

UGO MERLONE

University of Torino
Department of Psychology
Torino, I 10124
+39 011 6702027 (p)
+39 011 6702061 (f)
ugo.merlone@unito.it

EDUCATION

PhD. *Mathematics applied to Economic Decisions.* (University of Trieste)

Dissertation: *Un approccio parametrico per la risoluzione di una classe di problemi di programmazione matematica* (Solutions to some classes of mathematical programming problems: a parametric approach) defended on June 3rd 1998.

M.A. *Human Resources Management and Organizational Development* (University of Torino)

Thesis: *Incentivi nei gruppi di lavoro* (Incentives in work groups), defended on October 29th 2008.

M.S. *Mathematics* (University of Torino).

Dissertation: *Algoritmi di modellazione per sistemi informatici: teoria e metodi numerici* (Information systems modeling algorithms: theory and numerical methods) defended on November 20th 1990. (*Olivetti Systems & Networks, scholarship grant*)

PROFESSIONAL EXPERIENCE

ASN-(DD n.161/2013) 13/A2 - POLITICA ECONOMICA (Political Economy) Full professorship
abilitation

2011 to present

Associate Professor, University of Torino, Department of Psychology

2005 to 2011

Associate Professor, University of Torino, Department of Statistics and Applied Mathematics

1996 to 2005

Assistant Professor, University of Torino, Department of Statistics and Applied Mathematics

PROFESSIONAL AFFILIATIONS

Licensed Psychologist #5882 Ordine degli Psicologi del Piemonte.

VISITING POSITIONS

Universidad de Chile, March-June 2013

University of Arizona, May 2012

Universidad de Chile, March-June 2011

University of Arizona, February-March 2010

University of Arizona, February-April 2009

University of Arizona, April-May 2008

University of Arizona, May-June 2007

University of Arizona, February 2006

London School of Economics, Spring 2004

Harvard University, Spring 2003

Harvard University, Spring 2002
University of Almeria (Spain), May 2001

INTERNATIONAL COOPERATION EXPERIENCE

Tempus Project JEP-27174-2006 Upgrading the Management at Belarusian Trade and Economics University of Consumer Cooperatives (BTEU) to EU Quality Standards

Tempus Project CD_JEP-41034-2006 (RS) Business University Of the New Age in Serbia: the BBA

RESEARCH INTERESTS

Social Dilemmas; Chaos Theory in Psychology; Mathematical approaches to organizations; Dynamical Systems; Micro behavior of artificial agents

COURSES TAUGHT

Psychometrics (Junior Level)

Intermediate Psychometrics (Junior Level)

Leadership and Management (Postgraduate Professional)

Conflict Management and Negotiation (Senior Level)

Strategy (MBA)

Problem Analysis (MBA)

Mathematical Methods for Research in Social Sciences (PhD. Seminar)

Multiple implementations for Approaching Complexity (PhD. Seminar)

Quantitative Modeling in Social Sciences Research, (PhD. Seminar)

Mathematics applied to Economics and Finance (Junior Level)

Incentive Systems and Agency Theory (Senior Level)

Operations Research (Senior and Graduate Level)

Mathematics and Statistics applied to Economics and Finance (MBA)

Simulation models and mathematics (PhD. Seminar)

Financial Mathematics (Junior and Senior Level)

Quatitative Methods for Management Decisions (Junior Level)

Leadership Emergence in teams. Some evidence combining experimental and computational approaches (PhD. Seminar)

Financial and Actuarial Mathematics (Graduate Level)

Quantitative methods for Organization Theory (Graduate Level)

Mathematics (Junior Level)

Statistics and Mathematics (Junior Level)

JOURNAL PUBLICATIONS AND ACCEPTANCES

Merlone, U., & Radi, D. (in press). Reaching consensus on rumors, *Physica A*.

Merlone, U., & Szidarovszky, F. (in press). Dynamic oligopolies with contingent workforce and investment costs, *Mathematics and Computers in Simulation*.

Dal Forno, A., & Merlone, U. (in press). Leader emergence in artificial populations: the role of networks, *Quality & Quantity*.

Merlone, U., Sandbank, D. R., & Szidarovszky, F. (2013) Equilibria analysis in social dilemma games with Skinnerian agents, *Mind and Society*, Vol.12(2), 219-233.

