

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 <https://ifisc.uib-csic.es/en/people/maxi-san-miguel/>
Google scholar profile: [maxi san miguel](#)

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 (UIB) (since 1986) and Director of IFISC (Institute for Cross-Disciplinary Physics and Complex Systems, joint Institute of UIB and CSIC, the Spanish National Research Council), Palma de Mallorca

Other 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)
- External Faculty, Complexity Sciences Hub, Vienna (2017-2020)

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)
- Member (2011-2016) and vice-chair (2017-20) of the C3 commission on Statistical Physics of the International Union on Pure and Applied Physics (IUPAP)
- Member of the steering committee of ECCS (European Conference on Complex Systems (2013-15)

Scientific Awards:

- Medal of the Spanish Physical Society- BBVA 2010
- Senior Scientific Award of the Complex Systems Society 2015

Scientific Publications: Over 350 publications quoted 14,134 times (Google Scholar)

h index=54

Link to [Topics and collaborators](#)

Research fields:

- Statistical Physics. Dynamics of phase transitions.

Representative publications: "*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 2,600 citations); *Phase separation in two-dimensional binary fluids* Physical Review A **31**, 1001 (1985) (M. San Miguel, M. Grant and J.D. Gunton) (172 citations)

- Stochastic processes and fluctuations in nonequilibrium systems.

Representative publications: "*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) (592 citations). *Adiabatic elimination for systems of Brownian particles with nonconstant damping coefficients* J. Statistical Physics **28**, 291 (1982) (153 citations); *Stochastic effects in physical systems* (M. San Miguel and R. Toral), en Instabilities and Nonequilibrium structures VI, 35-130 (2000) (134 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) (77 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) (99 citations)

- Laser noise, Nonlinear and quantum optics.

Representative publications: *Intensity correlation functions for the colored gain-noise model of dye lasers*, Physical Review A **42**, 6823 (1990) (E. Hernández-García, R. Toral and M. San Miguel) (115 citations); *Noise-sustained convective structures in nonlinear optics*, Physical Review Letters **79**, 3633-3636 (1997). (M. Santagiustina, P. Colet, M. San Miguel, D. Walgraef) (98 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) (637 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) (475 citations)

- Computational Social Sciences.

Representative publications: *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. Cella-Conde, M. San Miguel) (265 citations); *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) (216 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) (288 citations); *Ordering dynamics with two non-excluding options: bilingualism in language competition* New Journal of Physics **8**, 308 (2006) (X. Castello, V.M. Eguíluz and M. San Miguel) (136 citations); *Manifesto of computational social science*, European Physical Journal-Special Topics, **214**, 325 (2005) (R.Conte et al) (149 citations)

- 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) (447 citations). *Generic absorbing transition in coevolution dynamics*, Physical Review Letters **100**, 108702 (2008) (F. Vazquez, V.M. Eguíluz, M. San Miguel) (179 citations); *Voter model dynamics in complex networks: Role of dimensionality, disorder and degree distribution* Phys. Rev. E **72**, 036132 (2005) (K. Suchecki, V. M. Eguíluz, M. San Miguel) (172 citations)

Other data:

- Participation and/or principal investigator of over 50 research projects funded by Spanish, European, US or international agencies. Partner leader in 13 projects funded by the European Commission.
- Invited speaker in over 100 international conferences. Invited talks, seminar and colloquia in 23 Spanish Universities, 45 European and 25 American Universities or Research Institutes.
- Advisor of 15 PhD students.
- Referee for 30 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), European Physical Journal B (2006-2010), EPJ Data Science (2012-2014)
- Referee for research proposals and committee member for evaluation processes of CICYT (Spain), NSF (USA), NATO, European Commission, European Science Foundation, DFG (Germany), Volkswagen Foundation (Germany), EPSRC and Royal Society (UK), Science Foundation (Ireland), Belgian Science Policy Office, Swiss National Science Foundation, NWO (Netherlands), Research Foundation Flanders (FWO, Belgica), ANR (France), A3es (Portugal), FONCyT, ANPyCT and CONICET (Argentina), CONICYT (Chile) and CONICYT - CSIC (Uruguay)