

## Raphaël Huser, Assistant Professor of Statistics

Computer, Electrical and Mathematical Sciences and Engineering (CEMSE) Division  
King Abdullah University of Science and Technology (KAUST), Thuwal 23955-6900, KSA

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Website: <http://cemse.kaust.edu.sa/extstat> (Extreme Statistics Research Group)

Personal information: Born December 9, 1985; Swiss and French citizenships; Married, two children.

### Professional Employment

2015– Assistant Professor, KAUST, Thuwal, KSA

2014–2015 Postdoctoral Research Fellow, KAUST, Thuwal, KSA

### Education

2013 Ph.D., Statistics, EPFL (*EPFL Doctorate Award 2014*)

2009 M.S., Applied Mathematics, EPFL (M.S. thesis performed at NCAR, Boulder CO, US)

2007 B.S., Mathematics, EPFL

### Honors and Awards

2019: ENVR Early Investigator Award, Section on Statistics and the Environment (ENVR) of the American Statistical Association (ASA)

Journal paper [18] below, published in the journal *Stochastic Environmental Research and Risk Assessment* (SERRA), was highlighted among the top 10 most downloaded 2018 papers in Springer's Environmental Sciences Journals

2018: Award for Best 2016 Paper (*see journal paper [9] below*) published in the *Journal of Agricultural, Biological and Environmental Statistics* (JABES)

⇒ *Work presented in a special invited session at the International Biometric Conference 2018*

2016: Elected Member of the International Statistical Institute (ISI)

2015: Lambert Award, Swiss Statistical Society (SSS)

⇒ *Prize to recognize the work of young statisticians up to age 35*

⇒ *Work presented in a plenary talk at the Swiss Statistics Meeting 2015*

2014: EPFL Doctorate Award, EPFL, Lausanne, CH

⇒ *2 laureates for 405 Ph.D. theses defended university-wide*

2010: 1<sup>st</sup> prize: Ph.D. poster competition at the Workshop on Environmetrics, NCAR, Boulder CO, US

2009: 2<sup>nd</sup> prize: M.S. project poster competition, Institute of Mathematics, EPFL, Lausanne, CH

### Research Interests

Statistics of extremes, Spatio-temporal statistics, Risk modeling and assessment, Dependence modeling with copulas, Environmetrics, Applications in Environmental Science (heavy rainfall, heat waves, extreme wind speeds, devastating landslides data, etc.) and Finance (Stock market and cryptocurrency data)

### Publications

Summary:

34 journal papers; 3 contributions to papers with discussion; 2 book chapters; TOTAL=39 publications

7 submitted papers; 4 papers under preparation; 1 PhD thesis

Google Scholar: *citation metrics*: Total citations: 1405; h-index: 19; i10-index: 23

*profile*: <https://scholar.google.com/citations?user=fK5O6usAAAAJ&hl=en>

Scopus: *citation metrics (without self-citations)*: Total citations: 681; h-index: 15

*profile*: <https://www.scopus.com/authid/detail.uri?authorId=55743671800>

\*: Postdocs under my (co-)supervision (when the published/submitted work started)

\*\* : PhD students under my (co-)supervision (when the published/submitted work started)

Journal papers:

[34] Yadav\*\*, R., Huser, R., and Opitz, T. (2020+), *Spatial hierarchical modeling of threshold exceedances using rate mixtures*, *Environmetrics*, to appear

[33] Huser, R., and Wadsworth, J. (2020+), *Advances in statistical modeling of spatial extremes*, Wiley Interdisciplinary Reviews (WIREs): Computational Statistics, to appear

