

Curriculum Vitae

Pierpaolo Battigalli

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Place and date of birth: Milano (Italy), 18 June, 1961.

Affiliation: Univeristà Bocconi (Milano): IGIER, Dept. Economics, Dept. Decision Sciences.

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EDUCATION

Ph.D. (Economics) (Dottorato di Ricerca in Scienze Economiche), Pooled Universities of Milan (Università Bocconi, Università Cattolica, Università degli Studi) 1992.

M.Sc. (Econometrics and Mathematical Economics), London School of Economics, 1989.

B.A. (Economics and Social Sciences) (Laurea in Discipline Economiche e Sociali), Bocconi University, 1987.

PRIMARY EMPLOYMENT

Professor, Univeristà Bocconi, Milano, Nov. 2000-present.

Professor, European University Institute, Firenze, Sept. 1998- Oct. 2000.

Assistant Professor, Princeton University, Sept. 1994- June 1999.

Assistant Professor (Ricercatore), Politecnico, Milano, Nov. 1992-Aug. 1994.

Research Assistant, Univeristà Bocconi, Milano, Nov. 1991-Oct. 1992.

Teaching Assistant, Univeristà Bocconi, Milano, Aug. 1989-Oct. 1991.

Teaching Assistant, Univeristà Bocconi, Milano, Oct. 1987-Aug. 1988.

TEMPORARY APPOINTMENTS

Visiting Assistant Professor, Caltech, Pasadena, March-June 1997.

Visiting Fellow, IGIER, Milano, Sept. 1996-Febr. 1997.

AWARDS and GRANTS

Collaborator of M.Dufwenberg, NSF research project "*Psychological Games and Communication*" Aug. 2006 to July 2008.

Coordinator of MIUR research project "*Applications of infinite games and their finite approximations*", Febr. 2006-Jan-2008.

Collaborator of G. Maggi, NSF research project "*Modes of governance in international organizations*", Jan. 2004-Dec. 2005.

MIUR research project "*Heterogeneous beliefs, uncertainty and strategic interaction*" (Head of Bocconi Unit), 2002-2003.

Collaborator of G.Maggi, NSF research project "*Complexity costs and contract incompleteness*," July 2001-June 2003.

Collaborator of M.Siniscalchi, NSF research project "*Studies in the foundations of game and auction theory*", July 2000-June 2003.

Scholarship "Luciano Jona", Istituto Bancario San Paolo di Torino, 1988-89.

RECENT PROFESSIONAL ACTIVITIES

Director of the PhD in Economics, Bocconi University.

IGIER fellow.

External Professor, *European University Institute*.

Charter member of the *Game Theory Society*. Member of the Council of the Game Theory Society 2001-2003.

Co-organizer of the PIER-IGIER conference on Economic Theory, Philadelphia, March 2005. Organizer of the session on "Interactive Epistemology and Game Theory" at the SAET conference, Vigo June-27/July 3 2005. Co-organizer of the workshop on "Stochastic Methods in Game Theory", Erice, Sept.24-Oct.02. Co-organizer of the conference on "Economic Theory and Experimental Economics", Milan, Nov. 24-25. Co-organizer of the "Third CSEF-IGIER Symposium on Economics and Institutions", Capri, June 2007.

Program Committee Member for the Theoretical and Applied Economics program of the European Meeting of the Econometric Society, summer 2001 and summer 2003, and for the TARK (Theoretical Aspects of Rationality and Knowledge) conference 2005.

Member of the Scientific Committees of RUD (workshop on Risk, Uncertainty and Decision) 2003, IMGTA (Italian Meeting on Game Theory and Applications) 2003, SMGTP (Spanish Meeting on Game Theory and Practice) 2004, Conference on "Economic Theory and Experimental Economics" Milan, Nov. 2005. Member of the Local Arrangements Committee for the EEA-ESEM conference, Milan August 2008.

Member of the Editorial Board of
Berkeley Journals in Theoretical Economics,
Econometrica,
Games and Economic Behavior,
International Journal of Game Theory,
Research in Economics (Ricerche Economiche),
RISEC (International Review of Economics and Business),
Theoretical Economics, An open-access journal in economic theory.

Advisory Board member, *Texts in Logic and Games*, Amsterdam University Press.

