

Curriculum Vitae Fernando Vega-Redondo

Bocconi University, Milan

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1 Personal information

Born in León (Spain)
Married, four children
Spanish ID: 00669047-T

Current position: Professor, Bocconi University.

2 Contact information

Home

address:

Via Andrea Solari 19
20144 Milan, Italy

phone: ++39 345 1012 656

University

address:

Department of Decision Sciences
Via Roentgen 1
20136 Milan, Italy

phone:

office: +39 02 58365399

assistant: +39 02 58365632

e-mail: fernando.vega@unibocconi.it

3 Academic history

3.1 Research impact

- *Number of citations*: 9,950 (source: Google Scholar).
- *h-index*: 37.

3.2 Degrees

- Licenciado en Económicas, Universidad Complutense de Madrid, 1980.
- Doctor of Philosophy, University of Minnesota, 1984.
Thesis supervisor: Professor Leonid Hurwicz, Nobel Laureate.

3.3 Professional recognition

- Fellow of the Econometric Society
- Fellow of the Game Theory Society
- Fellow of the Society for the Advance of Economic Theory
- Honorary Fellow of the Spanish Economic Association
- FUE prize for research in economics, 2011.
- Council of the Game Theory Society, 2011-17
- Scientific Board, ESHIA, 2006-
- Advisory Board, IMW, Bielefeld, 2022-
- Academic Council, Barcelona School of Economics, 2022-

3.4 Editorial activities

- Editorial board, *Lecture Notes in Economics and Mathematical Systems*: 2002-4
- Co-editor, *Spanish Economic Review*: 2001-5
- Associate editor, *International Journal of Game Theory*: 2007-2022
- Associate editor, *Games and Economic Behavior* : 2010-
- Guest editor, *Proceedings of the National Academy of Sciences of USA*, 2012
- Associate Editor, *Network Science*: 2013-2014
- Associate Editor, *Journal of Complex Networks*: 2013-2020
- Guest editor, *Operations Research*, 2014
- Co-editor, *Network Science*: 2014-22.

3.4 Teaching and Research Positions

- Teaching Assistant, University of Minnesota, 1982-84.
- Assistant Professor, Universidad de Alicante, 1984-85.
- Research Fellow, Instituto de Análisis Económico, C.S.I.C, Barcelona, 1986-90.
- Visiting Scholar, Harvard University, 1987-88.
- Research Fellow, Institute for Advanced Studies, Hebrew University of Jerusalem, 1989-90.
- Research Fellow, Institute for Advanced Studies, Vienna, 1993.
- Visiting Scholar, University of California-San Diego, 1995.
- Visiting Scholar, Boston University, 1996.
- Professor, Universidad de Alicante, 1990-2006.
- Professor, University of Essex, 2004-2006.
- Visiting Professor, Cornell University, 2006-2007
- Professor, European University Institute (Florence), 2007-2013.
- Professor, Bocconi University, since 2013

4 Areas of Research

- Game Theory
- Evolutionary Theory
- Learning and bounded rationality
- Social networks

5 Writings

5.1 Books

1. *Complex Social Networks*, Econometric Society Monograph Series, Cambridge University Press, 2007.
2. *Economics and the Theory of Games*, Cambridge University Press, August 2003.
3. *Economía y Juegos*, Antoni Bosch Editor, March 2000.
4. *Evolution, Games, and Economic Behavior*, Oxford University Press, September 1996 (reprinted 1997).

5.2 Recent working papers

5. “Production and financial networks in interplay: crisis evidence from supplier-customer and credit registers,” October 2022 (joint with Kenan Huremović, Gabriel Jiménez, Enrique Moral-Benito, and Jose Luis Peydró), R&R at *American Economic Review*.

