

Simone A. Padoan, PhD

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Nationality	Italian	Date	09/05/2024

Current Academic Position

2020-Present **Associate Professor**, Department of Decision Sciences, Bocconi University, Milan, Italy.

2016-Present **Research Fellow**, Bocconi Institute of Data Science and Analytics (BIDSA), Bocconi University, Milan, Italy.

2020-Present **Research Fellow**, Euro-Mediterranean Center on Climate Change (CMCC), research division Risk Assessment and Adaptation Strategies (RAAS).

2021-Present **Research Fellow**, Centre for Research on Geography, Resources, Environment, Energy & Network, Bocconi University, Milan, Italy.

2023-Present **Research Fellow**, Institute for European Policymaking, Bocconi University, Milan, Italy.

Past Academic Positions

2012-2020 **Assistant Professor**, Department of Decision Sciences, Bocconi University, Milan, Italy.

2011-2012 **Senior Researcher**, Department of Statistical Sciences, University of Padua, Italy.

2011-2011 **Research Assistant**, Department of Information Technology and Statistics, University of Bergamo, Italy.

2008-2010 **Post-Doctoral Researcher**, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland.

Education

2005-2008 **PhD in Statistical Sciences**, from the PhD school of Statistical Sciences, University of Padua, Italy. Thesis: *Computational Methods for Complex Problems in Extreme Value Theory*. Advisor: Professor Stuart Coles.

2002-2004 **MSc in Statistical Sciences**, from the Department of Statistics, University of Padua, Italy. Thesis: *LANDSIM: A Discrete Events Model for the Simulation of the Airport Terminal*. Advisor: Professor Giovanni Andreatta.

2000-2002 **BSc in Statistics**, from the Department of Statistics, University of Padua, Italy.

Awards

2018-2028 Qualification of **Full Professor (sector 13/D1)**, from the Italian Minister of Education, University and Research.

2014-2020 Qualification of **Associate Professor (sector 13/D1)**, from the Italian Minister of Education, University and Research.

2016 **Excellence in Research Award**, Bocconi University, Milan, Italy.

2007 **Best Student Presentation Award, first prize**. Conference TIES 2007, The International Environmetrics Society (TIES), Mikulov, Czech Republic.

Publications

Articles in Refereed Journals

1. Daouia A., **Padoan, S. A.** and Stupfler, G. (2024). Extreme Expectile Estimation for Short-tailed Data with an Application to Market Risks. **Journal of Econometrics**, accepted, see <https://arxiv.org/abs/2210.02056>.
2. **Padoan, S. A.** and Rizzelli, S. (2024). Empirical Bayes Inference for the Block Maxima Method. **Bernoulli**, **30**(3), 2154-2184.
3. **Padoan, S. A.** and Rizzelli, S. (2024). Strong Convergence of Peaks Over a Threshold. **Journal of Applied Probability**, **61**(2), 529-539.
4. Daouia, A., **Padoan, S. A.** and Stupfler, G. (2024). Optimal Pooling and Distributed Inference for the Tail Index and Extreme Quantiles. **Bernoulli**, **30**(2), 1287-1312.
5. Davison, A. C., **Padoan, S. A.** and Stupfler, G. (2023). Tail Risk Inference via Expectiles in Heavy-tailed Time Series. **Journal of Business & Economic Statistics** **41**(3), 876-889.
6. **Padoan, S. A.** and Rizzelli, S. (2022). Consistency of Bayesian Inference for Multivariate Max-stable Distributions. **Annals of Statistics**, **50**(3) 1490-1518.
7. **Padoan, S. A.** and Stupfler, G. (2022). Joint Inference on Extreme Expectiles for Multivariate Heavy-tailed Distributions. **Bernoulli**, **28**(2), 1021-1048.
8. Drouet, L., Bosetti, V., **Padoan, S. A.** et al. (2021). Net Zero Emission Pathways Reduce the Physical and Economic Risks of Climate Change. **Nature Climate Change**, **11**, 1070–1076.
9. Hashorva, E., **Padoan, S. A.** and Rizzelli, S. (2021). Multivariate Extremes Over a Random Number of Observations. **Scandinavian Journal of Statistics**, **48**(3), 845-880.
10. Beranger, B., **Padoan, S. A.** and Sisson, S. A. (2021). Estimation and Uncertainty Quantification for Extreme Quantile Regions. **Extremes**, **24**, 349-375.
11. Falk, M., **Padoan, S. A.** and Rizzelli, S. (2020). Strong Convergence of Multivariate Maxima. **Journal of Applied Probability**, **57**, 314-331.
12. Falk, M., Khorrami, A. and **Padoan, S. A.** (2020). Records for Time-Dependent Stationary Gaussian Sequences. **Journal of Applied Probability**, **57**, 78-96.
13. Falk, M., **Padoan, S. A.** and Wisheckel, F. (2019). Generalized Pareto Copulas: a Key to Multivariate Extremes. **Journal of Multivariate Analysis**, **174**, 104538 .
14. Beranger, B., **Padoan, S. A.**, Xu, Y. and Sisson, S. A. (2019). Extremal Properties of the Multivariate Extended Skew-Normal Distribution. **Statistics and Probability Letters**, **147**, 105–114.
15. Falk, M., **Padoan, S. A.** and Wisheckel, F. (2019). Conditional Tail Independence in Archimedean Copula Models. **Journal of Applied Probability**, **56**(3), 858-869.
16. Beranger, A., **Padoan, S. A.**, Xu, Y. and Sisson, S. A. (2019). Extremal Properties of the Univariate Extended Skew-normal Distribution. **Statistics and Probability Letters**, **147**, 73–82.
17. Guillou, A., **Padoan, S. A.** and Rizzelli, S. (2018). Inference for Asymptotically Independent Sample of Extremes. **Journal of Multivariate Analysis**, **167**, 114–135.
18. Falk, M., Khorrami, A. and **Padoan, S. A.** (2018). Some Results on Joint Record Events. **Statistics and Probability Letters**, **135**, 11–19.
19. Falk, M., Khorrami, A. and **Padoan, S. A.** (2018). On Multivariate Records from Random Vectors with Independent Components. **Journal of Applied Probability**, **55**(1), 43–53.
20. Beranger, B., **Padoan, S. A.** and S. A. Sisson (2017). Models for Extremal Dependence Derived from Skew-Symmetric Families. **Scandinavian Journal of Statistics**, **44**, 21–45.
21. Marcon, G., **Padoan, S. A.**, Naveau P, Muliere P and J. Segers (2017). Multivariate Nonparametric Estimation of the Pickands Dependence Function using Bernstein Polynomials. **Journal of Statistical Planning and Inference**, **183**, 1–17.

