

SAMIR SUWEIS BRIEF CURRICULUM VITAE

• 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.

Homepage: <http://loop.frontiersin.org/people/294830/overview>

• 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(S)

From 04/2016. Ricercatore di Tipo A (3+2 year contract equivalent to *Assistant Professor*. This is not a permanent position), Physics and Astronomy Department, Padova University, Italy.

• PREVIOUS POSITIONS

2013-2016. *Post-Doc Researcher*, Physics and Astronomy Department, Padova University, Italy.

2011-2013. *Post-Doc Researcher* at the LIPh Lab (Laboratory of Interdisciplinary Physics) - Physics and Astronomy Department, Padova University.

• FELLOWSHIPS

2013-2015 Young Scholar Grant, Physics & Astronomy Department, University of Padova, Italy (18000 E).

05/2010- 01/2011. *Visiting research student*, Civil and Environmental Engineering Department, Princeton University, NJ (USA).

• SUPERVISION OF BACHELOR, MASTER AND GRADUATE STUDENTS

I have co-supervised (research design and mentoring) 5 Graduate, 7 Master and 4 Bachelor students.

| Year | Topic / Title | Student | Level |
|---------|---|---------------------|----------|
| Ongoing | Dynamics & Controllability of Neuromorphic networks | Ileana Apicella | Ph.D. |
| Ongoing | Resilience in Socio-Ecological Systems | Chengyi Tu | Ph.D. |
| Ongoing | Controllability in Living Network | Daniel M. Busiello | Ph.D. |
| 2017 | Inferring Causality in Complex Systems | Jacopo Schiavon | Master |
| 2017 | Criticality in Living System: a Game theory perspective. | Francesco Simionato | Master |
| 2017 | Application of Voter Model In Ecology | Emanuele Pigani | Bachelor |
| 2017 | Emergent Pattern in Global Terrorism | Nicola Nicodemo | Bachelor |
| 2017 | Complexity-Stability Debate: a random matrix approach | Alessandro Spiezia | Master |
| 2017 | Emergence Of Biodiversity & The Definiton Of Species | Niccolo Ancieschi | Master |
| 2017 | Neural networks for discrimination of γ and neutrons | Luca Morselli | Bachelor |
| 2016 | Emergence of Biodiversity in neutral populations | Davide Biraghi | Master |
| 2016 | Network Architecture of Boltzmann Machines | Michele Piccolini | Bachelor |
| 2015 | Localization in Bacteria Dynamics | Rodrigo Rocha | Ph.D. |

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|------|---|---------------------|----------|
| 2015 | Randomness and Criticality in Biological Interactions | Jacopo Grilli | Ph.D |
| 2015 | Validation of Statistical Model of Spatial Flows | Irene Malvestio | Master |
| 2015 | Criticality in Living Systems | Marco Faggian | Master |
| 2015 | Order statistics of random walks. | Matteo Battilana | Master |
| 2015 | Citation dynamics in the network of scientific papers | Fabio Peruzzo | Master |
| 2015 | Forma ottimale dei dotti xilematici | Matteo Sireci | Bachelor |
| 2014 | Inverse Ising Problem applied to Ecology | Matteo Ardonisio | Master |
| 2014 | Ecological networks | Marco Pellizzari | Master |
| 2013 | Random Matrix and Ecological System | Eleonora De Lazzari | Master |
| 2013 | Stochastic Approach to Soil Moisture Dynamics | Lorenzo Voltolina | Bachelor |
| 2013 | Statistical Mechanics of Networks | Fabio Peruzzo | Bachelor |
| 2013 | Fragility and Robustness in Complex Networks | Irene Malvestio | Bachelor |

- **TEACHING ACTIVITIES**

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

2016-2018: Lecturer (32 hrs) for the course (MA level) “Modern Physics”, Mathematics Department, 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).

2012-2016: Lecturer for a module on Complex Systems, for the master course “Scientific Communication” organized yearly by the University of Padova, Physics & Astronomy Department.

- **ORGANISATION OF SCIENTIFIC MEETINGS**

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.

