



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 [astincolloquium2016@gmail.com](mailto:astincolloquium2016@gmail.com) 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: LABIT HARDY Héloïse Company: University of Lausanne, Switzerland  
T: Miss M: PhD student  
E: hlabitha@unil.ch

Title of Paper / Presentation / Session to appear in program:

Cause-of-Death Mortality: A Study of a Heterogeneous  
Portfolio Dynamics

Author/s:

1. Héloïse Labit Hardy 2. Séverine Arnold (-Gaille)

3. 4.

What will 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 subsidize, discount, pay for, or extend special registration offers for presenters or delegates.

**IAP: Instituto dos Atuários Portugueses**

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## ABSTRACT

(TITLE OF PAPER / PRESENTATION TO APPEAR IN PROGRAM)

(Name of Author/s)

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

Cause-of-Death Mortality, Population Dynamics, Socio-Economic Variable

**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 consider a portfolio composed with different cohorts. To model impact of cause reduction on a heterogeneous portfolio evolution, we model the cohort dynamics.

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

Two major risks life insurance companies have to face are the mortality and longevity risks. The exposure to these risks for the company depends on the profile of its insured portfolio. Indeed, age, gender and socio-economic category are risk factors for mortality, and thus for mortality by cause of death. For this project, we are interested in studying the cause-of-death mortality for an insurance portfolio. As causes of death are not equally represented among different subpopulations, we are trying to assess the impact on the dynamics of an insurance portfolio of a cause-of-death mortality reduction. For that purpose, we study the portfolio evolution with a population dynamics model, including arrivals of new individuals with their own characteristics. We apply this model to a case study with English data on cause-of-death mortality by age, gender and socio-economic category.

**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.

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