22. Marcon, G., Naveau P. and **Padoan, S. A.** (2017). A Semi-Parametric Stochastic Generator for Bivariate Extreme Events. **Stat**, **6**, 184–201.
23. Marcon, G., **Padoan, S. A.** and Antoniano-Villalobos, I. (2016). Bayesian Inference for the Extremal Dependence. **Electronic Journal of Statistics**, **10**, 3310–3337.
24. Genton, M. G., **Padoan, S. A.** and Sang, H. (2015). Multivariate Max-Stable Spatial Processes. **Biometrika**, **102**(1), 215–230.
25. **Padoan, S. A.** and Bevilacqua, M. (2015) Analysis of Random Fields with CompRandFld. **Journal of Statistical Software**, **63**, 1–27.
26. **Padoan, S. A.** (2013). Extreme Dependence Models Based on Event Magnitude. **Journal of Multivariate Analysis**, **122**, 1–19.
27. Davison, A. C., **Padoan, S. A.** and Ribatet, M. (2012). Statistical Modelling of Spatial Extremes, with discussion. **Statistical Science**, **27**(2), 161–186.
28. Wand, M. P., Ormerod, J. T., **Padoan, S. A.** and Frühwirth, R. (2011). Mean Field Variational Bayes for Elaborate Distributions. **Bayesian Analysis**, **6**(4), 847–900.
29. **Padoan, S. A.** (2011). Multivariate Extreme Models Based on Underlying Skew-t and Skew-Normal Distributions. **Journal of Multivariate Analysis**, **102**, 977–991.
30. Simoni, S., **Padoan, S. A.**, Nadeau, D. F., Diebold, M., Porporato, A., Barrenetxea, G., Ingelrest, F., Vetterli, M., and Parlange, M. B. (2011). Hydrologic Response of an Alpine Watershed: Application of a Meteorological Wireless Sensor Network to Understand Streamflow Generation. **Water Resources Research**, **47**(W10524), 1–16.
31. **Padoan, S. A.**, Ribatet, M. and Sisson, S. A. (2010). Likelihood-based Inference for Max-Stable Processes. **Journal of the American Statistical Association, Theory & Methods**, **105**, 263–277.
32. **Padoan, S. A.** and Wand, M. P. (2008). Mixed Model-Based Additive Models for Sample Extremes. **Statistics and Probability Letters**, **78**, 2850–2858.

Books, Monographs and Book Chapters

33. Levin, D. C., **Padoan, S. A.** and Stefano Rizzelli (2024). *Measures of extremal dependence*, pages xx-xx, chapter of the book: “Handbook on Statistics of Extremes”, Edited by Miguel de Carvalho, Raphael Huser, Philippe Neveau and Brian J. Reich, **Chapman Hall/CRC**.
34. Beranger, B. and **Padoan, S. A.** (2015). *Extreme Dependence Models*, pages 325-352, chapter of the book: “Extreme value Modeling and Risk Analysis: Methods and Applications”, Edited by Dipak K and Jun Yan, **Chapman Hall/CRC**.
35. **Padoan S. A.** (2013) *Max-Stable Processes*, in **Encyclopedia of Environmetrics**, A. -H. El-Shaarawi and W. Piegorsch (eds), John Wiley & Sons Ltd: Chichester, UK. DOI:10.1002/9780470057339.vnn022. Published online 1/15/2013.
36. **Padoan S. A.** (2013) *Extreme Value Analysis*, in **Encyclopedia of Environmetrics**, A. -H. El-Shaarawi and W. Piegorsch (eds), John Wiley & Sons Ltd: Chichester, UK. DOI:10.1002/9780470057339.vae061.pub2. Published online 1/15/2013.
37. **Padoan S. A.** (2008) *Computational Methods for Complex Problems in Extreme Value Theory*, PhD thesis, University of Padua. <http://paduaresearch.cab.unipd.it/1047/>.

