

Claudio J. Tessone

Curriculum Vitæ

Personal data

Nationality Argentine, Italian, resident in Switzerland
Birth 15th March, 1974. Cipolletti, Argentina.
Civil status married

Contact Information

✉ URPP Social Networks – Universität Zürich
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Current position

08.2015 – Assistant Professor of Network Science

Place URPP Social Networks
Faculty of Economics, Business Administration and Information Technology
Institution Universität Zürich (CH)

Education

2014. Habilitation on “Complex socio-economic systems”

Place Dept. of Management, Technology and Economics, ETH Zürich (CH)
Thesis “Agent-based modelling of socio-economic systems: Social influence and network interactions”

2002 – 2006. PhD in Physics

Place Institut Mediterrani d’Estudis Avançats. Palma de Mallorca (ES)
Thesis “Synchronisation and collective effects in extended stochastic systems”
Supervisor Prof. Raúl Toral
Grade *Summa Cum Laude*

1993 – 1999. Master in Physics

Place Instituto Balseiro. Universidad Nacional de Cuyo (AR)
Thesis “Stochastic resonance: New control parameters and coupled systems”

Academic positions

2018 – Austrian Blockchain Center. Wien (AT)

Position *Member*

2016 – Centre for Blockchain Studies UCL. London (UK)

Position *Fellow*

2014 – Institute for Advanced Studies IMT. Lucca (IT)

Position *Visiting professor*

12.2014 – **07.2015**. URPP Social Networks, Universität Zürich (CH)

Position *Research Associate – Project leader for “Networks and Consumers”*

03.2007 – **12.2014**. Chair of Systems Design. ETH Zürich (CH)

Position *Senior researcher*

09.2006 – **09.2007**. Science Faculty. Universitat de les Illes Balears (ES)

Position *Visiting professor*

07.1999 – **08.2002**. Faculty of Exact Sciences. Universidad Nacional de La Plata (AR)

Position *Research associate*

Institutional responsibilities and Board membership

2017 –. Founder and Steering committee member of the “UZH Blockchain Centre” (CH)

2018 –. Founding member of the “Swiss Centre for Data and Network Sciences” (CH)

2017 –. Member of the Academic Board of the Excellence Initiative “Social Interactions and Complex Dynamics”. Université Côte d’Azur (FR)

2016 –. Member of the Science IT Board. Universität Zürich (CH)

Project management

Since 2016. Co-Director of the University Research Priority Programme on Social Networks. Universität Zürich (CH)

2018-2019. PI “Visualisation and interaction with models of social and economic complexity”. Universität Zürich (CH)

2017-2018. Sino-Swiss Programmes: Applicant and responsible for three visitors. Universität Zürich (CH)

Scholarships and awards

05.2014 – **10.2014**. Consultant for the Instituto Pesquisa Econômica Aplicada (BR)

Reason Writing and lecturing a book chapter entitled “The complex nature of social systems” for the book *Modeling complex systems for public policies*

07.2002 – **12.2006**. FPI Fellowship of the Spanish Science and Technology Ministry (ES)

Reason *Doctoral studies*

Place *Institut Mediterrani d'Estudis Avançats, Universitat de les Illes Balears*

06.2001 – 09.2002. Fundación Antorchas Fellow

Position *Research assistant at La Plata Physics Institute (AR)*

Place *Universidad Nacional de La Plata*

07.1999 – 06.2001. F.O.M.E.C. Fellow

Position *Research assistant at La Plata Physics Institute (AR)*

Place *Universidad Nacional de La Plata*

07.1995 – 03.1999. Fellowship from of Argentine National Council for Atomic Energy (AR)

Reason *Degree studies*

Place *Instituto Balseiro, Centro Atómico Bariloche*

1993. Participant of the XXXII International Mathematical Olympiad, Istanbul (TR)

1992. Finalist of the IX Argentine Mathematical Olympiad, Buenos Aires (AR)

Publications

- ▷ Publications (accepted/submitted): 72
- ▷ Areas: Complex systems, economics, social sciences, physics, computer science
- ▷ Number of citations: 1140 (ISI's WoS), 2088 (Google Scholar) [06.2018]
- ▷ Average Citations per Item: 19.1 (ISI's WoS)
- ▷ h -index: 18 (ISI's WoS), 25 (Google Scholar)

