

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 Skłodowska-Curie grant.

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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:

Forecasting Infectious Disease Epidemics Using Dynamic Modeling: Ebola and Zika as Case Studies

Gerardo Chowell

School of Public Health, Georgia State University, Atlanta, GA.
Division of International Epidemiology and Population Studies
Fogarty International Center, NIH, Bethesda, MD.

Wednesday, June 21 at 12:00

CCHS-CSIC

Calle Albasanz 26

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Please confirm attendance. Limited seating

e-mail: demografia@cchs.csic.es

The lecture will be delivered in English without translation

Summary:

Mathematical modeling offers a powerful toolkit to improve our understanding of infectious disease transmission and control. The increasing use of mathematical models for epidemic forecasting has highlighted the importance of designing reliable models that capture the baseline transmission characteristics of specific pathogens and social contexts. More refined models are needed however, in particular to account for variation in the early growth dynamics of real epidemics and generate improved forecasts. I will present recent disease forecasting efforts in the context of Ebola and Zika epidemics and review recent progress on modeling and characterizing early epidemic growth patterns from infectious disease outbreak data.

Biography:

Gerardo Chowell, PhD is a Second Century Initiative Scholar (2CI) and a Professor of Epidemiology and Biostatistics at Georgia State University in Atlanta. He is also a Senior Fellow in the Division of International Epidemiology and Population Studies at the Fogarty International Center, NIH. Dr. Chowell holds a PhD in Biometry from Cornell University. After obtaining his PhD, he was awarded a Director's Funded Postdoctoral Fellowship to support his mathematical modeling research program at the Theoretical Division of Los Alamos National Laboratory. Dr. Chowell's academic career has primarily focused on the development and calibration of mathematical and computational models of infectious disease transmission to assess the transmission potential of emerging and re-emerging infectious diseases, generate disease forecasts, quantify the effect of control interventions, and test public health policy. He is currently a member of editorial boards of several key journals including *BMC Medicine*, *BMC Infectious Diseases*, *PLOS ONE*, *Scientific Reports*, *Mathematical Biosciences* and *Engineering*, the *Journal of Infectious Disease Dynamics*, and *Infectious Disease Modeling*.

