

Dr. Tiziano Squartini

IMT Institute for Advanced Studies Lucca, P.zza S. Ponziano 6, 55100 Lucca (Italy).

Curriculum vitae et studiorum.

Personal profile.

Name: Tiziano Squartini.

Date and Place of Birth: 29 december 1983, Siena (Italy).

Address: via del Fosso 171, 55100 Lucca (Italy).

Mobile phone: 0039 347-3443731.

E-mail: squartini@libero.it.

Nationality: italian.

Marital status: not married.

Professional experiences.

01/11/2015-present

Assistant Professor at **IMT Institute for Advanced Studies Lucca** (within the NETWORKS Research Unit) (Italy).

Unit Coordinator: Prof. Guido Caldarelli.

01/01/2014-31/10/2015

Postdoctoral Researcher at the **Institute for Complex Systems UOS Sapienza**, “Sapienza” University, Rome (Italy).

Supervisors: Prof. Luciano Pietronero, Dr. Andrea Gabrielli.

http://pilhd.phys.uniroma1.it/PILgroup_Economic_Complexity/TS.html

15/01/2012-31/12/2013

Postdoctoral Researcher at the **Lorentz Institute for Theoretical Physics**, Leiden Institute of Physics, University of Leiden, Leiden (The Netherlands).

Supervisor: Dr. Diego Garlaschelli.

01/04/2011-30/06/2011

Visiting Scientist at the **Lorentz Institute for Theoretical Physics**, Leiden Institute of Physics, University of Leiden, Leiden (The Netherlands).

Supervisor: Dr. Diego Garlaschelli.

01/11/2007-01/12/2007

Internship at **Center for the Study of Complex Systems (C.S.C.)**, Siena (Italy).

Report: “*Study of the effects of stochastic perturbations on a parametrically forced magnetic pendulum*”.

Supervisors: Dr. Chiara Mocenni, Dr. Angelo Facchini.

Education.

19/12/2011

Ph.D. in Physics (Ph.D. School in Physics - XXIV cycle. Section: Structure of Matter), University of Siena, Siena (Italy).

Thesis: “*Information-theoretic approach to the analysis of complex networks*”.

Tutor: Prof. Maria I. Loffredo, **Supervisor:** Dr. Diego Garlaschelli.

<http://www3.unisi.it/fisica/dip/ric/complexnets/compnets/index.htm>

04/07/2008

Master’s Degree in Experimental Physics, University of Siena, Siena (Italy).

Thesis: “*Entropy of complex networks. Theory and empirical results*”.

Supervisors: Prof. Maria I. Loffredo, Dr. Diego Garlaschelli.

Final Mark: 110/110 cum laude.

16/12/2005

Bachelor’s Degree in Physics and Advanced Technologies, University of Siena, Siena (Italy).

Thesis: “*Entropy, uncertainty, information: paradigma to study complexity*”.

Supervisors: Prof. Maria I. Loffredo, Dr. Diego Garlaschelli.

Final Mark: 110/110 cum laude.

10/07/2002

Scientific High School Diploma, Colle Val d’Elsa, Siena (Italy).

Final Mark: 100/100.

Membership in societies.

2009-present

NAT.It (Italian Study Group on Network Analysis of Trade).

<http://sites.google.com/site/tradenetit/>

2009-2010

“Invited Member” of the **Italian Society of Physics (SIF)**.

2010-2012

“Junior researcher” at the **Center for the Study of Complex Systems (C.S.C.)** of Siena.

2013-present

member of the **Complex Systems Community (C.S.C.)** of Siena.

<http://csc.unisi.it/>

from 2014

member of the **Complex Systems Society (CSS)**.

<http://cssociety.org/>

from 2015

member of **Neteconomics**.

<http://gator2001-andijo-primary.hgsitebuilder.com/home>

Professional activities.

2011-present

Referee for: *Europhysics Letters*, *Journal of Economic Interaction and Coordination*, *Physica A*, *Physical Review E*, *Quality & Quantity*, *The European Physical Journal B*, *The Journal of Statistical Mechanics: Theory and Experiment*, *Journal of Complex Networks*, *Transactions on Modeling and Computer Simulation*, *Chaos: An Interdisciplinary Journal of Nonlinear Science*, *Journal of Risk and Financial Management*, *Physical Review Letters*.

2012-2013

Supervisor of Master/Ph.D. students at the Lorentz Institute for Theoretical Physics (NL).