Conference Proceedings, Notes and Discussions

38. Gaetan, C., **Padoan, S. A.** and Prunster, I. (2016). Comment on the article “Spatial Product Partition Models” by Page, G. L. and Quintana, F. A. **Bayesian Analysis**, **11**(1), 307-314 (invited discussion).
39. **Padoan, S. A.** (2011). Valori Estremi e Analisi dei Rischi Ambientali. **Sis-Magazine - Online Magazine of the Italian Statistics Society (Società Italiana di Statistica)**, <http://www.sis-statistica.it/magazine/spip.php?article199>.

40. **Padoan, S. A.** and Fassó, A. (2011). Multivariate and Apatial Extremes for the Analysis of Air Quality Data. Proceedings of **Spatial 2**, Spatial Data Methods for Environmental and Ecological Processes – 2nd Edition, Foggia, Sept. 1–2, 2011. Printed in Graspa WP, www.graspa.org, ISSN: 2037-7738.

Submitted Papers

41. **Padoan, S. A.** and Rizzelli, S. (2023). **Statistical Prediction of Peaks Over a Threshold**. *Under Revision*. See <https://arxiv.org/abs/2311.11852>.
42. Dombry, C., **Padoan, S. A.** and Rizzelli, S. (2023). **Asymptotic Theory for Bayesian Inference and Prediction: from the Ordinary to a Conditional Peaks-Over-Threshold Method**. *Under Revision*. See <https://arxiv.org/pdf/2310.06720>.
43. **Padoan, S. A.**, Rizzelli, S. and Schiavone, M. (2023). **Marginal Expected Shortfall Inference Under Multivariate Regular Variation**. *Under Revision*. See <https://arxiv.org/abs/2304.07578>.

Preprint

44. Falk, M., Khorrami, A. and **Padoan, S. A.** (2019). **Records for Some Stationary Dependent Sequences**. See <http://arxiv.org/abs/1807.00337>.

Software

1. R package **CompRandFld** (Composite Likelihood for Random Fields). Available in The Comprehensive R Archive Network, at the address: <https://CRAN.R-project.org/package=CompRandFld>.
Description: Procedures for the analysis of random fields using likelihood and non-standard likelihood methods. Spatial analysis often involves dealing with large datasets. So, even simple studies may be computationally demanding. Composite likelihood inference is emerging as a useful tool for mitigating such computational problems. This methodology shows satisfactory results when compared with other techniques such as apering. Moreover, composite likelihood (and related quantities) have some useful properties similar to those of the standard likelihood.
2. R package **ExtremalDep** (Extremal Dependence). Available in The Comprehensive R Archive Network, at the address: <https://CRAN.R-project.org/package=ExtremalDep>.
Description: Procedures for modelling parametrically and non-parametrically the dependence structure of multivariate extreme-values. Statistical inference is performed with non-parametric estimators, likelihood-based estimators and Bayesian techniques.
3. R package **ExtremeRisks** (Extreme Risk Measures). Available in The Comprehensive R Archive Network, at the address: <https://CRAN.R-project.org/package=ExtremeRisks>.
Description: Procedures for estimating risks related to extreme events via risk measures such as expectiles, value-at-risk, etc. Estimation methods for univariate independent observations and temporal dependent observations are available. Statistical inference is performed through parametric and non-parametric estimators. Inferential procedures such as confidence intervals and hypothesis testing are obtained by exploiting the asymptotic theory.

Citation Counts for Statistics Publications

H-Index 15, *Source from Google Scholar (citations) on date 09/05/2024.

Research Interests

Extreme Value Theory, Time series, Spatial Statistics, Applied Probability, Nonparametric Statistics, Likelihood-based Inference, Bayesian Statistics.

Publications	times cited
Davison, Padoan & Ribatet (2012), <i>Statistical Science</i>	699
Padoan, Ribatet & Sisson (2010), <i>Journal of the American Statistical Association</i>	480
Wand et al. (2011), <i>Bayesian Analysis</i>	212
Simoni et al. (2011), <i>Water Resources Research</i>	66
Marcon et al. (2017), <i>Journal of Statistical Planning and Inference</i>	65
Drouet, Bosetti, Padoan, et al (2021), <i>Nature Climate Change</i>	61
Padoan (2011), <i>Journal of Multivariate Analysis</i>	59
Genton, Padoan & Sang (2015), <i>Biometrika</i>	51
Padoan & Bevilacqua (2015), <i>Journal of Statistical Software</i>	46
Padoan & Wand (2008), <i>Statistics and Probability Letters</i>	38
Padoan (2013), <i>Journal of Multivariate Analysis</i>	27
Beranger, Padoan & Sisson (2016), <i>Scandinavian Journal of Statistics</i>	17
Davison, Padoan and Stupfler (2023), <i>Journal of Business & Economic Statistics</i>	17
Falk et al. (2019), <i>Journal of Multivariate Analysis</i>	16
Beranger & Padoan (2016), <i>Chapman Hall/CRC</i>	15
Marcon et al. (2016), <i>Electronic Journal of Statistics</i>	15
Padoan and Stupfler (2022), <i>Bernoulli</i>	12
⋮	⋮
Total	2014