6. “Riot networks: a game-theoretic model with an application to the Egyptian Arab Spring,” January 2023 (joint with Lachlan Deer, Chih-Sheng Hsie, and Michael Konig).
7. “Networking entrepreneurs,” January 2023 (joint with Paolo Pin, Diego Ubfal, Cristiana Benedetti-Fasil, Charles Brummitt, Magdalena Domínguez, Gaia Rubera, Dirk Hovy, and Tommaso Fornaciari).
8. “Common ownership in production networks,” February 2023 (joint with Matteo Bizzarri).
9. “Revealing information – or not – in a social network of traders,” March 2023 (joint with Patrick Allmis and Paolo Pin).

5.3 Published articles: English language

10. “Homophily and influence,” *Journal of Economic Theory* **227**, 2023 (joint with Arnold Polanski).
11. “Trade openness and growth: a network-based approach,” *Journal of Applied Econometrics* **37**, 2022 (joint with Georg Duernecker and Moritz Meyer).
12. “Theoretical and computational characterizations of interaction mechanisms on Facebook dynamics using a common knowledge model,” *Social Network Analysis and Mining* **11**, 2021 (joint with Chris J. Kuhlman, Gizem Korkmaz, and S. S. Ravi).
13. “Pooling or fooling? An experiment on signaling,” *Journal of Economic Behavior and Organization* **176**, 2020 (joint with Francesco Feri, Miguel A. Meléndez-Jiménez, and Giovanni Ponti).
14. “Helpful or hierarchical? Predicting the communicative strategies of chat participants, and their impact on success,” *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing* (joint with Farzana Rashid, Tommaso Fornaciari, Dirk Hovy, and Eduardo Blanco).
15. “Social networks from a designer’s viewpoint,” in Trockel W. (ed.), *Social Design: Essays in memory of Leonid Hurwicz*, Springer series: Studies in Economic Design, Cham (Switzerland): Springer, 2019.
16. “Coalition bargaining in repeated games,” *International Economic Review* **60**, 2019 (joint with Arnold Polanski).
17. “Social networks and the process of globalization,” *The Review of Economic Studies* **85**, 2018 (joint with Georg Duernecker).

18. "A Model of homophily, common knowledge and collective action through Facebook," *Proceedings of the 2018 International Conference on Advances in Social Networks Analysis and Mining*, ASONAM 2018 (joint with G. Korkmaz, C.J. Kuhlman, and J. Golstein).
19. "Coordination and common knowledge on communication networks," *Proceedings of 17th International Conference on Autonomous Agents and Multiagent Systems*, AAMAS 2018 (joint with G. Korkmaz, M. Capra, A. Kraig, K. Lakkaraju, and C.J. Kuhlman).
20. "Bargaining frictions in trading networks," *The B. E. Journal of Theoretical Economics* **18**, 2018, ISSN 1935-1704 (joint with Arnold Polanski).
21. "Contagious disruptions and complexity traps in economic development," *Nature Human Behavior* **1**, 2017 (joint with Charles Brummitt, Kenan Huremovic, Paolo Pin, and Matthew Bonds).
22. "Risk-sharing and contagion in networks," *The Review of Financial Studies* **30**, 2017 (joint with Antonio Cabrales and Piero Gottardi).
23. "Spreading of Social Contagions without Key Players" 2017 *World Wide Web Conference* (joint with G. Korkmaz, C.J. Kuhlman, and S.S. Ravi).
24. "A simple model of homophily in social networks," *European Economic Review* **90**, 2016, (joint with Sergio Currarini and Jesse Matheson).
25. "Links and actions in interplay," in Bramoullé, Y., A. Galeotti, and B. Rogers (eds.), *Oxford Handbook of Economic Networks*, Oxford: Oxford University Press, 2016.
26. "Can social contagion spread without key players?" in *Proceedings of 2016 IEEE International Conference on Behavioral, Economic and Socio-cultural Computing* (BESC), Durham, NC, USA (joint with G. Korkmaz and C.J. Kuhlman).
27. "Approximate contagion model of common knowledge on Facebook" in *Proceedings of the 27th ACM Conference on Hypertext and Social Media*, 2016, New York, NY, USA (joint with G. Korkmaz, C.J. Kuhlman, and S.S. Ravi).
28. "Social Cohesion and the evolution of altruism," *Games and Economic Behavior* **92**, 2015 (joint with José Antonio García).
29. "Leave and let leave: A sufficient condition to explain the evolutionary emergence of cooperation," *Journal of Economic Dynamics and Control* **46**, 2014 (joint with Luis R. Izquierdo and Segismundo S. Izquierdo).