- [32] **Huser, R.**, Opitz, T., and Thibaud, E. (2020+), *Max-infinitely divisible models and inference for spatial extremes*, Scandinavian Journal of Statistics, to appear
- [31] Lombardo\*, L., Opitz, T., Ardizzone, F., Guzzetti, F., and **Huser, R.** (2020), *Space-time landslide predictive modelling*, Earth-Science Reviews 209, 103318
- [30] Hrafnkelsson, B., Siegert, S., **Huser, R.**, Bakka, H., and Jóhannesson, Á. V. (2020+), *Max-and-Smooth: a two-step approach for approximate Bayesian inference in latent Gaussian models*, Bayesian Analysis, to appear
- [29] Bopp, G., Shaby, B., and **Huser, R.** (2020+), *A hierarchical max-infinitely divisible spatial model for extreme precipitation*, Journal of the American Statistical Association (Applications and Case Studies), to appear
- [28] **Huser, R.** (2020+), *Editorial: EVA 2019 data competition on spatio-temporal prediction of Red Sea surface temperature extremes*, Extremes, to appear
- [27] Castro Camilo\*, D., and **Huser, R.** (2020), *Local likelihood estimation of complex tail dependence structures, applied to U.S. precipitation extremes*, Journal of the American Statistical Association (Applications and Case Studies) 115, 1037-1054
- [26] Vettori\*\*, S., **Huser, R.**, Segers, J., and Genton, M. G. (2020), *Bayesian model averaging over tree-based dependence structures for multivariate extremes*, Journal of Computational and Graphical Statistics 19, 174-190  
 ⇒ *ENVR Student Paper Award 2017, Section on Statistics and the Environment, ASA*
- [25] Alam, T., Alazmi, M., Naser, R., Huser, F., Momin, A. A., Astro, V., Hong S., Walkiewicz, K. W., Canlas, C. G., **Huser, R.**, Ali, A. J., Merzaban, J., Adamo, A., Jaremko, M., Jeremko, Ł, Bajic, V. B., Gao, X., and Arold, S. T. (2020), *Proteome-level assessment of origin, prevalence and function of Leucine-Aspartic Acid (LD) motifs*, Bioinformatics 36, 1121-1128
- [24] Vettori\*\*, S., **Huser, R.**, and Genton, M. G. (2019), *Bayesian modeling of air pollution extremes using nested multivariate max-stable processes*, Biometrics 75, 831-841  
 ⇒ *Distinguished Student Paper Award 2018, Eastern North American Region (ENAR) of the International Biometric Society*
- [23] Castro Camilo\*, D., **Huser, R.**, and Rue, H. (2019), *A spliced Gamma-generalized Pareto model for short-term extreme wind speed probabilistic forecasting*, Journal of Agricultural, Biological and Environmental Statistics 24, 517-534
- [22] Lombardo\*, L., Bakka, H., Tanyas, H., van Westen, C., Mai, P. M., and **Huser, R.** (2019), *Geostatistical modeling to capture seismic-shaking patterns from earthquake-induced landslides*, Journal of Geophysical Research: Earth Surface 124, 1958-1980
- [21] **Huser, R.** and Wadsworth, J. (2019), *Modeling spatial processes with unknown extremal dependence class*, Journal of the American Statistical Association (Theory and Methods) 114, 434-444
- [20] **Huser, R.**, Dombry, C., Ribatet, M., and Genton, M. G. (2019), *Full likelihood inference for max-stable data*, Stat 8, e218
- [19] Opitz, T., **Huser, R.**, Bakka, H., and Rue, H. (2018), *INLA goes extreme: Bayesian tail regression for the estimation of high spatio-temporal quantiles*, Extremes 21, 441-462
- [18] Lombardo\*, L., Opitz, T., and **Huser, R.** (2018), *Point process-based modeling of multiple debris flow landslides using INLA: an application to the 2009 Messina disaster*, Stochastic Environmental Research and Risk Assessment 32, 2179-2198  
 ⇒ *Highlighted among the top 10 most downloaded 2018 papers in Springer's Environmental Sciences Journals*
- [17] Hofert, M., **Huser, R.**, and Prasad, A. (2018), *Hierarchical archimax copulas*, Journal of Multivariate Analysis 167, 195-211
- [16] Krupskii, P., **Huser, R.**, and Genton, M. G. (2018), *Factor copula models for replicated spatial data*, Journal of the American Statistical Association (Theory and Methods) 113, 467-479
- [15] Vettori\*\*, S., **Huser, R.**, and Genton, M. G. (2018), *A comparison of dependence function estimators in multivariate extremes*, Statistics and Computing 28, 525-538
- [14] Lombardo\*, L., Saia, S., Schillaci, C., Mai, P. M., and **Huser, R.** (2018), *Modeling soil organic carbon with Quantile Regression: Dissecting predictors' effects on carbon stocks*, Geoderma 318, 148-159
- [13] **Huser, R.**, Opitz, T., and Thibaud, E. (2017), *Bridging asymptotic independence and dependence in spatial extremes using Gaussian scale mixtures*, Spatial Statistics 21, 166-186
- [12] Castro Camilo\*, D., Lombardo\*, L., Mai, P. M., Dou, J., and **Huser, R.** (2017), *Handling high predictor dimensionality in slope-unit-based landslide susceptibility models through LASSO-penalized Generalized Linear Model*, Environmental Modelling and Software 97, 145-156