Conference Organization, Presentations and Seminars

Invited Talks

- 16-18 December 2023, **Asymptotic Theory for Bayesian Inference and Prediction: from the Ordinary to a Conditional Peaks-Over-Threshold Method**, the 16th International Conference of the ERCIM WG on Computational and Methodological Statistics, University of Applied Science, Berlin, Germany.
- 12-15 September 2023, **An Introduction to Extreme Value Theory: from Basic Results to Tail Risk Inference in Time Series**, workshop COSMOSTATS 2023, the connection between cosmology and statistics, Asiago Observatory, Italy.
- 1-3 August 2023, **Bayesian Inference and Probabilistic Forecasting for the Peaks Over Threshold Approach**, 6th International Conference on Econometrics and Statistics. Waseda University, Tokyo, Japan.
- 4-8 July 2022, **Empirical Bayes Inference for the Block Maxima Method**, CIRM Workshop on Heavy Tails, Long-Range Dependence, and Beyond. Held in Luminy, France.
- 4-6 June 2022, **Tail Risk Inference via Expectiles in Heavy-tailed Time Series**, Ryukoku University, Kyoto, Japan.
- 11-16 July 2021, **Extreme Expectile Estimation for Heavy-tailed Time Series**, ISI World Statistics Congress 2021, virtual conference.
- 28 June - 2 July 2021, **Joint Inference on Extreme Expectiles for Multivariate Heavy-tailed Distributions**, Extreme Value Analysis 2021 conference, virtual conference hosted by the university of Edinburgh.
- 24-26 June 2021, **A Unified Approach for the Estimation of Some Important Risk Measures**, 4th International Conference on Econometrics and Statistics, virtual conference hosted by the Hong Kong University of Science and Technology, Hong Kong.
- 19-21 December 2020, **Joint inference on extreme expectiles for multivariate heavy-tailed distributions**, the 13th International Conference of the ERCIM WG on Computational and Methodological Statistics, Senate House, University of London, UK.

10. 14–16 December 2019, **Extreme Expectile Estimation for Heavy-tailed Time Series**, the 10th International Conference of the ERCIM WG on Computational and Methodological Statistics, Senate House, University of London, UK.
11. 22–26 July 2019, **Nonparametric Bayesian Estimation of the Extremal Dependence**, European Meeting of Statisticians, University of Palermo, Italy.
12. 17–20 June 2019, **Nonparametric Bayesian Estimation of the Extremal Dependence**, Second Italian Meeting of Probability and Mathematical Statistics, Salerno, Italy.
13. 14–16 December 2018, **Generalized Pareto Copulas: A Key to Multivariate Extremes**, the 11th International Conference of the ERCIM WG on Computational and Methodological Statistics, University of Pisa, Pisa, Italy.
14. 11–15 June 2018, **On the Random Number of Multivariate Risks**, the 4th Conference of the International Society for Nonparametric Statistics, Salerno, Italy.
15. 16–18 December 2017, **On the Random Number of Multivariate Risks**, the 10th International Conference of the ERCIM WG on Computational and Methodological Statistics, Senate House, University of London, UK.
16. 24–28 July 2017, **Multivariate Nonparametric Estimation of the Pickands Dependence Function: Asymptotic Dependence and Independence Cases**, 39th Conference of Stochastic Processes and Applications, Moscow, Russia.
17. 23–26 August 2016, **The Use of Bernstein Polynomials for Modelling the Extremal Dependence**, 22nd International Conference of Computational Statistics, Oviedo, Spain.
18. 25–28 April 2016, **Modelling the Extremal Dependence with Bernstein Polynomials**, Workshop Uncertainty and Causality Assessment in Modeling Extreme and Rare Events, NCAR, Boulder, Colorado, US.
19. 26–31 July 2015, **Extremes of Skew-Symmetric Distributions**, 60th World Statistics Congress ISI, Rio De Janeiro, Brasil.
20. 15–19 June 2015, **Extremes of Skew-Symmetric Distributions**, The 9th International Conference of Extreme Value Analysis 2015 (EVA 2015), University of Michigan, Ann Arbour, United States.
21. 8–10 March 2014, **Multivariate Spatial Extremes**, Workshop on Spatial Statistics for Environmental and Energy Challenges, Kaust, Saudi Arabia.
22. 8–11 September 2013, **Multivariate Spatial Extremes**, EVT2013 Extremes in Vimiero Today. Workshop in honor of Ivette Gomes. Vimiero, Portugal.
23. 22–27 April 2012, **Composite Likelihood for Random Fields, R Package CompRndFld**, BIRS Composite Likelihood Workshop, Banff International Research Station for Mathematical Innovation and Discovery, Canada.
24. 22–27 April 2012, **Extreme Dependence Models Based on Event Magnitude**, BIRS Composite Likelihood Workshop, Banff International Research Station for Mathematical Innovation and Discovery, Canada.
25. 6–9 June 2011, **Modelling of Spatial Extremes**. 3rd Nordic-Baltic Biometric Conference. Statistics Unit, University of Turku and Department of Mathematics, Abo Akademi University, Finland.
26. 16–19 May 2011, **Multivariate Extreme Models Based on Underlying Skew-t and Skew-Normal Distributions**. IV Skew Workshop, Probabilistic and Inferential Aspects of Skew-Symmetric Models. A Workshop in Honor of Adelchi Azzalini's 60th Birthday. Faculty of Mathematics, Pontificia Catholic University of Chile, Santiago, Chile.
27. 5–9 July 2010, **Composite Likelihood for Random Fields: Rainfall Applications**. International Symposium on Business and Industrial Statistics. Portorose, Slovenia.
28. 5–9 July 2009, **Modelling of Spatial Extremes**. The 20th Annual Conference of The International Environmental Society. Department of Statistics "Paolo Fortunati" University of Bologna, Italy.
29. 13–17 July 2009, **Modelling of Spatial Extremes. Risk, Rare Events and Extremes**. Bernoulli Centre, Ecole Polytechnique Fédérale de Lausanne, Switzerland.