Referee for:

American Economic Review, *Econometrica*, *Economic Journal*, *Economics and Philosophy*, *European Economic Review*, *Journal of Economic Behavior and Organization*, *Journal of Economic Theory*, *Journal of the European Economic Association*, *Journal of International Economics*, *Journal of Mathematical Economics*, *Journal of Political Economy*, *Mathematical Social Sciences*, *The Rand Journal of Economics*, *Review of Economic Studies*, *Theory and Decision*, NSF, MIUR, Israel Science Foundation.

**RECENT CONTRIBUTIONS TO ACADEMIC CONFERENCES
AND SEMINARS (January 2007-present)**

November 21, 2008, invited seminar, Stern School of Business, New York University.

November 19, 2008, invited seminar, Boston University.

November 17, 2008, invited seminar, University of California, Berkeley.

November 12, 2008, invited lecture, Center for Behavioral Economics, University of Arizona, Tucson.

November 7, 2008, invited seminar, Arizona State University, Phoenix.

November 6, 2008, invited seminar, Northwestern University.

October 2008, invited seminar, Brunel, London.

September 2008, invited seminar, Université des Sciences Sociales, Toulouse.

August 2008, paper presented at the EEA-ESEM conference, Milan, August 27-31.

July 2008, invited, semi-plenary lecture at Games 2008, Third World Congress of the Game Theory Society, Evanston IL, July 13-17.

June 2008, paper presented at the "Third CSEF-IGIER Symposium on Economics and Institutions", Capri June 23-27.

May 2008, invited presentation, Workshop "Understanding Moral Emotions", Istituto di Scienze e Tecnologia della Cognizione, Rome.

May 2008, invited seminar, University of Essex.

March 2008, invited presentation, Workshop on Game Theory, Università Milano Bicocca, March 7-8.

December 2007, invited presentation, Game Science Conference in Honor of Ehud Kalai, Jerusalem, Dec. 16-18.

November 2007, invited seminar, Dept. Economics, MIT, Cambridge MA.

October 2007, invited seminar, "Collegio Carlo Alberto", Turin.

July 2007, paper presented at the ESA world conference, Rome, June 28-July 1.

June 2007, paper presented at the "Third CSEF-IGIER Symposium on Economics and Institutions", Capri June 25-29.

April 2007, invited seminar, University of Leicester.

April 2007, invited seminar, CORE, University of Louvain.

March 2007, paper presented at the IMEBE conference, Malaga, March 22-25.

February 2007, invited speaker, conference "Reciprocity: Theories and Facts", Verbania, February 22-24.

February 2007, invited seminar, University of Brescia.

February 2007, series of lectures on "Interactive Epistemology", University of Lausanne.

January 2007, invited seminar, University of Paris 1.

January 2007, invited presentation, Winter Meeting of the American Economic Association.

PUBLICATIONS

Articles and Notes in Refereed Journals

"Dynamic Psychological Games" (with M. Dufwenberg), *Journal of Economic Theory* (2009), **144**, 1-35.

"Costly Contracting in a Long-Term Relationship" (with G. Maggi), *RAND Journal of Economics* (2008), **39**, 352-377.

"Interactive Epistemology in Games with Payoff Uncertainty" (with M. Siniscalchi), *Research in Economics* (2007), **61**, 165-184.

"Guilt in Games" (with M. Dufwenberg), *American Economic Review (P&P)* **97** (2007), 170-176.

"Buyer Power and Quality Improvement," (with C.Fumagalli and M.Polo), *Research in Economics* (2007), **61**, 45-61.

"Rationalization in Signaling Games: Theory and Applications," *International Game Theory Review*, **8** (2006), 1-27.

"Rationalizable Bidding in First Price Auctions," *Games and Economic Behavior*, **45** (2003), 38-72 (with M. Siniscalchi).

"Rationalization and Incomplete Information", *Advances in Theoretical Economics*, **3** (2003) (1), Article 3 (with M. Siniscalchi).
[<http://www.bepress.com/bejte/advances/vol3/iss1/art3>]

"Rationalizability in Infinite, Dynamic Games of Incomplete Information," *Research in Economics (Ricerche Economiche)*, **57** (2003), 1-38.

"Strong Belief and Forward Induction Reasoning," *Journal of Economic Theory*, **106** (2002), 356-391 (with M. Siniscalchi).

"Rigidity, Discretion and the Cost of Writing Contracts," *American Economic Review* **92** (2002), 798-817 (with G. Maggi).

"A Note on Rationalizability and Reputation with Two Long-Run Players," *RISEC (International Review of Economics and Business)*, **48** (2001), 383-393.

