THE UNIVERSITY *of* EDINBURGH
School of Mathematics

Miguel de Carvalho

Contact Information

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Personal Details

Born September 20, 1980 in Montijo, Lisbon.
Portuguese and EU citizenship; married.

Interests

Applied Statistics, Biostatistics, Econometrics, Risk Analysis, Statistics of Extremes.

Education

Universidade de Lisboa, Portugal
Habilitation in Probability and Statistics, 2019
Thesis: *Statistical Modeling of Extremes*

Universidade Nova de Lisboa, Portugal
PhD in Mathematics with emphasis on Statistics, 2009
Thesis: *Extremum Estimators and Stochastic Optimization*
Advisors: Manuel Esquível and Tiago Mexia
Advisors of Advisors: Jean-Pierre Kahane and Tiago de Oliveira.

Nova School of Business and Economics (Triple Accreditation), Portugal
MSc in Economics, 2009
Thesis: *Mean Regression for Censored Length-Biased Data*
Advisors: José A. F. Machado and Pedro Portugal
Advisors of Advisors: Roger Koenker and John Addison.

Universidade Nova de Lisboa, Portugal
'*Licenciatura*'† in Mathematics, 2004
Professional Probation Period: Statistics Portugal (*Instituto Nacional de Estatística*).

Awards & Honours

- **ISBA (International Society for Bayesian Analysis)**
  Lindley Award, 2020.
- **TWAS (Academy of Sciences for the Developing World)**
  Young Scientist Prize, 2015.
- **International Statistical Institute**
  Elected Member, 2014.
- **American Statistical Association**
  Young Researcher Award, Section on Risk Analysis, 2011.
- **National Institute of Statistical Sciences | American Statistical Association**
  Honorary Mention as a Finalist NISS/ASA Best y-BIS Paper Award, 2010.
- **Portuguese Statistical Society** (*Sociedade Portuguesa de Estatística*)
  Young Researcher Award, 2009.
- **International Association for Statistical Computing**
  ERS IASC Young Researcher Award, 2008.

Publications on Applied Statistical Modeling

1. de Carvalho, M., Barney, B., J., & Page, G. L. (2020). Affinity-based measures of biomarker performance evaluation. *Statistical Methods in Medical Research*, *29*, 837–853.

2. Lee, J., & de Carvalho, M. (2019). Technological improvements or climate change? Bayesian modeling of time-varying conformance to Benford's law. *PLOS ONE*, *12*, e0213300.

3. Mhalla, L., de Carvalho, M., & Chavez-Demoulin, V. (2019). Regression type models for extremal dependence. *Scandinavian Journal of Statistics*, *46*, 1141–1167.

4. de Carvalho, M., Page, G. L., & Barney, B., J. (2019). On the geometry of Bayesian inference. *Bayesian Analysis*, *14*, 1013–1036.

5. Inácio de Carvalho, V., de Carvalho, M., & Branscum, A. J. (2018). Bayesian bootstrap inference for the ROC surface. *Stat*, e211.

6. Martos, G., & de Carvalho, M. (2018). Discrimination surfaces with application to region-specific brain asymmetry analysis. *Statistics in Medicine*, *11*(37), 1859–1873.

7. Castro, D., de Carvalho, M., & Wadsworth, J. L. (2018). Time-varying extreme value dependence with application to leading European stock markets. *Annals of Applied Statistics*, *12*(1), 283–309.

8. Hanson, T. E., de Carvalho, M., & Chen, Y. (2017). Bernstein polynomial angular densities of multivariate extreme value distributions. *Statistics and Probability Letters*, *128*, 60–66.

9. Tsagbey, S., de Carvalho, M., & Page, G. L. (2017). All data are wrong, but some are useful? Advocating the need for data auditing. *The American Statistician*, *71*(3), 231–235.

10. Inácio de Carvalho, V., de Carvalho, M., & Branscum, A. J. (2017). Nonparametric Bayesian covariate-adjusted estimation of the Youden index. *Biometrics*, *73*(4), 1279–1288.