Peer-reviewed publications

- 54** A. Solé-Ribalta, C.J. Tessone, M.M. Mariani & J. Borge-Holthoefer: "Revealing In-Block Nestedness: A pervasive structural pattern in networks". in *Physical Review E*, vol. **97**, pp. 062302 (2018)
- 53** R. Tanase, C.J. Tessone & R. Algesheimer: "Identification of influencers through the wisdom of crowds". *PLOS ONE* vol. **13**, pp. e0200109 (2018)
- 52** M.V. Tomasello, C.J. Tessone & F. Schweitzer: "Quantifying knowledge exchange in R&D networks: a data-driven model". *Journal of Evolutionary Economics*, <https://doi.org/10.1007/s00191-018-0569-1> (2018)
- 51** Z. Yang, J.I. Perotti: "Hierarchical benchmark graphs for testing community detection algorithms". *Physical Review E*, pp. 052311, vol. **96** (2017).
- 50** A. Grimm & C.J. Tessone: "Analysing the sensitivity of nestedness detection methods". *Applied Network Science*, pp. 37, vol. **2** (2017).
- 49** Z. Yang, R. Algesheimer, and C.J. Tessone: "A comparative analysis of community detection algorithms on artificial networks". *Scientific Reports*, pp. 30750, vol. **6** (2016).
- 48** M.V. Tomasello, C.J. Tessone, and F. Schweitzer: "A Model of Dynamic Rewiring and Knowledge Exchange in R&D Networks" *Advances in Complex Systems*, pp. 1650004 vol. **19** (2016).
- 47** J.I. Perotti, C.J. Tessone, and G. Caldarelli: "Hierarchical mutual information for the comparison of hierarchical community structures in complex networks" *Physical Review E*, pp. 062825 vol. **92** (2015).
- 46** F. Schweitzer, V. Nanumyan, C.J. Tessone, X. Xia: "How do OSS projects change in number and size? A large-scale analysis to test a model of project growth". *Advances in Complex Systems*, pp. 1550008, vol. **17** (2014)
- 45** I. Scholtes, N. Wider, R. Pfitzner, A. Garas, C.J. Tessone & F. Schweitzer: "Slow-Down vs. Speed-Up of Information Diffusion in Non-Markovian Temporal Networks". *Nature Communications*, pp. 5024, vol. **5** (2014)
- 44** D. Garcia, C.J. Tessone, P. Mavrodiev & N. Perony: "The digital traces of bubbles: feedback cycles between socio-economic signals in the Bitcoin economy". *Journal of the Royal Society: Interface*, pp. 20140623, vol. **11** (2014)
- 43** M. Tomasello, N. Perra, C.J. Tessone, M. Karsai & F. Schweitzer: "The role of endogenous and exogenous mechanisms in the formation of R&D networks". *Scientific Reports*, pp. 5679, vol. **4** (2014)
- 42** M.D. König, C.J. Tessone & Y. Zenou: "Nestedness in Networks: A Theoretical Model and Some Applications". pp. 695–752, vol. **9** *Theoretical Economics* (2014)

