# REINALDO MARQUES

ramarque13@gmail.com
DOB – 13/06/1983
Nationality – Brazilian

**actuary & risk data analyst**

## Short-Bio

I hold a degree in Actuarial Sciences from the Federal University of Minas Gerais (2006), a Master's degree in Actuarial Sciences from the Institute of Actuarial and Financial Risk Management at the Pontifical Catholic University of Rio de Janeiro (2009). I am a PhD candidate by the Department of Actuarial, Statistics and Finance at the Universitetet i Oslo, and a Research Fellow at the Statistics for Innovation Center in Norway. I am member of the Brazilian Actuarial Institute with a MIBA 2004, I worked as an intern for the Acser and Plurall Actuarial Consulting, also I worked for the technical-scientific cooperation with IAPUC/ Puc-Rio, LEADD/ UERJ, Petrobras, Statkraft Energy and the Norwegian Computing Center. I have experience in data analysis and statistical modeling with an emphasis on actuarial and financial applications. I mainly worked on the following topics: quantitative methods in financial and actuarial risks, actuarial modeling, reinsurance, actuarial solvency and capital requirements analysis, computational and econometrics methods applied in insurance, pension, investments and health insurance. I was a visiting researcher at the Center for Health Equity Studies, for both Stockholm University and Karolinska Institutet. I have visited the Department of Actuary and Statistics of Københavns Universitet, Isaac Newton Institute for Mathematical Sciences of Cambridge University, Danmarks Tekniske Universitet, Center for Doctoral Training in Statistics and Operational Research (STOR-i), Lancaster University and Aalborg University, Denmark among others. I received the SBSS Paper Competition-2014 award from the America Statistics Association at the JSM meeting in Boston. I was selected to make a presentation at the Junior Scientist session at the Norges Central Bank, ESOBE-2015. I won 1st place in the RICARDO FRISCHTAK AWARDS for the Brazilian Institute of Actuaries, 2016. I am the co-superviser of students for the Master's program in Statistics at the for both Federal University of Alfenas (Unifal-MG) and the Federal University of Lavras. Currently, I am head of the undergraduate program in Actuarial Sciences at Unifal-MG and the Director of the Actuarial Risk and Innovation Lab (LAR).

## Interests

Quantitative risk management, actuarial risk modeling, statistical methods, financial econometrics, macro economics forecasting, and insurance economics.

## Education and Positions

--(current)--

Head/ Professor of the undergraduate Actuarial program

Institute of Economics, Unifal-MG/ Brazil

Director of the Actuarial Risk & Innovation Lab ::: LAR

laboratório de risco atuarial e inovação

**PhD Candidate** - Actuarial, Statistics and Finance Division
Institute of Mathematics, University of Oslo, 2017

--(previous)--
Core member at the *Statistics for Innovation Center* **(sfi)²** 2011-2015.
Guest at the STOR-i Doctoral Training Centre, Lancaster/ UK, Nov 2012
Assistant Professor, Institute of Economics, Unifal-MG/ Brazil, 2011

Visiting researcher at the Center for Health Equity Studies
Stockholm University and Karolinska Institutet, 2010

**MSc Degree in Actuarial Science** - Institute of Financial and Actuarial Risks
PUC-Rio, 2009

Member of Brazilian Actuarial Association, MIBA-2004 and ISBA/ Bernoulli Society
**Bachelor's Degree in Actuarial Science** – Department of Statistics
Federal University of Minas Gerais, Brazil, 2006

## Awards and Scholarships

Winner of the RICARDO FRISCHTAK AWARD 2016, Brazilian Institute of Actuaries,
Winner of the JSM-*Student Paper Competition-2014* of the America Statistics Association
Selected on Junior Scientist Session, ESOBE-2013, Norges Central Bank
Research Council of Brazil, 2011-2014
Swedish Foundation for International Cooperation in Research and Higher Education - STINT, 2010
Brazilian Federal Agency for Support Higher Education – CAPES, 2008/ 2009
Scholarship from Catholic University of Rio de Janeiro – IAPUC, 2007
Scholarship from Plurall Consultancy Company, 2005

## Publications

Simulador capital: análise de solvência atuarial e projeção de requerimento de capital, 2016
Bayesian modeling for the maximum levels of Brazilian Consumer Price Index (pre-print), 2016
Bayesian Monte Carlo Testing with Intractable Likelihoods (submitted in the Journal of Statistical Computation and Simulation), 2016
Online recursive particle path functional approximation for large datasets (pre-print), 2015
Particle move-reweighting strategies for online inference. *Statistical research report, 2013 (Universitetet i Oslo. Matematisk institut.* ISSN 0806-3842.

Reweighting schemes based on particle methods. Springer Proceedings in Mathematics & Statistics Volume 63, 2014, pp 73-76.