2014-2015

- Guest editor of *Complex Adaptive Systems Modeling* thematic series on *Physics-based Agent Models in Socio-Economic Dynamics*.
<http://www.casmodeling.com/about/update/PAMSED>
 - Teaching and supervising activities related to the master course “Complex Systems”, held at “Sapienza” University (I):
 - Giampiero Bardella (in progress).
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Research interests and skills.

Economic Complexity, Econophysics, Sociophysics, Complex Networks, Statistical Mechanics of Networks, Agent-based Models, Probability and Statistics, Graph Theory, Neural Networks, Thermodynamics.

	Listening	Reading	Speaking	Writing
<i>English</i>	C1	C1	C1	C1
<i>French</i>	B1	B1	B1	B1

Numerical and symbolic computation: *Mathematica*, *Matlab*, *C*.

Analysis and visualization of complex networks: *Gephi*, *Pajek*.

Conferences.

Invited talks

- 08/11-12/11 2012- **Invited Speaker** at Kolkata (IND), Saha Institute of Nuclear Physics: **Econophys-Kolkata VII**. Contributed talks:
“*Precursors of the financial crisis in the Dutch Interbank Network*”.
<http://www.saha.ac.in/cmp/epkol.Vii/schedule.pdf>
- 27/05-31/05 2013 - **Invited Speaker** at Leiden (NL), Instituut-Lorentz for Theoretical Physics: **Econophysics and Networks Across Scales**. Contributed talks:
“*Stationary and non-stationary behavior of meso-scale and macro-scale networks*”.
<http://www.lorentzcenter.nl/lc/web/2013/566/program.pdf>
- 18/10 2013 - **Invited Speaker** at Delft (NL), VORtech B.V.: **Complex Networks and Climate - research and scientific software**. Contributed talks:
“*Financial Complex Networks*”.
http://www.vortech.nl/fileadmin/filelist/pdf-bestanden/Vortech-IMAU_workshop_program.pdf
- 06/12-08/12 2014 - **Invited Speaker** at Pisa (I), University of Pisa - Polo didattico delle Piagge: **CFE 2014. 8th International Conference on Computational and Financial Econometrics**. Contributed talks: “*Early-warning signals of topological collapse in interbank networks*”.
<http://www.cfenetwork.org/CFE2014/fullprogramme.php>
- 01/06-05/06 2015- **Invited Speaker** at Zaragoza (E), World Trade Center: **Brain networks**, satellite within **NetSci 2015. International School and Conference on Network Science** on 01/06. Contributed talks: “*Detecting cluster structure of resting state fMRI brain networks of mice*”.
<http://s512731021.mialojamiento.es/netsci2015brain/>

2009

- 29/06-03/07 - Venezia (I), Istituto Veneto di Scienze, Lettere ed Arti, Pal. Franchetti: **NetSci 2009. International Workshop On Network Science**. Contributed talks:
“*Exact method for randomizing real networks*”.
<http://www.netsci09.net/Programme.pdf>
- 07/09-09/09 - Arcidosso (Grosseto, I), Castello Aldobrandesco: **BioPhys 09 - Biology and beyond**. Contributed talks:
“*Statistical physics for biological networks - Exact method to randomize real networks*”.
<http://www.cnr.it/eventi/index/evento/id/12175>
- 16/11-17/11 - Lucca (I), IMT - Institute for Advanced Studies: **Trade NetWorkshop 2.0**. Contributed talks:
“*Exact method for randomizing real networks - Application to the WTW*”.
<https://sites.google.com/site/tradenetit/>
- 10/12-13/12 - Siena (I), Santa Chiara High School for Ph.D. and Postgraduate Studies: **Darwin Bicentenary - Evolution: Intersecting Natural and Social Sciences**. Contributed talks:
“*Statistical physics for biological networks*”.
<http://www.unisi.it/eventi/darwin/>

2012

- 15/03-16/03 - Delft (NL), Delft University of Technology: **IWSOS 2012. 6th International Workshop on Self-Organizing Systems**. Contributed talks:
“*Triadic motifs and dyadic self-organization in the World Trade Network*”.
http://iwsos2012.ewi.tudelft.nl/?page_id=65/
- 25/03-26/03 - Berlin (D), Technische Universität Berlin: **DPG 2012. 76th Annual Meeting of the DPG and DPG Spring Meeting**. Contributed talks:
“*The informativeness of local constraints in the structure of the global trade network*”.
<http://www.dpg-verhandlungen.de/year/2012/conference/berlin/part/soe/session/12/contribution/7>
- 25/11-29/11 - Sorrento (I), Imperial Hotel Tramontano: **SITIS 2012. 8th International Conference on Signal Image Technology & Internet Based Systems**. Contributed talks:
“*The role of distances in the World Trade Web*”.
<http://www.computer.org/csdl/proceedings/sitis/2012/4911/00/index.html>