"Hierarchies of Conditional Beliefs and Interactive Epistemology in Dynamic Games," *Journal of Economic Theory*, **88** (1999), 188-230 (with M. Siniscalchi).

“Interactive Beliefs, Epistemic Independence and Strong Rationalizability,” *Research in Economics (Ricerche Economiche)*, **53** (1999), 247-273 (with M. Siniscalchi).

“Recent Results on Belief, Knowledge and the Epistemic Foundations of Game Theory,” *Research in Economics (Ricerche Economiche)*, **53** (1999), 149-225 (with G. Bonanno).

“Synchronic Information and Common Knowledge in Extensive Games,” *Research in Economics (Ricerche Economiche)*, **53** (1999), 77-99 (with G. Bonanno).

[Also published in (M. Bacharach, L.A. Gerard-Varet, P. Mongin, and H. Shin editors) *Epistemic Logic and the Theory of Games and Decisions*. Dordrecht: Kluwer, 1997.]

“Dynamic Consistency and Imperfect Recall,” *Games and Economic Behavior*, **20** (1997), 31-50.

“On Rationalizability in Extensive Games,” *Journal of Economic Theory*, **74** (1997), 40-61.

“On ‘Reputation’ Refinements with Heterogeneous Beliefs,” *Econometrica*, **65** (1997), 369-374.

“The Logic of Belief Persistence,” *Economics and Philosophy*, **13** (1997), 39-59.

“Strategic Independence and Perfect Bayesian Equilibria,” *Journal of Economic Theory*, **70** (1996), 201-234.

“A Note on Stochastic Independence without Savage-Null Events,” *Journal of Economic Theory*, **70** (1996), 235-248 (with P. Veronesi).

“Strategic Rationality Orderings and the Best Rationalization Principle,” *Games and Economic Behavior*, **13** (1996), 178-200.

“Structural Consistency and Strategic Independence in Extensive Games,” *Ricerche Economiche*, **48** (1994), 357-376.

“A Comment on Strategic Rationality Orderings and Computation Trembles,” *Economic Notes*, **23** (1994), 19-25.

“Learning and Convergence to Equilibrium in Repeated Strategic Interaction,” *Ricerche Economiche*, **46** (1992), 335-378.

“Implementable Strategie, Prior Information and the Problem of Credibility in Extensive Games,” *RISEC (International Review of Economics and Business)*, **35** (1988), 705-733.

“Il concetto di equilibrio nei modelli strategici e parametrici,” *Il Giornale degli Economisti e Annali di Economia*, **47** (1988), 99-118.

Articles and Notes in Books

“Giochi, teoria dei” in *Dal XX al XXI secolo: problemi e prospettive (Enciclopedia del Novecento, Supplemento III, Volume A-G, 2004)*.

“Games with Observable Deviators,” in P. Battigalli, A. Montesano and F. Panunzi (eds.) *Decisions, Games and Markets*. Dordrecht: Kluwer Academic Publishers, 1997.

“Conjectural Equilibria and Rationalizability in a Game with Incomplete Information” (with D. Guaitoli), in P. Battigalli, A. Montesano and F. Panunzi (eds.) *Decisions, Games and Markets*. Dordrecht: Kluwer Academic Publishers, 1997.

“Synchronic Information and Common Knowledge in Extensive Games” (with G. Bonanno), in M. Bacharach, L.A. Gerard-Varet, P. Mongin, and H. Shin (eds.) *Epistemic Logic and the Theory of Games and Decisions*. Dordrecht: Kluwer, 1997.

[Also published in *Research in Economics* (1999), see above.]

Comment to “On the Decision Theoretic Foundation of Game Theory” by M. Mariotti, in K.J. Arrow, E. Colombatto, M. Perlman, and C. Schmidt (eds.) *The Foundations of Rational Economic Behavior*. London: McMillan, 1996.

“Giochi ad informazione incompleta con aspettative soggettive mutuamente incoerenti,” in A. Montesano (ed.) *Teoria economica dell’organizzazione*, Bologna: Il Mulino, 1996.

“Algorithmic Solutions for Extensive Games,” in G. Ricci (ed.) *Decision Processes in Economics*, Lecture Notes in Economics and Mathematical Systems. Berlin: Springer Verlag, 1991.