30. “Collective action through common knowledge using a Facebook model,” in *Proceedings of the 2014 ACM International Conference on Autonomous Agents and Multi-agent Systems* (joint with G. Korkmaz, C.J. Kuhlman, A. Marathe, and M.V. Marathe).
31. “Network Organizations,” *Journal of Complex Networks* **1**, 2013.
32. “Being close to grow faster: a network-based empirical analysis of economic globalization,” in *Network for Prosperity: Connecting Development Knowledge beyond 2015*, United Nations Industrial Development Organization, 2012 (joint with Moritz Meyer and Georg Duernecker)
33. “Error Cascades in Observational learning: an Experiment on the Chinos Game,” *Games and Economic Behavior* **73**, 2011 (joint with Francesco Feri, Miguel A. Meléndez-Jiménez, and Giovanni Ponti).
34. “Threshold learning dynamics in social networks,” *PLOS ONE* **6**, 2011 (joint with Juan Carlos González, Víctor Eguiluz, Matteo Marsili, and Maxi San Miguel).
35. “Vertex centralities in input-output networks reveal the structure of modern economies,” *Physical Review E* **83**, 2011 (joint with Florian Blöchl, Fabian J. Theis, and Eric Fisher).
36. “Complex networks and local externalities: a strategic approach,” *International Journal of Economic Theory* **7**, 2011 (joint with Andrea Galeotti).
37. “The Option to Leave: Conditional Dissociation in the Evolution of Cooperation,” *Journal of Theoretical Biology* **267**, 2010 (joint with Segismundo S. Izquierdo and Luis R. Izquierdo).
38. “Network games,” *The Review of Economic Studies* **77**, 2010 (joint with Andrea Galeotti, Sanjeev Goyal, Matthew Jackson, and Leeat Yariv).
39. “Peer effects and peer avoidance: the diffusion of behavior in coevolving networks” *Journal of the European Economic Association* **8**, 2010 (joint with Constanza Fosco and Matteo Marsili).
40. “Economic networks,” *Science* **325**, 2009 (joint with Frank Schweitzer, Giorgio Fagiolo, Didier Sornette, Alessandro Vespignani, and Douglas R. White).
41. “Optimal information transmission in organizations: search and congestion,” *Review of Economic Design* **13**, 2009 (joint with Alex Arenas, Antonio Cabrales, Abert Díaz-Guilera, and Roger Guimerà).
42. “Economic Networks: What do we know and what do we need to know?” *Advances of Complex Systems* **12**, 2009 (joint with Frank Schweitzer, Giorgio Fagiolo, Didier Sornette, and Douglas R. White).

43. “Homophily, Conformity, and Noise in the (Co-)Evolution of Complex Social Networks in A. Reggiani and P. Nijkamp (eds.), *Complexity and Spatial Networks*”, *Advances in Spatial Science*, Springer-Verlag Berlin Heidelberg 2009 (joint with George Ehrhard and Matteo Marsili).
44. “Emergence and resilience of social networks: a general theoretical framework,” *Annales d'Economie et Statistique* **86**, 2008 (joint with George Ehrhard and Matteo Marsili).
45. “Structural holes in social networks,” *Journal of Economic Theory* **137**, 2007 (joint with Sanjeev Goyal).
46. “Diffusion and growth in an evolving network,” *International Journal of Game Theory* **34**, 2006 (joint with George Ehrhard and Matteo Marsili).
47. “Building up social capital in a changing world,” *Journal of Economic Dynamics and Control* **30**, 2006.
48. “Phenomenological models of socioeconomic network dynamics,” *Physical Review E* **74**, 2006 (joint with George Ehrhard and Matteo Marsili).
49. “Clustering, Cooperation, and Search in Social Networks,” *Journal of the European Economic Association* **3**, 2005 (joint with Matteo Marsili and Frantisek Slanina).
50. “Network formation and social coordination,” *Games and Economic Behavior* **50**, 2005 (joint with Sanjeev Goyal).
51. “On the Non-Trivial Dynamics of Complex Networks,” *Physica A* **346**, 2005 (joint with Ginestra Bianconi and Matteo Marsili).
52. “On the rise and fall of networked societies,” *American Institute of Physics Conference Proceedings* **779**, 2005 (joint with George Ehrhard and Matteo Marsili).
53. “Self-organized-critical network dynamics,” *American Institute of Physics Conference Proceedings* **776**, 2005 (joint with Ginestra Bianconi and Matteo Marsili).
54. “Network formation and anti-coordination games,” *International Journal of Game Theory* **33**, 2004 (with Yann Bramouille, Sanjeev Goyal, and Dunia López-Pintado).
55. “Migration and the evolution of conventions,” *Journal of Economic Behavior and Organization* **55**, 2004 (joint with V. Bhaskar).