2013

- 03/06-07/06 - Copenhagen (DK), Royal Library: **NetSci 2013. International School and Conference on Network Science**. Contributed talks:
“*Early-warning signals of the financial crisis in the Dutch Interbank Network*”.
http://netsci2013.net/wordpress/wp-content/uploads/2013/05/schedule_NetSci2013_detail.pdf
- 16/09-20/09 - Barcelona (E), World Trade Center: **ECCS 2013. European Conference on Complex Systems**. Contributed talks:
“*Early-warning signals of topological collapse in interbank networks*”.
<http://www.eccs13.eu/index.php/program>

2014

- 22/09-26/09 - Lucca (I), IMT - Institute for Advanced Studies Campus: **ECCS 2014. European Conference on Complex Systems**. Accepted contributions:
 - “*Bootstrapping topological properties of complex economic networks*” (talk);
 - “*Nonconformism in the voter model: Watts-Strogatz VS scale-free networks*” (poster);
http://www.eccs14.eu/images/IMT/eccs14_programme020714.pdf
 - **Organizer** with Serge Galam and Marco A. Javarone of the satellite **SEDPAM - Socio-Economic Dynamics: Physics-based Agent Models. Beyond the representative agent paradigm** within ECCS 2014 on 25/09.
http://www.eccs14.eu/images/IMT/eccs14_programme020714.pdf and http://www.sedpam.eu/sedpam_poster.pdf

- 10/11-13/11 - Barcelona (E), Universitat Pompeu Fabra: **SocInfo 2014. 6th International Conference on Social Informatics**.
Organizer with Serge Galam and Marco A. Javarone of the satellite **SEDNAM - Socio-Economic Dynamics: Networks and Agent-based Models** within SocInfo 2014 on 10/11.
<http://socinfo2014.org/workshops/> and <http://www.sednam.eu>

2015

- 28/05-29/05 - Rome (I), National Research Council: **IWcee15. International Workshop on Computational Economics and Econometrics**. Contributed talks:
“A GDP-driven model for the binary and weighted structure of the International Trade Network”.
<http://www.ircres.cnr.it/index.php/it/iwcee15>
- 01/06-05/06 - Zaragoza (E), World Trade Center: **NetSci 2015. International School and Conference on Network Science** on 01/06. Accepted contributions:
 - “Estimating topological properties of weighted networks from limited information” (poster);
 - “Randomizing bipartite networks: the case of the World Trade Web” (poster).
http://netsci2015.net/images/site/booklet_NetSci2015_web.pdf
- 29/06-01/07 - Parma (I), Centro S. Elisabetta: **XX Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi**. Contributed talks:
“Detecting cluster structure of resting state fMRI brain networks of mice”.
http://www.fis.unipr.it/stat/PARMA2015/welcome_E.htm

Scientific Publications.

2007

- T. Squartini, “**Neural networks: a review**”, *Nuovo Cimento C* **030 (03)**, pp. 243-253 (2007).
<http://www.sif.it/riviste/ncc/econtents/2007/030/03/article/3>

2009

- T. Squartini, “**Weighted Random Graph**” (2009).
<http://demonstrations.wolfram.com/WeightedRandomGraph/>

2010

- J. Li, C. Chen, T. Squartini, Q. He, “**A study on wear resistance and microcrack of the Ti₃Al/TiAl+TiC ceramic layer deposited by laser cladding on Ti-6Al-4 V alloy**”, *Applied Surface Science* **257 (05)**, pp. 1550-1555 (2010).
<http://www.sciencedirect.com/science/article/pii/S0169433210011724>

