High-Dimensional
Non-Stationary Time Series Analysis

IRTG 1792 Short Course

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Rob J. Hyndman obtained his PhD from University of Melbourne in 1992. After working for the Statistical Society of Australia, he became Professor of Statistics at the Monash University (Melbourne) in 2003. Moreover, he is Director of the "International Institute of Forecasters" and Editor-in-Chief of the "International Journal of Forecasting".

Functional Time Series

Functional time series are curves that are observed sequentially in time, one curve being observed in each time period. In demography, examples include curves formed by annual death rates as a function of age, or annual fertility rates as a function of age. In finance, functional time series can occur in the form of bond yield curves, for example, with each curve being the yield of a bond as a function of the maturity of a bond.

I will discuss methods for describing, modelling and forecasting such functional time series data. Usual challenges are:
- developing useful graphical tools
- dealing with outliers and cohort effects
- synergy between groups of functional time series
- deriving prediction intervals for forecasts
- How to combine mortality and fertility forecasts to obtain forecasts of the total population
- How to use these ideas to simulate the age structure of future populations and use the results to analyse policies

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25.06.2014 | 09:30-11:30

Room 401, SPA1

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