Gilles Stupfler

PhD in Applied Mathematics

Lecturer in Statistics, ENSAI Rennes & CREST

Personal information

Date and place of birth:	15th May 1988, Strasbourg, France
Citizenship:	French
Email:	gilles.stupfler@ensai.fr
Institutional webpage:	http://ensai.fr/en/equipe/stupfler-gilles
Personal webpage:	http://gstupfler.perso.math.cnrs.fr
Twitter:	@GillesStupfler

Education

2019-2020	**Habilitation degree**
	University of Rennes 1
	Referees: Claudia Klüppelberg, Thomas Mikosch and Olivier Wintenberger
2016-2018	**Postgraduate Certificate in Higher Education**
	University of Nottingham
2009-2011	**PhD in Applied Mathematics**
	University of Strasbourg
	Advisors: Stéphane Girard and Armelle Guillou
	Referees: Hansjörg Albrecher and Irène Gijbels
2009	**Agrégation de Mathématiques**
	Ranked 21st among all 252 candidates who were awarded the Agrégation
2007-2009	**MSc in Pure and Applied Mathematics**
	University of Strasbourg
2006-2007	**BSc in Pure and Applied Mathematics**
	University of Strasbourg

Employment

Sept 2019-present	**Lecturer**
	ENSAI Rennes & CREST
Sept 2016-Sept 2019	**Assistant Professor of Statistics**
	University of Nottingham, School of Mathematical Sciences
Sept 2012-Aug 2016	**Assistant Professor (Maître de conférences)**
	Aix-Marseille Université, Department of Economics
Sept 2012-Aug 2016	**Oral examiner in "Classes préparatoires"**
	Lycée Vauvenargues, Aix-en-Provence
Sept 2010-Aug 2012	**Oral examiner in "Classes préparatoires"**
	Lycée Kléber, Strasbourg
Sept 2009-Aug 2012	**Research and Teaching Assistant**
	University of Strasbourg, Department of Mathematics

Teaching experience

As a Lecturer at ENSAI (2019-present)

Courses taught:

- **Probability lectures, third-year undergraduate students in Mathematics with Economics (Autumn 2019-present, two semesters total)**
  Content: Random variables, random vectors, Gaussian random vectors, conditional expectation, stochastic convergences, applications in statistics.

- **Advanced Regression Models lectures and tutorials, first-year postgraduate students in Statistics (Spring 2020-present, one semester total, module taught in English)**
  Content: Local polynomial regression, partially linear models, single-index models, real data examples using R.

- **Extreme Value Theory lectures and tutorials, final-year postgraduate students in Statistics (Autumn 2020, one semester total)**
  Content: Extreme value models, estimation in and outside of heavy-tailed models, real data examples using R.

- **Parametric Inference lectures and tutorials, final-year postgraduate students in Mathematics (Autumn 2020, one semester total, module taught in English using flipped learning)**
  Content: M-estimation for continuous or convex objective functions, consistency and asymptotic normality, semiparametric extension through extreme value analysis.

I also tutor and/or supervise postgraduate students during their summer internships.

As an Assistant Professor at the University of Nottingham (2016-2019)

Courses taught:

- **Statistical Models and Methods tutorials, second-year undergraduate students in Mathematics (Autumn 2016-Autumn 2017, two semesters total)**
  Content: Classical distributions, maximum likelihood estimation, statistical testing.

- **Probability Models and Methods tutorials, second-year undergraduate students in Mathematics (Autumn 2016, one semester total)**
  Content: Random variables and vectors, marginal and conditional distributions, change-of-variables formula.

- **Statistical Inference lectures and tutorials, third-year undergraduate students in Mathematics and postgraduate students in Statistics (Autumn 2016-Autumn 2019, three semesters total)**
  Content: Sufficient/complete statistics, maximum likelihood asymptotics, hypothesis testing and Neyman-Pearson lemma, Bayesian statistics, introduction to decision theory.

- **Data Analysis and Modelling/Vocational Mathematics/Vocational Financial Mathematics workshops, full-year module, third-year undergraduate students and postgraduate students in Mathematics (Autumn 2017-Autumn 2019, two years total)**
  Content: Project module involving the application of mathematics to practical, open-ended problems close to those that mathematics graduates would encounter in industry.