- 41 M. Bardoscia, G. Luca, G. Livan, M. Marsili & C.J. Tessone: "The Social Climbing Game". *Journal of Statistical Physics*, pp. 440–457, vol. **151** (2013)
- 40 P. Mavrodiev, C.J. Tessone & F. Schweitzer: "Quantifying the effects of social influence". *Scientific Reports*, pp. 1360, vol. **3** (2013)
- 39 R. Pfitzner, I. Scholtes, A. Garas, C.J. Tessone & F. Schweitzer: "Betweenness Preference: Quantifying Correlations in the Topological Dynamics of Temporal Networks". *Physical Review Letters*, pp. 198701, vol. **110** (2013)
- 38 C.J. Tessone, A. Sánchez & F. Schweitzer: "Diversity-induced resonance in the response to social norms". *Physical Review E*, pp. 022803, vol. **87** (2013)
- 37 C.J. Tessone, A. Garas, B. Guerra & F. Schweitzer: "How Big Is Too Big? Critical Shocks for Systemic Failure Cascades". *Journal of Statistical Physics*, pp. 765–783, vol. **151** (2013)
- 36 N. Perony, R. Pfitzner, I. Scholtes, C.J. Tessone & F. Schweitzer: "Enhancing Consensus Under Opinion Bias By Means of Hierarchical Decision Making". *Advances in Complex Systems*, pp. 1350020, vol. **16** (2013)
- 35 F. Schweitzer, P. Mavrodiev & C.J. Tessone: "How Can Social Herding Enhance Cooperation?". *Advances in Complex Systems*, pp. 1350017, vol. **16** (2013)
- 34 C.J. Tessone & D.H. Zanette: "Synchronised firing induced by network dynamics in excitable systems". *EPL (Europhysics Letters)*, pp. 68006, vol. **99** (2012)
- 33 I. Scholtes & C.J. Tessone: "Organic Design of Massively Distributed Systems: A Complex Networks Perspective". *Informatik-Spektrum*, pp. 75–86, vol. **35** (2012)
- 32 G. Harras, C.J. Tessone & D. Sornette: "Noise-induced volatility of collective dynamics". *Physical Review E*, pp. 011150, vol. **85** (2012)
- 31 N. Perony, C.J. Tessone, B. König & F. Schweitzer: "How Random Is Social Behaviour? Disentangling Social Complexity through the Study of a Wild House Mouse Population". *PLoS Computational Biology*, pp. e1002786, vol. **8** (2012)
- 30 C.J. Tessone, M.M. Geipel & F. Schweitzer: "Sustainable growth in complex networks". *EPL (Europhysics Letters)*, pp. 58005, vol. **96** (2011)
- 29 M.D. König & C.J. Tessone: "Network evolution based on centrality". *Physical Review E*, pp. 056108, vol. **84** (2011)
- 28 M.D. König, C.J. Tessone & Y. Zenou: "From Assortative To Dissortative Networks: The Role Of Capacity Constraints". *Advances in Complex Systems*, pp. 483, vol. **13** (2010)
- 27 F. Schweitzer, S. Battiston & C.J. Tessone: "Risk, Markets, Games, and Networks". *The European Physical Journal B*, pp. 439–440, vol. **71** (2009)
- 26 C.J. Tessone & R. Toral: "Diversity-induced resonance in a model for opinion formation". *The European Physical Journal B*, pp. 549–555, vol. **71** (2009)
- 25 M.M. Geipel, C.J. Tessone & F. Schweitzer: "A complementary view on the growth of directory trees". *The European Physical Journal B*, pp. 641–648, vol. **71** (2009)