Contributed Talks

30. 30 June – 02 July 2010, **Multivariate Extremes and Related Processes**. Fifth International Workshop on Spatio-Temporal Modelling (METMAV). Department of Statistics and Operations Research of the University of Santiago de Compostela, Spain.
31. 17–21 March 2010, **Multivariate Extremes and Related Processes**. Spring School of Toledo: Advances and Challenges in Space-time Modelling of Natural Events. Castilla la Mancha University, Toledo, Spain.
32. 9–12 June 2008, **Mixed Model-Based Additive Models for Sample Extremes**. 19th annual meeting of the International Environmetrics Society. University of British Columbia Okanagan, Kelowna, Canada.
33. 16–20 August 2007, **Inferences for Max-Stable Processes**. 18th annual meeting of the International Environmetrics Society. Mikulov, Czech Republic.

Seminars

34. 25 April 2024, **Some advances on likelihood-based inference arising from the Peaks Over Threshold method**. Department of Actuarial Science, University of Lausanne, Switzerland.
35. 7 March 2024, **Some advances on likelihood-based inference arising from the Peaks Over Threshold method**. Department of Statistics, University of Bologna, Italy.
36. 25 January 2023, **Empirical Bayes Inference for the Block Maxima Method**. International One-World-Extremes seminar series, <https://sites.google.com/view/ow-extremes/>.
37. 6 February 2023, **Empirical Bayes Inference for the Block Maxima Method**. Laboratoire Angevin de Recherche en Mathématiques, Angers University, France.
38. 19 March 2021, **Tail Risk Inference via Expectiles in Heavy-tailed Time Series**. École Polytechnique Fédérale de Lausanne (EPFL), Switzerland.
39. 13 March 2020, **Extreme Expectile Estimation for Heavy-tailed Time Series**. School of Mathematics and Statistics, University of New South Wales, Sydney, Australia.
40. 5 December 2018, **Multivariate Extreme-Value Theory and Estimation**. Würzburger Mathematisches Kolloquium. University of Würzburg, Würzburg, Germany.
41. 31 January 2018, **Multivariate Nonparametric Estimation of the Pickands Dependence Function: Asymptotic Dependence and Independence cases**. Institute for Mathematical Stochastics (IMS) in Göttingen, Göttingen, Germany.
42. 15 December 2017, **Multivariate Nonparametric Estimation of the Pickands Dependence Function: Asymptotic Dependence and Independence cases**. Laboratoire de Statistique Théorique et Appliquée, Université Pierre et Marie Curie, Paris, France.
43. 17 February 2016, **Extremes of Skew-Symmetric Distributions**. Département de sciences actuarielles, Université de Lausanne, Lausanne, Switzerland.
44. 10 March 2015, **Extremes of Skew-Symmetric Distributions**. Laboratoire de Statistique Théorique et Appliquée, Université Pierre et Marie Curie, Paris, France.
45. 16 March 2012, **Extreme Value Analyses: from the Univariate to the Spatial Case**. Department of Decision Sciences, Bocconi University, Milan, Italy.
46. 25 January 2011, **Valori Estremi Multivariati e Spaziali**. Department of Information Technology and Mathematical Methods, University of Bergamo, Dalmine (BG), Italy.
47. 3 January 2010, **Multivariate Extremes and Related Processes**. SLF/WSL Institute, Davos, Switzerland.
48. 4 December 2009, **Copula-based Method for the Modelling of Spatial Extremes**. Université Claude Bernard Lyon I, Lyon, France.
49. 20 January 2009, **Max-Stable Processes and Annual Maximum Rainfall**. SLF/WSL Institute, Davos, Switzerland.

50. 10 January 2008, **Smooth Extremes: A Mixed Model Approach**. SLF/WSL Institute, Davos, Switzerland.
51. 10 October 2007, **Spatial Extremes and Non-Stationary Sequences of Extremes**. Department of Environmental Fluid Mechanics and Hydrology, Ecole Polytechnique Fédérale de Lausanne, Switzerland.
52. 27 July 2007, **Inferences for Max-Stable Processes**. School of Mathematics and Statistics, University of New South Wales, Sydney, Australia.

Posters

1. 1–3 September 2011, **Multivariate and Spatial Extremes for the Analysis of Air Quality Data**. Spatial 2 - Spatial Data Methods for Environmental and Ecological Processes - II Edition. University of Foggia, Italy.
2. 2–7 May 2010, **Analysis of the Dependence of Extreme Rainfall**. European Geosciences Union 2010. Vienna, Austria.
3. 23–26 June 2009, **Modelling of Spatial Extremes**. Graybill VIII 6th International Conference on Extreme Value Analysis. Colorado State University, Hilton Fort Collins, US.
4. 19–24 April 2009, **Analysis of Spatial Extremes**. European Geosciences Union 2009. Vienna, Austria.

