

Born: Barcelona (Spain), March 3, 1952.
Address: IFISC (Institute for Cross-Disciplinary Physics and Complex Systems)
Campus Universitat de les Illes Balears,
E-07122 Palma de Mallorca, Spain.
Phone: +34-971-173229; em: maxi@ifisc.uib-csic.es <http://ifisc.uib-csic.es/~maxi>

Education:

Master in Theoretical Physics: University of Barcelona, September 1974.
Ph.D. in Physics, University of Barcelona, February 1978.

Professional Positions:

Current position: Professor of Physics at the University of the Balearic Islands (since 1986) and Director of IFISC (Institute for Cross-Disciplinary Physics and Complex Systems, CSIC-UIB), Palma de Mallorca

Previous academic positions:

- Assistant Professor (January 1978-October 1979 and December 1980-January 1982) and Associate Professor (February 1982-May 1986), Department of Theoretical Physics, University of Barcelona,
- Research Associate, Department of Physics, Temple University (Philadelphia), October 1979-December 1980 and April-October 1984.
- Visiting Professor, Dipartimento di Fisica, Università degli Studi di Roma, September-October 1982, June 1983 and March 1989.
- Visiting scientist, Supercomputer Computations Research Institute, Florida State University (Tallahassee, FL, USA). June-July 1993
- Visiting Professor, Advanced Center for Mathematical Studies, Department of Mathematics, University of Arizona (Tucson, AZ, USA). August 1993-August 1994.
- Visiting Professor, Ecole Nationale Supérieure de Sciences Appliquées et de Technologie, (ENSAT, Lannion), University of Rennes (France), February 1996.
- Visiting Professor, INLN (Institut Nonlineaire Nice), Nice (France), February 1999.
- Appointment as Visiting Professor, Department of Physics, University of Strathclyde (Glasgow) (2001-2006)
- Appointment as “Docent in Computational Science”, University of Technology of Helsinki (Finland) (2006-2011)

Other positions:

- Coordinator of Physics and Mathematics of ANEP (Spanish National Agency of Evaluation, CICYT) (Madrid), July 1990-February 1993
- Member of the Advisory Committee on Physics and Mathematics of the Spanish National Commission for the Evaluation of the Research Activity (Madrid, 1995-1996)
- Deputy Director of the Mediterranean Institute for Advanced Studies, IMEDEA (CSIC-UIB) (1995-1999)
- Chairman of the Cross-Disciplinary Physics Department of IMEDEA (2000-2007)
- Chairman of the Board of the Division of “Statistical and Nonlinear Physics” of the European Physical Society (July 2002-January 2004). Member of the Board (2004-2008)
- Member of the Advisory and follow-up committee for the Spanish National Program on Physics (2004-2007)

Scientific Publications: Over 300 publications in refereed journals and books quoted over 6620 times. Over 60 citations in each of the 17 most quoted papers.
h index=37 (search as *San Miguel M OR Sanmiguel M OR Miguel MS*)

Research fields:

- Statistical Physics. Dynamics of phase transitions.

Representative publication: *"The Dynamics of First Order Phase Transitions"* (J. D. Gunton M. San Miguel and P.S. Sahni), in "Phase Transitions and Critical Phenomena", vol. 8 pp. 269-466. Academic Press, London (1983) Eds. C. Domb and J. Lebowitz (Over 2285 citations)

- Stochastic processes and fluctuations in nonequilibrium systems.

Representative publication: *"Analytical and numerical studies of multiplicative noise"*. (J. M. Sancho, M. San Miguel, S. Katz and J. D. Gunton). Physical Review, A **26**, 1589-1609 (1982) (over 410 citations)

- Nonlinear phenomena, pattern formation and spatio-temporal complexity.

Representative publications: *Phase instabilities in the Vector Complex Ginzburg Landau Equation*. Phys. Rev. Lett. **75**, 425-428 (1995) (M. San Miguel) (over 47 citations); *Synchronization of spatiotemporal chaos: The regime of coupled spatiotemporal intermittency*. Phys. Rev. Lett. **78**, 4379 (1997) (A. Amengual, E. Hernández-García, R. Montagne y M. San Miguel) (over 55 citations)

- Nonlinear and quantum optics.

Representative publications: *Noise-sustained convective structures in nonlinear optics*, Physical Review Letters **79**, 3633-3636 (1997). (M. Santagiustina, P. Colet, M. San Miguel, D. Walgraef) (45 citations); *Walk-Off and Pattern Selection in Optical Parametric Oscillators*, Optics Letters **23**, 1167-1169 (1998), (M. Santagiustina, P. Colet, M. San Miguel and D. Walgraef) (41 citations)

- Photonics: Semiconductor Lasers.

Representative publications: *Light polarization dynamics in semiconductor lasers*. Physical Review A **52**, 1728-1739 (1995) (M. San Miguel, Q. Feng and J. V. Moloney) (Over 265 citations); *Polarization properties of Vertical Cavity Surface Emitting Lasers*, IEEE J. Quantum Electronics **33**, 765-783 (1997) (J. Martin-Regalado, M. San Miguel, N.B. Abraham, F. Prati) (over 180 citations)

- Collective Dynamics in Social Systems.

Representative publications: *Nonequilibrium transitions in complex networks: A model of social interaction*, Physical Review E **67**, 026120 (2003) (K. Klemm, V.M. Eguíluz, R. Toral and M. San Miguel) (over 66 citations). *Cooperation and emergence of role differentiation in the dynamics of social networks*, American Journal of Sociology **110**, 977 (2005) (V.M. Eguíluz, M.G. Zimmermann, C. J. Cela-Conde, M. San Miguel) (over 61 citations); *Homophily, Cultural Drift and the Co-Evolution of Cultural Groups*. Journal of Conflict Resolution, **51**, 905-929 (2007) (D. Centola, J. C. González-Avella, V.M. Eguíluz, M. San Miguel)

- Complex Networks

Representative publications: *Coevolution of dynamical states and interactions in dynamic networks*, Physical Review E **69**, 06512 (2004) (M.G. Zimmermann, V.M. Eguíluz, M. San Miguel) (over 104 citations). *Generic absorbing transition in coevolution dynamics*, Physical Review Letters **100**, 108702 (2008) (F. Vazquez, V.M. Eguíluz, M. San Miguel) (over 21 citations)

Other data:

- Participation and/or principal investigator of over 50 research projects funded by Spanish, European, US or international agencies. Partner leader in 11 projects funded by the European Commission.
- Invited speaker in over 90 international conferences. Invited talks, seminar and colloquia in 20 Spanish Universities, 35 European and 25 American Universities or Research Institutes.
- Advisor of 14 PhD students and 20 postdoctoral associates.
- Referee for 20 different international journals (multidisciplinary, physics, engineering, biology and social sciences). Member of Editorial Boards of Journal of European Optical Society B (1995-97), European Physical Journal D (2001-2005) and European Physical Journal B (2006-2010)
- Referee for research proposals of CICYT (Spain), NSF (USA), NATO, European Commission, European Science Foundation, DFG (Germany), EPSRC and Royal Society (UK), Science Foundation (Ireland), Swiss National Science Foundation, NWO (Netherlands), ANPyCT and CONICET (Argentina), CONICYT (Chile) and CONICYT - CSIC (Uruguay)