11. Castro, D., & de Carvalho, M. (2017). Spectral density regression for bivariate extremes. *Stochastic Environmental Research and Risk Assessment*, *31*(7), 1603–1613.

12. Inácio de Carvalho, V., de Carvalho, M., Alonzo, T. A., & González-Manteiga, W. (2016). Functional covariate-adjusted partial area under the specificity-ROC curve with an application to metabolic syndrome diagnosis. *Annals of Applied Statistics*, *10*(3), 1472–1495.

13. de Carvalho, M. (2016b). Mean, what do you mean? *The American Statistician*, *70*(3), 270–274.

14. Marques, F. J., Coelho, C. A., & de Carvalho, M. (2015). On the distribution of linear combinations of independent Gumbel random variables. *Statistics and Computing*, *25*(3), 683–701.

15. de Carvalho, M., & Davison, A. C. (2014). Spectral density ratio models for multivariate extremes. *Journal of the American Statistical Association*, *109*(506), 764–776.

[†] Five-year academic degree program; the last year was dedicated to a professional probation period.

16. Inácio de Carvalho, V., Jara, A., Hanson, T. E., & de Carvalho, M. (2013). Bayesian nonparametric ROC regression modeling. *Bayesian Analysis*, *8*(3), 623–646.

17. de Carvalho, M., Turkman, K. F., & Rua, A. (2013). Dynamic threshold modelling and the US business cycle. *Journal of the Royal Statistical Society, Ser. C*, *62*(4), 535–550.

18. de Carvalho, M., Oumow, B., Segers, J., & Warchoł, M. (2013). A Euclidean likelihood estimator for bivariate tail dependence. *Communications in Statistics—Theory and Methods*, *42*(7), 1176–1192.

19. de Carvalho, M. (2012). A generalization of the Solis–Wets method. *Journal of Statistical Planning and Inference*, *142*(3), 633–644.

20. de Carvalho, M., Fonseca, M., Oliveira, M., & Mexia, J. T. (2012). A dimension reduction technique for estimation in linear mixed models. *Journal of Statistical Computation and Simulation*, *82*(2), 219–226.

21. de Carvalho, M., & Ramos, A. (2012). Bivariate extreme statistics, II. *Revstat—Statistical Journal*, *10*, 83–107.

Publications on Applied Econometrics and Risk Analysis

22. de Carvalho, M., & Martos, G. (2018, in press). Brexit: Tracking and disentangling the sentiment towards leaving the EU. *International Journal of Forecasting*.

23. de Carvalho, M., & Rua, A. (2017). Real-time nowcasting the US output gap: Singular spectrum analysis at work. *International Journal of Forecasting*, *33*(1), 185–198.

24. de Carvalho, M., & Rua, A. (2014). Extremal dependence in international output growth: Tales from the tails. *Oxford Bulletin of Economics and Statistics*, *76*(4), 605–620.

25. de Carvalho, M., Rodrigues, P. C., & Rua, A. (2012). Tracking the US business cycle with a singular spectrum analysis. *Economics Letters*, *114*(1), 32–35.

26. de Carvalho, M., & Júlio, P. (2012). Digging out the PPP hypothesis: An integrated empirical coverage. *Empirical Economics*, *42*(3), 713–744.

27. de Carvalho, M., & Marques, F. J. (2012). Jackknife Euclidean Likelihood-Based Inference for Spearman's Rho. *North American Actuarial Journal*, *16*(4), 487–492.

Publications on Applied Mathematical Modeling

28. Rodrigues, P. C., & de Carvalho, M. (2013). Spectral modeling of time series with missing data. *Applied Mathematical Modelling*, *37*(7), 4676–4684.

29. de Carvalho, M. (2011). Confidence intervals for the minimum of a function using extreme value statistics. *International Journal of Mathematical Modelling and Numerical Optimisation*, *2*(3), 288–296.

Publications on Book Chapters

30. de Carvalho, M. (2016c). Statistics of extremes: Challenges and opportunities. In F. Longin (Ed.), *Extreme Events in Finance: A Handbook of Extreme Value Theory and its Applications*. Hoboken: Wiley.

