

## EAA Seminar

**Actuarial Data Science Introplication**

14/15 May 2020 | Prague, Czech Republic



Organized by the EAA - European Actuarial Academy GmbH in cooperation with the *Česká společnost aktuárů*.

**Introduction**

Due to technological progress in connection with Data Science and Digitalization, summarized under the buzzword Big Data, a plethora of opportunities and challenges for the industry is arising.

Technological developments have now also reached the insurance industry and thus have a direct impact on the working world of actuaries.

Under the heading *Actuarial Data Science*, the procedures and methods of data mining are embedded in the actuarial context. These range from classical statistical methods of data analysis as well as regression and cluster methods to machine learning. As a result of almost unlimited computing capacity through cloud computing and extensive available training data, tried and tested methods of artificial intelligence, such as artificial neural networks, are experiencing a renaissance in theory and practice.

We have not yet fully understood the breadth and depth of the resulting future opportunities for the insurance industry. However, there are already numerous applications in the actuarial

environment. We have been doing some of them for a long time (and now see them in the context of AI), we are trying out some of them.

*Introplication* is a compound artificial word consisting of Introduction and Application. And in the seminar, we would like to combine both: a basic introduction to the subject area with applications in the actuarial environment.

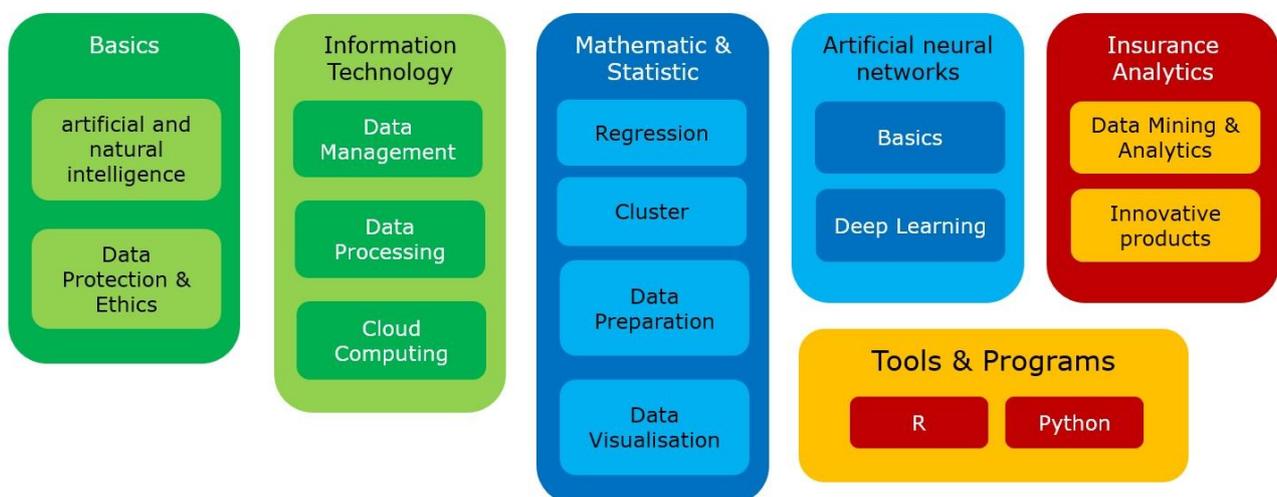
## Participants

This seminar is suited for actuaries, interested persons and for everyone who wants to get to know the topic (more precisely). Previous knowledge in Actuarial Data Science is **not** necessary!

## Purpose and Nature

*Introplication* precisely defines the seminar program. We would like to give a basic and somewhat deeper introduction, showing the most important highlights from Actuarial Data Science and pretty applications. We start at the very beginning, so no prior knowledge is required.

In this two-day seminar, we cover a wide range of topics from the basic concepts of artificial intelligence and machine learning, through modern data processing technologies and cloud computing, to the mathematical and statistical concepts of data mining. On our way, we will touch on important use cases in the actuarial environment and deepen one or the other business case. To this end, we provide a brief insight into the widely used languages (R, Python) and development environments (RStudio, Anaconda) in the data science context and take a look at innovative insurance products based on individualized risk assessments (e.g. pay how you drive). The seminar will be rounded off with short and concise reflections on data protection issues and principles for the ethical handling of artificial intelligence in the insurance environment.