- [11] Castruccio, S., **Huser, R.**, and Genton, M. G. (2016), *High-order composite likelihood inference for max-stable distributions and processes*, Journal of Computational and Graphical Statistics 25, 1212-1229
- [10] Naveau, P., **Huser, R.**, Ribereau, P., and Hannart, A. (2016), *Modeling jointly low, moderate and heavy rainfall intensities without a threshold selection*, Water Resources Research 52, 2753-2769
- [9] **Huser, R.**, and Genton, M. G. (2016), *Non-stationary dependence structures for spatial extremes*, Journal of Agricultural, Biological and Environmental Statistics 21, 470-491  
 ⇒ Award for Best 2016 Paper published in JABES
- [8] **Huser, R.**, Davison, A. C., and Genton, M. G. (2016), *Likelihood estimators for multivariate extremes*, Extremes 19, 79-103
- [7] Ben Taieb, S., **Huser, R.**, Hyndman, R. J., and Genton, M. G. (2016), *Forecasting uncertainty in electricity smart meter data by boosting additive quantile regression*, IEEE Transactions on Smart Grid 7, 2448-2455
- [6] Davison, A. C., and **Huser, R.** (2015), *Statistics of Extremes*, Annual Review of Statistics and its Application 2, 203-235
- [5] Genton, M. G., Castruccio, S., Crippa, P., Dutta, S., **Huser, R.**, Sun, Y., and Vettori, S. (2015), *Visuanimation in statistics*, Stat 4, 81-96
- [4] **Huser, R.**, and Davison, A. C. (2014), *Space-time modeling of extreme events*, Journal of the Royal Statistical Society: Series B 76, 439-461
- [3] Davison, A. C., **Huser, R.**, and Thibaud, E. (2013), *Geostatistics of dependent and asymptotically independent extremes*, Mathematical Geosciences 45, 511-529
- [2] **Huser, R.**, and Davison, A. C. (2013), *Composite likelihood estimation for the Brown-Resnick process*, Biometrika 100, 511-518
- [1] Anderes, E., **Huser, R.**, Nychka, D., and Coram, M. (2013) *Nonstationary positive definite tapering on the plane*, Journal of Computational and Graphical Statistics 22, 848-865

Contributions to papers with discussion:

- [3] **Huser, R.**, and Cisernos\*\*, D. (2020+), *Discussion of "Graphical Models for Extremes" by Sebastian Engelke and Adrien S. Hitz*, Journal of the Royal Statistical Society: Series B 82, 871-932
- [2] **Huser, R.**, de Carvalho, M., and Lombardo\*, L. (2019) *Discussion of "Visualizing spatiotemporal models with virtual reality: from fully immersive environments to applications in stereoscopic view" by Castruccio et. al*, Journal of the Royal Statistical Society: Series A 182, 419-441
- [1] Bakka, H., Castro Camilo\*, D., Franco-Villoria, M., Freni-Sterrantino, A., **Huser, R.**, Opitz, T., and Rue, H. (2018) *Discussion of "Using stacking to average Bayesian predictive distributions" by Yao et. al*, Bayesian Analysis 13, 917-1003

Book chapters:

- [2] Lombardo\*, L., Opitz, T., and **Huser, R.** (2019), *Numerical recipes for landslide spatial prediction by using R-INLA: A step-by-step tutorial*, In *Spatial Modeling in GIS and R for Earth and Environmental Sciences*, editors H. R. Pourghasemi and C. Gokceoglu, Elsevier, 55-83
- [1] Davison, A. C., **Huser, R.**, and Thibaud, E. (2019), *Spatial extremes*, In *Handbook of Environmental and Ecological Statistics*, editors A. E. Gelfand, M. Fuentes, J. A. Hoeting and R. L. Smith. CRC Press, 711-744

PhD thesis:

- [1] **Huser, R.** (2013), *Statistical Modeling and Inference for Spatio-Temporal Extremes*, Ph.D. thesis, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland  
 ⇒ Lambert Award 2015, Swiss Statistical Society (SSS)  
 ⇒ EPFL Doctorate Award 2014, EPFL, Lausanne, CH

Under review or in revision:

