

**Matteo Morini**

<http://perso.ens-lyon.fr/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 Systems, Complex Networks, Agent-Based Modeling, Computational Economics, Econometrics, 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; thesis 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 cluster (EUTIST-AMI, “Penelope” project); 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.

**2001-2004** EU-FP5 “Penelope Project”, lead application developer (Agent-Based supply chain simulator), Torino, Italy; Barcelona, Spain; Saarbrücken, Germany; Athens, Greece.

**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*

*“Rethinking Macroeconomics with Endogenous Market Structure”*, Cambridge University Press, **forthcoming** (with M. Mazzoli, P. Terna)

*“Personal Income Tax Reforms: a Genetic Algorithm Approach”*, European Journal of Operational Research, Volume 264, Issue 3, pp. 994-1004, doi:10.1016/j.ejor.2016.07.059, Elsevier Publishing, **2018** (with S. Pellegrino)

*“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)

*“Detecting Global Bridges in Networks”*, Journal of Complex Networks, Volume 4, Issue 3, pp. 319-329, doi:10.1093/comnet/cnv022, **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*

**Feb 6-8, 2018**: BIF12018, Complexity, Networks and Collective Behaviour, Zaragoza, Spain, *“A Simple Model of Co-evolution for Macroscopic and Microscopic Levels”*, (with S. De Nigris)

**Nov 29-31, 2017**: Complex Networks 2017, Lyon, France, *“The Evolution of Japanese Business Networks in ASEAN Countries Since the 1960s”*, in Complex Networks & Their Applications VI, Proceedings of Complex Networks **2017**, pp. 1065-1075 (with J.-P. Bassino, P. Jensen)

**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)

**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”, “Agent-Based Models II”, 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, SIMULTECH, SwarmFest, Mind&Society, Italian Journal of Public Economics, Bureau for Research in Innovation, Complexity and Knowledge (BRICK), Journal of Economic Interaction and Coordination.

## 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