As part of my teaching duties, I also tutored small groups of typically 4 to 6 first-year students during a one-hour session each week during term time. Topics included foundations of mathematics, calculus, and basic linear algebra. I was also heavily involved in undergraduate and postgraduate dissertation supervision.

I have also had the opportunity to engage in outreach, with the Nottingham Potential Summer School, for which I organised activities around random walks for Year 12 students (16-17 years old).

As an Assistant Professor at Aix-Marseille Université (2012-2016)

Courses taught:

- **Mathematics 1 lectures and tutorials, first semester of the BSc in Economics and Management (Autumn 2012-Autumn 2015, four semesters total)**
  Content: Differentiability, constrained optimisation, examples in economics.

- **Continuous Probability Models tutorials, third semester of the BSc in Mathematics Applied to Social Sciences (Autumn 2012-Autumn 2014, three semesters total)**
  Content: Continuous distributions, random vectors, change-of-variables formula.

- **Probability 2 lectures and tutorials, fourth semester of the BSc in Economics and Management (Spring 2013-Spring 2016, four semesters total)**
  Content: Discrete and continuous distributions, random vectors, conditional expectation, law of large numbers and central limit theorem.

- **Basic Econometrics lectures and tutorials, fifth semester of the BSc in Mathematics Applied to Social Sciences (Autumn 2012-Autumn 2015, four semesters total)**
  Content: Ordinary least squares, hypothesis testing, multicollinearity, heteroscedasticity, autocorrelation and their detection.

- **Mathematical Optimisation lectures and tutorials, fifth semester of the BSc in Economics and Management (Autumn 2013-Autumn 2015, three semesters total, last semester taught using flipped learning)**
  Content: Constrained optimisation, KKT conditions, convex problems.

- **Statistics lectures and tutorials, first semester of the three-year Magistère of the Aix-Marseille School of Economics programme (Autumn 2015, one semester total)**
  Content: Estimation, classical limit theorems, maximum likelihood estimation, classical testing procedures.

- **Sampling for Rare Events lectures and practicals, graduate course in the MSc in Actuarial Mathematics (Spring 2016, one semester total)**
  Content: Importance sampling. Application to the calculation of ruin probabilities.

As a PhD candidate and teaching assistant at the University of Strasbourg (2009-2012)

Courses taught:

- **Probability and Statistics tutorials, third semester of the BSc in Mathematics and of the BSc in Mathematics and Economics (2009-2011, three semesters total)**
  Content: Combinatorics, discrete and continuous distributions, conditional probability, characteristic function, limit theorems.

- **Probability and Statistics tutorials, sixth semester of the BSc in Mathematics (2011, one semester total)**
  Content: Basic inferential statistics, law of large numbers, central limit theorem.

- **Mathematical Statistics tutorials, sixth semester of the BSc in Mathematics (2010-2011, three semesters total)**
  Content: Conditional expectation, Gaussian random vectors, linear model, exponential family, Cramér-Rao lower bound.

Research activities

Research interests

My main area of research is extreme value analysis. Much of my recent work in this direction has focused on how to measure and estimate extreme risk, particularly in actuarial and financial contexts.

I am also interested in:

- Semi- and non-parametric regression.

- $M-$estimation.

- Missing data frameworks.

- Hidden Markov models.

Published papers (most recent first)

[1] Falk, M., Stupfler, G. (2021). The min-characteristic function: Characterizing distributions by their min-linear projections, *Sankhya A* **83**(1): 254–282.

[2] Church, O., Derclaye, E., Stupfler, G. (2021). Design litigation in the EU Member States: Are overlaps with other intellectual property rights and unfair competition problematic and are SMEs benefitting from the EU design legal framework?, *European Law Review* **46**(1): 37–60.

[3] Daouia, A., Girard, S., Stupfler, G. (2021). ExpectHill estimation, extreme risk and heavy tails, *Journal of Econometrics* **221**(1): 97–117.

[4] Gardes, L., Girard, S., Stupfler, G. (2020). Beyond tail median and conditional tail expectation: Extreme risk estimation using tail L^p-optimization, *Scandinavian Journal of Statistics* **47**(3): 922–949.

[5] Mitchell, E.G., Crout, N.M.J., Wilson, P., Wood, A.T.A., Stupfler, G. (2020). Operating at the extreme: Estimating the upper yield boundary of winter wheat production in commercial practice, *Royal Society Open Science* **7**(4): 191919.

