

# SEMINAR

## CEAUL & CEMAT



### COHERENT CAUSE-SPECIFIC MORTALITY FORECASTING VIA CONSTRAINED PENALIZED REGRESSION MODELS

#### ABSTRACT:

Cause of death data provides additional insight into the future trends of mortality, as well as provides valuable information for governments and insurance companies. Models that fit and forecast by cause of death come across several methodological problems, one of them being the inconsistency between individual estimation and forecast of mortality per cause of death and an all-cause scenario. We propose a clear-cut and fast method to obtain coherent cause-specific mortality trajectories based on Lagrange multipliers. We apply the method proposed to fit and forecast the mortality of males in the USA for the five leading causes of death.

**Authors: Carlo G. Camarda and Maria Durbán**



2:30 PM



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**ZOOM**

**CEAUL**  
Centro de Estatística e Aplicações  
Universidade de Lisboa

**ce mat**  
center for computational  
and stochastic mathematics



#### SPEAKER

**Carlo Giovanni Camarda**  
INED (France)

Carlo Giovanni Camarda (Giancarlo) holds the position of directeur de recherche at the Institut National d'Études Démographiques (INED) in France. Prior to this, from 2007 to September 2012, he served as a research scientist at the Max Planck Institute for Demographic Research in Germany. He began his academic journey with a degree in Social and Demographic Statistical Sciences from Sapienza University of Rome, Italy. He continued his education at the Max Planck Institute for Demographic Research, where he engaged with the Laboratory of Statistical Demography, eventually earning his Ph.D. in "Mathematical Engineering: Statistical Sciences and Techniques Area" from the Department of Statistics at Universidad Carlos III in Madrid. His doctoral dissertation focused on "Smoothing Methods for the Analysis of Mortality Development."

His research interests encompass various aspects of demography, from mortality forecasting using smoothing techniques and age-at-death distributions to the broader biodemography of human aging. He is also involved in modeling digit preference patterns, smoothing mortality surfaces, and reconstructing mortality series by causes of death. Giancarlo has collaborated extensively with research institutions across Europe and has been actively engaged in teaching. Over the years, he has authored research papers in the fields of demography and statistics and has developed an R package for mortality smoothing and forecasting.