2011

- J. Li, C. Chen, L. Zhaoqing, T. Squartini, “**Phase constituents and microstructure of laser cladding Al₂O₃/Ti₃Al reinforced ceramic layer on titanium alloy**”, *Journal of Alloys and Compounds* **509 (14)**, pp. 4882-4886 (2011).
<http://www.sciencedirect.com/science/article/pii/S0925838811002842>
- T. Squartini, D. Garlaschelli, “**Analytical maximum-likelihood method to detect patterns in real networks**”, *New J. Phys.* **13**, 083001 (2011).
<http://iopscience.iop.org/1367-2630/13/8/083001/>
- J. Li, C. Chen, B. Cui, T. Squartini, “**Surface modification of titanium alloy with the Ti₃Al+TiB₂/TiN composite coatings**”, *Surf. Interface Anal.* **43 (12)**, pp. 1543-1548 (2011).
<http://onlinelibrary.wiley.com/doi/10.1002/sia.3809/abstract>
- T. Squartini, G. Fagiolo, D. Garlaschelli, “**Randomizing World Trade. I. A Binary Network Analysis**”, *Phys. Rev. E* **84**, 046117 (2011).
<http://pre.aps.org/abstract/PRE/v84/i4/e046117>

- T. Squartini, G. Fagiolo, D. Garlaschelli, “**Randomizing World Trade. II. A Weighted Network Analysis**”, *Phys. Rev. E* **84**, 046118 (2011).
<http://pre.aps.org/abstract/PRE/v84/i4/e046118>

2012

- T. Squartini, D. Garlaschelli, “**Triadic motifs and dyadic self-organization in the World Trade Network**”, in *Self-Organizing Systems*, chapter **3**, pp. 24-35, Springer (edited by F. A. Kuipers and P. E. Heegaard) (2012).
<http://www.springer.com/computer/communication+networks/book/978-3-642-28582-0>
- L. Valori, G. L. Giannuzzi, T. Squartini, D. Garlaschelli, R. Basosi, “**Complex Networks Approach to the Italian Photovoltaic Energy Distribution System**”, in *Proceedings of ECOS 2012*, chapter **7**, pp. 72-89, Firenze University Press (edited by U. Desideri, G. Manfrida, E. Sciubba) (2012).
<http://www.fupress.com/archivio/pdf/5498.pdf>
- G. Fagiolo, T. Squartini, D. Garlaschelli, “**Null Models of Economic Networks: The Case of the World Trade Web**”, *J. Econ. Interact. Coord.* **8** (1), pp. 75-107 (2012).
<http://www.springerlink.com/content/3vol102750771x0p5/fulltext.pdf>

2013

- F. Picciolo, T. Squartini, F. Ruzzenenti, R. Basosi, D. Garlaschelli, “**The role of distances in the World Trade Web**”, in *Proceedings of the Eighth International Conference on Signal-Image Technology & Internet-Based Systems (SITIS 2012)*, pp. 784-792 (edited by IEEE), DOI: 10.1109/SITIS.2012.118 (2013).
- T. Squartini, F. Picciolo, F. Ruzzenenti, D. Garlaschelli, “**Reciprocity of weighted networks**”, *Sci. Rep.* **3** (2729), DOI: 10.1038/srep02729 (2013).
<http://www.nature.com/srep/2013/130923/srep02729/full/srep02729.html>
- T. Squartini, I. van Lelyveld, D. Garlaschelli, “**Early-warning signals of topological collapse in interbank networks**”, *Sci. Rep.* **3** (3357), DOI: 10.1038/srep03357 (2013).
<http://www.nature.com/srep/2013/131128/srep03357/full/srep03357.html>

2014

- T. Squartini, D. Garlaschelli, “**Jan Tinbergen’s legacy for economic networks: from the gravity model to quantum statistics**”, in *Econophysics of Agent-Based Models*, chapter **9**, pp. 161-186, Springer (edited by F. Abergel, H. Ayoama, B. K. Chakrabarti, A. Chakraborti and A. Gosh) (2014).
<http://www.lorentz.leidenuniv.nl/IL-publications/dissertations/biographies/Tinbergen.pdf>
- T. Squartini, F. Picciolo, F. Ruzzenenti, R. Basosi, D. Garlaschelli, “**Disentangling spatial and non-spatial effects in real networks**”, in *Complex networks and their applications*, chapter **1**, pp. 1-38, Cambridge Scholars Publishing (edited by H. Cherifi) (2014).
<http://www.cambridgescholars.com/download/sample/58284>
- T. Squartini, D. Garlaschelli, “**Economic networks in and out of equilibrium**”, in *Proceedings of the Ninth International Conference on Signal-Image Technology & Internet-Based Systems (SITIS 2013)*, pp. 530-537 (edited by IEEE), DOI: 10.1109/SITIS.2013.89 (2014).
- R. Mastrandrea, T. Squartini, G. Fagiolo, D. Garlaschelli, “**Enhanced reconstruction of weighted networks from strengths and degrees**”, *New J. Phys.* **16**, 043022 (2014).
<http://iopscience.iop.org/1367-2630/16/4/043022>
- T. Squartini, D. Garlaschelli, “**Stationarity, non-stationarity and early warning signals in economic networks**”, *Journal of Complex Networks* **3** (1), pp. 1-21, DOI: 10.1093/comnet/cnu012 (2014). Extended version of the paper “*Economic networks in and out of equilibrium*”.
<http://comnet.oxfordjournals.org/content/early/2014/05/03/comnet.cnu012.full>
- R. Mastrandrea, T. Squartini, G. Fagiolo, D. Garlaschelli, “**Reconstructing the world trade multiplex: the role of intensive and extensive biases**”, *Phys. Rev. E* **90**, 062804 (2014).
<https://journals.aps.org/pre/abstract/10.1103/PhysRevE.90.062804>