31. Inácio de Carvalho, V., Jara, A., & de Carvalho, M. (2015). Bayesian nonparametric approaches for ROC curve inference. In R. Mitra & P. Müller (Eds.), *Nonparametric Bayesian Inference in Biostatistics* (pp. 327–344). Cham: Springer.

32. Johnson, W. O., & de Carvalho, M. (2015). Bayesian nonparametric biostatistics. In R. Mitra & P. Müller (Eds.), *Nonparametric Bayesian Inference in Biostatistics* (pp. 15–54). Cham: Springer.

Publications on — **Contributions to Papers with Discussion**

33. Huser, R., de Carvalho, M., & Lombardo, L. (2018). Discussion of ≪Spatiotemporal models with virtual reality: from fully immersive environments to applications in stereoscopic view≫ by Castruccio, S., Genton, M. & Sun, Y. *Journal of the Royal Statistical Society, Ser. A*.

34. de Carvalho, M., Page, G. L., & Barney, B., J. (2017). Discussion of ≪Random-Projection Ensemble Classification≫ by Cannings, T. I. and Samworth, R. J. *Journal of the Royal Statistical Society, Ser. B*, *79*, 1007–1008.

35. de Carvalho, M., & Rua, A. (2016). Discussion of ≪Of Quantiles and Expectiles: Consistent Scoring Functions, Choquet Representations and Forecast Rankings≫ by Ehm, W., Gneiting, T., Jordan, A., and Krüger, F. *Journal of the Royal Statistical Society, Ser. B*, *78*, 539–540.

36. de Carvalho, M. (2016a). Discussion of ≪Statistical Modelling of Citation Exchange Between Statistics Journals≫ by Hennig, C. & Liao, T. F. *Journal of the Royal Statistical Society, Ser. A*, *179*, 44–45.

37. de Carvalho, M., & Page, G. L. (2013). Discussion of ≪How to Find an Appropriate Clustering for Mixed Type Variables with Application to Socio-Economic Stratification≫ by Hennig, C. and Liao, T. F. *Journal of the Royal Statistical Society, Ser. C*, *62*, 343–344.

38. Inácio, V., de Carvalho, M., & Turkman, M. A. (2012). Discussion of ≪Probabilistic Index Models≫ by Thas, O., de Neve, J., Lieven, C. and Ottoy., J.-P. *Journal of the Royal Statistical Society, Ser. B*, *74*, 659–661.

Publications on — **History of Statistics**

39. Alves, I. F., & de Carvalho, M. (2015). An interview with Ivette Gomes. *Extremes*, *18*(4), 563–583.

Books in Preparation

de Carvalho, V. I., de Carvalho, M., Johnson, W. O., and Branscum, A. *Flexible Bayesian Models for Medical Diagnostic Data*, To appear in: *Chapman & Hall: CRC Biostatistics.* Pages $\approx$ 250.

Unrefereed Publications — **Conference Papers**

1. de Carvalho, M., and Davison, A. C. (2011), "Semiparametric Estimation for K-Sample Multivariate Extremes," In *Proc. 58th World Congress Int. Statist. Inst.*

2. Oumow, B., de Carvalho, M., and Davison, A. C. (2011), "A Bayesian P-Spline Mixture Model for Nonstationary Extremes," In *Proc. 17th European Young Statist. Meeting.*

3. de Carvalho, M., Esquível, M. L., and Mexia, J. T. (2009), "A General Stochastic Optimization Method for Extremum Estimators," In *Proc. 6th St. Petersburg Workshop on Simulation*, pp. 431–435.