- 24 A.E. Herrada, C.J. Tessone, K. Klemm, V.M. Eguíluz, E.H. García & C.M. Duarte: “Universal Scaling in the Branching of the Tree of Life”. *PLoS ONE*, pp. e2757, vol. **3** (2008)
- 23 H.-U. Stark, C.J. Tessone & F. Schweitzer: “Slower is faster: Fostering consensus formation by heterogeneous inertia”. *Advances in Complex Systems*, pp. 551–563, vol. **11** (2008)
- 22 C.J. Tessone, D.H. Zanette & R. Toral: “Global firing induced by network disorder in ensembles of active rotators”. *The European Physical Journal B*, pp. 319–326, vol. **62** (2008)
- 21 H.-U. Stark, C.J. Tessone & F. Schweitzer: “Decelerating microdynamics can accelerate macrodynamics in the voter model”. *Physical Review Letters*, pp. 018701, vol. **101** (2008)
- 20 V.M. Eguíluz & C.J. Tessone: “Critical behavior in an evolutionary ultimatum game with social structure”. *Advances in Complex Systems*, pp. 221–232, vol. **12** (2008)
- 19 M. Cencini, C.J. Tessone & A. Torcini: “Chaotic synchronizations of spatially extended systems as nonequilibrium phase transitions”. *Chaos: An Interdisciplinary Journal of Nonlinear Science*, pp. 037125, vol. **18** (2008)
- 18 C.J. Tessone, A. Scirè, R. Toral & P. Colet: “Global firing induced by noise or diversity in excitable media”. *Physical Review E*, pp. 016203, vol. **75** (2007)
- 17 R. Toral & C.J. Tessone: “Finite size effects in the dynamics of opinion formation”. *Communications in Computational Physics*, pp. 177–195, vol. **2** (2007)
- 16 R. Toral, C.J. Tessone & J.V. Lopes: “Collective effects induced by diversity in extended systems”. *European Physical Journal Special Topics*, pp. 59–67, vol. **143** (2007)
- 15 C.J. Tessone, M. Cencini & A. Torcini: “Synchronization of extended chaotic systems with long-range interactions: an analogy to Lévy-flight spreading of epidemics”. *Physical Review Letters*, pp. 224101, vol. **97** (2006)
- 14 C.J. Tessone & H.S. Wio: “Stochastic Resonance in an Extended FitzHugh-Nagumo System: the Role of Selective Coupling”. *Physica A: Statistical Mechanics and its Applications*, pp. 46–54, vol. **374** (2006)
- 13 C.J. Tessone, E. Ullner, A. Zaikin, J. Kurths & R. Toral: “Noise-induced inhibitory suppression of frequency-selective stochastic resonance”. *Physical Review E*, pp. 046220, vol. **74** (2006)
- 12 C.J. Tessone, C.R. Mirasso, R. Toral & J.D. Gunton: “Diversity-Induced Resonance”. *Physical Review Letters*, pp. 194101, vol. **97** (2006)
- 11 C.J. Tessone & R. Toral: “System size stochastic resonance in a model for opinion formation”. *Physica A: Statistical Mechanics and its Applications*, pp. 106–116, vol. **351** (2005)
- 10 A. Scirè, C.J. Tessone & P. Colet: “Dynamics of coupled self-pulsating semiconductor lasers”. *IEEE Journal of Quantum Electronics*, pp. 272–279, vol. **41** (2005)
- 9 C.J. Tessone, R. Toral, P. Amengual, H.S. Wio & M. Miguel: “Neighborhood models of minority opinion spreading”. *The European Physical Journal B*, pp. 535–544, vol. **39** (2004)
- 8 M.A. Fuentes, C.J. Tessone, H.S. Wio & R. Toral: “Stochastic resonance in bistable and excitable systems: effect of non-gaussian noises”. *Fluctuation and Noise Letters*, pp. L365–L371, vol. **3** (2003)

- 7 C.J. Tessone, A. Plastino & H.S. Wio: "Stochastic resonance and generalized information measures". *Physica A: Statistical Mechanics and its Applications*, pp. 37–54, vol. **326** (2003)
- 6 S. Martínez, F. Pennini, A. Plastino & C.J. Tessone: "q-Thermostatistics and the black-body radiation problem". *Physica A: Statistical Mechanics and its Applications*, pp. 85–105, vol. **309** (2002)
- 5 S. Martínez, F. Pennini, A. Plastino & C.J. Tessone: "On the equipartition and virial theorems". *Physica A: Statistical Mechanics and its Applications*, pp. 48–51, vol. **305** (2002)
- 4 A.F. Rozenfeld, C.J. Tessone, E. Albano & H.S. Wio: "On the influence of noise on the critical and oscillatory behavior of a predator-prey model: coherent stochastic resonance at the proper frequency of the system". *Physics Letters A*, pp. 45–52, vol. **280** (2001)
- 3 S. Martínez, F. Pennini, A. Plastino & C.J. Tessone: "Blackbody radiation in a nonextensive scenario". *Physica A: Statistical Mechanics and its Applications*, pp. 224–229, vol. **295** (2001)
- 2 C.J. Tessone, H.S. Wio & P. Hänggi: "Stochastic resonance driven by time-modulated correlated white noise sources". *Physical Review E*, pp. 4623, vol. **62** (2000)
- 1 C.J. Tessone & H.S. Wio: "Stochastic Resonance in Bistable Systems: The Effect of Simultaneous Additive and Multiplicative". *Modern Physics Letters B*, pp. 1195–1202, vol. **12** (1998)

