Fundación BBVA

Demography Today

The **Demography Today** lecture series aims to **promote and communicate** scientific work on demography through the dissemination of research and the **training of specialists** in issues related to demography, Big Data, longitudinal records and health, while informing society, in an accessible way, about issues currently in the foreground of scientific and political debate, such as the limits to longevity, pension systems, aging, emerging diseases, migration and low fertility.
This lecture series enjoys the exclusive support of the BBVA Foundation and has been co-organized with the Spanish National Research Council and the LONGPOP project (Methodologies and Data Mining Techniques for the Analysis of Big Data based on Longitudinal Population and Epidemiological Registers).The LONGPOP project has received funding from the European Union's Horizon 2020 research and innovation program under a Marie Sklodowska-Curie grant.

All **lectures** are **available for viewing** on the interactive platform:
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The lecture series also forms part of the Postgraduate Courses run by the Spanish National Research Council (CSIC).

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Director of series: Diego Ramiro Fariñas

The BBVA Foundation and the Spanish National Research Council (CSIC) are pleased to invite you to the lecture:

Real-time Numerical Forecasting of Global Epidemic Spread

José Javier Ramasco
Institute for Cross-Disciplinary Physics and Complex Systems (CSIC-UIB) (Spain)

Monday, April 24 at 19:00
Fundación BBVA
Paseo de Recoletos, 10
28001-Madrid

Please confirm attendance. Limited seating
e-mail: confirmaciones@fbbva.es
The lecture will be delivered in English without translation

Summary:

The mathematical formulation of epidemic spreading processes has a history spanning almost three centuries. However, the applicability of early models is restricted to the study of theoretical aspects of disease propagation or to very limited geographical contexts. The situation has changed drastically in recent years thanks to the abundance of data that new technologies provide about human mobility and the ability that computers bring to incorporate such information into models. In this presentation, we will review the latest developments in the area with a special emphasis on explaining the philosophy of the computational methodologies employed to describe the type of data needed to forecast spreading patterns, and the potential of simulation techniques to produce different levels of information on the spread of epidemics. As practical examples, we will focus on the modeling of influenza, including the 2009 pandemic, and also on more recent efforts to characterize the propagation risks of Ebola and Zika.

Biography:

José Javier Ramasco is a distinguished researcher at CSIC. He obtained a PhD in Physics at the University of Cantabria, Santander (Spain) in 2002. He then held two postdoctoral positions of two years each at the University of Oporto (Portugal) and Emory University, Atlanta (USA). Afterwards, he worked as staff researcher at the ISI Foundation in Turin (Italy) for four years, before moving to the Institute for Cross-Disciplinary Physics and Complex Systems, IFISC, in Palma de Mallorca, a mixed center of the CSIC and the University of the Balearic Islands. He is an elected member of the board of the Complex Systems Society and of the steering committee for the Conference of Complex Systems, the major global event in the area. Dr. Ramasco has authored more than 75 scientific publications cited over 4,500 times in the areas of Statistical Physics, Computer Science, Epidemiology and Applied Mathematics. His research interests lie in the area of complexity, in particular networks and their application to socio-technical systems including the characterization of human mobility, transportation, urban systems and epidemic spreading.