4. de Carvalho, M. (2009), "Recasting Mean Regression for Censored Data," In *Proc. 16th European Young Statist. Meeting.*
5. Rodrigues, P. C., and de Carvalho, M. (2008), "Monitoring Calibration of the Singular Spectrum Analysis Method," In *Proc. COMPSTAT 2008—18th International Conference on Computational Statistics*, Physica-Verlag, pp. 955–964.
6. de Carvalho, M., Rodrigues, P.C. and Silva, J. (2008), "A Singular Spectrum Analysis of the New York Stock Exchange Composite Index," In *Proc. 31st Annual Congress of the European Accounting Association.*

Professional Experience

- **University of Edinburgh**, Scotland, UK

  Reader in Statistics (= Associate Professor in US), 2019–onwards.
  Lecturer in Statistics (= Assistant Professor in US), 2017–2018.
- **Pontificia Universidad Católica de Chile** (PUC Chile), Chile

  Associate Professor of Applied Statistics, 2016.
  Assistant Professor of Applied Statistics, 2012–onwards.
- **École Polytechnique Fédérale de Lausanne** (EPFL), Switzerland

  Post-Doctoral Fellow and Lecturer, 2010–2012.
- **Banco de Portugal**, Portugal

  Visiting Researcher, 2010.
- **Universidade Nova de Lisboa** (UNL), Portugal

  Lecturer, 2009.

Experience on Funding

(Total ≈ **600 000 USD**; 3 active, 4 concluded, 1 won but not taken)

- Portuguese NSF (FCT): PI on Research Grant "*Data Fusion and Calibration Methods for Spatial Risk Analysis.*"

  Budget = 238 432.32€
- Unilever: PI on grant for industrial doctorate, 2017–2021.

  Budget = £47 217
- Datalab: Co-PI on grant for industrial doctorate, 2017–2021.

  Budget = £35 275
- Chilean NSF (CONICYT): PI on Research Grant 1160990 (Fondecyt Regular), 2016–2020. (Ranked 2nd on Mathematics at the national level; I have rejected the grant due to a job offer at UoE).

  Budget ≈ 130 000 US$
- Chilean NSF (CONICYT): PI on Research Grant 11121186 (Fondecyt Iniciación), 2012–2015.

  Budget ≈ 100 000 US$
- Portuguese NSF (FCT): PhD & Postdoctoral Fellowship; 2004–2008, 2011–2012.
- Banco de Portugal: Visiting Researcher Fellowship, 2009–2010.

Most-recently rejected grant

- "*Economic Stress and Fat Tails in the Eminence of Brexit*," Alan Turing Institute, 2018–2020.

  Budget = £256,952.77

Editing

Associate Editor

- *Journal of the American Statistical Association* [Case Studies] (2018, onwards).
- *Annals of Applied Statistics* (2014, onwards).
- *Computational Statistics & Data Analysis* (2017, onwards).
- *Statistics and Public Policy* (2015–2018).
- Editor, *Bernoulli News* (2015, 2019).

Special issues

- *Extremes*, 2020 (under preparation).
- *Revstat—Statistical Journal*, Vol. 12, 2014, *Statistical Models for Diagnosis and ROC Analysis*, Eds. V. I. de Carvalho, M. de Carvalho & W. G. Manteiga.
- *Communications in Statististics—Theory and Methods*, Vol. 42, 2013, *Special Issue: European Young Statisticians*, Eds. P. C. Rodrigues & M. de Carvalho.
- *Revstat—Statistical Journal*, Vol. 10, 2012, *A Collection of Surveys on Tail Event Modeling*, Eds. M. de Carvalho, A. C. Davison & J. Beirlant.

Reviewing

- Articles (cf Publons profile)

  †**Probability and Statistics**: *Advances in Applied Probability*, *Annals of Applied Statistics*, *Bernoulli*, *Biostatistics*, *Brazilian Journal of Probability and Statistics*, *Biometrika*, *Canadian Journal of Statistics*, *Chilean Journal of Statistics*, *Communications in Statistics—Theory and Methods*, *Computational Statistics and Data Analysis*, *Environmetrics*, *Extremes*, *Journal of Agricultural, Biological, and Environmental Statistics*, *Journal of Applied Probability*, *Journal of Multivariate Analysis*, *Journal of Statistical Computation and Simulation*, *Journal of Statistical Planning and Inference*, *Journal of Statistical Theory and Practice*, *Journal of the American Statistical Association*, *Journal of the Royal Statistical Society, Ser.* C, *Revstat—Statistical Journal*, *Statistical Modelling*, *Scandinavian Journal of Statistics*, *Stat*, *Statistics and Computing*, *Statistics and Public Policy*, *Technometrics*.