56. "The rise and fall of a networked society: a formal model," *Proceedings of the National Academy of Sciences of the U.S.A.* **101**, 2004 (joint with Matteo Marsili and Frantisek Slanina).
57. "Search and congestion in complex networks," *XVIII Sitges Conference on Statistical Mechanics*, R. Pastor-Satorras, M. Rubi, and A. Díaz-Guilera (eds.), Springer Verlag 2003 (joint with A. Arenas, A. Cabrales, A. Díaz-Guilera, and R. Guimerà).
58. "Learning to play in a (stylized) Chinos game," in *Modelling Complex Systems*, P.L. Garrido and J. Marro (eds.), *American Institute of Physics Conference Proceedings* **661**, 2003 (joint with L. Pastor-Abia, E. San-Fabián, and E. Louis).
59. "Optimal network topologies for local search with congestion," *Physical Review Letters* **89**, 2002 (joint with R. Guimerà, A. Díaz-Guilera, A. Cabrales, and A. Arenas).
60. "Self-organized criticality in evolutionary systems with local interaction," *Journal of Economic Dynamics and Control* **26**, 2002 (joint with A. Arenas, A. Díaz-Guilera, and C. Pérez).
61. "Asynchronous choice and Markov equilibria," *Journal of Economic Theory* **103**, 2002 (joint with V. Bhaskar)
62. "New results in a self-organized model of technological evolution," *Advances in Complex Systems* **4**, 2001 (joint with G. Oron, A. Arenas, A. Díaz-Guilera, M. Llas, and C. Pérez).
63. "On the evolution of individualistic preferences: complete versus incomplete information scenarios," *Journal of Economic Theory* **97**, 2001 (joint with Efe Ok).
64. "Strategic behavior and information transmission in a stylized (so-called *Chinos*) guessing game," *Advances in Complex Systems* **4**, 2001 (joint with L. Pastor-Abia, J.M. Pérez Jordá, E. San-Fabián, and E. Louis).
65. "Self-organized evolution in socio-economic environments," *Physical Review E* **61**, 2000 (joint with A. Arenas, A. Díaz-Guilera, and C. Pérez).
66. "Unfolding social hierarchies," *Journal of Economic Theory* **90**, 2000.
67. "Markets under bounded rationality: from theory to facts," *Investigaciones Económicas* **23**, 1999.
68. "Convergence of aspirations and (partial) cooperation in the Prisoner's Dilemma," *International Journal of Game Theory* **28**, 1999 (joint with F. Palomino).

