

# Pierre-O. Goffard

Associate Professor

UFR de mathématique et d'informatique  
Université de Strasbourg  
✉ goffard@unistra.fr  
🌐 pierre-olivier.goffard.me  
Français, 34 ans



## Professional experience

- Since Sept. 2022 **Associate Professor (Maître de conférence)**, [UNISTRA](#), Strasbourg, France
- March-June 2022 **Visiting Associate Professor**, [University of California in Santa Barbara](#), Santa Barbara, USA
- 2018-2022 **Associate 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

- 2018-2021 **Master of science (M.Sc.)**, [ISFA](#), Lyon, France
- Major: Financial and actuarial sciences
  - French actuary diploma
- 2011-2015 **Ph.D. in applied mathematics**, [Aix-Marseille University](#) and [AXA France](#) (french partnership 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<sup>rd</sup> 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, *Latex*
- Languages French (*mother tongue*), English (*full professional proficiency*), Spanish (*notions*).

## Research Expertise

Blockchain mathematics, Bayesian statistics, risk theory, stochastic processes

## Teaching experience

- 2022-2023 **Instructor**, [UNISTRA](#), Strasbourg, France
- Graduate students
- Survival analysis
  - Applied Stochastic Calculus

2018-2022 **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)

2016-2018 **Instructor**, [UCSB](#), Santa Barbara, USA  
Undergraduate and graduate students  

- PSTAT296: Research projects in actuarial science (Mentoring)
- PSTAT130: Introduction to SAS (undergraduate class)
- PSTAT120A: Introduction to probability (undergraduate class)
- PSTAT160A: Applied stochastic process (undergraduate class)

---

## Publications

- 2022 **P.O. Goffard**, *Sequential Monte Carlo samplers to fit and compare insurance loss models*, Scandinavian Actuarial Journal, [DOI](#)
- 2022 **P.O. Goffard & S. Rao Jammalamdaka & S. Meintanis**, *Goodness-of-Fit Procedures for Compound Distributions with an Application to Insurance*, Journal of Statistical Theory and Practice, [DOI](#)
- 2022 **K. Barigou & P.O. Goffard & S. Loisel & Y. Salhi**, *Bayesian model averaging for mortality forecasting using leave-future-out validation*, International Journal of Forecasting, [DOI](#)
- 2022 **H. Albrecher & D. Finger & P.O. Goffard**, *Blockchain mining in pools: Analyzing the trade-off between profitability and ruin*, Insurance: Mathematics and Economics, [DOI](#)
- 2021 **P.O. Goffard & P. Laub**, *Approximate Bayesian Computations to fit and compare insurance loss models*, Insurance: Mathematics and Economics, [DOI](#)
- 2021 **H. Albrecher & P.O. Goffard**, *On the Profitability of Selfish Blockchain Mining Under Consideration of Ruin*, Operations Research, [DOI](#)
- 2020 **P.O. Goffard & Patrick Laub**, *Orthogonal polynomial expansions to evaluate stop-loss premiums*, Journal of Computational and Applied Mathematics, [DOI](#)
- 2019 **Søren Asmussen, P.O. Goffard, & Patrick Laub**, *Orthonormal polynomial expansion and lognormal sum densities*, Risk and Stochastics - Festschrift for Ragnar Norberg, [DOI](#)
- 2019 **P.O. Goffard and Andrey Sarantsev**, *Exponential convergence rate of ruin probabilities for Level-dependent Lévy driven risk process*, Journal of Applied Probability, [DOI](#)
- 2019 **P.O. Goffard**, *Fraud risk assessment within blockchain transactions*, Advances in Applied Probability, [DOI](#)
- 2019 **P.O. Goffard**, *Two-sided exit problems in the ordered risk model*, Methodology and Computing in Applied Probability, [DOI](#)
- 2018 **P.O. Goffard, & Claude Lefèvre**, *Duality in ruin problems for ordered risk models*, Insurance: Mathematics and Economics, [DOI](#)
- 2017 **P.O. Goffard, & Claude Lefèvre**, *Boundary crossing problem of order statistic point processes*, Journal of Mathematical Analysis and Applications, [DOI](#)
- 2017 **P.O. Goffard, Stephane Loisel & Denys Pommeret**, *Polynomial approximations for bivariate aggregate claims amount probability distributions*, Methodology and Computing in Applied Probability, [DOI](#)
- 2016 **P.O. Goffard, Stephane Loisel & Denys Pommeret**, *A polynomial expansion to approximate the ultimate ruin probability in the compound Poisson ruin model*, Journal of Computational and Applied Mathematics, [DOI](#)
- 2015 **P.O. Goffard & Xavier Guerrault**, *Is it optimal to group policyholders by age, gender, and seniority for BEL computations based on model points?*, European Actuarial Journal, [DOI](#)

---

## Most recent communications

France 2023 **Séminaire Lyon-Le Mans - ENSAE**, *Lyon*  
France 2022 **MLISTRAL** conférence, *Marseille*  
USA 2022 **Séminaire de recherche Université d'Auburn**, *Auburn, Alabama*  
USA 2022 **Séminaire de recherche département de statistique et probabilité appliquée de l'université de Californie à Santa Barbara**, *Santa Barbara*  
Royaume-Uni 2021 **3<sup>rd</sup> Insurance Data Science Conference**, *Londres*  
Online 2021 **Insurance: Mathematics and Economics Conference 2021**, *Online*  
France 2020 **Journées de Statistiques de la Société Française de Statistiques**, *Nice*  
France 2020 **ASTIN/AFIR Conference**, *Paris*

---

## Awards

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

---

## Reviewing activities

Scandinavian Actuarial Journal, Stochastic Processes and their Applications, Journal of the Royal Society Interface, 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, Journal of Computational and Applied Mathematics, European Journal of Operational Research, Mathematics and Computers in Simulations, Annals of Actuarial Science, Non Linear Analysis

---

## Hobbies

Music Guitar  
Sports Surf, windsurf, soccer  
Dance Salsa, Bachatta