

# Conference Report: R in Insurance 2017

*by Nicolas Baradel, Christophe Dutang and Caroline Hillairet*

## Conference summary

The fifth R in Insurance conference took place at Ecole Nationale de la Statistique et de l'Administration Economique (ENSAE, one of the leading French graduate schools in the fields of statistics, economics, finance and actuarial science) Paris on 8 June 2017. This one-day conference focused once more on the wide range of applications of R in insurance, actuarial science and beyond. The conference programme covered topics including reserving, pricing, loss modelling, the use of R in a production environment and also new statistical methods such as big data analysis.

The audience of the conference included both practitioners (around 70%) and academics (30%) who are active or interested in the applications of R in Insurance. The fifth edition was a fair success with 128 participants compared to the 100 participants of the fourth edition. Furthermore, it was a truly international event with speakers and delegates from many different countries, including USA, Belgium, Netherlands, Switzerland, Germany, Italy, Qatar, UK, India and of course France. Overall, there were 17 speakers from USA, Belgium, Netherlands, Switzerland, Italy, UK, India and France. The coffee breaks and the lunch time offered great networking opportunities, while the conference dinner at Musée d'Orsay closed on a high note this enlightening day.

In the first plenary session, Julie Seguela (from Covea) spoke about the textual analysis of expert reports to increase knowledge of technological risks. She used open datasets from the ARIA database (Analysis, Research and Information about Accidents), which has collected more than 40 000 technological accidents, between 1995 and 2015 in France, susceptible to damage public health or safety, etc. Text mining techniques and some helpful visualization packages were used on expert reports detailing circumstances, causes and consequences of these accidents. This master class talk highlighted how various R packages can interact to achieve our goal.

This plenary talk was followed by two sessions to close the morning. The first session focused on big data analytics emphasizing new usage in the insurance industry. Then, the second session consisted of a series of lightning talks about R packages or R modelling. Thereafter, the afternoon started with the third session on non-life insurance with speeches rather theoretical on non-life reserving or vine copulas. The fourth and last session followed with topics in life insurance.

In the closing plenary talk, Katrien Antonio (Professor of Actuarial Science at KU Leuven, Belgium) presented recent development and challenges in non-life reserving. In order to be able to fulfill future liabilities, insurance companies approach micro-level reserving by using granular, detailed data on the development of individual claims. In her talk, she gave an overview of the research on micro-level reserving and presented ongoing developments of statistical modeling and data analytic tools for reserving with granular data. Her talk was illustrated on a large European dataset of liability claims (from private individuals) with monthly exposures using R.

All conference presentations are available on the conference website at <https://rininsurance17.sciencesconf.org/>.

## Scientific committee and sponsors

The members of the scientific committee were: [Arthur Charpentier](#) (University of Amsterdam and KU Leuven), [Christophe Dutang](#) (Université du Maine and Université Paris Dauphine, France), [Markus Gesmann](#) (ChainLadder project), [Giorgio A. Spedicato](#) (Unipol Gruppo Finanziario), [Andreas Tsanakas](#) (Cass Business School).

Finally, we are grateful to our sponsors [RStudio](#), [Verisk Insurance Solutions](#), [Barnett](#)

Waddingham, Mirai Solutions, Milliman. This conference would not have been possible without their generous support.

## **R in Insurance 2018**

We are delighted to announce next year's event already on 16 July 2018. Following three years in London, one year in Paris and one year in Amsterdam, the conference will go back to London, UK. Further details will be published on [www.rininsurance.com](http://www.rininsurance.com).

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