Organizer of Conference

1. June 26 - June 30, **13th Conference on Extreme Value Analysis, Probabilistic and Statistical Models and their Applications**, Bocconi University, Milan, Italy.
See <https://dec.unibocconi.eu/research/extreme-value-analysis-eva-2023>

Organizer of Sessions

1. 19–21 December 2020, **EO662 - Estimation methods for extreme events**. The 13th International Conference of the ERCIM WG on Computational and Methodological Statistics, Senate House, University of London, UK.
2. 1–5 July 2018, **Extremal Dependence Modelling**. The 11th International Conference on Extreme Value Analysis, Zagreb, Croatia.
3. 20–22 June 2018, **Recent Advances on Extreme Value Theory**. The 49th Scientific meeting of the Italian Statistical Society, University of Palermo, Italy.
4. 16–18 December 2017, **EO686 - Stochastic Processes and Extremes**. The 10th International Conference of the ERCIM WG on Computational and Methodological Statistics, Senate House, University of London, UK.
5. 13–17 June 2016, **Bayesian Modelling and Inference of Extreme Events**. The International Society for Bayesian Analysis (ISBA) 2016, Forte Village Resort Convention Center Sardinia, Sardinia, Italy.
6. 12–14 December 2015, **EO206 - Stochastic Processes with Applications**. The 8th International Conference of the ERCIM WG on Computational and Methodological Statistics, Senate House, University of London, UK.
7. 11–13 June 2014, **Extremes of Dependence Sequences**. 47th Scientific Meeting of the Italian Statistical Society, Cagliari, Italy
8. 6–8 December 2014, **CS99 - Statistical Methods for Modelling Spatio-Temporal Random Fields**. 7th International Conference of the ERCIM WG on Computational and Methodological Statistics, University of Pisa, Italy.

Chair of Sessions

1. 29 June, **CS Spatial Extremes (I)**, Extreme Value Analysis 2021 conference, virtual conference hosted by the university of Edinburgh.
2. 11–15 June 2018, **Nonparametric Models for Spatio-Temporal Data**, the 4th Conference of the International Society for Nonparametric Statistics, Salerno, Italy.
3. 23–26 August 2016, **Bayesian Nonparametrics**. 22nd International Conference on Computational Statistics, Oviedo, Spain.
4. 15–19 June 2015, **Tail Dependence**. The 9th International Conference on Extreme Value Analysis 2015 (EVA 2015), University of Michigan, Ann Arbor, United States.

Research Visits

- 27 May-1 Jun 2019, Erasmus University Rotterdam, Rotterdam, Netherlands
- 13-23 May 2019, University of Strasbourg, Strasbourg, France
- 7-13 Apr and 3-8 June 2019, University of Nottingham, Nottingham, United Kingdom
- 15 Oct 2018 to 10 Dec 2018, University of Würzburg, Würzburg, Germany.
- 15-19 Feb 2016 and 13–17 Feb 2017, Département de Sciences Actuarielles, Université de Lausanne, Lausanne, Switzerland.
- 24-31 Oct 2011, School of Mathematics and Statistics, University of Newcastle, England.
- 20 Jul-31 Aug 2009, School of Mathematics and Applied Statistics, University of Wollongong, Wollongong, Australia.
- 1-31 Jul 2008, Department of Mathematics, University Jaume I, Castellón, Spain.
- 21 Feb 2006-1 Aug 2007, School of Mathematics and Statistics, University of New South Wales, Sydney, Australia.

Research Projects

- Member of the Bocconi unit, PRIN 2022 grant; Research Project 2022–2025: **Uncertainty and tail risks**. National coordinator: Marcellino Marcellino, Bocconi University, Italy.
- Collaborating with “Risk Assessment and Adaptation Strategies” (RAAS) division of the “Center for Euro-Mediterranean Climate Change” (CMCC) directed by Dr. Jaroslav Mysiak.
- Member of the Milan unit, PRIN 2015 grant; Research Project 2016–2019: **Modern Bayesian Nonparametric Methods**. National coordinator: Igor Prünster, Bocconi University, Italy.
- Principal investigator, Research grant for the support of innovative and excellent research plans for young researchers, University of Padua, Italy; Research Project 2011–2013: **Multivariate and Spatial Extremes**.
- Member of the research team at the DIIM of Bergamo University in 2011, for the research **EN17 Methods for the integration of different renewable energy sources and impact monitoring with satellite data**, Lombardy Region under “Frame Agreement 2009”. Coordinator: Alessandro Fassò, University of Bergamo, Italy.
- Member of the Padua unit, PRIN 2008 grant; Research Project 2009–2012: **Approximate Likelihoods for Complex Dependence Structures**. National coordinator: Paolo Vidoni, University of Udine, Italy.
- Member of the Lausanne unit, Research grant funded by Swiss National Science Foundation and CCES of the ETH; Research Project 2008-2010: **Spatial extremes and environmental sustainability: Statistical methods and applications in geophysics and the environment**. Principal investigator: Anthony Davison, EPFL, Switzerland.