[6] Daouia, A., Girard, S., Stupfler, G. (2020). Tail expectile process and risk assessment, *Bernoulli* **26**(1): 531–556.

[7] Stupfler, G. (2019). On a relationship between randomly and non-randomly thresholded empirical average excesses for heavy tails, *Extremes* **22**(4): 749–769.

[8] Daouia, A., Gijbels, I., Stupfler, G. (2019). Extremiles: A new perspective on asymmetric least squares, *Journal of the American Statistical Association* **114**(527): 1366–1381.

[9] Falk, M., Stupfler, G. (2019). On a class of norms generated by nonnegative integrable distributions, *Dependence Modeling* **7**(1): 259–278.

[10] Church, O., Derclaye, E., Stupfler, G. (2019). An empirical analysis of the design case law of the EU Member States, *International Review of Intellectual Property and Competition Law* **50**(6): 685–719.

[11] Stupfler, G. (2019). On the study of extremes with dependent random right-censoring, *Extremes* **22**(1): 97–129.

[12] Gardes, L., Stupfler, G. (2019). An integrated functional Weissman estimator for conditional extreme quantiles, *REVSTAT: Statistical Journal* **17**(1): 109–144.

[13] Daouia, A., Girard, S., Stupfler, G. (2019). Extreme M-quantiles as risk measures: From L^1 to L^p optimization, *Bernoulli* **25**(1): 264–309.

[14] El Methni, J., Stupfler, G. (2018). Improved estimators of extreme Wang distortion risk measures for very heavy-tailed distributions, *Econometrics and Statistics* **6**: 129–148.

[15] Daouia, A., Girard, S., Stupfler, G. (2018). Estimation of tail risk based on extreme expectiles, *Journal of the Royal Statistical Society: Series B* **80**(2): 263–292.

[16] Stupfler, G., Yang, F. (2018). Analyzing and predicting CAT bond premiums: A Financial Loss premium principle and extreme value modeling, *ASTIN Bulletin* **48**(1): 375–411.

[17] El Methni, J., Stupfler, G. (2017). Extreme versions of Wang risk measures and their estimation for heavy-tailed distributions, *Statistica Sinica* **27**(2): 907–930.

[18] Girard, S., Stupfler, G. (2017). Intriguing properties of extreme geometric quantiles, *REVSTAT: Statistical Journal* **15**(1): 107–139.

[19] Falk, M., Stupfler, G. (2017). An offspring of multivariate extreme value theory: The max-characteristic function, *Journal of Multivariate Analysis* **154**: 85–95.

[20] Stupfler, G. (2016). On the weak convergence of the kernel density estimator in the uniform topology, *Electronic Communications in Probability* **21**: 1–13.

[21] Stupfler, G. (2016). Estimating the conditional extreme-value index under random right-censoring, *Journal of Multivariate Analysis* **144**: 1–24.

[22] Girard, S., Stupfler, G. (2015). Extreme geometric quantiles in a multivariate regular variation framework, *Extremes* **18**(4): 629–663.

[23] Meintanis, S.G., Stupfler, G. (2015). Transformations to symmetry based on the probability weighted characteristic function, *Kybernetika* **51**(4): 571–587.

[24] Goegebeur, Y., Guillou, A., Stupfler, G. (2015). Uniform asymptotic properties of a nonparametric regression estimator of conditional tails, *Annales de l'Institut Henri Poincaré (B): Probability and Statistics* **51**(3): 1190–1213.

[25] Gardes, L., Stupfler, G. (2015). Estimating extreme quantiles under random truncation, *TEST* **24**(2): 207–227.

[26] Guillou, A., Loisel, S., Stupfler, G. (2015). Estimating the parameters of a seasonal Markov-modulated Poisson process, *Statistical Methodology* **26**: 103–123.

[27] Stupfler, G. (2014). On the weak convergence of kernel density estimators in L^p spaces, *Journal of Nonparametric Statistics* **26**(4): 721–735.

[28] Gardes, L., Stupfler, G. (2014). Estimation of the conditional tail index using a smoothed local Hill estimator, *Extremes* **17**(1): 45–75.

