institute of Health, Bethesda, MD, USA) from Nov. 7 – 9th, 2022
14. International Workshop “Seascape: Theories and Advances on Processes Driving Community Assembly, Biodiversity and Ecosystem Functioning”, organized by AtlanticEco project, Sesimbra, Portugal, 4-7 October 2022.
15. International Conference “Evolution of Complexity from the Statistical Physics Perspective”, organized by A. Alikhanyan National Laboratory, A Yerevan (Armenia), June 29-July 2, 2022
16. International Workshop “Eco-evolutionary Dynamics of Microbial Communities Across Scales”, organized by the International Center of Theoretical Physics (ICTP), Trieste (IT), 08/06/2022
17. International Workshop “Phylogeny and inference: from models to data and back”, organized by Institute Henri Poincaré, Sorbonne University, 01/02/2021-19/02/2022
18. International virtual satellite “Controlling Complex Networks” at NetSci2021 23-06-2021
19. 2nd International Workshop on Complex System, “From ecosystems to society and epidemics”, 9-11 December 2020, organized by the University of General Sarmiento (PIISCO)

20. International Workshop on *“Stochastic and Collective Effects in Neural Systems: Biological aspects, Modeling, Dynamics, Networks, Function and Applications”* Granada , September 17-20th 2019
21. Simposio *“Nuovi orizzonti di Una Scienza in Divenire”*, Gran Sasso Science Institute (GSSI), 25-26 October 2018. Aquila, Italy.
22. International Satellite Workshop *“Information Processing in Complex Systems”*, during the CSS (Complex System Society) annual conference. 24-28 September 2018. Thessaloniki, Greece.
23. INFN workshop on Plexinet and Biophys projects. September 11, 2018. Arcidosso, Italy
24. Advanced International Workshop on Non-equilibrium Systems in Physics, Geosciences and Life Sciences", ICTP, Trieste-Italy, from 14 to 25 May 2018.
25. *“Warning & Caveats in Brain Controllability”*. XXII Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi. June 29, 2017. Parma Italy
26. *“Statistical Physics of Living Systems”*. International Workshop of young Elite, Guangzhou University, December 18-20, 2016, Guangzhou, China.
27. *“Effect of localization on the stability of mutualistic ecological networks”*. XXI Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi. June 28, 2016. Parma Italy
28. *“Quantitative Laws II– From physiology to ecology, from interaction structures to collective behavior”*. International Workshop, June 13-24, 2016, Como, Italy
29. *“Water, a Global Resource”*, 1st National Workshop on socio-economic and environmental consequence of the global food trade. Turin, Italy - 5-6.05.2016
30. *“Optimality & stability in mutualistic ecological networks”*. 3rd Workshop on Complex Systems. University of Milan, Italy – 28.01.2016.
31. *“The effects of international trade and land grabbing on food security”*, SESYNC (National Socio-Environmental Synthesis Center), Annapolis, MD (USA), 26-29/01, 4-6/05, 19-21/10 (2015)
32. *“Bottom-up evolution of cooperation: linking local and global environmental commons”*,
33. Grantham Research Institute, London School of Economics, UK. 29/10/ 2015.
34. *“Space, time and socio-ecological transitions”*, Université Paris Diderot, France, 13/10/2015.
35. *“Biological Physics Community Day”*, Paris, 07/11/2014
36. *“Quantitative Laws of Genome Evolution”*, Como (IT), September 2013.

