Pierre-O. Goffard

Assistant professor in applied mathematics

ISFA
50 Avenue Tony Garnier, 69007 Lyon
pierre-olivier.goffard@univ-lyon1.fr
pierre-olivier.goffard.me
French, 31 years old

Professional experience

Since September 2018 **Assistant Professor (Maître de conférence)**, *ISFA*, Lyon, France.

2016–2018 **Visiting Assistant Professor**, *University of California in Santa Barbara*, Santa Barbara, USA.

2015–2016 **Post-Doctoral fellow**, *Université Libre de Bruxelles*, Brussels, Belgium.

Aug.-November 2015 **Post-Doctoral fellow**, *Aarhus university*, Aarhus, Denmark.

2011–2015 **Ph.D. Student and junior actuary**, *Aix-Marseille university and AXA France (french partnership named convention CIFRE)*, Marseille, France.

Education

Since 2014 **Master of science (M.Sc.)**, *ISFA*, Lyon, France.
- Major: Financial and actuarial sciences
- French actuary diploma, graduation in June 2020

2011–2015 **Ph.D. in applied mathematics**, *Aix-Marseille University and AXA France (french patnership named convention CIFRE)*, Marseille, France.
Polynomial approximations of probability density function and applications to insurance.
Advisors: Denys Pommeret and Stephane Loisel.

2008–2011 **Master of Science (M.Sc.)**, *ENSAI*, Rennes, France.
- Major: Advanced Statistical Engineering
- Additional training (during the 3^{rd} year, 2010-2011): Master of statistics and econometrics at the *University of Rennes 1*, focused on scientific research, in tandem with ENSAI engineering degree.

2006–2008 **Classes Préparatoires**, *Dupuy de Lôme High School*, Lorient, *MP*.
2 years of intensive training in Math, Physics and Chemistry.

Skills

IT R Studio, Python, SAS, Mathematica, $Late\chi$

Languages French *(mother tongue)*, English *(full professional proficiency)*, Spanish *(notions)*.

Research Expertise

Blockchain mathematics, Bayesian statistics, risk theory, stochastic processes.

Teaching experience

2018-2020 **Instructor**, *ISFA*, Lyon, France.
Undergraduate and graduate students
- Loss models in insurance (graduate class)
- Introduction to SAS (graduate class)
- Discrete stochastic processes (graduate class)
- Introduction to R (undergraduate class)
- Measure theory and integration (undergraduate class)

2017-2018 **Instructor**, *UCSB*, Santa Barbara, USA.
Undergraduate and graduate students
- PSTAT130: Introduction to SAS (undergraduate class)
- PSTAT296: Research projects in actuarial science (Mentoring)

2016-2017 **Instructor**, *UCSB*, Santa Barbara, USA.
Undergraduate and graduate students
- PSTAT130: Introduction to SAS (undergraduate class)
- PSTAT120A: Introduction to probability (undergraduate class)
- PSTAT160A: Applied stochastic process (undergraduate class)

Publications

Accepted/Published

2019 **P.O. Goffard and Andrey Sarantsev**, *Exponential convergence rate of ruin probabilities for Level-dependent Lévy driven risk process*, *to appear in* Journal of Applied Probability.

2019 **P.O. Goffard**, *Fraud risk assessment within blockchain transactions*, 51(2):443-467, Advances in Applied Probability.

2018 **P.O. Goffard, & Claude Lefèvre**, *Duality in ruin problems for ordered risk models*, 78:44-52, Insurance: Mathematics and Economics.

2017 **P.O. Goffard**, *Two-sided exit problems in the ordered risk model*, *to appear in* Methodology and Computing in Applied Probability.

2017 **P.O. Goffard, & Claude Lefèvre**, *Boundary crossing problem of order statistic point processes*, 447(2):890-907, Journal of Mathematical Analysis and Applications.

2017 **P.O. Goffard, Stephane Loisel & Denys Pommeret**, *Polynomial approximations for bivariate aggregate claims amount probability distributions*, 19(1):151-174, Methodology and Computing in Applied Probability.

2016 **P.O. Goffard, Stephane Loisel & Denys Pommeret**, *A polynomial expansion to approximate the ultimate ruin probability in the compound Poisson ruin model*, 296:499-511, Journal of Computational and Applied Mathematics.

2015 **P.O. Goffard & Xavier Guerrault**, *Is it optimal to group policyholders by age, gender, and seniority for BEL computations based on model points?*, 5(1):165-180, European Actuarial Journal.

Chapter in books

2017 **Søren Asmussen, P.O. Goffard, & Patrick Laub**, *Orthonormal polynomial expansion and lognormal sum densities*, *to appear in* Risk and Stochastics - Festschrift for Ragnar Norberg.

Submitted/under revision

2019 **P.O. Goffard and Patrick Laub**, *Orthogonal polynomial expansions to evaluate stop-loss premiums*, Working paper.

2019 **P.O. Goffard, Sreenivas Jammalamadaka, and Simos Meintanis**, *Goodness-of-fit tests for compound distributions with applications in insurance*, Working paper.

Under preparation

2019 **P.O. Goffard and Patrick Laub**, *Approximate Bayesian Computation in Reinsurance*, Working paper.

2019 **P.O. Goffard and Ian Duncan**, *Bayesian analysis of loss distributions*, Working paper.

2019 **P.O. Goffard and Hansjoerg Albrecher**, *Profit and loss of the blockchain miners*, Working paper.

2017 **P.O. Goffard, Jose Garrido and Claude Lefèvre**, *Discrete-time insurance and dual risk models with claim sizes distributed as spacing levels*, Working paper.

Most recent communications

Germany 2019 **IME Conference**, *Munich*.

Colombia 2019 **ICASQF Conference**, *Manizales*.

Romania 2019 **Perspective on Actuarial Risks in Talks of Young Researchers**, *Sibiu*.

Spain 2018 9^{th} **International Workshop on Simulation**, *Barcelona*.

Hungary 2018 **IWAP**, *Budapest*.

USA 2018 **CFMAR Seminar at UCSB**, *Santa Barbara*.

USA 2018 **Seminar at UCSB**, *Santa Barbara*.

USA 2018 **Seminar at UCSC**, *Santa Cruz*.

USA 2017 **CFMAR Seminar at UCSB**, *Santa Barbara*.

USA 2017 **Seminar at UCSD**, *San Diego*.

USA 2017 **Seminar at UIOWA**, *Iowa City*.

Panama 2017 **2017 ASTIN AFIR/ERM Colloquium**, *Panama City*.

USA 2017 10^{th} **anniversary of the CFMAR conference** , *Santa Barbara*.

USA 2017 **Seminar at USC**, *Los Angeles*.

USA 2016 **Seminar at UCSB**, *Santa Barbara*.

Awards

France 2015 ***SCOR prize*** **of the young doctor in actuarial science**, *Paris*.

Reviewing activities

Methodology and Computing in Applied Probability, European Actuarial Journal, Risks, Insurance: Mathematics and Economics, Operation Research Letters, Stochastic Models, Probability in the Engineering and Informational Sciences.

Hobbies

Music Campfire guitar player

Sports Surf, windsurf, soccer

Dance Salsa, Bachatta