- **MAJOR COLLABORATIONS**

| Field | Collaborators |
|---|--|
| Statistical Physics and Complex Systems Modeling | A. Maritan, J. Hidalgo, (IT), J. Grilli, S. Allesina, J.R. Banavar (USA), F. Simini and S. Azaele (UK); Shnerb, N. (IL), Munoz (ES), M. Cosentino-Lagomarsino (FR) |
| Biological and Ecological Data | T. Bellini, T. Anfodillo. S. Vassanelli, M. Corbetta, D. Iudicone (Italy), C. DeVargas (France). |
| Eco-Hydrology, Virtual Water Networks and Food Security | A. Rinaldo, (Switzerland), I. Rodriguez-Iturbe, M. Konar, P. D’Odorico, J. Carr and A. Porporato (USA); E. Bertuzzo (IT) |

- **PUBLICATION AND CITATION STATISTICS**

My publications include **1 in Nature, 2 in Nature Communications, 1 in Science Advance and 4 in PNAS, 1 Review of Modern Physics**. I have disseminated my work internationally through more than 20 invited talks and 15 contributed presentations. Our research has been also mentioned in American Scientist, Nature News & Views PNAS Commentary, European Commission DG Environment and Unesco Global Water Forum. *Citations refer to November 2017.

| | Index* | Scholar | Scopus |
|--------------|--------|---------|--------|
| Publications | | 35 | 35 |
| Citations | | 789 | 515 |
| h-index | | 15 | 12 |

- **SCIENCE COMMUNICATION AND PUBLIC ENGAGEMENT**

2017. Seminar on Big Data and AI 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.

2014. 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).

- **INVITED PRESENTATIONS AT INTERNATIONAL WORKSHOPS**

- “Warning & Caveats in Brain Controllability”. XXII Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi. June 29, 2017. Parma Italy

- “Statistical Physics of Living Systems”. International Workshop of young Elite, Guangzhou University, December 18-20, 2016, Guangzhou, China.

- “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

- “Quantitative Laws II– From physiology to ecology, from interaction structures to collective behavior”. International Workshop, June 13-24, 2016, Como, Italy
- “Quantitative Laws II– From physiology to ecology, from interaction structures to collective behavior”. International Workshop, June 13-24, 2016, Como, Italy
- “Water, a Global Resource”, 1st National Workshop on socio-economic and environmental consequence of the global food trade. Turin, Italy - 5-6.05.2016
- “*Optimality & stability in mutualistic ecological networks*”. 3rd Workshop on Complex Systems. University of Milan, Italy – 28.01.2016.
- “*Resilience and Reactivity of global food security*”. Sustain DTU Conference, Copenhagen, 17.12.2015
- “*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)
- “*Bottom-up evolution of cooperation: linking local and global environmental commons*”, Grantham Research Institute, London School of Economics, UK. 29/10/ 2015.
- “*Space, time and socio-ecological transitions*”, Université Paris Diderot, France, 13/10/2015.
- “*Biological Physics Community Day*”, Paris, 07/11/2014
- “*Quantitative Laws of Genome Evolution*”, Como (IT), September 2013.

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

- University of California, Berkley, February 2017
- University of Udine, Italy, January 2017.
- Villa del Grumello, Como, Italy, October 2016.
- DTU Aqua, Copenhagen, Denmark, December 2015
- Imperial College of London, Center of Complex System, October 2015.
- Masdar Institute, Abu Dhabi, United Arab Emirates, December 2015.
- University of Michigan, Center for the Study of Complex Systems, January 2015.
- Department of Applied Mathematics, University of Leeds, November 2014.
- Environmental Science Department of the University of Virginia, February 2014
- Department of Environmental Engineering, Ecole Polytechnique de Lausanne, September 2013

- **INVITED PRESENTATIONS AT INTERNATIONAL SCHOOLS**

- Invited Seminar at Salina Summer School on Complex networks, September 2017
- Shanghai Tech Summer School at University of Padova, August 2016 and 2017.
- Lecturer at the International School “Physics of Complex Systems”; May 16-17-18, at the SISSA-International School for Advanced Studies, Trieste, Italy.

- **ACADEMIC SERVICES & ACTIVITIES:**

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

Editor: Special issue “water-food nexus” on Advanced Water Resources. Species Issue “Entropy across Disciplines” on Entropy. Special Issue; Academic Editor in PLOS ONE;

Referee in journals: Nature, PNAS, 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 Foundation. Swiss National Science Foundation.

- **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

Member of, European and American Geophysical Union (2010-2011, 2014), Complex Systems Society (2013-2017).

I'm member of the Steering Committee of the Complex System Society (2017-2020).

