Pierre-O. Goffard

Associate professor in applied mathematics

ISFA
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French, 31 years old

Professional experience

Since September 2018 — **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 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)

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

Accepted/Published

2021 **P.O. Goffard and Patrick Laub**, *Approximate Bayesian Computations to fit and compare insurance loss models*, Insurance: Mathematics and Economics.

2021 **Hansjoerg Albrecher and P.O. Goffard**, *On the profitability of selfish blockchain mining under consideration of ruin*, Operations Research.

2020 **P.O. Goffard and Patrick Laub**, *Orthogonal polynomial expansions to evaluate stop-loss premiums*, 370, 112648, Journal of Computational and Applied Mathematics.

2019 **P.O. Goffard and Andrey Sarantsev**, *Exponential convergence rate of ruin probabilities for Level-dependent Lévy driven risk processes*, 56(4), 1244-1268, 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*, 21, 539–549(2019), 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

2021 **Hansjoerg Albrecher, Dina Finger, and P.O. Goffard**, *Blockchain mining in pools: Analyzing the trade-off between profitability and ruin*, Working paper.

2021 **P.O. Goffard**, *Sequential Monte Carlo samplers to fit and compare insurance loss models*, Working paper.

2021 **Karim Barigous, P.O. Goffard, Stéphane Loisel, and Yahia Salhi**, *Bayesian model averaging for mortality forecasting using leave-future-out validation*, Working paper.

2020 **P.O. Goffard, Sreenivas Jammalamadaka, and Simos Meintanis**, *Goodness-of-fit tests for compound distributions with an applications in insurance*, 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

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 Computationnal and Applied Mathematics, European Journal of Operational Research, Mathematics and Computers in Simulations, Annals of Actuarial Science, Non Linear Analysis.

Hobbies

Music Campfire guitar player

Sports Surf, windsurf, soccer

Dance Salsa, Bachatta