Conference proceedings

- C12** L. Zavolokina, F. Spychiger, C.J. Tessone & G. Schwabe: "An Incentive System for Blockchains – Learning from the Digital Vehicle Dossier". Conditionally Accepted HICCS (2018)
- C11** A. Grimm, C.J. Tessone: "Detecting Nestedness in Graphs". In *International Workshop on Complex Networks and their Applications*, Ed. Springer. pp. 171–182 (2017).
- C10** M.V. Tomasello, C.J. Tessone & F. Schweitzer: "The effect of R&D collaborations on firms' technological positions". In *Proceedings of the 10th International Forum IFKAD*, pp. 260–276 (2015)
- C9** M.S. Zanetti, C.J. Tessone, I. Scholtes & F. Schweitzer: "Automated Software Remodularization Based on Move Refactoring". In *13th International Conference on Modularity* (2014)
- C8** M.S. Zanetti, I. Scholtes, C.J. Tessone & F. Schweitzer: "The Rise and Fall of a Central Contributor: Dynamics of Social Organization and Performance in the GENTOO Community". In *6th International Workshop on Cooperative and Human Aspects of Software Engineering CHASE* (2013)
- C7** M.S. Zanetti, I. Scholtes, C.J. Tessone & F. Schweitzer: "Categorizing Bugs with Social Networks : A Case Study on Four Open Source Software Communities". In *35th International Conference on Software Engineering (ICSE)*, published by *IEEE Software Engineering in Practice*, pp. 1032–1041 (2013)
- C6** N. Perony, R. Pfitzner, I. Scholtes, C.J. Tessone & F. Schweitzer: "Hierarchical Consensus Formation Reduces the Influence of Opinion Bias". In *Proceedings of the 26th European Conference on Modelling and Simulation* (2012)
- C5** P. Mavrodiev, C.J. Tessone & F. Schweitzer: "Effects of Social Influence on the Wisdom of the Crowds". In *Collective Intelligence* (2012)

- C4** M.S. Zanetti, E. Sarigöl, I. Scholtes, C.J. Tessone & F. Schweitzer: “A Quantitative Study of Social Organisation in Open Source Software Communities”. In *Imperial College Computing Student Workshop*, published by *Schloss Dagstuhl–Leibniz-Zentrum für Informatik*, pp. 116–122 (2012)
- C3** E.H. García, A.E. Herrada, A.F. Rozenfeld, C.J. Tessone, V.M. Eguíluz, C.M. Duarte, S.A. Haond & E. Serrão: “Evolutionary and Ecological Trees and Networks”. In *Nonequilibrium Statistical Mechanics And Nonlinear Physics: XV Conference on Nonequilibrium Statistical Mechanics and Nonlinear Physics*, O. Descalzi, O.A. Rosso & H.A. Larrondo (Eds.), published by *AIP Conference Proceedings*, pp. 78–83, vol. **913** (2007)
- C2** A. Scirè, M. Sorel, P. Colet, C.J. Tessone, C.R. Mirasso & M. Miguel: “Two-mode dynamics in different semiconductor laser structures”. In *Semiconductor Lasers and Laser Dynamics II*, D. Lenstra, M. Pessa & I.H. White (Eds.), published by *SPIE*, pp. 38–52, vol. **6184** (2006)
- C1** C.J. Tessone, R. Toral, C.R. Mirasso & J.D. Gunton: “Coherence resonance in coupled excitable systems: dependence with system size”. In *Proceedings of the International School of Physics Enrico Fermi, Course CLV: The Physics of Complex Systems (New Advances and Perspectives)*, F. Mallamace & H.E. Stanley (Eds.), published by *IOS Press (Amsterdam)*, pp. 461–467 (2004)