[29] Girard, S., Guillou, A., Stupfler, G. (2014). Uniform strong consistency of a frontier estimator using kernel regression on high order moments, *ESAIM: Probability and Statistics* **18**: 642–666.

[30] Stupfler, G. (2013). A moment estimator for the conditional extreme-value index, *Electronic Journal of Statistics* **7**: 2298–2343.

[31] Guillou, A., Loisel, S., Stupfler, G. (2013). Estimation of the parameters of a Markov-modulated loss process in insurance, *Insurance: Mathematics and Economics* **53**(2): 388–404.

[32] Girard, S., Guillou, A., Stupfler, G. (2013). Frontier estimation with kernel regression on high order moments, *Journal of Multivariate Analysis* **116**: 172–189.

[33] Girard, S., Guillou, A., Stupfler, G. (2012). Estimating an endpoint with high order moments in the Weibull domain of attraction, *Statistics and Probability Letters* **82**(12): 2136–2144.

[34] Girard, S., Guillou, A., Stupfler, G. (2012). Estimating an endpoint with high-order moments, *TEST* **21**(4): 697–729.

Accepted papers

[35] Daouia, A., Gijbels, I., Stupfler, G. (2021). Extremile regression, to appear in *Journal of the American Statistical Association*.

[36] Girard, S., Stupfler, G., Usseglio-Carleve, A. (2020). Nonparametric extreme conditional expectile estimation, to appear in *Scandinavian Journal of Statistics*.

Preprints (submitted or under revision)

Thompson, A., Southon, N., Fern, F., Stupfler, G., Leach, R. (2021). Efficient empirical determination of maximum permissible error in coordinate metrology.

Kaibuchi, H., Kawasaki, Y., Stupfler, G. (2021). GARCH-UGH: A bias-reduced approach for dynamic extreme Value-at-Risk estimation in financial time series.

Girard, S., Stupfler, G., Usseglio-Carleve, A. (2021). Functional estimation of extreme conditional expectiles.

Girard, S., Stupfler, G., Usseglio-Carleve, A. (2020). On automatic bias reduction for extreme expectile estimation.

Padoan, S.A., Stupfler, G. (2020). Joint inference on extreme expectiles for multivariate heavy-tailed distributions.

Padoan, S.A., Stupfler, G. (2020). Extreme expectile estimation for heavy-tailed time series.

Girard, S., Stupfler, G., Usseglio-Carleve, A. (2020). Extreme conditional expectile estimation in heavy-tailed heteroscedastic regression models.

Girard, S., Stupfler, G., Usseglio-Carleve, A. (2019). An L^p-quantile methodology for tail index estimation.

Software development

R package `ExtremeRisks`, on the estimation of extreme risk measures in time-dependent contexts. Available at `https://cran.r-project.org/web/packages/ExtremeRisks/index.html`. Joint work with S.A. Padoan.

Talks at international conferences and workshops (most recent first)

2022:   *Workshop on New Developments in Econometrics and Time Series*, Rennes, France (**invited talk**)

   5th Conference of the International Society for Non-Parametric Statistics, Paphos, Cyprus (**invited talk**)

2021:   *4th International Conference on Econometrics and Statistics*, online conference (**invited talk**)

   ATMS network meeting, TBA (**invited talk**)

   3rd Insurance Data Science Conference, en ligne

   14th Financial Risks International Forum, online conference

2020:   *13th International Conference of the ERCIM WG on Computational and Methodological Statistics*, online conference (**invited talk**)

   Bernoulli-IMS One World Symposium 2020, online conference

2019:   *12th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, UK (**invited talk**)

   32nd European Meeting of Statisticians, Palermo, Italy

   2nd Workshop on Multivariate Data and Software, Limassol, Cyprus (**invited talk**)

2018:   *11th International Conference of the ERCIM WG on Computational and Methodological Statistics*, Pisa, Italy (**invited talk**)

   Recent advances in the statistical analysis of extreme environmental and actuarial risk, Nottingham, UK (**invited talk**)

2017: *10th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, UK (**invited talk**)

31st European Meeting of Statisticians, Helsinki, Finland (**invited talk**)

2016: *9th International Conference of the ERCIM WG on Computational and Methodological Statistics*, Seville, Spain (**invited talk**)

3rd Conference of the International Society for Non-Parametric Statistics, Avignon, France (**invited talk**)