  ‡**Applied Mathematics and Computer Science**: *Annals of Operations Research*, *IEEE Transactions on Signal Processing*, *Knowledge-Based Systems*, *Mathematics and Computers in Simulation*.

  §**Economics and Management**: *Applied Economics*, *Journal of Business Cycle Measurement and Analysis*, *Portuguese Economic Journal*, *Tourism Management*.

  §§**Statistics in Medicine**: *Statistics in Medicine*, *Statistical Methods in Medical Research*, *BMJ Open*.

  ⋆**Other**: *Royal Society Open Science*.

- Books: Palgrave Texts in Econometrics.

- Funding: Member of EPSRC (Associate Peer Review College), Czech Science Foundation, FWO (Research Foundation Flanders), Chilean NSF (conicyt).

Lecturing

Short courses

- Instructor, *Statistics of Extremes—Modeling, Inferences, and Applications*. LARS—IASC School on Computational Statistics and Data Science. Salvador, Brazil; October 2019. Joint with: D. Gamerman and M. Leonelli.
- Instructor, *A Crash Course on Statistics of Multivariate Extremes*. Universidade Nova de Lisboa, Portugal, December 2015.
- Instructor of the short course *Statistics of Extremes: Large Risks, Small Probabilities*. XXI Statistics Week, PUC Valparaíso, Chile; October 2015.
- Instructor, *Flexible Bayesian Methods for Diagnosis and ROC Curve Estimation*. CEAUL, Lisbon, Portugal; June 2014. Joint with: V. Inácio de Carvalho.
- Instructor, *Modeling Statistics of Extremes*, 56th RBRAS, annual meeting of a regional section of the International Biometric Society, Maringá, Brazil; July 2011.
- Teaching assistant, *Quantitative Risk Management*. Course organized by the Mathematics Section, EPFL and RiskLab, ETH Zurich. Lausanne, Switzerland; February 2011. Main instructors: V. Chavez-Demoulin, A. C. Davison, and P. Embrechts.
- Teaching assistant, *Applied Bayesian Nonparametrics*. EPFL Doctoral School, Mathematics Programme. Lausanne, Switzerland; October 2010. Main instructors: T. E. Hanson and A. Jara.

Leading & Organizing

Leading

- Director, Centre for Statistics, University of Edinburgh.
- Head, Statistical Intelligence Laboratory, University of Edinburgh.
- Elected Member, Board of Directors, Int. Soc. Bayesian Analysis (2020-onwards).
- Co-chairman, CMStatistics team *Statistics of Extremes and Applications* (2020-onwards).

Conferences and workshops

- Co-chairman, EVA 2021, Edinburgh; June 2021.
- Co-chairman, New Frontiers in Statistics of Extremes, Lisbon; February 2020.
- Co-chairman, ERCIM 2018, Pisa; December 2018. ≈ 1550 delegates
- Leading Organizer, ISBA 2018, Edinburgh; June 2018. ≈ 750 delegates
- Co-chairman, European Young Statisticians Meeting, Lisbon, September 2011.

Scientific committees

- COMPSTAT 2020; Bologna, August 2020.
- ERCIM 2019; London, December 2019.
- 1st Latin American Conference on Statistical Computing, Brazil; July 2016.
- CLATSE 2014 (Congreso de Sociedades Latinoamericanas de Estadística), Brazil; October 2014.

Sessions

- Invited Session "Bayesian Extreme Value Analysis," COMPSTAT 2020, Bologna; August 2020.
- Special Topic Session "Bayesian Inference for Extreme Values," ERCIM 2019, London; December 2019.
- Special Invited Session "Graphical and Geometrical Statistics," ERCIM 2018, Pisa; December 2018.
- Special Topic Session "Bayesian Analysis," ERCIM 2017, London; December 2017.
- Special Topic Session "Multivariate Extremes," ERICM 2016, Sevilla; December 2016.
- Special Topic Session "Risk and Extremes: Analysis, Dependence Modeling, and Prediction," 60th World Congress Int. Statist. Inst., Rio de Janeiro; July 2015.
- Joint meeting of y-BIS and jSPE and organized of the invited session "Extremes and Applications," Lisbon, July 2012.
- Invited session "Extreme Value Statistics." ISBIS 2010, Portoroz, July 2010.