Dal Forno, A., & Merlone, U. (2013). Nonlinear Dynamics in Work Groups with Bion's Basic Assumptions, *Nonlinear Dynamics, Psychology, and Life Sciences*, Vol.17(2), 295-315.

Dal Forno, A., & Merlone, U. (2013). Collision bifurcations in a model of Braess paradox. *Mathematics and Computers in Simulation*. Vol.87, pp.1-18.

Dal Forno, A., & Merlone, U. (2013). Complex dynamics in supervised work groups, *Communications in Nonlinear Science and Numerical Simulation*, Vol.18(7), 1805-1821
doi:10.1016/j.cnsns.2012.11.022

Dal Forno, A., Gardini, L., & Merlone, U. (2012). Ternary choices in repeated games and border collision bifurcation. *Chaos Solitons and Fractals*, Vol.45(3), 294–305.

Merlone, U., Sandbank, D. R., & Szidarovszky, F. (2012) Systematic Approach to N -Person Social Dilemma Games: Classification and Analysis, *International Game Theory Review*. Vol.14(3).

Gardini, L., Merlone, U., & Tramontana F. (2011) Inertia in binary choices: Continuity breaking and big-bang bifurcation points. *Journal of Economic Behavior & Organization*, Vol. 80, No 1, 153-167, doi:10.1016/j.jebo.2011.03.004.

Matsumoto, A., Szidarovszky, F., & Merlone, U., (2011) Some Notes on Applying the Herfindahl-Hirschman Index. *Applied Economics Letters*, 19, 181-184.

Dal Forno, A., & Merlone, U. (2010) Incentives and Individual Motivation in Supervised Work Groups. *European Journal of Operational Research*, Vol. 207, 878-885
doi:10.1016/j.ejor.2010.05.023.

Matsumoto, A., Szidarovszky, F., & Merlone, U., (2010) Cartelising Groups In Dynamic Hyperbolic Oligopoly With Antitrust Threshold. *Australian Economics Papers*, vol. 49(4), December, 289-300.

Dal Forno, A., & Merlone, U., (2010) Effort Dynamics in Supervised Work Groups, *Journal of Economic Behavior & Organization*, Vol. 75, 413-425, doi:10.1016/j.jebo.2010.05.010

Bischi, G.I., & Merlone, U., (2010) Binary choices in small and large groups: A unified model,

Physica A, Vol. 389, 4, 843-853.

- Dal Forno, A., Merlone, U., (2009) Social Entrepreneurship Effects on the Emergence of Cooperation in Networks, *Emergence: Complexity and Organization*, vol. 11 (4), 48-58.
- Bischi, G.I., Gardini L., & Merlone, U. (2009) Periodic Cycles and Bifurcation Curves for One-Dimensional Maps with two Discontinuities, *Journal of Dynamical Systems and Geometric Theories*, Vol 7, no.2 November, 101-124.
- Matsumoto A., Szidarovszky, F., & Merlone, U., (2009) Dynamic Oligopoly with Partial Cooperation and Antitrust Threshold, *Journal of Economic Behavior & Organization*, doi:10.1016/j.jebo.2009.08.014.
- Bischi, G.I., & Merlone, U. (2009) Global Dynamics in Binary Choice Models with social Influence, *Journal of Mathematical Sociology*, Vol.33, 4, 277-302.
- Bischi, G.I., Laura Gardini & Merlone, U. (2009) Impulsivity in binary choices and the emergence of Periodicity. *Discrete Dynamics in Nature and Society*, vol. 9, Article ID 407913, doi:10.1155/2009/407913
- Dal Forno, A., & Merlone, U. (2009) Optimal effort in heterogeneous agents population with global and local interactions. *Cubo A Mathematical Journal*, vol. 11, no. 2, 15-36.
- Dal Forno, A., & Merlone, U. (2009) Individual incentives in supervised work groups: from human subject experiments to agent based simulation. *International Journal of Internet and Enterprise Management*, 6(1), pp. 4-22.
- Matsumoto, A., Merlone, U., & Szidarovszky, F. (2008) Cartelizing Groups in Dynamic Linear Oligopoly with Antitrust Threshold, *International Game Theory Review*, vol. 10, no. 4, 399-419.
- Merlone, U., Sonnessa, M., & Terna P. (2008) Horizontal and vertical multiple implementations in a model of industrial districts. *Journal of Artificial Societies and Social Simulation*, ISSN 1460-7425, vol. 11, no. 2/5.
- Merlone, U., Szidarovszky, F., & Szylagyi, M.N. (2007) Finite neighborhood games with binary choices. *Mathematica Pannonica*, vol. 18, no. 2, 205-217
- Merlone, U., (2007) Shareholdings interlocks: profit formulations and cartelizing effects. *Journal of Interdisciplinary Mathematics*, vol. 10, no. 1, 99-117.
- Dal Forno, A., & Merlone, U. (2007) Incentives in Supervised Teams: an Experimental and Computational Approach, *Journal of Social Complexity*, vol. 3, no. 1, 37-52.
- Dal Forno, A., Merlone, U., (2006) The Emergence of Effective Leaders: An Experimental and Computational Approach, *Emergence: Complexity and Organization*, vol. 8 (4), Special Issue: Complexity & Leadership, 36-51.
- Dal Forno, A., & Merlone, U. (2004) From Classroom Experiments to Computer Code., *Journal of Artificial Societies and Social Simulation*, ISSN 1460-7425, vol.7, no. 3
- Dal Forno, A., Merlone, U. (2004) Personnel turnover in organizations: an agent-based simulation model, *Nonlinear Dynamics, Psychology, and Life Sciences* , vol.8, no.2, 205-230.
- Merlone, U. (2002) Incentives and Computing Systems for Team-Based Organizations: A