Workshop on Extremes, Copulas and Actuarial Science, Luminy, France (**invited talk**)

2015: *8th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, UK (**invited talk**)

9th Conference on Extreme Value Analysis, Probabilistic and Statistical Models and their Applications, Ann Arbor, Michigan, USA (**invited talk**)

2014: *8th International Conference on Computational and Financial Econometrics*, Pisa, Italy (**invited talk**)

Workshop on Extreme Value Theory, with an emphasis on spatial and temporal aspects, Besançon, France (**invited talk**)

46èmes Journées de Statistique, Rennes, France

2013: *10èmes Journées de Statistique de Rennes*, Rennes, France (**invited talk**)

45èmes Journées de Statistique, Toulouse, France

2012: *44èmes Journées de Statistique*, Brussels, Belgium

2011: *7th Conference on Extreme Value Analysis, Probabilistic and Statistical Models and their Applications*, Lyon, France

Invited seminars (most recent first)

2021: Aix-Marseille Université, University of Lorraine, University of Vienna, INRIA Lille Nord Europe, University of Angers, Collegio Carlo Alberto

2020: University of Southern Brittany, University of Grenoble

2019: University of Cardiff, Ecole Polytechnique, ENSAI Rennes, Université Libre de Bruxelles

2018: Ecole Polytechnique Fédérale de Lausanne

2017: KU Leuven, University of Newcastle, University of Nottingham, University of Reading

2016: Aix-Marseille Université, University of Nottingham, University Paris Descartes

2015: University of Aveiro, University Paris Descartes, Toulouse School of Economics

2014: University of Strasbourg

2013: Aix-Marseille Université, University of Grenoble

2012: University of Grenoble, University of Lyon I, University of Montpellier, University of Nancy, INSA Toulouse, Toulouse School of Economics

2011: University of Strasbourg, ISFA Lyon

Academic visits (most recent first)

April 2019: One week at *Bocconi University (Milan)* visiting Simone Padoan. Sponsored by a University of Nottingham internal grant (**£2,000**).

March and May 2018: Two weeks at the *Toulouse School of Economics* and one week at *KU Leuven* visiting Abdelaati Daouia and Irène Gijbels. Sponsored by a University of Nottingham internal grant (**£2,000**).

January 2015: One week at the *University of Aveiro (Portugal)* visiting Cláudia Neves. Sponsored by project DEXTE, coordinated by Cláudia Neves and financed by the Portuguese Foundation of Science and Technology (**€34,000**).

I have also made several one-week long research visits, not attached to grant funding, to the Université Paris Descartes (visiting Jonathan El Methni), INRIA Grenoble Rhône-Alpes (visiting Stéphane Girard) and ISFA Lyon (visiting Stéphane Loisel).

Engagement with non-academic stakeholders

My work with Estelle Derclaye on the statistical analysis of legal decisions has led to several meetings with the European Commission and the UK Intellectual Property Office (in 2018, 2019 and 2020), during we discussed the impact of European Union policy decisions on intellectual property litigation across the European Union. This led to our work being cited several times in the 2020 *Report on the evaluation of EU legislation on design protection* published by the European Commission and available at https://ec.europa.eu/docsroom/documents/43705.

Supervision activities

PhD supervision:

- Malvina Bozhidarova (October 2020-present, University of Nottingham, joint supervisors: Reuben O'Dea, Frank Ball and Yves van Gennip). Project title: *Statistical analysis of risk, failure, and extreme event propagation in the airline industry using multi-level networks.* EPSRC CASE studentship in partnership with the private company Russell Group Ltd. (Nottingham, UK).

- Abdul Haris Jameel (October 2019-present, University of Nottingham, joint supervisors: Chris Brignell, Chris Fallaize and Joachim Grevel). Project title: *New analytical and simulation tools in clinical oncology.* PhD studentship financed by BAST Inc. Ltd. (Loughborough, UK).

- Emily Mitchell (October 2016-present, University of Nottingham, joint supervisors: Neil Crout, Paul Wilson and Andrew Wood). Project title: *Statistical analysis of agricultural soils climate data to aid food security under environmental change.* PhD studentship funded by the Leverhulme Trust. Project selected for a poster presentation at the House of Commons during the STEM for Britain 2018 event.