Scientific Collaboration

- Member of the scientific committee of SFRA (Scottish Financial Risk Academy).
- Member of CEAUL (Center for Statistics & Applications), Universidade de Lisboa (2008–onwards).
- Member of CMA (Center for Mathematics & Applications), Universidade Nova de Lisboa (2006–2014).

Supervising and Mentoring

Postdoc

- S. Pereira (2019–2021).
- G. Martos (2015–2016) (Now an Assistant Professor at Universidad Torcuato di Tella, Argentina).

PhD

- D. Castro (2015), *Bivariate Extremes: Modeling, Smoothing, and Regression.* PUC Chile (Now an Assistant Professor at University of Glasgow, UK).
- R. Rubio (2020). *Interfaces Between Statistical Learning and Quantitative Risk Management*. PUC Chile.
- B. Galasso (2020). *Flexible Bayesian Inference for Families of Random Densities*. PUC Chile.
- J. Lee (Expected 2021).
- A. Svetlosak (Expected 2021).
- E. Bernieri (Expected 2022).
- A. Alabdulathem (Expected 2022).
- K. Palacios Ramirez (Expected 2022).

MSc (supervisor and co-advisor)

- R. Rubio (2013). *Predictor-Dependent Inequality Modeling*. PUC Chile (Now a PhD Student at PUC Chile). Joint with A. F. Barrientos.

- S. Tsagbey (2013). *What's Wrong with Fishery Official Statistics?* PUC Chile (Now a PhD Student at Universidade de São Paulo). Joint with G. L. Page.
- M. Warchoł (2012). *Smoothing Methods for Bivariate Extremes.* Joint MSc, Ecole Polytechnique Fédérale de Lausanne and Uniwersytet Jagielloński (Now a PhD Student at UC Louvain). Joint with A. C. Davison.
- R. Baptista (2007). *On the Comparison of Temporomandibular Joint Angle Measures, Between Angle Class I and Angle Class II.* MSc thesis in Dental Sciences, Donau Universität Krems. Joint with R. Slavicek.

MSc research students

- A. Hitz (2011). Co-founder of Materialize.X. Concluded PhD from University of Oxford, England.
- A. Kiriliouk (2011). Now a Post-Doc at Erasmus University Rotterdam, Netherlands.
- T. Lugrin (2011). Now a PhD Student at EPFL, Switzerland.
- B. Oumow (2011). Now a Quant at BNP Paribas, England.

Examining and Evaluating

- Member of the Evaluation Committee on Mathematics, CONICYT (Chilean NSF) [Comités de Evaluación del Programa Formación de Capital Humano Avanzado (PFCHA)] (2017-onwards).
- Evaluator of promotions for: Hasselt University.
- Interviewing panels at University of Edinburgh and Heriot–Watt University.
- Research degrees at University of Edinburgh, PUC Chile, Universidad de Talca, Universidad Técnica Federico Santa Maria.
- Research Award, 17th European Young Statisticians Meeting.
- Best PhD thesis Award, PUC Chile (2013).

Teaching

PhD

- *Advanced Statistics*: Main Instructor, PUC Chile (2014, 2015); PhD in Statistics.

MSc

- *Consultancy Style Projects*: Instructor, UoE (2017); MSc in Stat. with Data Science.
- *Computing for Statistics*: Instructor, UoE (2017); MSc in Statist. with Data Science. *Applied Statistics*: Main Instructor, EPFL (2011); MSc in Appl. Mathematics.
- *Applied Stochastic Processes*: Main Instructor, PUC Chile (2015); MSc in Statistics.
- *Generalized Linear Models*: Main Instructor, PUC Chile (2013, 2014); BSc and MSc in Statistics.
- *Mathematical Finance*: Main Instructor, PUC Chile (2015, 2016); MSc in Actuarial Sciences.
- *Quantitative Risk Management*: Main Instructor, EPFL (2012). Principal Assistant, EPFL (2011); MSc Appl. Math., MSc in Financial Eng.