- **RESEARCH GRANTS – THIRD-PARTY FUNDING**

As Principal Investigator:

SID 2017 Grant (2017 - ~ 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 (2013 - ~ 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.

I have also been involved as a collaborator in

PRIN (Research Project of National Interest) Grant 2012 (~ 260.000 Euros): “Statistical Physics of Active Matter: Disentangling Complexity Patterns in Biological Systems”.

PRIN (Research Project of National Interest) Grant 2010 (~ 200.000 Euros): “Dynamics of Communities” .

Other Grants: Winner of the funding initiative "International Universities Cooperation" – 2017

List of Publications

Peer-Reviewed Journal Articles:

1. Tovo, A., Suweis, S., Formentin, M., Favretti, M., Volkov, I., Banavar, J. R., ... & Maritan, A. (2017). Upscaling species richness and abundances in tropical forests. *Science Advances*, 3(10), e1701438.
2. Grilli, J., Adorasio, M., Suweis, S., Barabás, G., Banavar, J. R., Allesina, S., & Maritan, A. (2017). Feasibility and coexistence of large ecological communities. *Nature Communications*, 8.
3. Laio, Francesco, Maria Cristina Rulli, and Samir Suweis. (2017): "The challenge of understanding the water-food nexus complexity." *Advanced Water Resources* 406-407.
4. Busiello, D. M., Suweis, S., Hidalgo, J., & Maritan, A. (2017). Explorability and the origin of network sparsity in living systems. *Scientific reports*, 7(1), 12323.

5. Tu, Chengyi, et al. "Collapse of resilience patterns in generalized Lotka-Volterra dynamics and beyond." *Physical Review E* 95.6 (2017): 062307.
6. Hidalgo, J., Suweis, S., & Maritan, A. (2017). "Species coexistence in a neutral dynamics with environmental noise". *Journal of Theoretical Biology*, 413, 1-10.
7. Seekell, D.,...,Suweis, S. et al. "Resilience in the global food system." (2017) *Environmental Research Letters* 12.2: 025010.
8. Tu, Chengyi, Joel Carr, and Samir Suweis. (2016) "A data driven network approach to rank countries production diversity and food specialization". *PLoS ONE* 11(11): e0165941, 2016 [doi:10.1371/journal.pone.0165941](https://doi.org/10.1371/journal.pone.0165941).
9. Rodrigo P. Rocha, Wagner Figueiredo, Samir Suweis, and Amos Maritan (2016), "Species survival and scaling laws in hostile and disordered environments" *Physical Review E* Vol. 94, Issue 4
10. Carr, J. A., D'Odorico, P., Suweis, S., & Seekell, D. A. (2016). What commodities and countries impact inequality in the global food system?. *Environmental Research Letters*, 11(9), 095013.
11. Marchand, Philippe, Joel A. Carr, Jampel Dell'Angelo, Marianela Fader, Jessica A. Gephart, Matti Kumm, Nicholas R. Magliocca, Samir Suweis et al. "Reserves and trade jointly determine exposure to food supply shocks." *Environmental Research Letters* 11, no. 9 (2016): 095009.
12. Fader, Marianela, Maria Cristina Rulli, Joel Carr, Jampel Dell'Angelo, Paolo D'Odorico, Jessica A. Gephart, Matti Kumm, Samir Suweis et al. "Past and present biophysical redundancy of countries as a buffer to changes in food supply." *Environmental Research Letters* 11, no. 5 (2016): 055008.
13. Azaele, Sandro, Samir Suweis*, Jacopo Grilli, Igor Volkov, Jayanth R. Banavar, and Amos Maritan. "Statistical Mechanics of Ecological Systems: Neutral Theory and Beyond." *Review of Modern Physics*, Vol. 88, Issue 3, 2016 <https://doi.org/10.1103/RevModPhys.88.035003>
14. Jorge Hidalgo, Jacopo Grilli, Samir Suweis, Amos Maritan and Miguel A Muñoz, "Cooperation, competition and the emergence of criticality in communities of adaptive systems", *J. Stat. Mech.* 033203 (2016). DOI: 10.1088/1742-5468/2016/03/033203
15. Suweis Samir*, Jacopo Grilli, Jayanth Banavar, Stefano Allesina, and Amos Maritan. "Effect of Localization on the Stability of Mutualistic Ecological Networks." *Nature Communication*, 6:10179 (2015) DOI: 10.1038/ncomms10179) [Impact Factor: 11.329 ISI Journal Citation Reports (Multidisciplinary)]
16. S. Suweis*, J. Carr, A. Rinaldo, A. Maritan & P. D' Odorico: Resilience and reactivity of global food security, *Proceedings of the National Academy of Sciences (PNAS)*, Vol. 112 Nr. 22, pp. 6902–6907, (2015) [Impact Factor: 9.737 ISI Journal Citation Reports © Ranking: 2012: 4/56 (Multidisciplinary)]
17. D. Kessler, S. Suweis, M. Formentin & N.M. Shnerb: Neutral dynamics with environmental noise:

