CONVENTION

CONVENTION A 2022

Connecting Knowledge

19 to 23 September - Online-Only, Worldwide

This year's event will set a new standard for online conferences in the international actuarial community. More than ever before, actuarial institutions and high-ranking keynote speakers will provide an exciting and inspiring programme on today's most relevant issues for actuaries from all fields.

STATE-OF-THE-ART AND UNIQUE EXPERIENCES

Close to 1,000 participants of the first CONVENTION A can expect a state-of-the-art online event experience that allows them to schedule their personal programme, join diverse sessions, catch missed presentations, and interact with speakers and the audience. Unique to CONVENTION A are scheduled appointments that enable the participants to meet their colleagues in between sessions.

JOINTLY CREATED FOR PROFESSIONAL CONTENT

The event programme is jointly created by many institutions from the actuarial community and companies active in the insurance industry. This combination will make sure that CONVENTION A will offer an attractive and unique networking experience for actuaries from all c[illegible] world.

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For more information about the programme or registering for CONVENTION A, visit CONVENTION-A.COM

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european actuarial academy

European Actuarial Academy

Wednesday, September 21, 13:00-17:00 CET, English

- Actuarial Data Science
  - Interpretable Machine Learning and Economic Data: Volatility Spillover along the Supply Chains
  - Customer Analytics in Insurance – Status and Challenges
  - Exposure Measures for Motor Telematics Risk Modeling: A Wildlife Analysis
  - hr|bluebox – Lapse Analysis Using CART
  - Laying Down Harmonised Rules on AI – the Artificial Intelligence Act
  - Quantum Analytics for Insurance - Is the Hype Real?
  - Mortality Estimation, Markov Chains and Deep Learning

Speakers:


Andreas Hofmann


Christian Weiß


Clemens Frey


Fabian Transchel


Janine Lüschen


Stefan Nörtemann


Theo Berger

Get your ticket now!

CONVENTION

Actuarial Data Science Programme in Detail (1/2)

Wednesday, September 21, 13:00-17:00 CET, English

Interpretable Machine Learning and Economic Data: Volatility Spillover along the Supply Chains (T. Berger)

We introduce a financial network approach to quantify the impact of counterparty risk on firms' daily market risk, measured via conditional volatility. We asses competing econometric and machine learning approaches and assess the economic interpretability of the applied machine learning algorithms. We find that XGBoost in combination with SHAP values describe a sensible choice for large economic data sets which are described by a panel structure. Also, suppliers are exposed to additional fundamental risk that is not captured by the suppliers' market beta, which gets transferred along the supply chains. The identified risk spillover impact both dimension and quality of the suppliers' market risk assessment: If customers experience large losses, suppliers' variance forecasts increase by (up to) 1% and the probability of suppliers' extreme losses doubles the next day.

Customer Analytics in Insurance – Status and Challenges (C. Frey)

Customer Analytics is a prominent and important example for the application of Machine Learning and AI in the insurance industry. It is a key tool for insurers to improve their understanding of customers' needs, to strengthen customer experience and to prepare new insurance business models. In the presentation, the current status of Customer Analytics in insurance markets will be presented (starting from the German insurance market). I will elaborate the key challenges for strengthening this use case of Machine Learning and AI for insurers, and will in particular analyse data requirements as well as regulatory issues around Customer Analytics. The explainability of Machine Learning algorithms and their results is of specific importance, so I will set a special focus on mathematical approaches which are useful in this context.

Exposure Measures for Motor Telematics Risk Modeling: A Wildlife Analysis (A. Hofmann)

Wildlife-vehicle collisions (WVCs) threaten the health of road users and wildlife alike. Furthermore, they cause high insurance claims every year. Although influencing factors have already been investigated in various studies, developing a robust model for risk assessment, especially for individual journeys and road sections, remains challenging. Challenges are, in particular, the data availability, heterogeneous area-specific conditions, and a large amount of influencing factors. In our research we address those challenges by evaluating the feasibility of AI-based systems for the risk assessment of WVCs by discussing requirements, available data, and methods. In this presentation we give an overview over our current and future research. Examples will be based on the WVC data provided by the German federal states.