• **INVITED PRESENTATIONS AT INTERNATIONAL SCHOOLS**

1. Invited lectures at the international summer school *“Complex Networks: Theory, Methods, and Applications”*, 12-16/06/2025, Villa del Grumello, Como, Italy
2. Invited lectures at the international SIFS summer school, 02/09/2024, Catania, Italy
3. Invited lectures at the international SYNERGY summer school, 24-28/06/2024, Ischia, Italy
4. Invited lecture at the international school NETSCIX, 22/01/2024, Venice, Italy
5. Invited lectures at the international MSCX Summer School, 28/06/2023, Catania, Italy
6. Invited lecture at the international School on Quantitative Ecological Genomics in the Tara Ocean, 29th March – 2th April, 2021
7. Invited Lecture at the international School on System Biology Udine, 23th March, 2021
8. Invited Lecture at the international Winter School *“MRInference: from data to knowledge”*, 15th – 19th February, 2021
9. Invited Lecture Winter School on Quantitative Systems Biology: Quantitative Approaches in

Ecosystem Ecology, ICTP, December 1-17, 2020

10. Invited Talk at Model Guided Data Science, Lake Como School of Advanced Studies, September 2-6, 2019
11. Invited Lectures at the Udine Ph.D. Summer School on System Biology, September 2018
12. Invited Talk at Shanghai Tech Summer School at University of Padova, August 2016, 2017, 2018.
13. Invited Talk at the Salina International Summer School on Complex networks, September 2017
14. Invited Lecturer at the International School "Physics of Complex Systems"; May 16-17-18, at the SISSA-International School for Advanced Studies, Trieste, Italy.

• **INVITED SEMINARS IN INTERNATIONAL ACADEMIC INSTITUTES AND UNIVERSITIES**

1. High Meadows Environmental Institute, Princeton University, New Jersey, 27/09/2022
2. Center for Advanced Mathematical Science, Lebanon, 25/07/2022
3. Max Planck Institute for Human Development, Berlin, 5th July 2021
4. Santa Fe Institute of Complex Systems, New Mexico, USA, February 2019
5. FBK, Trento, Italy November 2018
6. University of Udine, Italy, March 2018.
7. University of California, Berkley, February 2017
8. University of Udine, Italy, January 2017.
9. Villa del Grumello, Como, Italy, October 2016.
10. DTU Aqua, Copenhagen, Denmark, December 2015
11. Imperial College of London, Center of Complex System, October 2015.
12. Masdar Institute, Abu Dhabi, United Arab Emirates, December 2015.
13. University of Michigan, Center for the Study of Complex Systems, January 2015.
14. Department of Applied Mathematics, University of Leeds, November 2014.
15. Environmental Science Department of the University of Virginia, February 2014
16. Department of Environmental Engineering, Ecole Polytechnique de Lausanne, September 2013

• **ORGANISATION OF SCIENTIFIC MEETINGS**

29/09- 04/10/2025 International Alma Dal Co School in Collective Behavior, Venice, Italy

29-30/09/2025 International Workshop Satellite @Bernstein Conference, Frankfurt, Germany

01-03/06/2025 International Workshop Satellite StatPhys25, Venice, Italy

03-07/06/2024 International Conference POLS 2024, Trieste, Italy

28-31/05/2024 International Conference SMEEB 2024, Aquila, Italy

13-15/03/2024 International Workshop: Reimagining Ocean Ecology, Venice, Italy

20-22/04/2023 International Spring Workshop of Physics of Data, Asiago, Italy

25-27/09/2023 International Workshop on Physics of Data and Societal Challenges, Asiago.

22-25/09/2022 International Workshop on Physics of Machine Learning, Asiago, Italy

06-08/05/2022 International Workshop on Physics of Data, Venice, Italy

27/10/2021. International Satellite Workshop @CCS2021 "Robustness, Adaptability and Critical Transitions in Living Systems #4, Lyon, France (<https://liphlab.github.io/REACT2021/>)

22-25/06/2021 International Conference on Stochastic Models and Experiments in Ecology and

Biology (SMEEB) 2021, European Center of Living Technology, Venice.

03/10/2019. International Satellite Workshop @CCS2019 “Computational Social Science”.
Singapore

9-14/09/2019 International School of Computational and Theoretical Models in Neuroscience,
Venice, Italy

1-03/07/2019 First national Conference of the Italian Chapter of the Complex System Society,
Trento, Italy

24-28/09/2018. Member of the Steering Committee of the International Conference of Complex
Systems (CCS) 2018, Thessaloniki, Greece.