Society Memberships

Institute of Mathematical Statistics, Bernoulli, International Environmetrics Society (TIES), Italian Statistical Society, GRASPA (Gruppo di Ricerca per le Applicazioni della Statistica ai Problemi Ambientali).

Professional Services & Editorial Activity

Associate Editor

- Journal of Statistical Planning and Inference (2022 - Present)
- Stochastic Models (2019 - Present)
- Extremes (2019 - Present)

Member of International Committees

- 2020 - Present, IMS Committee Equality and Diversity

Peer Reviewer for Scientific Journals

Journal of American Statistical Association; Journal of the Royal Statistical Society (Series B); Biometrika; Bernoulli; Scandinavian Journal of Statistics; Journal of Multivariate Analysis; Annals of Applied Statistics; Statistics and Probability Letters; Extremes; Bayesian Analysis; Journal of Statistical Software; Statistics and Computing; Computational Statistics & Data Analysis; Journal of Computational and Graphical Statistics; Biometrics; Spatial Statistics; Environmetrics; Applied Statistics; Stochastic Environmental Research and Risk Assessment; Water Resources Research; European Journal of Operational Research; Metron.

Member of Doctoral Committees

- April 2024, Ecole Polytechnique Fédérale de Lausanne, Switzerland. Candidate: Sonia Alouini, title of the thesis: *Flexible Statistical Inference for Multivariate Extremes*.
- April 2023, University of Padua, Padua, Italy. Candidate: Nicola Bianco, title of the thesis: *Variational Inference for High-Dimensional Dynamic Models*.
- Jan 2023, Bocconi University, Milan, Italy. Candidate: Mariusz Budzinski, title of the thesis: *Machine Learning Approaches for Computing Information Value and Information Density*.
- Jan 2022, Bocconi University, Milan, Italy. Candidate: Beatrice Franzolini, title of the thesis: *On Dependent Processes in Bayesian Nonparametrics: Theory, Methods, and Applications*; Marta Bonsaglio, title of the thesis: *Asymptotic properties of randomized clinical trials designs*.
- Jan 2021, Bocconi University, Milan, Italy. Candidate: Augusto Fasano, title of the thesis: *Advances in Bayesian Inference for Binary and Categorical Data*.
- Jan 2020, Bocconi University, Milan, Italy. Candidate: Andrea Arfè, title of the thesis: *Bayesian Methods for the Design and Analysis of Complex Follow-up Studies*.
- Oct 2019, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland. Candidate: Claudio Semadeni, title of the thesis: *Inference on the Angular Distribution of Extremes with Applications in Finance*.
- Feb 2019, University of Greenwich, England. Candidate: Andrew Garthwaite, title of the thesis: *Fine-scale Rainfall Modelling from Doubly-stochastic Markov-modulated Poisson Point Processes*.
- Oct 2014, Swiss Italian University, Lugano, Switzerland. Candidate: Olga Kaiser, title of the thesis: *Analysis of Extreme Events: Inference, Numerics and Applications*.

Local Administrative Duties

1. Member of the Department Council for the PhD program in Statistics, Bocconi University, Milan, Italy (2012-present)
2. Member of the Teaching Committee for the Masters degree in “Economics & Management of Government & International Organizations”, Bocconi University, Milan, Italy (2013–present)
3. Member of the Teaching Committee for the Bachelor of Science degree “Economics and Social Sciences” Bocconi University, Milan Italy (2019–present)
4. Member of the Committee for Junior Hiring, Bocconi University, Milan, Italy (2015–2017)
5. Coordinator of the Teaching Activities for the Statistics course, Bachelor of International Economics, Management and Finance, Bocconi University, Milan, Italy (2014–2015)
6. Organizer of the Statistical Seminar Series, Bocconi University, Milan, Italy (2012–2015)

PhD, Masters and Undergraduate Students

PhD

1. Matteo Schiavone, PhD program in Statistical Science, Padua University, Italy. Joint supervision with Stefano Rizzelli. Title of the thesis: **Not Available yet**; 2021–2024.
2. David Levin Carl, PhD program in Statistics, Bocconi University, Italy. Title of the thesis: **Not Available yet**; 2021–2024.
3. Pietro Scanzi, PhD program in Statistics, Bocconi University, Italy. Title of the thesis: **Not Available yet**; 2021–2024.
4. Stefano Rizzelli, PhD program in Statistics, Bocconi University, Italy. Title of the thesis: **Asymptotic Properties of Nonparametric and Semiparametric Statistical Methods for the Extremal Dependence**; 2016–2019.
5. Amir Khorrami, PhD program in Statistics, Bocconi University, Italy. Title of the thesis: **New Advances on Records**; 2016–2019.
6. Boris Beranger, PhD program in Statistics, University of Paris 6 Pierre et Marie Curie, France (co-supervisors Michel Broniatowski, Scott Sisson); Title of the thesis: **Modelling the Dependence Structure of Multivariate and Spatial Extremes**; 2013-2015.
7. Giulia Marcon, PhD program in Statistics Bocconi University, Italy (co-supervisor with Pietro Muliere). Title of the thesis: **Non-parametric Methods for Estimating the Dependence of Extreme Values**, 2012-2015.