Shell problemløsningsdag: statistisk modellering av stormdissipasjon. *Norsk statistisk forening*, 2012.

Dynamic Asset Allocation of Brazilian Actuarial Funds. *Proceedings: Actuarial and Financial Mathematics Conference*. Belgium, 2012.

*Uncertainty Quantification: from science to society*, 2012 (Unpublished).

Restricted Kalman filter applied to dynamic style analysis of actuarial funds. *Applied Stochastic Models in Business and Industry* Journal. Wiley, 2012.

Backtesting for Value-at-Risk approach. Brazilian Journal of Risk and Insurance. (in Portuguese), 2010.

## Talks/ Participation in Workshop/ Conference/ Summer School

II Workshop CeMEAI de Soluções Matemáticas Aplicadas à Indústria.. 2016
Talk: XIII EBEB - Brazilian Meeting on Bayesian Statistics, 2015.
Joint Statistics Meeting, Boston USA, August 2014
International Society for Bayesian Analysis World Meeting, ISBA Mexico, July 2014
Pan-American Advanced Study Institute, Brazil, June 2014
Monte Carlo Inference for High-Dimensional Models, Cambridge UK, April 2014
Winter School on Big data challenges to modern statistics, Norway, January 2014
Talk: 1st Actuarial and Statistics meeting, Unifal, Brazil, December 2013
Celebrating the International Year of Statistics, Litteraturhuset, Norway, November 2013
Third Workshop on Bayesian Inference for Latent Gaussian Models, Iceland, September 2013
Summer School Advanced Topics in Machine Learning, Danmarks Tekniske Universitet, August 2013
Talk: European Seminar on Bayesian Econometrics, Norges Central Bank, Norway, August 2013
R in Insurance Conference, Cass Business School, London, July 2013
Bayesian Inference in stochastic process Workshop, University of Milan, Italy 2013
SARMA Workshop: Climate Effects: industry, insurance and society, Norway, June 2013
Bayesian young Statisticians meeting, CNR-IMATI, Italy 2013
Summer School in space-time modeling, Aalborg University, Denmark, May 2013
Graduate Workshop at Klækken Norway, June 2013
Talk: Int. to Actuarial Modeling: Solvency, Aggregate Risks & Longevity, Unifal/ Brazil, Jan 2013
Talk: SMC sampler, Dept. of Statistics, Federal University of Minas Gerais, December 2012
Talk: On-line Inference, Dept. of Statistics/ STOR-i, Lancaster University /UK, November 2012
Graphical Models and Bayesian Networks, Norwegian Computing Center, Nov 2011
Advances in Sequential Monte Carlo, University of Warwick/ UK, September 2012
1st European Actuarial Journal Conference, Switzerland, September 2012
International Statistical Ecology Conference, (local organization), Norway, July 2012
PhD Meeting: STOR-i & (sfi)² (local organization), Norwegian Computing Center, June 2012
University of Oslo Graduate School in Biostatistics Workshop, Norway, May 2012
Confronting Intractability in Statistical Inference, University of Bristol/ UK, April 2012

Actuarial and Financial Mathematics Conference, Brussels February 2012
INLA Course: Spatial Statistics and Stochastic PDEs, Norwegian Computing Center, 2011
Seventh Brazilian Congress of Finance, Brazil July 2010
The 2nd IMS/CHESS Workshop: Health and Society, Brazil, December 2009
UseR! 2008, August 12-14, Technische Universität Dortmund, Germany
18° IEA World Congress of Epidemiologic, Brazil, October 2008
Seventh Brazilian Congress of Actuary, June 2007
Third Brazilian Conference on Statistical Modeling in Insurance and Finance, 2007

## Master's Co-Supervision

Richard Hernani: Swaps for the longevity risk
Jorge Garcia: Actuarial modeling for rural insurance contracts
Marcel Irving: Actuarial Pricing through the fast Bayesian Inference
Pablo Portes: Extremes modeling of the Brazilian Inflation Index
Thaís Martins: Insurance modeling via EVT

## Academic softwares Developed

Simulator Capital: solvency analysis and projection of actuarial risks
DLLM library: online inference for time series data
Epi-R: statistical data analysis for health data

## Linguistic & Computational Skills

Languages: Portuguese, English, Spanish and Norwegian/ Swedish (Basics)
Operational Systems: MAC- OS, Ubuntu\Debian Kernel
Programming: R, C, Matlab and OX
Database: SQL for database MySQL
Geographic Information System: Quantum GIS and TerraView

## Industrial Collaboration

Plurall Actuarial Consultant, TERRA Brasis Reinsurance, Petrobras, Linear Options Consulting-USA, PNUD, Statkraft Energy and Norwegian Computing Center.

## Miscellaneous

I was the academic leader for the conception of the pedagogical project for the **MBA: actuarial valuation and auditing**. I also was a member of the coordination of the Banking and Financial Management short specialization.