

# 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 Skłodowska-Curie grant.

All **lectures** are **available for viewing** on the interactive platform:

**[www.demografia.tv](http://www.demografia.tv)**

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:

## *Epidemics and Pandemics of Influenza: An Example of Limitations on Predictive Modeling Efforts*

**Wladimir J. Alonso**

**National Institutes of Health (USA)**

**Monday, April 10 at 19:00**

Fundación BBVA

Paseo de Recoletos, 10

28001-Madrid

**Please confirm attendance. Limited seating**

**e-mail: [confirmaciones@bbva.es](mailto:confirmaciones@bbva.es)**

**The lecture will be delivered in English without translation**



### Summary:

Efforts in global health need to not only deal with current challenges but also to anticipate new scenarios, which sometimes unfold at lightning speed. Predictive modeling is frequently used to assist planning, but outcomes depend heavily on a subset of critical assumptions and on uncertainties about future scenarios. The case of influenza is emblematic as, despite being one of the most studied infectious diseases of our time, it presents serious challenges in our preparedness for both annual epidemics and unexpected and highly disruptive pandemics.

We propose a shift from a focus on the prediction of individual disease patterns to the identification and mitigation of broader fragilities in public health systems. Modeling capabilities should be used to perform "stress tests" on how interrelated fragilities respond when faced with a range of possible or plausible threats of a differing nature and intensity. This system should be able to reveal cross-cutting solutions with the potential to address not only one threat, but multiple areas of vulnerability to future health risks.

### Biography:

Wladimir Alonso received his PhD in Epidemiology from Oxford. His contributions to both basic and applied science are reflected in over 2,000 citations of articles published in major scientific journals. Since 2006, as a Research Fellow at the Fogarty International Center (NIH), his work has concentrated on global health research. Wladimir pioneered analyses of latitudinal gradients of seasonal parameters of diseases (later adopted by the US CDC, the World Health Organization and other institutions) and the analyses that revealed that annual influenza vaccinations are administered at the wrong time in the tropics. His efforts in translating epidemiological knowledge into more effective public health decisions also led to the publication of various studies and development of recommendations for the 2009 H1N1 influenza pandemic and other public health emergencies. Within the basic sciences, Wladimir was the first author to question the theory of kin selection for the evolution of biological altruism, and the first to identify important design flaws in several experiments influential to strategies of disease control. He has also lead and/or collaborated in studies on several other fronts: from ecological and cognitive investigations to studies on historical epidemiology and on the drivers of scientific excellence. Wladimir is furthermore an enthusiastic and inspiring lecturer. His workshop on time-series analysis and data visualization, taught in several countries, uses an award-winning software of his authorship, which has been made freely available and is currently used by epidemiologists and health researchers around the globe.