Masters

1. Gaia Vaccarezza, Master of Science in Data Science and Business Analytics, Bocconi University, Italy; Fall 2023. Title of the thesis: **Spatial Marginal Expected Shortfall inference using Covariates: An Application on Extreme Rainfall in Lombardy**.
2. Pietro Scanzi, Master of Science in Statistical Science, Padua University, Italy; Spring 2022. Joint Supervision with Nicola Sartori. Title of the thesis: **Empirical Bayes inference for the Peaks Over a Threshold method**.
3. Matteo Schiavone, Master of Science in Economics and Social Sciences, Bocconi University, Italy; Spring 2022. Title of the thesis: **Conditional Tail Expectations: important characterizations for dependent risks**.
4. Vishal Murmu, Master in International Management, Bocconi University, Italy; Spring 2020. Title of the thesis: **Modelling and Estimation of Heavy Tailed Time Series with Application to Finance**.
5. Nicola Rogante, Master of Science in Economics and Social Sciences, Bocconi University, Italy; Spring 2020. Title of the thesis: **Prediction and Uncertainty Assessment Extreme Expectiles**.

6. Filippo Deserti, Master of Science in Economics and Social Sciences, Bocconi University, Italy; Spring 2017. Title of the thesis: **EVT Analysis of Agricultural Commodity Prices and the Effect of Weather.**
7. Fabio D'Andrea, Master of Science in Economics and Social Sciences, Bocconi University, Italy; Spring 2015. Title of the thesis: **The Use of the Extreme Value Theory in Financial Risk Management.**
8. Francesco Morino, Master of Science in Economics and Social Sciences, Bocconi University, Italy; Spring 2014. Title of the thesis: **Analysis of Heavy Rainfall in the Sardinia Region.**
9. Amir Korrami, Master of Science in Engineering Mathematics, Polytechnic University of Turin, Italy; Spring 2013. Title of the thesis: **Extreme Value Analysis of Severe Rainfalls in the Piemonte and Valle d'Aosta Regions.**
10. Giovanni Aiello, Master of Science in Economics and Social Sciences, Bocconi University, Italy; Fall 2013. Title of the thesis: **On the Selection of Weights for the Estimation of Spatial Dependence.**
11. Dario Plebani, Master of Science in Mechanical Engineering, University of Bergamo, Italy (co-supervisor Orietta Nicolis); Spring 2011. Title of thesis: **Rainfall Downscaling in Northern Italy by Random Cascade Methods.**
12. Patrick Oldendorf, EPFL, Lausanne, Switzerland (co-supervisor Marc B. Parlange); Spring 2009. Title of the thesis: **Analysis of Daily Rainfall.**
13. Philippe Vuistiner, EPFL, Lausanne, Switzerland (co-supervisor Anthony C. Davison); Fall 2008. Title of the thesis: **Simulation of Spatial Daily Rainfall.**

Undergraduate

1. Wulf-Carl Mosburger, Bachelor of Science in International Economics and Management, Bocconi University, Italy; Spring 2015. Title of the thesis: **Analysis of the Extremal Behaviour of Exchange Rates.**

Teaching Activities

PhD Courses

1. AY 2022-2023, 2021-2022, 2020-2021, 2019-2020, 2018-2019, 2017-16, 2016-17, 2015-16, **Statistics for Extremes** (in English), cod. 40390, PhD program in Statistics, Bocconi University, Italy.
2. AY 2014-15, 2013-14, **Models for Risk Evaluation** (in English), cod. 40255, PhD program in Statistics, Bocconi University, Italy.
3. AY 2018-19, **Statistical Modelling of Extreme Values** (in English), PhD program in Statistics, Sapienza Università di Roma, Italy.

Masters Courses

4. AY 2022-2023, 2021-2022, 2020-2021, 2019-2020, 2017-18, 2016-17, 2015-16, **Quantitative Methods for Social Sciences** (in English), cod. 20517, Masters degree in "Economics & Management of Government & International Organizations", Bocconi University, Italy.
5. AY 2014-15, 2013-14, 2012-13, **Quantitative Methods for Social Sciences** (in Italian), cod. 20208, Masters degree in "Economia e Management delle Amministrazioni Pubbliche e delle Istituzioni Internazionali", Bocconi University, Italy.

Undergraduate Courses

6. AY 2022-2023, 2021-2022, 2020-2021, 2019-2020 **Statistics module 2** (in English), cod. 20517, Bachelor of Science degree in "Economics and Social Sciences", Bocconi University, Italy.
7. AY 2017-18, 2016-17, 2015-16, 2014-15, 2013-14, 2012-13, **Statistics** (in English), cod. 30001, Bachelor of International Economics, Management and Finance, Bocconi University, Italy.

8. AY 2008-2009, 2009-2010, **Quantitative Risk Management**, spring semester(in English). Assistant of the Lecturer Dr. Valérie Chavez, Institute of Mathematics of Ecole Polytechnique Fédérale de Lausanne, Switzerland.
9. AY 2006-2007, **Course I in Engineering Computations at the School of Civil and Environmental Engineering**, fall Semester (in English). Assistant of Professor Scott Sisson, School of Mathematics and Statistics, University of New South Wales, Sydney, Australia.