69. "An evolutionary model of market structure," in *The Theory of Markets*, ed. by J.-J. Herings, A.J.J. Talman, and G. van der Laan, Amsterdam: North Holland, 1999 (joint with C. Alós-Ferrer and A.B. Ania).
70. "Industrial dynamics, path dependence, and technological change," *Spanish Economic Review* **1**, 1999.
71. "Externalities, expectations, and growth," *Economic Theory* **14**, 1999.
72. "Evolving aspirations and cooperation," *Journal of Economic Theory* **80**, 1998 (joint with R. Karandikar, D. Mookherjee, and D. Ray).
73. "Multilevel evolution in games," *International Journal of Game Theory* **27**, 1998 (joint with José Canals).
74. "Shaping long-run expectations in problems of coordination," *European Journal of Political Economy* **13**, 1997.
75. "The evolution of Walrasian Behavior," *Econometrica* **65**, 1997.
76. "Efficient equilibrium selection in evolutionary games with random matching," *Journal of Economic Theory* **70**, 1996 (joint with Arthur Robson).
77. "Long-run cooperation in the one-shot Prisoner's Dilemma: a hierarchic evolutionary approach," *Biosystems* **37**, 1996.
78. "Pollination and reward: a game-theoretic approach," *Games and Economic Behavior* **12**, 1996.
79. "Technological change and market structure," *International Journal of Industrial Organization* **14**, 1995.
80. "Public subscription and private contributions," *Social Choice and Welfare* **12**, 1995.
81. "Expectations, drift, and volatility in evolutionary games," *Games and Economic Behavior* **11**, 1995.
82. "The dynamics and revealed preference of status-quo optimality," *Economic Theory* **6**, 1995.
83. "Technological change and path dependence: a two-country co-evolutionary model," *Journal of Evolutionary Economics* **4**, 1994.
84. "Technological change and path dependence," in *Catching up, Forging Ahead, and Falling Behind*, edited by J. Fargerberg, N. von Tunzelman and B. Verspagen, Edward Elgar, 1994.

85. "Bayesian boundedly rational agents play the repeated Prisoner's Dilemma," *Theory and Decision* **36**, 1994.
86. "Games with changing payoffs: comments," in *The Economies of Growth and Technological Change*, edited by J. Silverger and Luc Soete, Edward Elgar, 1994.
87. "Technological change and institutional inertia: a game-theoretic approach," *Journal of Evolutionary Economics* **3**, 1993.
88. "A theoretical model of predator-prey signalling," *Journal of Theoretical Biology* **160**, 1993 (joint with Oren Hasson).
89. "Competition and culture in the evolution in economic behavior," *Games and Economic Behavior* **5**, 1993.
90. "Simple and inertial behavior: an optimizing model with imprecise perceptions," *Economic Theory* **3**, 1993.
91. "The phenomenon of unemployment: its persistence and rationing," *Revista Española de Economía* **7**, 1990.
92. "Implementation of Lindahl Equilibrium: an integration of the dynamic and static approaches," *Mathematical Social Sciences* **18**, 1990.
93. "Extrapolative expectations and market stability," *International Economic Review* **30**, 1989.
94. "Efficiency and nonlinear pricing in nonconvex environments with externalities," *Journal of Economic Theory* **40**, 1987.
95. "Nash implementation of the Lindahl performance correspondence: an impossibility result," *Economic Letters* **19**, 1985.

5.4 Published articles: Spanish language

96. "Puede sobrevivir el homo oeconomicus en una sociedad compleja," *Revista Española de Física* **28**, 2014 (joint with Antonio Cabrales).
97. "Evolución en teoría de juegos, y viceversa," *Anthropos* **182**, 1999.
98. Foreword to *¿Que inventen ellos? Tecnología, empresa y cambio económico en la España contemporánea*, edited by Santiago M. López García and Jesús M. Valdaliso, Alianza Editorial, 1997.
99. "Crónica de un galardón anunciado," *Cuadernos Económicos del ICE* **61**, 1995.