Under review

- 60** J.I. Perotti, C.J. Tessone, G. Caldarelli & A. Clauset: “Thermodynamics of the Minimum Description Length on Community Detection”. Under review in *Physical Review X* (2018)
- 59** P. Tasca, & C.J. Tessone: “Ontology of Blockchain Technologies: Principles of Identification and Classification”. Under review in *Ledger*, second round (2018)
- 58** M. Geier, C.J. Tessone, M. Vanotti, S. Vileiriño. D.A. González Márquez, E.E. Mocskos: “Using Network Emulation to study Blockchain Distributed Systems: The Ethereum Case”. Under review in *CoNEXT’18* (2018)
- 57** J.-H. Lin, C.J. Tessone, M.S. Mariani: “Nestedness maximization in complex networks through the fitness-complexity algorithm” . Under review in *Entropy* (2018)
- 56** B.A. Furtado, M.A. Fuentes, C.J. Tessone: “Policy Modeling and Applications: state-of-the-art and perspectives” . Under review in *Complexity* (2018)
- 55** A. Camacho Guardian, C.J. Tessone & R. Algesheimer: “Revealing the effects of network size on social mechanisms”. Under review in *Network Science* (2018)

Book chapters

- B1** C.J. Tessone: “The complex nature of social systems”. In *Modelling complex systems for public policies*, B. Alves Furtado, Ed. (2015)

Working papers

- 71** A. Bovet, C. Campajola, J.F. Lazo, F. Mottes, I. Pozzana, V. Restocchi, P. Saggese, N. Val-larano, T. Squartini, C.J. Tessone: “Network-based indicators of Bitcoin bubbles”. *working paper* arXiv:1805.04460 (2018)
- 70** M.S. Mariani, Z.-M. Ren, J. Bascompte & C.J. Tessone: “Nestedness in networks: observation, modeling, and implications”. Contribution editorially approved in *Physics Reports* (2018)
- 69** A. Solé-Ribalta, C.J. Tessone, C.G. Ferrari, J. Borge-Holthoefer: “Disentangling co-occurrence patterns in n-partite ecosystems”. *working paper* (2018) arXiv:1807.04666

- 68 C.J. Tessone & D. Garcia: "Bitcoin: Centralisation of a decentralised economy". *working paper* (2018)
- 67 C.J. Tessone and P. Tasca: "Stochastic modelling of blockchain consensus". *working paper* (2018)
- 66 A. Grimm, C.J. Tessone: "Detecting nested components in real-world networks". *working paper* (2018)
- 65 A. Camacho Guardian, C.J. Tessone and R. Algesheimer: "Modelling the interdependencies between social mechanisms underlying the formation of networks". *working paper* (2018)
- 64 C.J. Tessone, G. Caldarelli & D. Garlaschelli: "Temporal Fitness: A model for temporal networks". *working paper* (2018)
- 63 P. Mavrodiev, C.J. Tessone & F. Schweitzer: "Designing wise crowds: the importance of ranking and competition". *working paper* (2017)
- 62 J.-H. Lin, Z. Yang & C.J. Tessone: "Ranking the spreading influence of nodes using dynamic Markov process". *working paper* (2018)
- 61 C.J. Tessone: "Collective behaviour induced by network volatility". ETH Risk Center Working Paper Series; No. 14-010 (2017)

Conference and workshop presentations

Oral contributions

- 2018. "An econophysics view on cryptocurrencies". Econophysics Colloquium 2018 *Invited talk*. Palermo (IT)
- 2018. "The paths to centralisation in blockchain-based systems". Blocknets *Invited talk*. Paris (FR)
- 2018. "Of blockchains and cryptocurrencies". Cryptodatathon *Keynote*. Zürich (CH)
- 2018. "A complex systems introduction to blockchains and cryptocurrencies". Complexity72H *Invited talk*. Lucca (IT)
- 2018. "The statistical properties of wealth accumulation in Cryptocurrency Economies". Computing in Economics and Finance. Milano (IT)
- 2018. *Panelist* on "Fintech". Finexus 2018. Zürich (CH)
- 2017. "Statistical Mechanics of Blockchain-based systems". American Physical Society March Meeting. *Invited talk*. New Orleans (USA)
- 2017. "From the Emergent Centralisation of Bitcoin to the Limits of Blockchain-based Systems". Blockchain from a Central Bank Perspective. *Invited talk*. Zürich (CH)
- 2017. "Bitcoin: when a decentralised economy becomes centralised". Scientifica. *Open Lecture*. Zürich (CH)
- 2017. "In-block Nested Structural Patterns in Ecological and Social Networks". 6th International Conference on Complex Networks. Lyon (FR)
- 2017. "Technocracy and fixed Incentive schemes: the centralised doom for Bitcoin". CSH Workshop WeCoS - Understanding the Web as a Complex System: Complexity Science meets Web Science. *Invited talk*. Wien (AT)

