

## Matteo Morini

IXXI, Institut Rhône-Alpin des Systèmes Complexes  
Ecole Normale Supérieure Lyon  
46, Allée d'Italie  
Lyon, 69007  
France  
[matteo.morini@ens-lyon.fr](mailto:matteo.morini@ens-lyon.fr)  
voice +33-4 2623 3801

Dipartimento di Scienze Economico-Sociali e Matematico-Statistiche (ESOMAS)  
Università degli Studi di Torino  
Corso Unione Sovietica 218/bis  
Torino, 10134  
Italy  
[matteo.morini@unito.it](mailto:matteo.morini@unito.it)  
voice +39-011 670 6186

### Bio

Born 1974, Italian citizen.

### Research interests

Complex Networks, Complex Systems, Agent-Based Modeling, Econometrics, Labor Economics, Operational Research, Data Mining, Soft Computing Methods (Neural Networks, Genetic Algorithms, Classifier Systems).

### Education

**2017** PhD in Computer Science; dissertation title: “Des Outils pour Comprendre les Dynamiques des Réseaux Sociaux”/“Tools for Understanding the Dynamics of Social Networks”. Supervisors: Eric Fleury, Pablo Jensen, Márton Karsai. École Doctorale d'Informatique et Mathématiques, Ecole Normale Supérieure, Lyon, France.

**2016** Santa Fe Institute “Complex Systems Summer School”, Santa Fe, NM.

**2001** MS in Economics; dissertation on supply chain optimization (“job shop problem”), genetic algorithms-based optimization of an agent-based model. Advisors: Pietro Terna and Serge Margarita. Università degli Studi, Torino; further development funded within the EU-FP5 IST-2000-28221 project; allocated budget: 480.000€.

### Employment history

**2008-present** University of Torino, Department of Economics and Statistics, tenured research scientist, Torino, Italy.

**2008** University of Milan, Department of Information Technologies, fixed term researcher, Milano, Italy.

**2004** Exystence Thematic Institute for Complexity and Innovation, member of the Regional Innovation Systems and Complexity WG, ARC Systems Research, Vienna, Austria.

**2001-2008** LABORatorio – Centre for Employment Studies Riccardo Revelli – Collegio Carlo Alberto Foundation, researcher, on a series of grants with the “Università degli Studi di Torino”. Since **2006**, on an ISI (Institute for Scientific Interchange Foundation) “Progetto Lagrange” scholarship. Moncalieri, Italy.

### Service

**2014-present** Member of the board of directors, Vice president (since **2015**), Swarm Development Group (SDG)

## Selected publications and presentations

### *Books, book chapters, journal articles, working papers and technical reports*

“*Business Cycle in a Macromodel with Oligopoly and Agents’ Heterogeneity: an Agent-Based Approach*”, Italian Economic Journal, available online, doi:10.1007/s40797-017-0058-y, Springer, **2017** (with P. Terna, M. Mazzoli)

“*Personal Income Tax Reforms: a Genetic Algorithm Approach*”, European Journal of Operational Research, available online, doi:10.1016/j.ejor.2016.07.059, Elsevier Publishing, **2016** (with S. Pellegrino)

“*Detecting Global Bridges in Networks*”, Journal of Complex Networks, Volume 4, Issue 3, pp. 319-329, **2016**, Oxford University Press (with P. Jensen, T. Venturini, A. Vespignani, M. Jacomy, J.-P. Cointet, P. Mercklé, M. Karsai, E. Fleury)

“*Agent-based Dynamic Optimization of Fiscal Systems*”, in “*Agent-based Models of the Economy. From Theories to Applications*”, Palgrave Macmillan, London, **2015** (with S. Pellegrino)

“*The Emergence of Cooperation*”, in “*Agent-based Models of the Economy. From Theories to Applications*”, Palgrave Macmillan, London, **2015**

“*Agent-based Models of the Economy. From Theories to Applications*”, Palgrave Macmillan, London, ISBN 978-1-349-67406-0, **2015** (with R. Boero, M. Sonnessa, P. Terna)

