# Short course on Reinsurance: Actuarial and Statistical Aspects

CEAUL

FCT Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR    Portugal

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## Lisbon, 6-8 March 2017          http://ceaul-course-reins.weebly.com
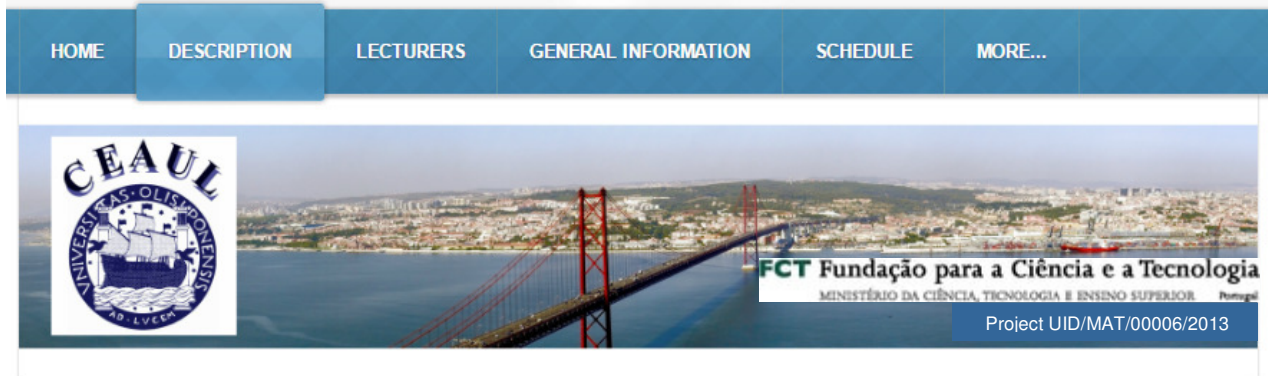
Foundation Faculty of Science University of Lisbon auditorium  (anfiteatro da Fundação da FCUL)

## Short Course Description

The focus of the short course is on actuarial issues appearing in reinsurance. We introduce some basic facts and motivations for reinsurance activities and discuss the most common reinsurance forms and their properties, including practical aspects in their implementation. Commonly used claim size and claim number distributions are reviewed from the point of view of their importance in reinsurance. Special emphasis lies on the role of large claims and their statistical treatment. Claim numbers and claim sizes are the building blocks for the aggregation of the claims and we describe both numerical and asymptotic methods in detail. We continue with important actuarial aspects like reinsurance pricing, choice of reinsurance and the respective consequences on the optimal choice of contracts. Since stochastic simulation plays an essential tool in many models relevant in reinsurance, we give the topic a special treatment and discuss some variance reduction techniques that can help to considerably speed up calculations. We also highlight the role of capital in reinsurance and offer a section on catastrophe modelling.

## Reference

- Hansjörg Albrecher, Jan Beirlant & Jef L. Teugels. **Reinsurance: Actuarial and Statistical Aspects**, Wiley, to appear, 2017.

## Syllabus

**Monday, March 6:**  Introduction and Motivation;  Forms of Reinsurance; Claim size models.
**Tuesday, March 7:** Claim number models; Pricing of Reinsurance;  Catastrophe Modelling.
**Wednesday, March 8:** Aggregating claims;  Numerical Aspects and Simulation; Choice of Reinsurance.

## Lecturers

### Hansjoerg Albrecher

**University of Lausanne
Switzerland**

### Jef Teugels

**Catholic University of
Leuven, Belgium**