Books

Restrizioni razionali su sistemi di probabilità soggettive e soluzioni di giochi ad informazione completa. Milano: EGEA, 1993.¹

¹Doctorate thesis. Most of its content has been published in English on the JET and GEB.

Edited Books

Decisions, Games and Markets. Dordrecht: Kluwer Academic Publishers, 1997 (with A. Montesano and F. Panunzi).

WORK IN PROGRESS²

"Interactive Epistemology and Solution Concepts in Games with Asymmetric Information" (with A. Di Tillio, E. Grillo and A. Penta), Università Bocconi, IGIER working paper 340 (2008).

"Incorporating Belief-Dependent Motivations in Games" (with M. Dufwenberg) notes 2008 (very preliminary and incomplete)

"Transparent Restrictions on Beliefs and Forward Induction Reasoning in Games with Payoff Uncertainty" (with A. Prestipino), first draft 2009 (preliminary).

"Context-Dependent Forward Induction Reasoning" (with A. Friedenberg), preliminary draft, 2009.

"Interactive Epistemology in the Extensive Form and Normal Form," mimeo 2004 (very preliminary and incomplete).

"International Agreements on Product Standards: An Incomplete-Contracting Theory" (with G. Maggi), NBER working paper #9533, IGIER working paper 229 (2003).

WORKING PAPERS, UNPUBLISHED PAPERS³

"Costly Contracting in a Long-Term Relationship" (with G. Maggi), posted versions: Stern NYU working paper (2004), IGIER working paper 249 (2003), revised version of "Contracting Over Time When Writing is Costly," Working Papers in Economic Theory, No. 00F5 (2001), Princeton University.

[Working paper versions of "Costly Contracting..." *RAND J.Econ.*, IGIER w.p. 249 contains additional material]

"Imperfect Contracting" (with G. Maggi), Working Papers in Economic Theory, No. 00S11 2000, Princeton University.

[Working paper version of "Rigidity, Discretion and the Cost of Writing Contracts," *American Econ.Rev.*(2002). It contains additional material.]

"Rationalizable Bidding in General First Price Auctions" (with M. Siniscalchi), IGIER Working Paper No. 190, (2000).

[Working paper version of "Rationalizable Bidding in First Price Auctions," *Games Econ.Behavior* (2003). Extension of "Rationalizable Bidding in First Price Auctions: Private Values," working paper SET.]

²The PDF files of the papers (including most recent versions) are available by request or can be downloaded from my webpage.

³Citations of my work sometimes refer to unpublished papers or early working paper versions of published articles.

“A Comment on Non-Nash Equilibria,” mimeo, 1999.

“Rationalizability in Incomplete Information Games,” European University Institute, Working Paper ECO 99/17.

"Interactive Beliefs and Forward Induction," European University Institute, Working Paper ECO 99/15. [Working paper version of “Strong Belief and Forward Induction Reasoning” *J.Econ.Theory* (2002); most of the results omitted from the published version have been collected in "Interactive Epistemology in Games with Payoff Uncertainty" *Research in Economics*.]

“An Epistemic Characterization of Extensive Form Rationalizability,” Social Sciences Working Paper 1009, Caltech 1997 (with M. Siniscalchi).

[Early working paper version of “Strong Belief and Forward Induction Reasoning” *J.Econ.Theory* (2002) Also reprinted as Nota di Lavoro 25.99 of Fondazione Mattei.]

“Strategic Independence, Generally Reasonable Extended Assessments and Consistent Assessments,” mimeo, IEP Università Bocconi, 1991.

[Early working paper version of "Strategic Independence and Perfect Bayesian Equilibrium," *J.Econ.Theory*, 1996).]

“A Note on Structural Consistency, Strategic Independence and Rationality,” working paper #1991-03, IEP Università Bocconi, Milano.

[Early working paper version of "Structural Consistency, Strategic Independence..." , *Ricerche Economiche*, 1994.]

“Incomplete Information Games with Private Priors,” mimeo, IEP Università Bocconi, 1990.

[Early working paper version of “Giochi a informazione incompleta...,” 1996.]

“Conjectural Equilibria and Rationalizability in a Macroeconomic Game with Incomplete Information” (with G. Guitoli), Quaderni di Ricerca 1988-6, I.E.P., Università Bocconi, Milano .

[Working paper version of Battigalli and Guitoli, 1997.]

Unpublished Dissertation

Comportamento razionale ed equilibrio nei giochi e nelle situazioni sociali, Università Bocconi, Milano, 1987.