ICREA MEMOIR 2018

Cristina Masoller
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ICREA Academia 2009 & 2015

Cristina Masoller (1963, Montevideo, Uruguay) is Associated Professor in the group of Nonlinear Dynamics, Nonlinear Optics and Lasers at Universitat Politecnica de Catalunya. She received the bachelor and MSc degrees in physics from Universidad de la República, Uruguay and the PhD degree in physics (1999) from Bryn Mawr College, USA. She has more than 20 years of research and teaching experience. She has published more than 130 articles and has supervised 7 PhD thesis. In 2015 Dr. Masoller was elected Fellow of the Optical Society (OSA), the leading professional society in optics and photonics. She was recognized for contributions in the area of nonlinear dynamics of optical systems.

Research interests

Dr. Masoller's research is focused in dynamical complex systems. A main research line is in nonlinear photonics, in particular, in the dynamics of semiconductor lasers (delay-induced phenomena, extreme optical pulses, optical rogues, photonic neurons). She is also interested in big data analysis tools for the study of complex systems (symbolic analysis, complex networks). Specific interests include novel methods for the analysis of climatological data (climate networks) and complexity measures for the classification and characterization of complex images.

Keywords

Nonlinear photonics, semiconductor lasers, complex systems, nonlinear dynamics, data analysis, nonlinear time-series analysis, complex networks, extreme events