Age-size statistics and species. *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics* 92 (2), 022722 (2015) [Impact Factor 2.313 ISI Journal Citation Reports ©]

18. Azaele, Sandro, Amos Maritan, Stephen J. Cornell, Samir Suweis, Jayanth R. Banavar, Doreen Gabriel, and William E. Kunin. "Towards a unified descriptive theory for spatial ecology: predicting biodiversity patterns across spatial scales." *Methods in Ecology and Evolution* 6, no. 3 (2015): 324-332.
19. J. Hidalgo, J. Grilli, S. Suweis, J. Banavar, M. Munoz and A. Amos: Information-based fitness and the emergence of criticality in living systems. *PNAS*, Vol. 111, Nr. 28, pp. 10095-10100 (2014).
[Impact Factor: 9.737 ISI Journal Citation Reports © Ranking: 2012: 4/56 (Multidisciplinary)]
20. S. Suweis & P. D'Odorico: Early Warning Signs in Social-Ecological Networks. *PLoS ONE* 9(7): e101851. doi:10.1371/journal.pone.0101851 (2014) [Impact Factor: 3.534 ISI Journal Citation Reports]
21. S. Suweis, J. Grilli and A. Maritan: Effects of Mixing of interactions Types and Constant Interaction Effort Allocation on Ecological Networks Stability, *Oikos*, DOI: 10.1111/j.1600-0706.2013.00822.x(2014) [Impact Factor: 3.322 ISI Journal Citation Reports © Ranking: 2012: 32/136 (Ecology)]
22. Grilli, S. Suweis and A. Maritan: Growth or Reproduction: Emergence of an Evolutionary Optimal Strategy, *Journal of Statistical Mechanics: Theory and Experiment* (10), P10020 (2013)
[Impact Factor 1.866 ISI Journal Citation Reports ©]
23. S. Suweis, F. Simini, J. Banavar and A. Maritan: Emergence of Structural and Dynamical Properties of Ecological Mutualistic Networks, *Nature*, Vol. 50, pp. 449-452 (2013). [Impact Factor: 38.597 ISI Journal Citation Reports © Ranking: 2012: 1/56 (Multidisciplinary)]
This article has been featured in Nature News & Views: Ecology: Abundant equals nested by C. Fontaine
24. Hödl, L. Mari, E. Bertuzzo, S. Suweis, K. Besemer, A. Rinaldo and T. Battin, Biophysics on cluster dynamics and architectural differentiation of microbial biofilms in contrasting flow environments, *Environmental Microbiology* early edition doi:10.1111/1462-2920.12205 (2013)
[Impact Factor: 5.756 ISI Journal Citation Reports © Ranking: 2012: 14/116 (Microbiology)]
25. S. Suweis, A. Rinaldo, A. Maritan and P. D'Odorico, Water-controlled wealth of nations, *Proceedings of the National Academy of Sciences (PNAS)*, Vol. 110, Nr. 11, pp. 4230-4233 (2013). [Impact Factor: 9.737 ISI Journal Citation Reports © Ranking: 2012: 4/56 (Multidisciplinary)] ***This article has been featured in PNAS commentary: Fifty years to prove Malthus right by L.H. Kaacka, and G. Katul***
26. C. Dalin, M. Konar, S. Suweis, N. Hanasaki, and I. Rodriguez-Iturbe, Modeling past and future structure of the global virtual water trade network, *Geophysical Research Letters*, Vol. 39, Nr. L24402 (2012). [Impact Factor: 3.982 ISI Journal Citation Reports © Ranking: 2012: 11/172 (Geosciences Multidisciplinary)]
27. S. Suweis, A. Rinaldo and A. Maritan, An exactly solvable coarse-grained model for species diversity. *Journal of Statistical Mechanics: Theory and Experiment*, P07017 (2012)
28. S. Suweis, E. Bertuzzo, L. Mari, A. Maritan, I. Rodriguez-Iturbe and A. Rinaldo, On Species