- 2017.** “Bitcoins: A fate of centralisation for decentralised money supply”. Computing in Economics and Finance. New York (USA)
- 2017.** “The limits of efficiency in blockchain systems: Parsimonious modelling and data”. NetSci 2017. Indianapolis (USA)
- 2016.** “Stochastic modelling of blockchain-based systems”. Peer-to-peer Financial Systems. *Invited talk*. London (UK)
- 2016.** “Diverse but convergent: designing wise crowds with competition and social interactions”. Latin American School on Data Analysis and Mathematical Modeling of Social Science. *Invited talk*. Buenos Aires (AR)
- 2016.** “Designing Wise Crowds: Social Influence and Competition”. Collective behavior in the big data area. *Invited talk*. Toulouse (FR)
- 2016.** “Temporal fitness: Modelling systems with varying network interactions”. NetSci 2016. Seoul (KR)
- 2016.** “Understanding the evolution of economic networks through temporal fitness”. Statistical Physics of Financial and Economic Networks. Paris (FR)
- 2016.** “Network volatility as a source of collective dynamics”. International Conference on Computational Social Science. Helsinki (FI)

Academic activities

Editorial Board membership

- ▷ Frontiers in Blockchain. Chief Editor of the Non-Financial Blockchains Section (Since 2018)
- ▷ 4open (EDP Sciences) - Associate Editor. Area: Physics – Applied Physics (Since 2017)

Guest editor

- ▷ Complexity: Special Issue on “Decentralised Economy and Finance” (2019)
- ▷ Complexity: Special Issue on “Public Policy Modelling and Applications” (2018)
- ▷ European Physical Journal “B”: Condensed Matter and Complex Systems (2009)

Referee for peer-reviewed Journals

- ▷ Physical Review Letters, Nature Communications, Science Advances, Scientific Reports, Journal of the Royal Society: Interface, EPL (Europhysics Letters), Physical Review E, Journal of Economic Dynamics and Control, Royal Society Open Science, European Physical Journal “B”, Physica “A”, Physics Letters “A”, Journal of Statistical Mechanics (JSTAT), Advances in Complex Systems, Communications in Computational Physics, Journal of Statistical Physics, PLoS ONE, Fluctuation and Noise Letters, Journal of Economic Interaction and Coordination, Journal of Complex Networks, Network Science, EPJ Data Science, International Review of Financial Analysis, Journal of Risk Analysis

Project evaluation

- 2018.** Swiss National Science Foundation Doc.CH
- 2012 – 2017.** Argentine Research Council (CONICET)
- 2014.** Argentine Fund for the Scientific and Technological Research (FONCyT)

Programme chair

2016 – . ThePiik Symposium on Network Science (Swiss Chapter of the Network Science Society)

2016. Interdisciplinary event: ThePiik <http://www.thepiik.com>

2015. International Workshop “P2P Finance Systems”

2014. International Workshop on Complex Sciences in the Engineering of Computer Systems, Self-optimisation in Organic and Autonomic Computing Systems

2013. International Workshop on Complex Sciences in the Engineering of Computer Systems, Self-optimisation in Organic and Autonomic Computing Systems

Programme committee member

2018. VII International Conference on Complex Networks

2017. VI International Conference on Complex Networks

2016. NetSci 2016

2015. Workshop on Self-Improving System Integration

2014. Workshop on Self-Improving System Integration

2013. Self-Adaptive and Self-Organizing Systems

2012. Self-Adaptive and Self-Organizing Systems

Referee for peer-reviewed conferences

▷ Hawaii International Conference on System Sciences, European Social Simulation, European Conference on Complex Systems, Architecture of Computing Systems, IEEE International Conference on Self-Adaptive and Self-Organizing Systems

Teaching experience

2018 – Faculty of Business, Economics and Informatics, Universität Zürich (CH)

Subject Economics of Blockchain Systems (seminar for Bachelor students)

2017 – Faculty of Business, Economics and Informatics, Universität Zürich (CH)