- A. Almog, T. Squartini, D. Garlaschelli, “**A GDP-driven model for the binary and weighted structure of the International Trade Network**”, *New J. Phys.* **17**, 013009 (2015).
<http://iopscience.iop.org/1367-2630/17/1/013009>
 - T. Squartini, R. Mastrandrea, D. Garlaschelli, “**Unbiased sampling of network ensembles**”, *New J. Phys.* **17**, 023052 (2015). *Matlab code available at*
<http://www.mathworks.it/matlabcentral/fileexchange/46912-max-sam-package-zip>
https://drive.google.com/open?id=0B_rBKSwtur3M0tvd0w4dW45aE0&authuser=0
 - S. Galam, M. A. Javarone, T. Squartini, “**Socio-Economic Dynamics: Networks and Agent-Based Models - Introduction**”, in *Social Informatics*, chapter **Socio-Economic Dynamics, Networks and Agent-Based Models**, pp. 321-322, Springer (edited by L. M. Aiello and D. McFarland) (2015).
<http://www.springer.com/computer/database+management+%26+information+retrieval/book/978-3-319-15167-0>
 - G. Cimini, T. Squartini, N. Musmeci, M. Puliga, A. Gabrielli, D. Garlaschelli, S. Battiston, G. Caldarelli, “**Reconstructing topological properties of complex networks using the fitness model**”, in *Social Informatics*, chapter **Socio-Economic Dynamics, Networks and Agent-Based Models**, pp. 323-333, Springer (edited by L. M. Aiello and D. McFarland) (2015).
<http://www.springer.com/computer/database+management+%26+information+retrieval/book/978-3-319-15167-0>
 - T. Squartini, E. Ser-Giacomi, D. Garlaschelli, G. Judge, “**Information recovery in behavioral networks**”, *PLoS ONE*, **10** (5), e0125077, DOI: 10.1371/journal.pone.0125077 (2015).
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0125077>
 - F. Saracco, R. Di Clemente, A. Gabrielli, T. Squartini, “**Randomizing bipartite networks: the case of the World Trade Web**”, *Sci. Rep.* **5** (10595), DOI: 10.1038/srep10595 (2015).
http://www.nature.com/srep/2015/150601/srep10595/fig_tab/srep10595_F3.html
 - G. Cimini, T. Squartini, A. Gabrielli, D. Garlaschelli, “**Estimating topological properties of weighted networks from limited information**”, *Phys. Rev. E (Rapid Communication)* **92**, 040802(R) (2015).
<http://journals.aps.org/pre/abstract/10.1103/PhysRevE.92.040802>
 - M. A. Javarone, T. Squartini, “**Conformism-driven phases of opinion formation on heterogeneous networks: the q-voter model case**”, *J. Stat. Mech.* P10002, DOI: 10.1088/1742-5468/2015/10/P10002 (2015).
<http://iopscience.iop.org/article/10.1088/1742-5468/2015/10/P10002>
 - G. Cimini, T. Squartini, A. Gabrielli, D. Garlaschelli, “**Systemic risk analysis in reconstructed economic and financial networks**”, *Sci. Rep.* **5** (15758), DOI: 10.1038/srep15758 (2015).
<http://www.nature.com/articles/srep15758>
- Under submission/forthcoming
- T. Squartini, “**Algebraic characterization of binary graphs**”, arXiv:1209.5565, *under submission* (2015).
 - T. Squartini, J. de Mol, F. den Hollander, D. Garlaschelli, “**Breaking of ensemble equivalence in networks**”, arXiv:1501.00388, *accepted for publication on: Phys. Rev. Lett.* (2015).
 - V. Gemmetto, T. Squartini, F. Picciolo, F. Ruzzenenti, D. Garlaschelli, “**Multiplexity and multireciprocity in directed multiplexes**”, arXiv:1411.1282, *submitted to: Phys. Rev. E* (2015).
 - F. Saracco, R. Di Clemente, A. Gabrielli, T. Squartini, “**Detecting the bipartite World Trade Web evolution across 2007: a motifs-based analysis**”, arXiv:1508.03533, *submitted to: New J. Phys.* (2015).
 - T. Squartini, D. Garlaschelli, “**Maximum-entropy networks. Pattern detection, network reconstruction and graph combinatorics**”, Springer (2016).
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Non-Scientific Publications.