CONVENTION

Actuarial Data Science Programme in Detail (2/2)

Wednesday, September 21, 13:00-17:00 CET, English

hr|bluebox – Lapse Analysis Using CART (J. Lüschen)

Early lapses of life insurance policies can be a great nuisance to primary insurers. Typically, the agent or broker receives a commission for each policy sold, which can be higher than the annual premium paid by the policy holder. If the policy holder then lapses before the end of the first year, the primary insurer suffers a financial loss, even though no claim was made.
hr|bluebox is a data analytics service offered by Hannover Re with the goal of decreasing the early lapse rate. There is no universal solution to this problem, as the reasons why policy holders lapse differ between products and markets. In order to identify the drivers of early lapse in a specific portfolio, a crucial step is therefore to detect and describe high-lapse or low-lapse segments in the existing data. For this purpose, we developed a modified version of the Classification and Regression Trees (CART) algorithm that is targeted not at individual prediction, but at segment detection. The results are easy to interpret and validate and thus form a useful basis for decision making.
In this presentation, we will give you an overview of the hr|bluebox approach, talk about our experience when applying this approach and share with you some lessons learned.

Laying Down Harmonised Rules on AI – the Artificial Intelligence Act (S. Nörtemann)

With the further development and rapid spread of systems based on Artificial Intelligence (AI), ethical questions in this context are gaining in importance. The use of AI with its specific risks (e.g. opacity, complexity, dependency on data, autonomous behaviour) can adversely affect a number of fundamental rights enshrined in the EU Charter of Fundamental Rights.
Against this background, the European Commission presented a proposal for regulation on 21.04.2022, the so-called Artificial Intelligence Act (AIA). The proposal seeks to ensure a high level of protection for those fundamental rights and aims to address various sources of risks through a clearly defined risk-based approach.
The presentation will give a brief overview of the structure and main provisions of the AIA and discuss possible applications to the insurance industry.

Quantum Analytics for Insurance - Is the Hype Real? (F. Transchel)

Quantum computing is amongst the top contenders for being one of the most hyped technologies right now, both in general, but specifically so in finance and insurance. Ever closer to practical availability and proof-of-concept applications, the questions of product readiness and economic viability will become increasingly pressing.
Looking at specific use cases from both a practical as well as a conceptual perspective, we aim to give an account of the status quo with respect to the natural questions about this technology: When, how and in what form can quantum computing play a role in the actuarial sciences?

Mortality Estimation, Markov Chains and Deep Learning (C. Weiß)

Standard actuarial quantities as the premium value can be interpreted as compressed, lossy information about the underlying Markov process. We introduce a machine learning method to reconstruct the underlying Markov chain given collective information of a portfolio of contracts. Our neural architecture explainably characterizes the process by explicitly providing one-step transition probabilities. Our methodology is successfully tested for a realistic data set of German term life insurance contracts. Further, we provide an intrinsic, economic model validation to inspect the quality of the information decompression.

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european actuarial academy

European Actuarial Academy

Thursday, September 22, 9:00-13:00 CET, English

- Climate Change: What Does it Mean to Life, Health and Non-Life Insurers?
  - Life
  - Health
  - Non-Life
  - Regulatory

Speakers:


Abdal Chaudhry


Alexander Krauskopf


Amy Nicholson


Dave Evans


Han Li


Leighton Hunley


Michael Leitschkis


Sinéad Clarke


Qihe Tang

Get your ticket now!

Climate Change Programme in Detail (1/2)

Thursday, September 22, 9:00-13:00 CET, English

Health (A. Krauskopf)

In addition to the directly visible damage caused by floods and wildfires, climate change also has consequences for people's health. In the presentation, we would like to show the main drivers of climate change on the development and accumulation of diseases. We will then look at how these consequences can affect the physical risks of a health insurer.

Life (A. Chaudhry, H. Li, M. Leitschkis, Q. Tang)

In this session, we examine the impact of climate change upon life insurance by focusing on the mortality risk example. We apply multivariate extreme value theory in order to estimate the tail dependency between a climate variable such as temperature and the death count. Subsequently, we discuss how these results can be applied within a long-term projection in an actuarial model.

Non-Life (L. Hunley, D. Evans)

In this session, we begin with an overview of flood-related climate risk. We will then discuss several applications of flood and climate modeling as an input to financial models, along with best practices for integrating them with financial models. As an example, we present a case study on flood and climate risk to residential property and mortgage risk in the United States.

Regulatory (S. Clarke, A. Nicholson)

This session will focus on climate risk for life insurers and the various regulatory requirements and market trends across Europe. Following a brief introduction to climate risk, we will outline the current regulatory activity in the UK (widely seen as the most advanced European regulator with respect to climate risk) and across Europe including the latest EIOPA activity. We will then set out practical guidance for firms when getting started with climate change and tackling some of the common challenges that arise, using case studies from our own experience working with insurers in Ireland and the UK. This will cover various aspects of managing climate risk including governance, embedding into all areas of the Risk Management Framework, scenario analysis, disclosures and strategy.

CONVENTION A

Who else joined CONVENTION A as a partner?

Together with its partners, CONVENTION A is being organized jointly by the European Actuarial Academy and the Actuarial Media Center / www.actuview.com

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