Mathematical and Economic Analysis, *Organization Science*, vol. 13, no. 6, 734-736.

Dal Forno, A., & Merlone, U. (2002) A multi-agent simulation platform for modeling perfectly rational and bounded-rational agents in organizations. *Journal of Artificial Societies and Social Simulation*, ISSN 1460-7425, vol.5, no. 2.

Merlone, U. (2001) Cartelizing Effects of Horizontal Shareholding Interlocks. *Managerial and Decision Economics*, vol.22, no.2, 333-337.

Merlone, U. (2000) The optimal solution method applied to a non linear programming problem with exponential objective function. *Journal of Information & Optimization Sciences*, vol.21, no 2, 305-321.

Cervesato, E., & Merlone, U. (1995) Stima Bayesiana dei Coefficienti Beta:Un'Applicazione al Mercato Italiano. *Giornale degli Economisti e Annali di Economia*, Anno 54, no. 10/12, pp. 533-554.

BOOK CHAPTERS

Merlone, U., (2013) Incentives in Organizations of Operating Systems: Can Economics and Psychology Coexist in Human Resources Management?, in Giannoccaro, I. (Ed.) *Behavioral issues in Operations Management: New trends in design, management, and methodologies*. pp. 141-157 Springer-Verlag, London.

Dal Forno, A., & Merlone, U., (2013) Chaotic Dynamics in Organization Theory, in Bischi, G.I., Chiarella, C., and Sushko, I. (Eds.) *Global Analysis of Dynamic Models in Economics Finance and the social Sciences*. pp. 185-204 Springer-Verlag, Heidelberg, D.

Bischi, G.I., & Merlone, U. (2011) An adaptive dynamic model of segregation, in Puu T., and Panchuck A., *Nonlinear economic dynamics*, pp. 191-205, Nova Science Publishers, New York, NY.

Bischi, G.I., & Merlone, U. (2010) Global Dynamics in Adaptive Models of Collective Choice with Social Influence, in Naldi G., Pareschi L., and Toscani G. (Eds.), *Mathematical Modeling of Collective Behavior in Socio-Economic and Life Sciences*, pp. 223-244, Birkhauser, Boston, MA.

Dal Forno, A., & Merlone, U. (2009) Social Entrepreneurship Effects on the Emergence of Cooperation in Networks, in Hazy J. K., Goldstein J. A. and Silberstang J.(Eds.), *Complexity Science and Social Entrepreneurship: Adding Social Value through Systems Thinking*, pp. 427-442, ISCE Publishing, Mansfield, MA.