2011

T. Squartini, “**Frammenti**”, *Gruppo Albatros Il Filo*, Roma 2011.

Mentions, awards and honors.

2002

“**Romano Bilenchi**” literary award winner with the work “*The coordinates of mankind in the cosmic infinity*” about the relationship between science and literature from 1300 to 2000.

2011

The paper “*Analytical maximum-likelihood method to detect patterns in real networks*”, published on the New Journal of Physics, was downloaded 250 times. This was achieved in 13 days from the date of publication (across all IOP journals 10% of articles were accessed over 250 times that quarter, as notified by the editorial board).

2012

- “**Best paper award**” (plus cash prize), for the work “*Triadic motifs and dyadic self-organization in the World Trade Network*” presented at IWSOS 2012, Delft (NL), awarded by International Federation for Information Processing (IFIP);
- Book review of the work “*Frammenti*” appeared on the newspaper “Corriere di Siena” (10/08/2012).
http://www.comune.sangimignano.si.it/it/guida-ai-servizi/wrp/rassegna-e-ordine-del-giorno-consiglio/rassegna-stampa/rassegna-stampa-10-agosto-2012/at_download/file

2013

Mentioned in Diego Garlaschelli’s nomination as “**Discoverer of the year**” of the Faculty of Science of the University of Leiden, for the work “*Early-warning signals of topological collapse in interbank networks*”.

http://fwncwww14.wks.gorlaeus.net/images/uploads/UVL_BOE_Trots_2013_DiegoGarlaschelli.pdf

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Rome, Italy, 04/11/2015

Tiziano Squartini

Additional information - Conferences.

Co-authored contributions presented by others

2009

- 29/06-03/07 - Venezia (I), Istituto Veneto di Scienze, Lettere ed Arti, Pal. Franchetti: **NetSci 2009. International Workshop On Network Science**. Contributed talks (pres. by Diego Garlaschelli): “*Generalized Bose-Fermi statistics and structural correlations in weighted networks*”.
<http://www.netsci09.net/Programme.pdf>

2010

- 14/06-16/06 - Milano (I): **NET 2010**. Contributed talks (pres. by Giorgio Fagiolo): “*Rewiring World Trade. Are local properties enough to explain patterns in the ITN?*”.
- 09/12-10/12 - Trento (I), DISA Conference Room: **Trade NetWorkshop 3.0**. Contributed talks (pres. by Diego Garlaschelli): “*Rewiring World Trade. Are local properties enough to explain patterns in the ITN?*”.
<https://sites.google.com/site/tradenetit/>

2012

- 01/02-03/02 - Macerata (I), University of Macerata: **First NAIT Workshop**. Contributed talks (pres. by Giorgio Fagiolo): “*Null Models of Economic Networks: The Case of the World Trade Web*”.
<http://www.tradenetworks.it/>
- 26/06-29/06 - Perugia (I), Perugia Centro Congressi: **ECOS 2012. 25th International Conference on Efficiency, Cost, Optimization and Simulation of Energy Conversion Systems and Processes**. Contributed talks (pres. by Luca Valori): “*Complex Networks Approach to the Italian Photovoltaic Energy Distribution System*”.
<http://www.fupress.com/catalogo/ecos-2012/2407>