Postdoctoral supervision:

- Boutheina Nemouchi (January 2021-present, ENSAI & CREST). Project title: *Tail risk management and mitigation using innovative extreme value techniques.* Funded by AXA.

- Antoine Usseglio-Carleve (October 2018-September 2020, INRIA Grenoble Rhône-Alpes, joint supervisor: Stéphane Girard; then October 2020-present, ENSAI & CREST, joint supervisor: Abdelaati Daouia). Project titles: *Estimation of extreme risk measures with covariate information* and *Tail risk estimation across time and space.* Funded by EDF and the ANR.

Informal PhD supervision:

- Yasser Abbas (PhD student at the Toulouse School of Economics, on a 3-year studentship from January 2020, lead PhD supervisor: Abdelaati Daouia). Project title: *A new perspective on M-quantile regression: From L^1 to L^p optimization.*

- Hibiki Kaibuchi (PhD student at SOKENDAI, Tokyo on a 3-year studentship from April 2018, lead PhD supervisor: Yoshinori Kawasaki). Project title: *A bias-reduced GARCH-EVT approach for financial risk estimation.*

Graduate internship/MSc level supervision:

- 2020-2021: Brandon Saintilan (*Statistical analysis of data linked to the Covid-19 pandemic*).

- 2019-2020: Yves Amevoin (*On the behaviour and estimation of extreme M-quantiles*), Brice Camel Tifa Netague (*Volatility estimation for financial time series*) and Aurélie Manaa Gonta (*Statistical estimation of the intensity of financial crises*).

- 2016-2019: Supervision of 24 MSc student dissertations.

Summer undergraduate internship supervision:

- 2018-2019: Qianlu Zhou (*Extreme quantile estimation with dependent censoring*), on a 8-week LMS-funded internship.

- 2017-2018: Jay Chawda (*Estimating extreme conditional quantiles with big data*), on an 8-week LMS-funded internship, and Oliver Church (*An empirical analysis of the effect of case law on the creation of designs*), on a 10-week internship funded with an internal grant.

- 2016-2017: Daniel Brown (*Assessing and handling stochastic variability in the extremes of a data set*), on a 10-week EPSRC-funded internship.

Funding/Grants (exceeding €10,000)

February 2021: *ESRC Impact Acceleration Account grant* (co-I), "An empirical analysis of EU copyright law's limits in the Member States' case law" (**£9,450**)

July 2020: *AXA Research Fund Flash call on Covid-19* (PI), "Tail risk management and mitigation using innovative extreme value techniques" (**€100,000**)

July 2019: *French ANR grant* (co-I), "ExtremReg: Extremal Regression with applications to econometrics, environment and finance" (**€159,000**)

November 2018: *Industrial PhD funding* (co-PI), "New analytical and simulation tools in clinical oncology" (**£100,000**)

June 2017: *RPA Development Fund internal grant* (co-PI), "An empirical analysis of the effect of EU Member States case law on the creation of designs in the EU" (**£23,912**)

May 2017: *EPSRC CASE funding* (co-PI), "Statistical analysis of risk, failure, and extreme event propagation in the airline industry using multi-level networks" (**£109,852**)

I have also been awarded numerous travel grants, bursaries for summer internships, and small seed funding grants from a variety of sources such as the French *Société Française de Statistique*, the *Elsevier Mathematical Sciences Sponsorship Fund*, European *COST* actions, the *London Mathematical Society*, the UK *EPSRC...*

Awards/Honours

June 2012: Thesis prize, *University of Strasbourg* (**€1,500**)

Academic and administrative service

As a Lecturer at ENSAI (2019-present)

- Since November 2020, I am an elected member of the Executive Board of GENES, which is the parent group of ENSAI and ENSAE.

- I am a member of the Admissions team for the MSc in Mathematical Statistics.

- I am ENSAI's Sustainable Development Officer and chair of the Sustainable Development committee (from Autumn 2019), and a member of CREST's Sustainable Development group. I am also ENSAI's representative in the local Sustainable Development (CRICDD) group, made of eleven institutions across all campuses in the Rennes area, and I manage the mailing list of that group.

As an Assistant Professor at the University of Nottingham (2016-2019)

- I was the Course Director of the BSc in Statistics, as well as of the BSc in Data Science run in partnership with the School of Computer Science.