Dal Forno, A., & Merlone, U. (2009) Network dynamics when selecting work team members” in Naimzada, Ahmad K.; Stefani, Silvana; Torriero, Anna (Eds.), *Networks, Topology and Dynamics Theory and Applications to Economics and Social Systems*, pp. 229-240, Series: Lecture Notes in Economics and Mathematical Systems , Vol. 613, Springer Verlag.

Dal Forno, A., & Merlone, U. (2007) The emergence of effective leaders: An experimental and computational approach, in Hazy J. K., Goldstein J. A. and Lichtenstein B. B. (Eds.), *Complex Systems Leadership Theory New Perspectives from Complexity Science on Social and Organizational Effectiveness*, pp. 231-252, ISCE Publishing, Mansfield, MA,

Dal Forno, A., & Merlone, U. (2007) The Evolution of Coworkers Networks An Experimental and Computational Approach, in Edmonds B., Hernández Iglesias C., and Troitzsch K. G. (eds.), *Social Simulation: Technologies, Advances and New Discoveries*, pp. 280-293, Information Science Reference, Hershey (PA).

Merlone, U., & Terna P., (2006) Population Symbiotic Evolution in a Model of Industrial Districts, in Rennard J.P (Ed.), Handbook of Research on Nature Inspired Computing for Economics and Management, pp. 301-316, Idea Group Inc., Hershey (PA).

BOOKS:

Merlone, U., *Appunti di Matematica Finanziaria con una Introduzione alle Scienze Manageriali*, Edizioni Accademia Europea, Torino, 2010.

Curti, P., & Merlone, U., *Collezione di Esercizi di Matematica per le Applicazioni Economiche e Finanziarie*, Edizioni Accademia Europea, Torino, 2008.

Merlone U., *Elementi di Matematica per le Applicazioni Economiche e Finanziarie con Analisi Non Standard*, Edizioni Accademia Europea, Torino, 2007.

Merlone, U., & Redaelli, G., *Matematica Generale*, Etas Libri, Milano, 1995.

BOOK REVIEWS:

Social Computing, Behavioral-Cultural Modeling and Prediction: 4th International Conference, SBP 2011, College Park, MD, USA, March 29-31, 2011. Salerno, John, Yang, Shanchieh Jay, Nau, Dana and Chai, Sun-Ki (eds.) Springer-Verlag 2011. *The Journal of Artificial Societies and Social Simulation*, Volume 15, Issue 2 March 2012)

Introduction to Computational Science: Modeling and Simulation for the Sciences
Shiflet, Angela B. and Shiflet, George W. Princeton University Press: Princeton, NJ, 2006.
The Journal of Artificial Societies and social Simulation, Volume 10, Issue 2 March 2007

RESEARCH GRANTS

Aspetti interdisciplinari nei dilemmi sociali e conseguenze sulla percezione collettiva di giustizia . University of Torino Research Funds, Principal Investigator. 2012 (€ 3.764,02).

Local interactions and global dynamics in economics and finance: models and tools, PRIN MIUR Italy 2011 (participant),

The EU in the new complex geography of economic systems: models, tools and policy evaluation, COST Action IS1104 2012 (participant),

Strutture gerarchiche piramidali e incentivi .University of Torino Research Funds, Principal Investigator. 2007 (€ 3.726,00).

Modelli gerarchici per agenti a razionalità limitata: il ruolo della leadership. University of Torino Research Funds, Principal Investigator. 2006 (€ 2.046,94).

Evoluzione dinamica delle reti sociali: Modelli e Metodi. University of Torino Research Funds, Principal Investigator. 2005 (€ 3.726,00).

Modelli non lineari in economia e finanza; interazioni, complessità e previsioni, PRIN MIUR Italy

2004 (participant),

Strutture gerarchiche piramidali, equilibri e dinamiche. University of Torino Research Funds, Principal Investigator. 2004 (€ 1.090,36).

Strutture organizzative, risoluzione di conflitti e complessità computazionale. University of Torino Research Funds, Principal Investigator. 2003 (€ 2.123,37).

Equilibri in modelli computazionali di interazioni tra agenti a razionalità limitata. University of Torino Research Funds, Principal Investigator. 2002 (€ 1.580,08).

