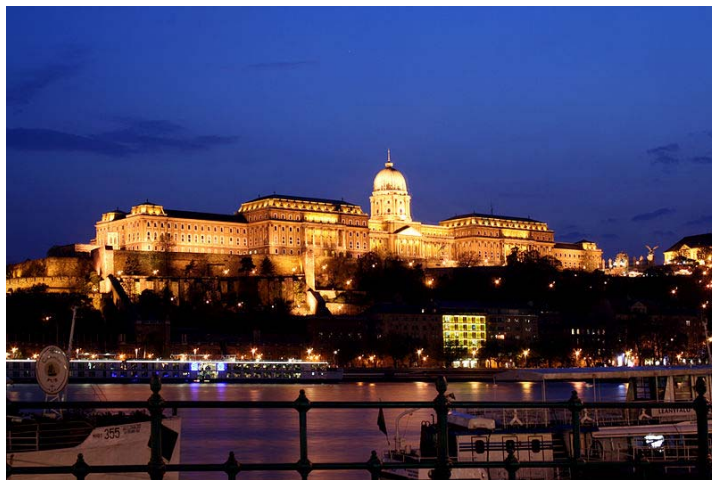


EAA Seminar
**“Workshop on Credibility Theory with a
Strong Focus on Applications in Practice”**
19/20 October 2015 | Budapest, Hungary



Organised by the EAA - European Actuarial Academy GmbH in cooperation with the Magyar Aktuárius Társaság

1. Introduction

Credibility is nowadays not only an indispensable actuarial technique for non-life and life, direct and re-insurance, but it is also applied more and more in the broader field of finance. It has a huge range of applications such as premium-calculation, experience rating, designing Bonus-Malus schemes, estimation of mortality- and disability-curves, claims-reserving, credit risk and operational risk. From a mathematical point of view, credibility-theory belongs to the field of Bayesian statistics and credibility estimators are best linear Bayes estimators.

2. Purpose and Nature

After a short introduction into credibility with some basics (e.g. the two urn-model) and some general results (e.g. the normal equations), the most important credibility-models such as the Bühlmann-Straub model, the Bühlmann-Straub model with a priori differentiation, the hierarchical credibility model, the multidimensional credibility model and the credibility regression model will be treated. For each of these models the formulae of the credibility estimators and their quadratic loss will be presented.

However the main focus of this workshop will be on practical examples. On the basis of worked out examples, most of them based on real data from practice, it is shown how credibility can be applied in practice.

These applications encompass:

- Bühlmann Straub applied to estimating claim frequencies, claim severities, burning costs, or the Pareto-Parameter for xs-reinsurance;
- Bühlmann Straub with a priori differentiation applied to experience rating for fleets of cars; adjustment of a given tariff based on new observed data; individual adjustment of the level of mortality and invalidity curves;
- an example of hierarchical credibility of order 2;
- multidimensional credibility applied to pricing, adjusting mortality curves, claims reserving;
- an example of simple linear regression.

To give the participants as much time as possible for hands-on exercises in a two-day seminar, many theorems will be presented without proof. But as the seminar is based on the following book, all results and proofs can be found there:

Bühlmann H. and Gisler A. (2005), *A Course in Credibility Theory and its Applications*, Springer Verlag

3. Participants

The seminar addresses to both, to practitioners and to academics, to actuaries working in practice as well as to people from universities teaching actuarial science.

Participants should have a profound actuarial and mathematical background. But there is no pre-knowledge in credibility theory required. The theory will be presented from scratch, but in a rather quick manner.

Attendees are encouraged to bring a laptop computer with Microsoft Excel installed.

4. Lecturer

Prof. Dr. Alois Gisler, ETH Zurich

Prof. Alois Gisler has a profound knowledge in actuarial practice as well as in actuarial science. He worked for nearly 30 years as a practicing actuary at Winterthur and AXA-Winterthur, which is the biggest non-life insurance company in Switzerland. He was there the appointed actuary and head of the actuarial team. In this function he was responsible for pricing, reserving, reporting and other actuarial activities of the direct non-life business. He was also heavily involved in nearly all major actuarial projects in Switzerland as for instance the development of the non-life model of the Swiss Solvency Test. Whilst working as a full practicing actuary he has always kept close contact to academia. He had been coeditor of the ASTIN Bulletin for 10 years and had been lecturing non-life insurance mathematics and credibility at ETH since 1996. In 2001 he became a Titular-professor of ETH. In order to have more time for teaching and research he went on pension at AXA-Winterthur in 2009 and became a member of the RiskLab at ETH. After having reached the age-limit at ETH he is a professor on pension since beginning of 2014.

5. Language

The language of the seminar will be English.

6. Preliminary Programme

Monday, 19 October 2015

08.45 – 09.00	Registration
09.00 – 09.15	Introduction & welcome (EAA)
09.15 – 10.45	Lecture “Introduction to Credibility Theory”, Lecture “Credibility Estimators in a Simple Context”; Exercise
10.45 – 11.00	Coffee Break
11.00 – 12.30	Lecture “The Bühlmann Straub Model”, Exercises
12.30 – 13.30	Lunch
13.30 – 15.00	Exercises Bühlmann Straub continued; Lecture “Exact Credibility”, Exercises
15.00 – 15.15	Coffee Break
15.15 – 17.00	Lecture “Credibility in a General Set-Up”, Exercises
approx. 18.30	Dinner

Tuesday, 20 October 2015

09.00 – 10.45	Lecture “Multidimensional Credibility”, Exercises, Lecture “Credibility for Additive and Multiplicative Models”, Exercise
10.45 – 11.00	Coffee Break
11.00 – 12.30	Lecture “Combining Credibility and GLM”, Lecture “Credibility in the Regression Case”, Exercise
12.30 – 13.30	Lunch
13.30 – 15.10	Lecture “Hierarchical Credibility”, Exercise
15.10 – 15.15	Concluding remarks, closing of seminar (EAA)

7. 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.

Your registration is binding. Cancellation is only possible up to 4 weeks before the first day of seminar. If you cancel at a later date, 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 €790.00 plus 27 % VAT until 19 August 2015. After this date the fee will be €970.00 plus 27 % VAT.

8. Accommodation

The seminar will take place at the hotel

Eurostars Budapest Center
Kossuth Lajos utca, 7-9, 1053 Budapest, Hungary
Phone: +36 1 328 5202
Fax: +36 1 268 0001
www.eurostarsbudapestcenter.com

We arranged special prices for accommodation. The special price is 82 € per night for a single room, including breakfast and taxes. It is valid for bookings by 3 October 2015 out of our allotment "EAA Seminar". Our allotment includes a limited number of rooms. Kindly book your accommodation directly with the hotel, and note the hotel's cancellation policy.

9. CPD

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

Austria: 11 points
Belgium: 11 points
Bulgaria: 12 points
Czechia: 2-3 points (individual accreditation)
Estonia: 11 hours
Germany: 12 hours
Hungary: 12 hours
Italy: approx. 4 credits (GdLA individual accreditation)
Netherlands: approx. 11 PE-points (individual accreditation)
Russia: 40 points
Slovakia: 8 CPD points
Slovenia: 50 points
Switzerland: 15 points

No responsibility is taken for the accuracy of this information.