- [7] Opitz, T., Bakka, H., **Huser, R.**, and Lombardo\*, Luigi (2020+), *High-resolution mapping of landslide hazard with unobserved trigger event*, arXiv preprint 2006.07902, Submitted to the Annals of Applied Statistics
- [6] Zhong\*\*, P., **Huser, R.**, and Opitz, T. (2020+), *Modeling non-stationary temperature maxima based on extremal dependence changing with event magnitude*, arXiv preprint 2006.01569, Submitted to the Annals of Applied Statistics

- [5] Khandavilli, M., Yalamanchi, K. K., **Huser, R.**, and Sarathy, M. (2020+), *Effects of fuel composition variability on high temperature combustion properties: A statistical analysis*, Submitted to Applications in Energy and Combustion Science
- [4] Jóhannesson, Á. V., Hrafnkelsson, B., **Huser, R.**, Bakka, H., and Siegert, S. (2020+), *Approximate Bayesian inference for spatio-temporal flood frequency analysis*, arXiv preprint 1907.04763, Submitted to the Annals of Applied Statistics
- [3] Hazra\*, A., and **Huser, R.** (2020+), *Estimating high-resolution Red Sea surface temperature hotspots, using a low-rank semiparametric spatial model*, arXiv preprint 1912.05657, Invited revision for the Annals of Applied Statistics
- [2] Gong\*\*, Y., and **Huser, R.** (2019+), *Asymmetric tail dependence modelling, with application to cryptocurrency market data*, arXiv preprint 1905.05056, Under revision for the Annals of Applied Statistics
- [1] Rubio\*\*, R., de Carvalho, M., and **Huser, R.** (2017+), *Similarity-based clustering for stock market extremes*, Invited revision for the Journal of the Royal Statistical Society: Series C

In preparation (expected submission by the end of October, 2020):

- [4] Krupskii, P., and **Huser, R.** (2020+), *Cauchy convolution processes for the modeling of spatial extremes with local tail dependence*
- [3] Lombardo\*, L., Tanyas, H., **Huser, R.**, Guzzetti, F., and Castro-Camilo\*, D. (2020+), *Landslide size matters: a new spatial predictive paradigm*
- [2] de Carvalho, M., Rubio\*\*, R., Leonelli, M., and **Huser, R.** (2020+), *Diagonal distributions*
- [1] **Huser, R.**, and Stein, M. (2020+), *Inference for max-stable processes based on the Vecchia approximation*

## Research Grants and Funding

### Active grants:

Principal Investigator:	Title: <i>Statistical Estimation and Detection of Extreme Hot Spots, with Environmental and Ecological Applications</i> KAUST Competitive Research Grant, CRG 2017 US \$771,674	2018–2021
Principal Investigator:	KAUST’s generous sustained funding (Baseline + Start-up)	2015–2021

### Submitted grants (under review):

Collaborator:	Title: <i>Innovations in Modelling Extreme Values of Big and Complex Data</i> PI: Dr. Boris Beranger, University of New South Wales, Australia Australian Research Council	2021–2023
Partner Investigator:	Title: <i>Statistical Models for Big Space-Time Data Applied to Extreme Event Analysis and Prediction</i> PI: Prof. Pavel Krupskii, University of Melbourne, Australia Australian Research Council	2021–2023
Principal Investigator:	Title: <i>Sparse Models for Spatio-Temporal Extremes</i> KAUST Competitive Research Grant, CRG 2020	2021–2024
Co-Principal Investigator:	Title: <i>Natural Hazard Chain (NaHaC): from Earthquake Shaking to Landslide Disasters</i> PI: Prof. P. Martin Mai, KAUST, Saudi Arabia KAUST Competitive Research Grant, CRG 2020	2021–2024
Co-Proposer:	Title: <i>Improved 21st century projections of sub-daily extreme precipitation by spatio-temporal recalibration</i> PI: Prof. B. Hrafnkelsson, University of Iceland, Iceland The Icelandic Research Fund 2021	2021–2024

## Teaching Experience

### Instructor:

Dependence Modeling with Copulas, KAUST, Spring 2020  
Probability and Statistics, KAUST, Fall 2019, 2020  
Graduate Seminar series, KAUST, Fall 2017, Spring 2018  
Statistics of Extremes, KAUST, Spring 2016, 2017, 2018, 2019  
KAUST, short course (3 weeks), Fall 2014  
Linear Models, KAUST, Fall 2015, 2016, 2017, 2018  
Space-Time Modeling of Extreme Events, Invited lecturer, EPFL, 2h-lecture, Fall 2014