Struttura finanziaria dei gruppi industriali e fenomeni collusivi. University of Torino Research Funds, Principal Investigator. 2001 (£. 5.660.100).

CONFERENCE PRESENTATIONS AND PROCEEDINGS PAPERS

Dal Forno, A., & Merlone, U., *Replicating Human Interaction in Braess Paradox*, In C. Laroque, J. Himmelspach, R. Pasupathy, O. Rose, and A. M. Uhrmacher, editors, Proceedings of the 2013 Winter Simulation Conference, December 8-11 2013, Washington

Dal Forno, A., & Merlone, U., *Grounded theory based agents*, In C. Laroque, J. Himmelspach, R. Pasupathy, O. Rose, and A. M. Uhrmacher, editors, Proceedings of the 2012 Winter Simulation Conference, December 9-12 2012, Berlin

Merlone, U., Sonnessa, M. & Terna P. *Industrial Districts: Multiple Implementations of Population Symbiotic Evolution*. In Proceedings of the First World Congress on Social Simulation, August 21-25 2006, Kyoto

Dal Forno, A., & Merlone, U., *Building Grounded Agents: the lesson from Glaser and Strauss*, Proceedings of the First World Congress on Social Simulation, August 21-25 2006, Kyoto

Dal Forno, A., & Merlone, U., *Network Dynamics when Selecting Work Team Members: A Comparison between Experimental and Computational Results*. In K.G. Troitzsch ed., Representing Social Reality, Pre-Proceedings of the Third Conference of the European Social Simulation Association, September 5-9 2005, Koblenz

Dal Forno, A. & Merlone, U., *Network Dynamics when Selecting Work Team Members: A Comparison between Experimental and Computational Results*. In Conference Proceedings of NAACSOS 2005, June 26-28, 2005, Notre Dame, Indiana

Cerruti U., Giacobini M. & Merlone, U., *A New Framework to Analyze Evolutionary 2x2 Symmetric Games*, In G. Kendall & S. Lucas (Eds.) *IEEE Symposium on Computational Intelligence and Games*, Colchester, United Kingdom, April 4-6 2005, pag. 218-224, IEEE Press, Piscataway, New Jersey

Dal Forno, A. & Merlone, U., *From Classroom Experiments to Computer Code*. In Conference Proceedings of NAACSOS 2004, June 27-29, 2004, Pittsburgh.

Dal Forno, A. & Merlone, U., *Modular Pyramidal Hierarchies and Social Norms. An Agent Based Model*. In Conference Proceedings of NAACSOS 2004, June 27-29, 2004, Pittsburgh.

Dal Forno, A. & Merlone, U., *Modular Pyramidal Hierarchies and Social Norms. An Agent Based Model*. In *Industry And Labor Dynamics, The Agent-Based Computational Economics Approach*, Proceedings of the Wild@Ace 2003 Workshop Torino, Italy, 3–4 October 2003, pp.244-255, World Scientific, Singapore.

Merlone, U., *MBS, default and social welfare*” in Proceedings of V Congreso Nacional y III Hispano-Italiano de Matematica Financiera y Actuarial, Bilbao 26-28 April 2000, also presented at 27th Earie Conference, 7-10 September 2000, Lausanne

Merlone, U., *TRM Approach in Loans*, Atti del Secondo Convegno Italo-Spagnolo di Matematica Finanziaria, Napoli 1-3 Luglio 1999, La Città del Sole (2001), pp.403-418

Merlone, U., “Financial laws, arbitrage and algebraic structures”, Atti del First Spanish-Italian Meeting on financial Mathematics, Salvador Cruz Rambaud, Aldo G.S. Ventre eds, 1998, Universidad de Almeria

ITALIAN CONFERENCE PROCEEDINGS

Merlone, U., *Financial laws, arbitrage and algebraic structures*, Atti del First Spanish-Italian Meeting on financial Mathematics, Salvador Cruz Rambaud, Aldo G.S. Ventre eds, 1998, Universidad de Almeria

Merlone, U., *Horizontal shareholding interlocks with relaxed hypotheses*, Atti del ventitreesimo convegno A.M.A.S.E.S., 1999, Rende

Merlone, U., *Il Problema dell'estinzione anticipata di un impiego*, Atti del ventiduesimo convegno A.M.A.S.E.S., 1998, Bozzi Editore, Genova

