

WARSAW ACTUARIAL SUMMER SCHOOL
18TH EDITION
DEPARTMENT OF ECONOMICS, UNIVERSITY OF WARSAW
12-21 SEPTEMBER 2007

PROGRAMME OVERVIEW:

12-14 September:

- **Course 1: Embedded Derivatives in Insurance Contracts (15 h), Drs. Paul W.P. de Beus, partner at Ernst & Young, Central Europe Actuarial Services**

Details:

12 September 2007 (Wednesday)

- General introduction
- Introduction to IFRS accounting on Embedded Derivatives (FOGs, Financial Options and Guarantees)
- Why market consistent valuation of FOGs? (CFO Forum EEV principles, CRO Forum, CEA, CEIOPS/SII etc)
- Types of FOGs/case study
- Options definitions and valuation (part 1)

13 September 2007 (Thursday)

- Summary day 1.
- Options definitions and valuation (part 2)
- Pay-off and trading strategies
- Use and danger of options
- Introduction to valuation

14 September 2007 (Friday)

- Summary day 2.
- Economic Scenario Generators
- Valuation Case Study
- Replicating Portfolios
- Auditing FOGs
- RP demo

17-18 September:

- **Course 2: Market Consistent Embedded Value: Latest Developments (10 h), Dr Wolfgang Hoffmann & Dr Aleksander Rejman, Tillinghast Towers Perrin**

Details:

17 September 2007 (Monday):

Introduction to Embedded Value ("EV") Reporting

- Weaknesses of Traditional EV ("TEV")
- European Embedded Value ("EEV") Principles of the CFO Forum

- Differences between TEV and EEV
 - Examples of conversion process
- Trends in EEV reporting
- “Real-world” European Embedded Value and Market-Consistent Embedded Value
 - Options & Guarantees
 - Allowance for non-financial risk
 - Differences between MCEV publications

18 September 2007 (Tuesday):

Use of MCEV

- Link between MCEV and ...
 - Solvency II
 - IFRS
- Value Based Management

MCEV in Poland

- Challenges
- Application to Second Pillar Annuity Business

19-21 September:

- **Course 3: Credibility and its Applications (15 h), Prof. Dr Alois Gisler, AXA Winterthur Insurance Co. & ETH Zürich,**

Details:

19 September 2007 (Wednesday)

- welcome, program, objectives, introduction
- Bayes risk and Bayes estimator, Bayes premium in three special cases, conjugate classes, exponential family and the family of natural conjugate priors
- Bayes premium: exercises, worked out examples
- definition of inhomogeneous and homogeneous credibility estimators, simple Bühlmann model, general intuitive principle, general set-up
- Credibility: as orthogonal projection in the Hilbert space of square integrable random variables, orthogonal conditions, normal equations, general properties.

20 September 2007 (Thursday)

- Bühlmann-Straub model: model assumptions, inhomogeneous and homogeneous credibility estimators, quadratic loss, estimation of structural parameters
- Bühlmann Straub model: credibility for claim frequency, credibility for claim severity, credibility in the case of known a priori differences between risks
- Bühlmann Straub model: exercises, worked out examples
- hierarchical credibility: motivation, model assumptions, relevant quantities and notation, data compression, credibility estimators
- hierarchical credibility: quadratic loss, estimation of structural parameters, worked out example

21 September 2007 (Friday)

- multidimensional credibility: motivation, the abstract multidimensional model, credibility estimators
- multidimensional credibility: the multidimensional Bühlmann-Straub model, general remarks about data compression and its optimality
- multidimensional credibility: worked out example
- credibility in the regression case: motivation, introduction
- credibility in the regression case: credibility regression model, credibility estimator and quadratic loss, the case of simple linear regression
- credibility for the chain ladder reserving method: paper presented at the ASTIN colloquium 2007 in Orlando

DAILY SCHEDULE:

8.40 – 9.30 Lecture 1

9.40 – 10.30 Lecture 2

10.40 – 11.30 Lecture 3

11.30 – 12.00 Break (coffee, refreshments)

12.00 – 12.50 Lecture 4

13.00 – 13.50 Lecture 5

(The break can be shifted to take place between lecture 2 and 3, if needed)