

Cristina Masoller, PhD

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Place & date of birth: Montevideo, Uruguay, 22/2/1963. Citizenship: Uruguay & Italian

Research Interests

Nonlinear photonics: dynamics of semiconductor lasers, optical instabilities and chaos.
Nonlinear dynamics: excitability, multi-stability, stochastic phenomena, applications.
Complex systems: synchronization, delay-induced phenomena, complex networks.
Data analysis: time-series analysis, extreme events, information theory, complexity.

Education

BSc (1989) and MSc (1991) in Physics from Universidad de la República, Uruguay.
PhD (1999) in Physics from Bryn Mawr College, Pennsylvania, USA.

Scientific Vita

2009 – to date: Associate Professor, Universitat Politècnica de Catalunya.
2004 – 2009 “Ramon i Cajal” Researcher, Universitat Politècnica de Catalunya
2003 – 2004 Associate Professor, Universidad de la República, Uruguay
1999 – 2004 Several postdoctoral research stays in France, Spain and U.K.
1993 – 2003 Assistant Professor, Universidad de la República, Uruguay.
1986 – 1993 Teaching Assistant, Universidad de la República, Uruguay.

Honors and Awards

2015 Fellow of the Optical Society (OSA)
2015 ICREA Academia Award, Institució Catalana de Recerca i Estudis Avançats
2009 ICREA Academia Award, Institució Catalana de Recerca i Estudis Avançats

Teaching Activities

At Universitat Politècnica de Catalunya

2004 –to date Escola Tècnica Superior d'Enginyeries Industrial i Aeronàutica de Terrassa (ETSEIAT): Physics I: Statics and Dynamics; Physics II: Oscillations, Waves and Thermodynamics, Physics III: Electromagnetism; Nonlinear systems, chaos and control in engineering (optional).
2007 –to date BCN Master in Photonics (UB, UAB, UPC, and ICFO): Electromagnetic Waves (2007-2009), Computing in Photonics (2010-2013), Laser Systems and Applications (2012-to date).

PhD theses supervised: 6

Postdocs supervised: 5

Teaching activities at Universidad de la Republica, Uruguay

1986 – 2003 Graduate and undergraduate courses (Introductory physics, electromagnetic theory, nonlinear optics).

Main Research Grants (last 5 years, as Principal Investigator)

2014 – 2015: *Semiconductor laser complex dynamics: from optical neurons to rogue waves*
EOARD, Reference number: FA9550-14-1-0359.

2011–2015: *Marie Curie Initial Training Network: Learning about Interacting Networks in Climate*
(LINC). www.climatelincl.eu FP7-289447

ITN Coordinator: Cristina Masoller

2015–2019: *MSCA Innovative Training Network: Advanced Biomedical Optical Imaging and Data Analysis* (BE-OPTICAL). Beoptical.eu H2020-675517

ITN Coordinator: Cristina Masoller

2015-2017: *Sistemas físicos y biofísicos complejos: hacia una visión global de su dinámica y fluctuaciones*. Ministerio de Economía y Competitividad (FIS2015-66503-C3-2-P).

Summary of research activity

Publications in peer reviewed journals (Web of Science): 141 (total); 41 (2011-2015).

Journals include: Physical Review Letters, Scientific Reports, Optics Express, Optics Letters, New Journal of Physics, Physical Review A, Physical Rev. E, IEEE J. Quantum Electron., Chaos, etc.

Citations: >2300. H-index: 25 (Web of Science), 31 (Google Scholar).

Summary of professional activity

- Prof. Masoller served as expert evaluator for Research Executive Agency (REA), European Commission; German Research Foundation; CSIC and ANEP. She has served as proposal reviewer for Israel Science Foundation; German-Israeli Foundation for Scientific Research and Development; City University of Hong Kong; Hercules Foundation, Belgium; The Royal Society, UK; Research Foundation Flanders; FONDECYT, Chile; Agencia Nacional de Promoción Científica y Tecnológica, Argentina and CNPq, Brazil.
- She serves as referee for many scientific journals.
- She is regularly selected as a member of program committees of international conferences including the Latin American Workshop on Nonlinear Phenomena (LAWNP 2007, 2011, 2013, 2015); Dynamics Days South America (2012, 2014); Conference on Lasers and Electro-Optics (CLEO/EUROPE 2005, 2007, 2009 and 2011); International Semiconductor Laser Conference (2008, 2010, 2012); European Semiconductor Laser Workshop (2015); Photonics Europe (2016); STATPHYS 26 (2016). She is Spanish representative in the Management Committee of the [COST MP 1403 Nanoscale Quantum Optics](#), member of the scientific board of [complexitat.cat](#) and [IBERSINC](#) (Research Network funded by the Spanish Government FIS2015-71929-REDT).
- In the last 5 years she has given many invited seminars and 19 invited talks at international conferences.
- She has organized many international conferences, serving as chair or co-chair of six editions of the 'Rio de la Plata' Workshop on Laser Dynamics and Nonlinear Photonics ([2003](#), [2005](#), [2007](#), [2009](#), [2011](#) and [2013](#)), a two-week [School on Nonlinear Optics and Nanophotonics](#) for PhDs and postdocs (held at ICTP-SAIJR, San Paulo, Brazil, 2013) and the Final LINC [Conference on Complex Networks and Climate Variability](#) (Vienna, Austria, 2015).
- She has served as member of many PhD committees and as jury member for evaluation of Habilitation à Diriger des Recherches (HDR, France) and W2 Professorship (Germany).
- She has served as jury member for IUPAP C17 Young Scientists Prize (2013 & 2015) and is serving as member of Adolph Lomb Medal Committee (OSA, term: 2016-2017).