25/09/2018. International Satellite Workshop @CCS2018 “Robustness, Adaptability and Critical
Transitions in Living Systems #3” . Thessaloniki, Greece

12/06/2018 International Satellite Workshop of NETSCI 2018: *Ecological networks: spandrels,
selection, and assembly*. Paris, France

05-07/04/2018 International Workshop: “Stochastic Modeling in Ecology and Evolutionary
Biology”, Venice, Italy.

20/09/2016 International Conference Satellite: “Robustness, Adaptability and Critical Transitions
in Living Systems #2”, within the International Conference of Complex System 2016 (CCS16). I have
been the leading organizer of this conference satellite.

27-29/06/2016 XXI Italian National Conference of Statistical Physics and Complex Systems
(member of the organizing committee).

16-19/09/2015 International Workshop: “Living systems, from interaction patterns to critical
behaviour”, Venezia, (Italy). 60 participants. I have been the leading organizer of this conference.

24/09/2014 International Conference Satellite: “Robustness, Adaptability and Critical Transitions
in Living Systems”, within the European Conference of Complex System 2014 (ECCS14). 40
participants. I have been the leading organizer of this conference satellite.

2018-2019 Member of the program committee of COMPLENET'19 (10th International Conference
on Complex Network)

2016-2019 Member of the program committee of International Conference on Complexity, Future
Information Systems and Risk (COMPLEXIS). Edition 1-4.

- **ISTITUTIONAL SERVICE**

From 10/2025 President of the master’s degree in Physics of Data, UNIPD

From 10/2025 Member of the Teaching Board of the Physics & Astronomy Dept., UNIPD

From 10/2025 President of the master’s degree in physics of Data, UNIPD

From 09/2025 President of CSS/ITALY, the Italian Chapter of Complex System Society

2022-now Vice-coordinator of the Teaching Board of the Neuroscience Doctoral School, UNIPD.

2018-now Member of the Advertisement Board of the Doctoral School in Neuroscience, UNIPD.

2018-now Member of the Board of the Doctoral School in Neuroscience, University of Padova.

2018-2024 Member of the Organizing Committee (Comitato ordinatore) of the Master Program
“Physics of Data”, Physics and Astronomy Department, University of Padova.

2018-2025 *Elected vice-president* of CSS/ITALY, the Italian Chapter of Complex System Society

2010-2014 *Member of*, European and American Geophysical Union. **2013-2021**: Member of the Complex Systems Society (CCS); **2017-now**: elected member in the CCS council.

2017-2020. *Elected member* of the Steering Committee of the Complex System Society (CSS).

2020-now: Member of the Statistical Physics Italian Society (SIFS)

- **ACADEMIC SERVICES & ACTIVITIES:**

See <https://publons.com/author/558645/samir-suweis#profile> for my certified academic services.

Editor: Academic Editor in PLOS ONE and PLOS COMPUTATIONAL BIOLOGY.

Special issues: in “water-food nexus” in Advanced Water Resources; “Entropy across Disciplines” in Entropy;

Referee in journals: Nature, PNAS, PRL, Proceedings of the Royal Society B, Physical Review E, Plos One, Water Resource Research, Geophysical Research Letters, Advances in Water Resource, Journal of Theoretical Biology, Journal of Econometrics, Soil Biology and Biochemistry, Entropy, Ecology, Journal of Animal Ecology, Journal of Hydrology, Communications in Nonlinear Science and Numerical Simulation, Oikos.

Referee for funding project: National Science Foundations (USA, Swiss, Poland)

- **AWARDS**

Among the winners (5 prizes) of the regional Start-Up competition START CUP 2021 <https://www.unipd.it/news/start-cup-veneto-2021-vincitori>

- **THIRD MISSION**

Together with my former post-doc collaborator Davide Coli I have formed TooBusy, a Start-Up aimed at provide smart solution to public transport planning, through data driven simulations based on statistical physics and machine learning (<https://toobusy.city/>)

I yearly organize meetings and hackathon with companies and students.