“*Rapporto sull’assistenza territoriale a favore delle persone anziane non autosufficienti in Piemonte*”, CORIPE Piemonte report, **2010** (with N. Dirindin, C. Rivoiro, S. Riva, G. Viberti)

“*Employment Security and Employability: A Contribution to the Flexicurity Debate*”, European Foundation for the Improvement of Living and Working Conditions Report, ISBN 978-92-897-0828-9, **2008** (with F. Devicienti, A. Maida, A. Poggi, P. Vesan)

“*Testing Bounded Rationality Against Full Rationality in Job Changing Behavior*”, Discussion Paper 3148, Institute for the Study of Labor (IZA), **2007** (with B. Contini)

“*Econometric Explorations on Bounded Rationality: The Case of Job Changing Behavior*”, Discussion Paper 2631, Institute for the Study of Labor (IZA), **2007** (with B. Contini)

“*Modelli per la complessità, la simulazione ad agenti in economia*”, il Mulino, Bologna, ISBN 978-88-15-10988-0, **2006** (with P. Terna, R. Boero, M. Sonnessa, eds.)

“*Simulation in the Textile Industry: Production Planning Optimization*”, WOA 2004: From Objects to Agents. 5th AI\*IA/TABOO Joint Workshop, **2004** (with G. Ferraris)

### *Conference Papers*

**Jul 10-13, 2017**: IC2S2, International Conference on Computational Social Science, Gesis, Leibniz Institute for the Social Sciences, Cologne, Germany, “*A Mesoscale Description of Networks’ Dynamics Through Continuous Partitioning*” (with P. Jensen, E. Fleury, M. Karsai)

**May 11, 2017**: Trajectoires et dynamiques des réseaux: approches quantitatives, ENS Lyon, France, “*Emergence d’un nouveau domaine scientifique : les ondelettes*” (with P. Jensen, P. Flandrin)

**Feb 22-23, 2017**: ICSP2017, International Conference on Synthetic Populations, IMT Lucca, Italy, “*A Simple Model of Coevolution for Macroscopic and Microscopic Levels*” (with S. de Nigris)

**Jul 30-Aug 3, 2016**: SwarmFest2016, University of Vermont, Burlington, VT, “*Agent-Based Modeling of Research Hierarchies Driving Scientific Discovery*” (with A. Lancaster)

**Jul 11-13, 2016**: Complex Networks, From Theory to Interdisciplinary Applications, Satellite meeting of StatPhys26, Marseille, France, “*Detecting Global Bridges in Networks*”