2013

- 13/02-14/02 - Frankfurt am Main (D), Convention Center of Deutsche Bundesbank: **Financial Networks and Banking Supervision**. Contributed talks (pres. by Iman van Lelyveld): “*Early topological precursors of financial collapse in interbank networks*”.
- 27/05-31/05 - Leiden (NL), Instituut-Lorentz for Theoretical Physics: **Econophysics and Networks Across Scales**. Contributed talks (pres. by Rossana Mastrandrea): “*Weighted networks with given strengths and degrees: a fast and unbiased method*”.
<http://www.lorentzcenter.nl/lc/web/2013/566/program.pdf>
- 16/09-20/09 - Barcelona (E), World Trade Center: **ECCS 2013. European Conference on Complex Systems**. Contributed talks (pres. by Rossana Mastrandrea): “*Weighted networks with given strengths and degrees: a fast and unbiased method*”.
<http://www.eccs13.eu/index.php/program>
- 02/12-05/12 - Kyoto (J), Terrsa Conference Center: **SITIS 2013. 9th International Conference on Signal Image Technology & Internet Based Systems**. Contributed talks (pres. by Diego Garlaschelli): “*Economic networks in and out of equilibrium*”.
<http://www.computer.org/csdl/proceedings/sitis/2013/3211/00/index.html>

2014

- 07/07-11/07 - Rhodes (GR), Sheraton Rhodes Resort: **SigmaPhi 2014. International Conference on Statistical Physics**. Contributed talks:
 - “*Early-warning signals of topological collapse in interbank networks*” (pres. by Diego Garlaschelli at the workshop **Econophysics & Risk**);
 - “*Bootstrapping topological properties of complex economic networks*” (pres. by Giulio Cimini at the workshop **Econophysics**);

- “*Reconstructing real economic and financial networks from partial information: WTW and e-Mid cases*” (pres. by Andrea Gabrielli at the workshop **Complex Networks**).
<http://www.sigmaphi.polito.it/attachments/article/7/Program.pdf>
- 22/09-26/09 - Lucca (I), IMT - Institute for Advanced Studies Campus: **ECCS 2014. European Conference on Complex Systems**. Contributed talks:
 - “*Multiplexity and multireciprocity in interdependent networks*” (talk, pres. by Valerio Gemmetto);
 - “*Intensive and extensive biases in economic networks: reconstructing world trade*” (talk, pres. by Rossana Mastrandrea);
 - “*Correlations and null models for multi-layer networks*” (talk, pres. by Valerio Gemmetto at the workshop **COINETS**);
<http://www.eccs14.eu/images/Coinets-Program.pdf>
 - “*GDP-Driven Model for the Binary and Weighted Structure of the International Trade Network*” (talk, pres. by Assaf Almog at the workshop **ECONET**).
<http://www.crisislab.it/econet>
- 10/11-13/11 - Barcelona (E), Universitat Pompeu Fabra: **SocInfo 2014. 6th International Conference on Social Informatics**. Contributed talks (pres. by Giulio Cimini):
“*Reconstructing topological properties of complex networks using the fitness model*”.
<http://socinfo2014.org/workshops/> and <http://www.sednam.eu>

2015

- 14/01-16/01 - Rio de Janeiro (BR), Oscar Niemeyer Tower: **NetSciX 2015. International School and Conference on Network Science**. Accepted talks (not presented):
“*A GDP-driven model for the binary and weighted structure of the International Trade Network*”.
<http://netsci-x2015.net/>
- 25/03-27/03 - New York City (USA), New York Hall of Science: **CompleNet 2015. 6th Workshop on Complex Networks**. Contributed talks (pres. by Fabio Saracco):
“*Randomizing bipartite networks: the case of the World Trade Web*”.
http://complenet.org/CompleNet_2015/Program.html
- 01/06-05/06 - Zaragoza (E), World Trade Center: **NetSci 2015. International School and Conference on Network Science**. Contributed talks:
 - “*Breaking of ensemble equivalence in networks*” (pres. by Diego Garlaschelli);
 - “*Multiplexity and multireciprocity in real-world multiplexes*” (pres. by Valerio Gemmetto).
http://netsci2015.net/images/site/booklet_NetSci2015_web.pdf
- 08/06-11/06 - Helsinki (FIN), Finlandia Hall: **IC²S² 2015. International Conference on Computational Social Science**. Accepted contributions:
 - “*Systemic risk analysis in reconstructed economic and financial networks*” (talk, pres. by Andrea Gabrielli);
 - “*Estimating topological properties of weighted networks from limited information*” (poster).
<http://iccs2015.eu/>
- 29/06-01/07 - Parma (I), Centro S. Elisabetta: **XX Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi**. Contributed talks (pres. by Giulio Cimini):
“*Estimating topological properties of weighted networks from limited information*”.
http://www.fis.unipr.it/stat/PARMA2015/welcome_E.htm
- 31/08-04/09 - Anacapri (I), Villa Orlandi: **IV International Workshop. Complex Collective Dynamics: Brains and beyond**. Contributed talks (pres. by Andrea Gabrielli):
“*Detecting cluster structure of resting state fMRI brain networks of mice*”.
<http://brain-capri2015.fisica.unisa.it/program.html>
- 21/09-25/09 - Roma (I), Università “La Sapienza”: **101 Congresso Nazionale della Società Italiana di Fisica**. Contributed talks (pres. by Andrea Gabrielli):
“*Detecting cluster structure of resting state fMRI brain networks of mice*”.
<http://www.sif.it/attivita/congresso/101>