Subject Agent-based Modelling (course for Masters students)

2015 – Faculty of Business, Economics and Informatics, Universität Zürich (CH)

Subject Network Theory and Analytics (course for Masters students)

2016 – Faculty of Business, Economics and Informatics, Universität Zürich (CH)

Subject Reading Group on Marketing and Network Science (for PhD students)

2015 – Faculty of Business, Economics and Informatics, Universität Zürich (CH)

Subject Seminar on Network Science (for PhD students)

2017. Shanghai University for Finance and Economics (CN)

Subject Complex Socio-Technical Systems (for PhD students)

2017. Faculty of Exact and Natural Sciences. Universidad de Buenos Aires (AR)

Subject Statistical Physics of Socio-Economic Systems (for PhD students)

2006. Science Faculty, Universitat de les Illes Balears (ES)

Position *Lecturer*

Subject Physics for Computer scientists, chemistry and biochemistry

1999 – 2001. Engineering and Exact Sciences Faculty, Universidad Nacional de La Plata (AR)

Subjects Statistics, Numerical Methods, Physics I, Physics II, Calculus II, Algebra

Mentoring

- ▷ Postdoc: M.S. Mariani.
- ▷ PhD student supervision: A. Grimm, J.-H. Lin, S.-N. Li, F. de Collibus.
- ▷ PhD student co-supervision: Z. Yang, A. Camacho Guardian, R. Tanase.
- ▷ Visiting Foreign PhD: H. Liu, C. Ferrari, M. Geier.
- ▷ PhD students (main responsible as postdoc): H.-U. Stark, M. Geipel, M.S. Zanetti, P. Mavrodiev, M. Tomasello.
- ▷ PhD students (collaborations as postdoc): N. Perony, M. König, R. Pfitzner.
- ▷ Master Theses: R. Boomsma, D. Krebs, D. Arnold, J. Stoffel, M. Kilchenmann (UZH). V. Tardon (UCL). V. Nanumyan, A. Grimm, X. Xi (ETHZ).
- ▷ Bachelor Theses: A. Kolenchery, K. Leidenberger, J. Klostermann, T. Mannhart, J. Schilling, K. Ulrich, K. Do, Z. Müller (UZH). F. Marbach (ETHZ).

PhD and *Habilitation* evaluation committee member

2018. Valerio Restocchi, University of Southampton. England (UK)

2018. Radu Tanase, Universität Zürich. Zürich (CH)

2017. Abel Camacho Guardian, Universität Zürich. Zürich (CH)

2017. Zhuo-Ming Ren, Université de Fribourg. Fribourg (CH)

2017. Zhao Yang, Universität Zürich. Zürich (CH)

2016. Matúš Medo, Université de Fribourg. Fribourg (CH). *Habilitation*

2016. Giuseppe Pappalardo, Institute for Advanced Studies IMT. Lucca (IT)

2015. Matteo Chinazzi, Sant'Anna School of Advanced Studies. Pisa (IT)

2015. Gabriele Ranco, Institute for Advanced Studies IMT. Lucca (IT)

2014. Programme for PhD in "Economics, Management Science and Complex Systems". Institute for Advanced Studies IMT. Lucca (IT)

Languages

Spanish. Native tongue

English. Fluent (written and spoken)

Italian. Fluent (written and spoken)

German. Intermediate (written and spoken)

Computer Skills

Ample knowledge. C++ (including diverse libraries like STL, Qt, igraph), C.
Python (including numpy, matplotlib, igraph, networkx).
L^AT_EX typesetting.
Linux (administrator and user for 20 years).

Good knowledge. bash, Fortran, Java, Mathematica.

Basic knowledge. R, PHP, JavaScript, Matlab.

System administration. Deployment of: Document Management Systems (alfresco, ownCloud), Cluster Systems (OpenStack, Torque, Mosix).
Repository management (Debian/Ubuntu).
Development and maintenance of “ETH Risk Center Working Paper Series”.

Since 2003. Developer of the project Python Systematic Parameter Generator:
Library for execution and analysis of massive numerical simulations (GPL Licence),
web site: <http://github.com/tessonec/PySPG>