- *Time Series*: Main Instructor, PUC Chile (2013, 2015); MSc in Statistics, Principal Assistant, EPFL (2011); MSc Appl. Math., MSc in Financial Eng.
- Consultant of a course on *Topics of Statistics*, PUC Chile (2014) (Lectured by Susana Eyheramendy); MSc in Statistics.

BSc

- *Statistical Research Skills*: Main Instructor, UoE (2017); MSc in Statistics with Data Science.
- *Statistical Methodology*: Main Instructor, UoE (2017); BSc in Mathematics.
- *Statistical Communication Skills*: Instructor, UoE (2017); BSc in Mathematics.
- Consultant of a course on *Statistical Consulting*, PUC Chile (2013) (Lectured by Carlos Araujo); BSc in Statistics.
- *Calculus*: Teaching Assistant, UNL (2009).

DEPARTMENTAL SERVICE

- Admissions Selector for MSc in Statistics and Operations Research, MSc in Statistics with Data Science (2017–onwards), University of Edinburgh. (Duties and Responsibilities: Advise College of Science and Engineering with decision-making and admissions process, and offer guidance to applicants.)
- Member of the Graduate Programmes Committee (2014–2016), PUC Chile, after nomination by Dean of Faculty of Mathematics; the graduate programmes consist of an MSc in Actuarial Sciences, an MSc in Statistics, and a PhD in Statistics. (Duties and Responsibilities: This work entails responsibilities such as the renewal of accreditations of corresponding degrees, and the design of MSc and PhD qualifying exams.)
- Member of Committee of the Department of Statistics (2014–2016), PUC Chile, after election by colleagues. (Duties and Responsibilities: Assisting the Head of Department in fulfilling his duties.)

SELECTED TALKS, LECTURES, SEMINARS, POSTERS, AND DISCUSSIONS

Keynote talk: "Elements of Bayesian Geometry," XV Brazilian Meeting on Bayesian Statistics (EBEB2020), Maresias, Brazil, March 2020.

Invited seminar: "On the Likelihood of Black Swan Events," Matemáticos Portugueses pelo Mundo, Porto, Portugal, June 2019.

Invited seminar: "An Hilbert Space View on Bayesian Inference," Oxford–Warwick–Edinburgh–Amazon Joint Workshop 2019, Berlin, Germany, March 2019.

Invited seminar: "Statistical Modeling of Time-Changing Extreme Values", SFRA International Workshop on Machine Learning for Risk and Insurance 2019, Edinburgh, UK, February 2019.

Invited seminar: "Diagonal Distributions," ERCIM 2018, Pisa, Italy, December 2018.

Invited seminar: "Exponential Tilts for Heteroscedastic Extremes with an Application to Cryptocurrency Markets," COMPSTAT 2018, Iasi, Romania, August 2018.

Invited seminar: "On Some Geometrical Aspects of Bayesian Inference," Machine Learning Seminar, University of Sheffield, UK, April 2018.

Invited seminar: "Multivariate Nonstationary Extremes," University of St. Andrews, UK, April 2018.

Invited seminar: "Bayesian Flexible Modeling for Families of Random Densities," Bocconi University, Milan, Italy, September 2017.

Invited seminar: "Similarity-Based Clustering for Stock Market Extremes," Extremes reading group seminar, Lancaster University, UK, May 2017.

Invited seminar: "Affinity-Based Measures of Diagnostic Test Accuracy," Glasgow University, UK, April 2017. Invited talk: "Discrimination Surfaces for Region-Specific Brain Asymmetry Analysis," Latent Variables 2016, October, University of South Carolina, Columbia, US, October 2016.

Invited seminar: "On the Geometry of Bayesian Inference," UC, Santa Cruz, US, October 2016.

Invited talk: "Generalized Additive Modeling of Nonstationary Multivariate Extremes," 4th IMS, Hong Kong, June 2016.