- 28/09-02/10 - Tempe (USA), Arizona State University: **CCS 2015: Conference on Complex Systems**. Contributed talks (pres. by Riccardo Di Clemente):
 “Randomizing bipartite networks: the case of the World Trade Web”.
<http://www.ccs2015.org/>
- 28/09-02/10 - Palermo (I), University of Palermo: **FisMat 2015: Italian National Conference on Condensed Matter Physics**. Accepted talks:
 - “Detecting cluster structure of resting state fMRI brain networks of mice” (not presented);
 - “Randomizing bipartite networks: the case of the World Trade Web” (pres. by Fabio Saracco);
 - “Estimating topological properties of weighted networks from limited information: applications to socio-economic field” (pres. by Andrea Gabrielli).
<http://eventi.cnism.it/fismat2015/submission/calendar>
- 14/10-17/10 - Torino (I), Castello del Valentino: **Challenges in Data Science: a Complex Systems Perspective**. Contributed talks (pres. by Valerio Gemmetto):
 “Multiplexity and multireciprocity in real multiplexes”.
<http://annacarbone.wix.com/eu-meet-japan-2015#!abstracts/c1eyt>

Additional information - Attended schools and workshops.

2005

- 16/11-18/11 - Siena (I), Center for the Study of Complex Systems (C.S.C.): **Non-Linear Analysis of Complex Dynamical Systems**.
<http://www.unisi.it/eventi/cds/>

2009

- 16/03-17/03 - Siena (I), Santa Chiara High School for Ph.D. and Postgraduate Studies: **Pro.M. Physics and Complex Systems. Fabrizio Luccio, “Growth of Networks”**.
<http://www3.unisi.it/fisica/dip/ric/complexnets/events/index.htm>
- 27/04-30/04; 18/05-23/05; 15/06-20/06 - Siena (I), Santa Chiara High School for Ph.D. and Postgraduate Studies: **Pro.M. Physics and Complex Systems. Chair: Rosario Mantegna**.
http://www3.unisi.it/fisica/dip/ric/complexnets/prom_2009/calendario.htm
- 27/04-28/04 - Siena (I), Santa Chiara High School for Ph.D. and Postgraduate Studies: **Pro.M. Physics and Complex Systems. Guido Caldarelli, “A primer in scale-free networks. Basic definitions and overview of applications”**.
<http://www3.unisi.it/fisica/dip/ric/complexnets/events/index.htm>

2010

- 09/02 - Siena (I), Center for the Study of Complex Systems (C.S.C.): **Fabrizio Lillo, “How markets slowly digest changes in supply and demand”**.
<http://www3.unisi.it/fisica/dip/ric/complexnets/events/index.htm>
- 08/03-10/03; 27/04-30/04; 30/06-01/07 - Siena (I), Santa Chiara High School for Ph.D. and Postgraduate Studies: **Pro.M. Physics and Complex Systems. Chair: János Kertész**.
http://www3.unisi.it/fisica/dip/ric/complexnets/prom_2010/calendario.htm
- 27/06-03/07 - Siena (I), Santa Chiara High School for Ph.D. and Postgraduate Studies: **Multidisciplinary Approaches to Economics and Social Complex Systems**.
<http://www3.unisi.it/eventi/schoolESCS/>

2011

- 09/02-15/02 - Siena (I), Center for the Study of Complex Systems (C.S.C.): **Cycle of lectures on Network Theory, Complexity and Energetics - Diego Garlaschelli, Franco Ruzzenenti, Luca Valori**.
http://www3.unisi.it/fisica/dip/ric/complexnets/events/20110209-15_lez_teoriareti_locandina.jpg