



## 31 May - 03 June 2016 at ISEG-Lisbon School of Economics and Management

If you intend to submit a paper for the ASTIN COLLOQUIUM LISBOA 2016, you need to provide a **Synopsis** (using the template on the next page), complete this **Submission Form** and submit both to <u>astincolloquium2016@gmail.com</u> by **Saturday 7 May 2016.** Synopses and submission forms must be sent as MSWord attachments, please do not supply them in the body of an email. You will be advised of the outcome and, if accepted, your abstract will be uploaded to the website.

## **SUBMISSION FORM**

Name:	Wüthrich, Mario	Company: RiskLab, ETH Zurich
T:	+41 44 632 33 90	M: +41 76 345 70 69
E: mario.wuethrich@math.ethz.ch		
Title of Paper / Presentation / Session to appear in program: Chain-ladder method: dynamic run-off uncertainty analysis Session: ASTIN, Loss reserving and capital adequacy		
Author/s:		
1.	Mario. V. Wüthrich	2.
3. 4.		
What will	I your final submission be? Presentation and Paper	Presentation Only
If selected, what level of knowledge will delegates attending your session require? (please select only) one  No prior knowledge  General industry knowledge assumed  Technical/specific industry knowledge assumed		

**Note:** If you are asked to present at ASTIN COLLOQUIUM LISBOA 2016, it will still be necessary for you to register and pay to attend the Colloquium. IAP does not subsidies, discount, pay for, or extend special registration offers for presenters or delegates.

Campo Grande 28, 8 C 1700-093 Lisboa Portugal





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## **ABSTRACT**

(TITLE OF PAPER / PRESENTATION TO APPEAR IN PROGRAM) (Name of Author/s) Chain-Ladder method: dynamic run-off uncertainty analysis Mario V. Wüthrich, RiskLab, ETH Zurich

**Key words:** (enter up to 8 key words applicable to your abstract / paper / presentation)

Chain-ladder method, claims reserving uncertainty, claims development result, Mack's formula, Merz-Wüthrich formula, conditional mean square error of prediction, run-off uncertainty

**Purpose of your paper:** (To assist delegates / readers searching for your paper on the website after the event, please enter a brief description (maximum 220 characters) on the purpose of your paper.)

We review the claims run-off uncertainty analysis derived for the chain-ladder reserving method. In a first step, we consider the total prediction uncertainty using the conditional mean square error of prediction. In a second step, we describe how this total prediction uncertainty is released dynamically over time. This provides a run-off of uncertainty pattern which allows to determine a market-value margin that can be used for market-consistent valuation and for risk-based solvency considerations.

This work is based on the manuscripts:

- 1) Claims run-off uncertainty: the full picture. SSRN Manuscript, ID 2524352, 2014.
- 2) Stochastic Claims Reserving Manual: Advances in Dynamic Modeling. SSRN Manuscript ID 2649057, 2015.

**Abstract:** (Place text here using font size Calibri (Body) 11)

We review the claims run-off uncertainty analysis derived for the chain-ladder reserving method. In a first step, we consider the total prediction uncertainty using the conditional mean square error of prediction. In a second step, we describe how this total prediction uncertainty is released dynamically over time. This provides a run-off of uncertainty pattern which allows to determine a market-value margin that can be used for market-consistent valuation and for risk-based solvency considerations.

**Note:** If you are not presenting a paper for this Colloquium, please include as much detail as possible in your Abstract (maximum three pages) to enable delegates to prepare for your session.