Cristina Masoller, PhD

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

Research lines: Complex systems, data analysis, information theory, nonlinear photonics.

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
2018 – to date: Professor, Universitat Politecnica de Catalunya.
2009 – 2018 Associate Professor, Universitat Politecnica de Catalunya.
2004 – 2009 "Ramon i Cajal" Researcher, Universitat Politecnica 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 Politecnica de Catalunya
2004 –to date Escola Superior d'Enginyeries Industrial, Aeroespacial i Audiovisual de Terrassa: Physics I: Statics and Dynamics; Physics II: Oscillations, Waves and Thermodynamics, Physics III: Electromagnetism; Nonlinear systems, chaos and control in engineering.
2007 –to date BCN Master in Photonics (UB, UAB, UPC, and ICFO): Electromagnetic Waves, Computing in Photonics, Laser Systems and Applications (2012-to date).
PhD theses supervised: 7

At Universidad de la Republica, Uruguay
1986 – 2003 Graduate and undergraduate courses (Introductory physics, electromagnetic theory, nonlinear optics).

Main Research Grants, 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.climatelinc.eu FP7-289447
2015–2019: *MSCA Innovative Training Network: Advanced Biomedical Optical Imaging and Data Analysis* (BE-OPTICAL). Beoptical.eu H2020-675517

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): 170 in Nature Communications, Physical Review Letters, Scientific Reports, Optics Express, New J. of Physics, Physical Rev. E, Chaos, etc.
H-index: 29, Citations > 3200 (Web of Science).
Patent: P. Amil, E. Arrondo, C. Salinas, C. Masoller, and U. Parlitz, "*Image processing method for glaucoma detection and computer program*". PCT/IB2017/057792, 11/12/2017, Spain.
Book: H. A. Dijkstra, E. Hernandez-Garcia, C. Masoller and M. Barreiro, "*Networks in Climate*", Cambridge University Press (to be published February 2019).

Summary of professional activity

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); XXII Congreso de Física Estadística (FisEs'18); the International Conference on Complex Networks & Their Applications (2017, 2018); Latin American Conference on Complex Networks (LANET 2019).

Member of the scientific board of complexitat.cat.

Dr. Masoller has given invited talks at many international conferences, including the Workshop on Nonlinear Dynamics in Semiconductor Lasers (Berlin, 2012), Europe Dynamics Days (Madrid 2013 and Bayreuth 2014), Workshop on Abnormal Wave Events (Nice 2014), Workshop on Delay Differential Equations (The Fields Institute, Toronto 2015), SIAM Conference on Dynamical Systems (Utah 2013, 2015 and 2017), Workshop on Dynamic Networks and Data Driven Modeling of the Climate (Potsdam 2015), Workshop on Generalized Network Structures and Dynamics (The University of Ohio 2016), Workshop on Critical and Collective Effects in Graphs and Networks (Moscow Institute of Physics and Technology, 2016), Workshop on Extreme Events and Rogue Waves (Physikzentrum Bad Honnef, Germany 2016), Workshop on Multistability and Tipping: From Mathematics and Physics to Climate and Brain (Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 2016), Workshop on Nonlinear Waves and Turbulences in Optics and Hydrodynamics (WIAS Berlin, 2017), Workshop on Computational Neuroscience and Optical Dynamics (CNOD, Nice, 2017), Latin American Conference on Complex Networks (LANET, Puebla, Mexico, 2017), Extremes 2018 (The Volkswagen Foundation, Hannover, Germany, 2018), Analysis and Modeling of Complex Oscillatory Systems (AMCOS, Barcelona, 2018), Dynamic Days Latin America and the Caribbean (DDays LAC 2018, Uruguay, 2018).

Dr. Masoller 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), the two-week School on Nonlinear Optics and Nanophotonics for PhDs and postdocs (ICTP-SAIFR, San Paulo, Brazil, 2013), the Conference on Complex Networks and Climate Variability (Vienna, Austria, 2015), the two-week school in Nonlinear Time Series Analysis and Complex Networks in the Big Data Era, (ICTP-SAIFR, San Paulo, Brazil, 2018), and the Workshop Predicting transitions in complex systems (PRETRA 2018, Max Plank Institute for Complex Systems, Dresden, Germany, 2018).

Member of the jury of the IUPAP C17 Young Scientists Prize (2013 & 2015), Adolph Lomb Medal (OSA, 2016 and 2017) and Erdos-Renyi Prize in network science (2018).

Editor of Chaos, Solitons & Fractals (term starting 2020) and member of the Editorial Advisory Board of Chaos (term ending December 2020).