- I was the organiser of the weekly research seminar of the Statistics and Probability group in the School of Mathematical Sciences.

As an Assistant Professor at Aix-Marseille Université (2012-2016)

- I served (in June 2016) as a member of the recruitment panel for a specialised teaching position in Mathematics.

- I was an elected member of the faculty board within the Economics and Management department.

- I served (in 2014) as a member of the faculty committee which re-designed the mathematical content of the BSc in Economics and Management and I then coordinated the first-year, first-semester courses in Mathematics and Microeconomics.

Academic community service

I am the creator and current editor of the Extreme Value Analysis newsletter. This newsletter, launched in June 2020 and which one can freely subscribe to by emailing directly e.v.analysis.news@gmail.com, is written for the worldwide academic extreme value community, and includes regular information about conferences, workshops, events as well as offers for PhD and post-doctoral fellowships in the area of probabilistic and statistical extreme value analysis. It currently has more than 300 subscribers.

Organised sessions at conferences/committee membership

I am among the original members of the organising committee of the *One World Extremes Seminar*, a series of livestreamed research talks on extreme value analysis taking place online approximately once per month from late June 2020. Speakers have included Johan Segers, Gennady Samorodnitsky and Claudia Klüppelberg.

I was part of the organising committee of the *43rd Research Students' Conference in Probability and Statistics*, which took place place online on Tuesday 21st July 2020 (due to the COVID-19 pandemic).

I was the organiser of the one-day workshop *Recent advances in the statistical analysis of extreme environmental and actuarial risk*, which took place on 10th July 2018 at the University of Nottingham.

I have organised or am organising **invited sessions** of talks at the following international conferences:

- *14th International Conference of the ERCIM WG on Computational and Methodological Statistics*, online session, December 2021.

- *12th Conference on Extreme Value Analysis, Probabilistic and Statistical Models and their Applications*, online conference, June 2021.

- *13th International Conference of the ERCIM WG on Computational and Methodological Statistics*, online conference, December 2020.

- *12th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, UK, December 2019.

- *32nd European Meeting of Statisticians*, Palermo, Italy, July 2019.

- *2nd Workshop on Multivariate Data and Software*, Limassol, Cyprus, April 2019.

- *11th International Conference of the ERCIM WG on Computational and Methodological Statistics*, Pisa, Italy, December 2018. I was also a member of the Scientific Programme Committee for this meeting.

- *10th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, UK, December 2017.

- *9th International Conference of the ERCIM WG on Computational and Methodological Statistics*, Seville, Spain, December 2016.

Reviewing duties

I was an external examiner for the PhD theses of:

- Nicholas Beck, *Quantifying extreme multivariate risks with environmental applications* (McGill University, PhD supervisors: Christian Genest and Mélina Mailhot), December 2020.

- Timo Fuller, *Contributions to the Multivariate Max-Domain of Attraction* (University of Würzburg, PhD supervisor: Michael Falk), February 2020.

I have reviewed papers for *Annals of the Institute of Statistical Mathematics, Annals of Statistics, AStA Advances in Statistical Analysis, Bernoulli, Biometrika, Communications in Statistics: Simulation and Computation, Communications in Statistics: Theory and Methods, Computational Statistics and Data Analysis, Econometrics and Statistics, Economic Modelling, Electronic Journal of Statistics, Extremes, Insurance: Mathematics and Economics, Journal of Business & Economic Statistics, Journal of the Korean Statistical Society, Journal of Multivariate Analysis, Journal of Nonparametric Statistics, Journal of the Royal Statistical Society: Series B, Journal of Statistical Planning and Inference, Journal of Statistical Computation and Simulation, Journal of Statistical Theory and Practice, Mathematical Biosciences, Metrika, Proceedings of the Royal Society of Edinburgh Section A, Quantitative Finance, REVSTAT: Statistical Journal, Sankhya B, Scandinavian Actuarial Journal, Scandinavian Journal of Statistics, Soft Computing, South African Statistical Journal, Statistica Sinica, Statistics, Statistics and Computing, Statistics & Probability Letters, Statistics & Risk Modeling* and *TEST*.

I also reviewed a book for Springer in 2016.

I am currently a reviewer for the Mathematical Reviews of the AMS.

Membership of professional societies

I am a Fellow of the UK Higher Education Academy and a member of the Société Française de Statistique.