100. “Evolución y estrategia: teoría de juegos con agentes limitados y un contexto cambiante,” *Hacienda Pública* **125**, 1993.
101. “Competencia intergubernamental en un estado federal,” *Revista Española de Economía* **9**, 1992 (joint with Roberto Burguet).
102. “Incentivos y eficiencia en mecanismos de asignación de recursos: un problema de diseño,” in *Nuevas Perspectivas de Teoría Económica*, edited by R. Marimón and X. Calsamiglia, Ariel, 1991.
103. “El sistema de financiación autonómica como un proceso de negociación,” *Investigaciones Económicas* **14**, 1990 (joint with Roberto Burguet).
104. “Amenazas increíbles, percepciones insostenibles: refinamientos del equilibrio de Nash,” *Cuadernos Españoles de Economía del ICE* **40**, 1988.
105. “El crecimiento potencial de la economía española: un modelo basado en las tablas input-output de 1975,” in *La Estructura Productiva Española*, Fondo para la Investigación Económica y Social de la Confederación Española de Cajas de Ahorro, 1980 (joint with Carlos Sebastián, Luis Servén, Miguel Sebastián and Iñigo Zapater).

5.5 Miscellanea

106. “Preface to the Special Issue on ‘Systemic Risk: Models and Mechanisms’, “ *Operations Research* **64**, 2016 (joint with Cont, R., D. Duffie, P. Glasserman, C. Rogers).
107. “Being close to grow faster – A network-based empirical analysis of economic globalization, “ in *Networks for Prosperity: Connecting Development Knowledge Beyond 2015*, United Nations Industrial Development Organization (UNIDO), 2012 (joint with Georg Duernecker and Moritz Meyer).
108. “Learning and Evolutionary Game Theory,” in *Encyclopedia of the Sciences of Learning*, edited by Norbert M. Seel, Berlin: Springer Verlag, 2012 (joint with Segismundo S. Izquierdo and Luis R. Izquierdo).
109. “Evolutionary games and learning,” in *Optimization and Operations Research*, edited by Ulrich Derigs in *Encyclopedia of Life Support Systems (EOLSS)*, UNESCO and EOLSS, EOLSS Publishers, Oxford, UK, 2002.
110. “Nash Equilibrium,” in *An Eponymous Dictionary of Economics*, edited by J. Segura and C. Rodríguez Braun, Cheltenham, UK: Edward Elgar, 2004.
111. Review of the book *Evolutionary Games and Equilibrium Selection* by Larry Samuelson (MIT Press, 1997), *Journal of Economic Literature* **36**, 1998.

5.6 Unpublished papers

112. “Production networks,” August 2016 (joint with Kenan Huremović).
113. “Networks emerging in a volatile world,” May 2016 (joint with Matteo Marsili).
114. “An evolutionary model of comparative advantage,” April 2011 (joint with Eric Fisher).
115. “The shadow of authority,” July 2010 (joint with Paolo Pin).

6. Doctoral students

(in chronological order, with first affiliation)

- Arnold Polanski (Queen’s University, Belfast)
- Dunia López-Pintado (Columbia University)
- Miguel Ángel Meléndez (Universidad de Málaga)
- José Antonio García (Universidad de Castilla la Mancha, Cuenca)
- Rafael López Zorzano (Universidad Complutense, Madrid)
- Constanza Fosco (Universidad Católica del Norte, Chile)
- Friederike Mengel (Maastricht University)
- Mark Le Quement (University of Bonn)
- Mariya Teteryatnikova (University of Vienna)
- Joel van der Weele (Goethe University Frankfurt)
- Michael Lewandowski (Warsaw School of Economics)
- Roman Chuhay (HSE, Moscow)
- Timo Hiller (Bristol University)
- Gizem Korkmaz (Virginia Tech)
- Jan-Peter Siedlarek (University of Mannheim)
- David Pothier (IDW, Berlin)
- Anja Prummer (Cambridge University, UK)
- Emanuela Iancu (National Institute for Economic Research, Sweden)
- Jakob Jeanrond (Swedish Competition Authority)
- Kenan Huremovic (GREQAM, Aix-Marseille University)
- Irina Kirysheva (Nazarbayev University, Kazakhstan)
- Matteo Fiorini (Schumann Center, EUI, Florence)
- Adam Jakubik (WTO, Geneva)
- Matteo Bizzarri (CSEF at the Univ. of Napoli Federico II).
- Melika Liporace (Tilburg University)
- Goonj Mohan (University of Barcelona)