## Language

The language of the seminar will be English.

## Lecturers

### Dr. Axel Kaiser

is Mathematician & actuary (DAV) at SIGNAL IDUNA Insurance Group in Hamburg, Germany, where he is in charge of ALM and Solvency II in health business. He has been using Computer Science for many years and is a member of DAV's Actuarial Data Science committee.

### Dr. Stefan Nörtemann

Mathematician & actuary (DAV) at *msg life central europe gmbh* in Cologne, Germany. He leads various projects in the context of *Risk Management* and *Insurance Analytics*. In addition, he is a lecturer at German Actuarial Academy (DAA) for *Computer Science* and for *Actuarial Data Science* and chair of the section *Actuarial Data Science* of DAV.

### Dr. Fabian Transchel

works as Data Scientist at a Swiss Re subsidiary on developing innovative motor insurance products. Since 2018 he is leading the technical development of Swiss Re's driving assistance systems score, rating the impact of assisted and automated driving system on motor books.

## Preliminary Program

### Thursday, 14 May 2020

08.45 – 09.00	Registration
09.00 – 09.15	Introduction & welcome (EAA)
09.15 – 10.00	Artificial and natural intelligence
10.00 – 10.45	Regression method
10.45 – 11.00	Coffee Break
11.00 – 11.45	Data Management
11.45 – 12.30	Tools & programs
12.30 – 13.30	Lunch
13.30 – 14.15	Data Processing
14.15 – 15.00	Data Mining & Analytics
15.00 – 15.15	Coffee Break
15.15 – 16.00	Cloud Computing
16.00 – 17.45	Cluster Methods

approx. 19.00      Dinner

### Friday, 15 May 2020

09.00 – 09.45	Artificial neural networks – basics
09.45 – 10.30	Deep Learning
10.30 – 10.45	Coffee Break
10.45 – 11.30	Data preparation / Imputation

11.30 – 12.30	Data visualization
12.30 – 13.30	Lunch
13.30 – 14.15	Innovative products
14.15 – 15.00	Data protection & Ethics
15.00 – 15.10	Final round
15.10 – 15.15	Concluding remarks, closing of seminar (EAA)

## Fees & Registration

Please register for the seminar as soon as possible because of the expected demand. If there are more persons interested in this seminar than places available we will give priority to the registrations received first. Please send your registration as soon as possible by using our online registration form at [www.actuarial-academy.com](http://www.actuarial-academy.com).

Your registration is binding. Cancellation is only possible up to 4 weeks before the first day of seminar. If you cancel later, the full seminar fee is due. You may appoint someone to take your place, but must notify us in advance. EAA has the right to cancel the event if the minimum number of participants is not reached.

Please always give your invoice number when you effect payment. All bank charges are to be borne by the participant. We will send you an invoice, please allow a few days for handling.

Your early-bird registration fee is € 840.00 plus 21% VAT until 14 March. After this date the fee will be € 990.00 plus 21 % VAT.

## Venue & Accommodation

The seminar will take place at the hotel

Angelo by Vienna House Prague

Radlická 1g

150 00 Praha 5

Phone: +420296882707

<https://www.viennahouse.com/en/angelo-prague/the-hotel/overview.html>

We have arranged special prices for accommodation. The special rate is 120 € per night in a classic single room including breakfast and VAT. It is valid for bookings before 28 April 2020 out of our allotment "EAA Seminar". Our allotment includes a limited number of rooms. Kindly book your accommodation directly with the hotel using this booking form and note the hotel's cancellation policy.

## CPD

For this seminar, the following CPD points are available under the CPD scheme of the relevant national actuarial association:

[actuarial-academy.com](http://actuarial-academy.com)

Austria:	12 points
Belgium:	12 points
Bulgaria:	12 points
Czech Republic:	2 points
Estonia:	12 hours
Finland:	8 points
France:	46 points
Germany:	12 hours
Hungary:	12 hours
Ireland:	12 hours
Italy:	approx. 4 credits (GdLA individual accreditation)
Latvia:	12 hours
Netherlands:	approx. 12 PE-points (individual accreditation)
Poland	12 hours
Portugal:	12 hours
Russia:	40 points
Slovakia:	8 CPD points
Slovenia:	50 points
Spain (CAC):	12 hours
Spain (IAE):	12 hours
Switzerland:	15 points

No responsibility is taken for the accuracy of this information.