08-09 November 2019

Friday, 08 November

15:00 - 16:30 **Introduction to neural networks**

The aim of this talk is to give a brief introduction to neural networks. It will survey the structure of neural networks, the most usual training algorithms, and regularization techniques.

Presented by **Vilmos Prokaj**

16:30 - 17:00 **Break**

17:00 - 18:30 **Feed-forward neural networks for insurance pricing**

Neural networks are broadly used, with applications for financial operations, enterprise planning, trading, business analytics and product maintenance. Neural networks have also gained widespread adoption in business applications such as forecasting and marketing research solutions, fraud detection and risk assessment. In this lecture a use in non-life insurance pricing will be presented and the way that how it can be viewed as an extension of generalized linear models.

Presented by **Mario V. Wüthrich**

from 19:00 **Basketball and/or volleyball in Perczel Mór Secundary School (Március 15. Park 1.)**

from 19:00 **Dinner**

Saturday, 09 November

9:00 - 10:00 **Adventures and Discoveries using Historical Data**

Colm will discuss gathering, cleaning and using financial, economic and investment data from the last millennium. He will then outline an example showing how this data can be applied to discover and to create new narratives for actuaries and investment professionals.

Presented by **Colm Fitzgerald**

10:00 - 10:30 **Break**

10:30 - 12:30 **Economic Scenario Generation and its Application in Insurance**

The presentation will discuss the need of using economic scenario generators in insurance and some of the most popular models used in ESG, with practical examples.

We will also take an outlook on replicating portfolios – how to fit them and how to apply them in valuation of insurance portfolios and measuring their risk.

Presented by **Balázs Horváth**.

12:45 **Lunch**

The language of the Fall School is English.
Please note that the programme is subject to change.

The Executive Board of the HAS

Vilmos Prokaj
Vilmos Prokaj is an associate professor at the Eötvös Loránd University. He joined the department of Probability and Statistics at 1997. He also worked for PSZAF (2000-2006) and for SZTAKI (2006-2010). His primary research interest is the theory of stochastic processes. During the recent years he also got interested in neural networks, mainly in relation with computer vision.

Mario V. Wüthrich
Mario V. Wüthrich has been an Adjunct Professor of Actuarial Mathematics at the Department of Mathematics, since 2011. His research focus is on the development of new actuarial models for the valuation of insurance liabilities and for implementing sound risk management practices.

He concluded his studies at ETH Zurich with a diploma in mathematics in 1995 and went on to complete a PhD in mathematics at this university, in 1999.

From 1999 to 2000, Mario V. Wüthrich worked as a postdoc at Nijmegen University, Netherlands. He subsequently returned to Switzerland to take up an actuarial position at Winterthur Insurance before he came to ETH's Mathematics Department as a Senior Scientist, in 2005.

Colm Fitzgerald
Colm Fitzgerald FIA FSAI is a member of the Actuarial Science Research Group at University College Dublin as a lecturer in Actuarial Science in UCD. In addition to forestry, his research areas include risk and the psychology of risk, enterprise risk management, economics and banking, investment and financial markets, climate change and applying classical thought.

Earlier as a Senior Teaching Fellow in Financial Markets at Keele University has lectured financial derivatives, portfolio risk management, insurance statistics and risk and insurance.

Produced Keele University's economic estimates each month which contributes to the Bloomberg survey of Professional Economists.

Between 2005-2015 he has taught actuarial mathematics at Dublin City University. Where he has lectured financial economics, actuarial risk management, treasury mathematics, risk theory and professional work practices.

He has established the first Irish postgraduate actuarial programme with an exemption agreement with the Institute & Faculty of Actuaries.

Balázs Horváth
Balázs Horváth graduated from Corvinus University of Budapest with a BA in Applied Economics in 2011 and with an MSc in Actuarial and Financial Mathematics in 2014.

Between 2014 and 2017 he worked at Aon Hewitt. His main responsibility was actuarial valuation and reporting of long-term employee benefits, mostly Dutch occupational pension plans, in line with international accounting standards (IAS 19, FAS 87).

From 2017 he works at NN Risk and Actuarial Services (RAS) in Budapest. He is currently leading the Economic Scenario Generation team, which provides market data and economic scenarios to NN Group and its business units all around Europe. He also supports the IFRS 17 implementation project of NN as actuarial expert.