Science Communication and Public Engagement

08/02/2022 Fermi day for scientific high schools of Padova, “Self-organization and Optimality”, Padova, Physics and Astronomy Department.

18-22/2021 Exposition “Io: Coscienza e Linguaggio”, International Cultural Festival Rimini Meeting, Euresis Cultural Association.

18-22/2020 Exposition “Living Being”, International Cultural Festival Rimini Meeting, Euresis Cultural Association.

18-22/08/2019 Exposition “What’s in your Brain”, International Cultural Festival Rimini Meeting, Euresis Cultural Association.

15/05/2019 Seminar “Physics of Data: Complex Systems and beyond” at the “Einstein” high school, Piove di Sacco, Padova, Italy.

27/11/2018 Seminar “The change of paradigm of AI and its impact on constitutional law” hosted by Università Cattolica, Milan, Italy.

12/10/2018 Seminar “Artificial Intelligence and Big Data: a paradigm shift for all” to students from Law, ICT, Data Science, and Physics master degrees, hosted by the Physics and Astronomy Department for the “LAW of BIG DATA” UNIPD didactic innovative project.

26/06/2018 Seminar “Physics of Living Systems” to high school students hosted by the Physics and Astronomy Department for the “ESTAGE” project.

23/04/2018 Finalist at the national competition of science communication “Giovedì Scienza”, Torino, Italy.

13/04/2018 Seminar “I, Robot”, on Big Data and Artificial Intelligence at Liceo Banfi (Vimercate, MI) and Tenca (Milano).

25/10/2017 Seminar “Big Data and Artificial Intelligence” at the refresher course for high School teacher organized by DIESSE Lombardia, in Milan, Italy.

2016. Public Seminar at the International cultural festival “Bergamo Scienza”

2015. Public seminar “Cosa centra la Fisica con gli ecosistemi” (“la Scienza in un bicchiere” series), organized by Associazione Quartiere Risorgimento, Padova, February 2015.

06/2014-2017. Tutor at ESTAGE, internship for high-school students at Department of Physics and Astronomy, Università degli Studi di Padova

2011-2015. Series of lectures on “Networks and its Applications” at the “Romano Bruni” high school in Padova, Dieffe high school in Padova, and Dieffe high school in Spinea (Venice).

- **FULL LIST OF PUBLICATIONS**

Peer-Reviewed Journal Articles:

All my articles can be found in my [Google Scholar](#) or [Scopus](#) page.

My works have been also cited in:

ScienceDaily Rare tree species safeguard biodiversity in a changing climate, <https://www.sciencedaily.com/releases/2017/10/171018151914.htm>

The New Scientist, "African land grab could lead to future water conflicts" (by Anil Ananthaswamy), issue 2814, May 2011 (<http://www.newscientist.com/article/mg21028144.100>)

Cyberpresse.ca, "L'eau virtuelle domine le commerce de l'or bleu" (by Mathieu Perreault), La Presse, June 2011

Unesco Global Water Forum, “Using water footprints to estimate nations’ carrying capacities and demographic sustainability”, <http://www.globalwaterforum.org/2013/04/09/>

European Commission DG Environment News Alert Service: “Equitable and efficient use of water resources is key to sustainable population growth”. In *Science for Environment Policy*, edited by SCU, The University of the West of England, Bristol (2013)

News@Northeastern (Northeastern University's primary source of news and information): Article on our Nature paper: “You scratch my back and I’ll scratch yours” (by Angela Herring), August 2013 <http://www.northeastern.edu/news/2013/08/you-scratch-my-back-and-ill-scratch-yours>

Le Scienze (Italian edition of Scientific American). Feature article on our Nature paper: “I giusti rapporti tra fiori ed insetti”, (by Alex Saragosa). September, 2013