



# Cambridge-INET Masterclass

with Prof. Paul Embrechts



## Model Uncertainty, Risk Aggregation and Regulation

In this course I will explain some of the necessary methodological tools and results relevant for financial regulation, and this in particular with respect to the question (May 2012): "What are the likely constraints with moving from Value-at-Risk (VaR) to Expected Shortfall (ES), including any challenges in delivering robust backtesting and how might these be best overcome?" This involves the need for a better understanding of the properties, the uses as well as limitations of standard risk measures for capital adequacy. From a methodological point of view, one needs to

calculate a risk measure of an aggregate of financial positions, and this typically based on partial (model) information on the stochastic nature of these positions. This leads to Model-Uncertainty (MU) both at the level of the marginal risks as well with respect to their interdependence. For the former (the marginal risks) extreme value theory plays an important role, for the latter (interdependence) I will introduce various new results in order to capture so-called Dependence-Uncertainty (DU). Besides giving precise mathematical results on the above, I will introduce a numerical algorithm for calculating DU in practice. Several examples will be presented including a concrete example on DU in the context of Operational Risk.



### **Paul Embrechts**

is Professor of Mathematics and Director of RiskLab at ETH Zurich and Senior Chair-Holder at the Swiss Finance Institute. His main research interests are quantitative risk management and the modelling of extremal events in insurance and finance.

**Location:** University of Cambridge  
Sidgwick Site Lecture block, Room 1

**Date:** 30 April - 2 May 2014

**Cost:** HE price £ 50, other delegates £ 1,000

**For registration** email: [sonnet@econ.cam.ac.uk](mailto:sonnet@econ.cam.ac.uk)

<https://www.inet.econ.cam.ac.uk/our-events/master-class>



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