- Nov 25, 2015:** Journée Data Science - Social Science, Science des données et humanités numériques, Institut des Systèmes Complexes Paris-Île de France (ISC-PIF), Paris, France, “*Bridgeness and Scientometrics*”
- Oct 29-Nov 1, 2015:** The Computational Social Sciences Society of the Americas, CSSSA 2015, Santa Fe, NM, “*A Simple Model of Coevolution for Macroscopic and Microscopic Levels*”(with P. Jensen)
- Sep 15-18, 2015:** Historical Network Research Conference, Lisbon, Portugal, “*The Evolution of Japanese Business Networks in ASEAN Countries since the 1960s*”(with J.-P. Bassino, P. Jensen)
- July 10-12, 2015:** SwarmFest2015, University of South Carolina, Columbia, SC, “*A Simple Model of Coevolution for Macroscopic and Microscopic Levels*”(with P. Jensen)
- September 22-26, 2014:** ECCS14, European Conference on Complex Systems, Lucca, Italy, “*Bridgeness: A Novel Centrality Measure to Detect Global Bridges*”(with P. Jensen, T. Venturini, A. Vespignani, M. Jacomy, J.-P. Cointet, P. Mercklé, M. Karsai, E. Fleury)
- June 29-July 1, 2014:** SwarmFest2014, University of Notre Dame, IN, “*Taking Genetic Algorithms and Personal Income Tax Reforms One Step Beyond: Enter Agents*”(with S. Pellegrino)
- June 2, 2014:** TopoNets’14, NetSci’14 Satellite, University of California, Berkeley, CA, “*A New Measure to Detect Global Bridges*”(with P. Jensen, T. Venturini, A. Vespignani, M. Jacomy, J.-P. Cointet, P. Mercklé, M. Karsai, E. Fleury)
- July 8-9, 2013:** SwarmFest2013, Complex Adaptive Systems Laboratory, UCF Orlando, FL, “*Doing more with less? An Agent-Based Tale of Emergency Medical Services and Shrinking Budgets in Piedmont, Italy*”(with M. Bortolin)
- July 29-31, 2012:** SwarmFest2012, Complex Systems Institute, UNC Charlotte, NC, “*Antitrust Regulation in Schumpeterian Markets: an ABM*”
- June 26-28, 2011:** SwarmFest2011, Santa Fe Complex, Santa Fe, NM, “*The Emergence and Inevitability (or not) of Cooperation*”(with S. Beraldo)
- October 23-24, 2009:** NAACSOS 2009, North American Association for Computational Social and Organizational Sciences, Arizona State University, Tempe, AZ, “*Minimal Group Phenomena in Harvesting Games*”(with U. Merlone, P. Terna)
- April 5, 2006:** Collegio Carlo Alberto Seminar, Moncalieri, Italy “*How Much Evidence of Rationality Do We Find in Job Changing Behavior? (...Not Much Indeed)*”(with B. Contini)
- September 29-October 1, 2005:** “Metodi e applicazioni per la valutazione delle politiche del lavoro e di aiuto alle imprese” Workshop, Napoli, PRIN Programme 2003 “*Are movers better off than stayers?*”
- June 5-7, 2005:** SwarmFest2005, Department of Economics and Finance “G. Prato” and ISI, Torino, Italy, “*Distributed Agent-based Models Meet Multi Agent Systems: Exploring Contracting Protocols in a Simple Market Model*”(with R. Boero, G. Ferraris, M. Sonnessa)
- November 18, 2004:** Collegio Carlo Alberto Seminar, Moncalieri, “*The Complexity of Local Production Systems: Theoretical Issues and Agent-Based Modelling*”(with R. Boero)
- May 9-11, 2004:** SwarmFest2004, University of Michigan, Ann Arbor, MI, “*Penelope Meets Nemote: Distributed Production Planning Optimization*”
- March 19-20, 2004:** II Convegno nazionale, Associazione Italiana di Scienze Cognitive (AISC), “*Penelope project: web-based textile production planning; the Enterprise Simulator (ES) side of the story*”
- April 13-15, 2003:** SwarmFest2003, University of Notre Dame, IN, “*Penelope Project: Web-Based Textile Production Planning*”
- March 29-31, 2002:** SwarmFest2002, CBR, University of Washington, Seattle, WA, “*SMS: a Spinning Mill Simulator made in Swarm*”

## Teaching activity

**2014-present** “Modelling Complex Systems”, Master in Data Science for Complex Economic Systems, Collegio Carlo Alberto, Moncalieri, Italy.

## Editorial/Refereeing activities

Winter Simulation Conference, Computational Social Science Society of the Americas, Simulation&Games, SIMUL-TECH, SwarmFest, Mind&Society, Italian Journal of Public Economics, Bureau for Research in Innovation, Complexity and Knowledge (BRICK).

## Languages

Italian: native language  
English and French: full professional proficiency  
Spanish: limited working proficiency

## CS skills

Python, JavaScript, Java, C, C++, Objective C, Fortran  
R, Gephi, Swarm, NetLogo, Repast  
UNIX major flavours

**My Erdős Number is 3**, by the route Erdős-Chung Graham-Vespignani detailed below:

1. Y. Alavi et al., *Highly Irregular Graphs*, *JGT*, 1987
2. D.V. Krioukov et al., *The Workshop on Internet Topology (WIT) Report*, *ACM SIGCOMM CCR*, 2007
3. P. Jensen et al., *Detecting Global Bridges in Networks*, *JCN*, 2015