Invited talk: "Bayesian Nonparametric Inference for the Proportional Tails Model," ISBA 2016, Sardinia, Italy, June 2016.

Young scientist prize award lecture [TWAS—Academy of Sciences for the Developing World]: "Some Mathematical and Statistical Aspects of Black Swan Events," 18st TWAS–ROLAC Young Scientists Conference, Rio de Janeiro, Brazil, November 2015.

Invited talk: "Nonstationary Extremal Dependence Structures: Time and Space," Workshop on Computational Space-Time Statistics, KAUST, Saudi Arabia, October 2015.

Invited talk: "Statistics of Extremes: Challenges and Opportunities," The Mathematics and Statistics of Quantitative Risk Management, Oberwolfach, Germany, September 2015.

Invited discussant in session on "Modern Methods in Computational Advertising," 60th World Congress of the Int. Statist. Inst., Rio de Janeiro, Brazil, July 2015.

Invited talk: "Predictor-Dependent Multivariate Extremes," EVA 2015, Ann Arbor, US, June 2015.

Invited talk: "Bayesian Nonparametric Youden Index Modeling," 2nd ISNPS (International Society for Nonparametric Statistics), Cádiz, Spain, June 2014.

Invited seminar: "Spectral Field-Based Modeling for Bivariate Extremes," University of Nottingham, UK, February 2014.

Invited seminar: "Multivariate Extremes: Modelling, Smoothing, and Regression," EPFL, Switzerland, February 2013.

Invited talk: "A Bayesian P-Spline Mixture Model for Nonstationary Extremes," ERCIM 2012, Oviedo, Spain, December 2012.

Invited talk: "Spectral Density Ratio Models for Multivariate Extremes," Special Topic Session STS040, 58th World Congress of the Int. Statist. Inst. Also presented at the Joint Statistical Meetings, Miami, US, August 2011.

Contributed poster: "The Box–Jenkins–Pareto Method for Nonstationary Extremes," Workshop on Statistical Aspects of Environmental Risk, SAMSI, US, April 2010.

Invited talk: "Recasting Mean Regression for Censored Data," 16th European Young Statisticians Meeting, Bucharest, Romania, August 2009.

Invited talk: "A Generalization of the Solis–Wets Method," Petersburg Workshop on Simulation, Russia, July 2009.

Invited talk: "An Approach to Stochastic Optimization," Advances in Interdisiciplinary Statistics and Combinatorics, University of North Carolina, Greensboro, US, October 2007.

Contributed poster: "Forecasting the Unemployment Rate in the Euro Area," Euroconference Series in Quantitative Economics and Econometrics: EC2, Universidade do Algarve, Portugal, December 2007.

Memberships

American Statistical Association, Bernoulli Society, Chilean Statistical Society (SOCHE), Econometric Society, Portuguese Mathematical Society (SPM), Portuguese Statistical Society (SPE), International Society for Bayesian Analysis, Institute of Mathematical Statistics, Royal Statistical Society.

Community

Co-founder of jSPE: Section of Young Statisticians, Portuguese Statistical Society. Member of the ERCIM Working Group: Statistics of Extremes and Applications, ISI Committee on Risk Analysis, and of the ISI Young Statisticians Committee.

Outreach

Online

Author and maintainer of My Stat Shelf (`www.mystatshelf.com`) listing recent books on Statistics and Data Science, along with personal notes on preparations for statistical research.

Outreach Talks

Surrounded by Data, Royal Institution Mathematics Masterclass; Edinburgh, September 2018.

Computing

AUCTEX, C, Emacs Speaks Statistics, OS X, GNU Emacs, MATLAB, R, RStudio, Zotero.

Software Development

Creator and maintainer of `R` packages: `ASSA` (Applied Singular Spectrum Analysis), `extremis`, `spearmanCI`.

Languages

Mother Tongue: Portuguese. Fluent in English (Nord Anglia Certificate, Upper Intermediate Level) and Spanish. Conversant in French.

Music Skills

Fourth degree in classical guitar, *Conservatório Regional de Setúbal*, Portugal.

References

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