Merlone, U., *GAPV, investimenti scalabili e politiche finanziarie ottime*, Atti del diciottesimo convegno A.M.A.S.E.S., 1994, Pitagora Editrice, Bologna

Merlone, U., *Scelte dinamiche ottime d'investimento*, Atti del diciassettesimo convegno A.M.A.S.E.S., 1993, Istituto Italiano degli Studi Filosofici, Napoli

Merlone, U., *Il criterio del tasso di reimpiego, un'analisi critica*, Atti del quindicesimo convegno A.M.A.S.E.S., 1991, Grado

INVITED PRESENTATIONS AND SEMINARS

Binary choices in small and large groups: A unified model, The Unexpected Conference, Paris, November 14-16, 2011

Discrete time population games: border collision bifurcations and big-bang bifurcation points, Centro de Modelamiento Matematico, Universidad de Chile, Santiago, June 8, 2011

Dynamics in Supervised Work Group, Departamento de Economía, Universidad de Chile, Santiago, April 22, 2011

Binary Choices in Groups, Center for the Study of Institutional Diversity, Arizona

State University, Tempe, March 4, 2009

A Strategic Approach in Modeling Organizations, Istituto di Studi Aziendali,
University of Urbino, March 12, 2008

From classroom experiment to agent-based modeling: personnel turnover in organizations with bounded rationality individuals, Dipartimento di Matematica Applicata, University of Venezia, May 28, 2004

Experiments Contribution in Agent Based Modeling Simulations, Operation Research Department, London School of Economics, London, May 19, 2004

Quantitative Approach to Research on Organizations. Main Area Recent Results., Dipartimento di Informatica e Studi Aziendali, University of Trento, June 9, 2003

Organizations as allocators of human resources and Material Resources, Harvard University, April 7, 2003

Organizations as allocators of human resources and assets, Dipartimento di Matematica Applicata, University of Venezia, December 13th, 2002

Organizations as allocators of human resources and assets, Dipartimento di Economia "G. Prato", University of Torino, December 11, 2002

Horizontal Shareholding Interlocks: Profit Formulations and Cartelizing Effects, Harvard University, April 10, 2002

Financial Laws and Term Structure of Interest Rates, University of Almeria, May 17, 2001

Cartelizing effects of Horizontal Shareholding Interlocks, at "I Seminari di Giardino Giusti", University of Verona, April 6, 2001

Horizontal Shareholding Interlocks with relaxed Hypotheses, Dipartimento di Economia "G. Prato", University of Torino, May 24, 1999

PROFESSIONAL ACTIVITIES

Editorial Boards

Journal of Neurology and Psychology (2013 to present)

Policy and Complex Systems Journal (2013 to present)

Journal of Applied Mathematics (2011 to 2013)

Journal Reviewing (Ad Hoc)

Australian Economic Papers

Computational and Mathematical Organization Theory

Computational Economics

European Journal of Operational Research

International Journal of Information Systems and Supply Chain Management
International Journal of Mathematics and Mathematical Sciences
International Journal of Production Economics
Journal of Artificial Societies and Social Simulation
Journal of Optimization Theory and Applications
Journal of Product Innovation Management
Management Science
Mathematical Methods of Operations Research
Mathematics and Computers in Simulation
Nonlinear Dynamics, Psychology, and Life Sciences
Organization Science
Physica A
Policy and Complex Systems Journal

REFERENCES

Gian-Italo Bischi
Professor
DESP-Department of Economics Society and Politics
University of Urbino "Carlo Bo"
via Saffi n.42 ,
61029 URBINO (Italy)
tel. +39 0722 305553
fax +39 0722 305550
gian.bischi@uniurb.it

Ferenc Szidarovszky
Professor
Department of Applied Mathematics
University of Pecs, Pecs,
Hungary, H-7624
szidar@sie.arizona.edu

Pietro. Terna
Professor
Dipartimento di Scienze Economico-Sociali e Matematico-Statistiche
Facoltà di Economia - Università di Torino
Corso Unione Sovietica n. 218 bis
10134 TORINO (Italy)
Tel. +39 011 6706067
Fax +39 011 6706062
terna@econ.unito.it