Persistence-Time Distribution, *Journal of Theoretical Biology* 303,15-24 (2012)

- 29.E. Bertuzzo, S. Suweis, L. Mari, A. Maritan, I. Rodriguez-Iturbe and A. Rinaldo, Spatial effects on species persistence and implications for biodiversity, *Proceedings of the National Academy of Sciences (PNAS)*, Vol. 108, Nr. 11, pp. 4346-4351 (2011).
- 30.S. Suweis, A.M. Porporato, A. Rinaldo and A. Maritan, Prescription-induced jump distributions in multiplicative Poisson processes, *Physical Review E*, Vol. 83, Nr. 6, pp. 061119 (2011).
- 31.M. Konar, C. Dalin, S. Suweis, N. Hanasaki, A. Rinaldo and I. Rodriguez-Iturbe, Water for food: The global virtual water trade network, *Water Resources Research*, Vol. 47, pp. W005520 (2011).
- 32.S. Suweis, M. Konar, C. Dalin, N. Hanasaki, A. Rinaldo and I. Rodriguez-Iturbe, Structure and Controls of the Global Virtual Water Trade Network, *Geophysical Research Letter*, Vol. 38, pp. L10403 (2011).
- 33.S. Shah, R. W. Vervoort, S. Suweis, A. Guswa, A. Rinaldo, and S. Van der Zee, Stochastic modeling of salt accumulation in the root zone due to capillary flux from brackish groundwater, *Water Resources Research*, Vol. 47, pp. W09506 (2011)
- 34.S. Suweis, A. Rinaldo, S. Van der Zee, E. Daly, A. Maritan and A. Porporato, Stochastic modeling of soil salinity, *Geophysical Research Letters*, Vol. 37, Nr. L07404 (2010).
- 35.Fiori, F. Boso, F.P.J. Barros, S. De Bartolo, A. Frampton, G. Severino, S. Suweis and G. Dagan, An indirect assessment on the impact of connectivity of conductivity classes upon longitudinal asymptotic macrodispersivity, *Water Resources Research*, Vol. 46, Nr. W08601 (2010).
- 36.S. Suweis, E. Bertuzzo, G. Botter, A. Porporato, I. Rodriguez-Iturbe and A. Rinaldo, Impact of stochastic fluctuations in storage-discharge relations on streamflow distributions, *Water Resources Research*, Vol.46, Nr. W03517, 2010

Pre-prints:

- 37.Tu, C., Suweis, S., Grilli, J., Formentin, M., & Maritan, A. (2017). Cooperation promotes biodiversity and stability in a model ecosystem. arXiv preprint arXiv:1708.03154.
- 38.Tu, C., Rocha, R. P., Corbetta, M., Zampieri, S., Zorzi, M., & Suweis, S. (2017). Warnings and Caveats in Brain Controllability. arXiv preprint arXiv:1705.08261.

Conference Abstracts

Stochastic Modeling of Soil Salinity, *Geophysical Research*, Vol. 12, EGU2010-6817, EGU General Assembly 2010, Vienna, Austria.

Scaling and Universality of Species Lifetimes, Vol. 13, EGU2011-10386, EGU General Assembly 2011, Vienna, Austria.

Optimal mutualistic networks. *Complenet 2013*, Berlin, Germany.

Emergence of Structural and Dynamical Properties of Ecological Mutualistic Networks, *European*

Conference of Complex System (ECCS), 2013, Barcelona, Spain.

Water-controlled wealth of nations: Using Water Footprints to Estimate Nations Carrying Capacities and Demographic Sustainability, European Geophysical Union (EGU), 2014, Vienna.

Optimization and Localization Ecological Mutualistic Networks, Network Science Conference (NetSci), 2014, Berkely, USA.

Localization Ecological Mutualistic Networks, European Conference of Complex System (ECCS), 2014, Lucca, Italy.

Effect of Localization on the Stability of Ecological Mutualistic Networks, Granada Seminar, 2015, Granada, Spain.

Upscaling Tropical Forest Biodiversity, International Conference of Complex Systems (CCS) 2016, Amsterdam, Netherlands.

Upscaling species richness and abundances in tropical forests, International Conference on Complexity, Networks And Collective Behaviour (BIFI), Zaragoza, 2018

My work in the *NEWS*.

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). Semptember, 2013