### Teaching Assistant:

Monte Carlo Inference, EPFL, Fall 2010, 2012  
Mathematics projects, EPFL, Spring 2012  
Statistics of Extremes, EPFL, Fall 2009, 2011  
Calculus, EPFL, Fall 2011  
Time Series, EPFL, Spring 2010, 2011  
Probability and Statistics, EPFL, Spring 2011  
Statistics, EPFL, Spring 2010

## Student/Postdoc supervision

### Postdocs:

#### *Current:*

Arnab Hazra, 2018–, KAUST

#### *Former:*

Luigi Lombardo, 2016–2018, KAUST, jointly with Prof. Martin Mai (*first position: Assistant Professor at the University of Twente, Netherlands*)

Daniela Andrea Castro Camilo, 2015–2019, KAUST (*first position: Lecturer, i.e., equivalent to Assistant Professor, at the University of Glasgow, UK*)

### Ph.D. Students:

#### *Current:*

Noura Alotaibi, 2024 (expected), KAUST  
Matheus Guerrero, 2022 (expected), KAUST, jointly with Prof. Hernando Ombao  
Peng Zhong, 2022 (expected), KAUST  
Zhongwei Zhang, 2022 (expected), KAUST  
Daniela Cisneros Arce, 2022 (expected), KAUST  
Yan Gong, 2021 (expected), KAUST  
Rishikesh Yadav, 2021 (expected), KAUST

#### *Completed:*

Rodrigo Rubio, 2020, PUC (Chile), jointly with Dr. Miguel de Carvalho  
Sabrina Vettori, 2017, KAUST, jointly with Prof. Marc G. Genton (*first position: startup company "EDAMA Organic Solutions" at KAUST, now CEO of EDAMA*)

### M.S. students:

#### *Current:*

Xuanjie Shao, 2021 (expected), KAUST  
Abdulaziz Almutlaq, 2021 (expected), KAUST

#### *Completed:*

Enas Alahmadi, 2020, KAUST (*first position: Saudi Industrial Development Fund (SIDF) – market study division*)  
Rustam Bekishev, 2018, KAUST (*first position: Senior Business Analyst at the Applied Economics Research Center, Kazakhstan*)  
Peng Zhong, 2018, KAUST (*first position: PhD student at KAUST*)  
Baki Zhuldyzah, 2018, KAUST (*first position: Risk Assurance Associate at PwC, Kazakhstan*)

Yan Gong, 2017, KAUST (*first position: PhD student at KAUST*)

**B.S. students:**

Eugène Kviatkevitch and Salmon Virgile, supervised for B.S. semester project, 2012, EPFL  
Antoine Herveleu and François Pagano, supervised for B.S. semester project, 2012, EPFL

**Interns:**

Enas Alahmadi (Boston University), 2 month-internship at KAUST (summer 2017)

**My group members' awards and recognitions (*while being under my supervision*):**

- 2019: Luigi Lombardo (Postdoc): Journal paper [18] above, published in the journal Stochastic Environmental Research and Risk Assessment (SERRA), was highlighted among the top 10 most downloaded 2018 papers in Springer's Environmental Sciences Journals
- 2017: Luigi Lombardo (Postdoc): Appointed Editor of the Natural Hazards Division blog of the European Geoscience Union (EGU) for Nov 2017-Nov 2019.  
Luigi Lombardo (Postdoc): co-author of a paper awarded for the best research within the Italian Council for Agricultural Research and Economics (CREA) for 2017.  
Sabrina Vettori (Ph.D. student): ENAR Distinguished Student Paper Award, International Biometric Society Eastern North American Region – *presented in an invited talk at ENAR 2018, Atlanta.*  
Sabrina Vettori (Ph.D. student): ENVR Student Paper Award, Section on Statistics and the Environment, ASA – *presented in an invited talk at JSM 2017, Baltimore.*

**Talks**

Special invited talks (*plenary/keynote/special talks at conferences – not including smaller workshops*):

- 2018, International Biometric Conference, Barcelona, ES (*JABES Showcase Session, presentation for JABES Best 2016 Paper Award*)  
Conference on Computational and Statistical Interface to Big Data, KAUST, Thuwal, SA (*Plenary talk*)  
2015, Swiss Statistics Meeting, Berne, CH (*Plenary talk for Lambert Award 2015*)

Invited talks at international conferences/workshops:

- 2020, Virtual TIES Meeting (*upcoming*)  
[TIES, Imperial College, London, UK (*postponed due to COVID-19 pandemic*)]  
JSM, Philadelphia, US (*Invited Session*)  
[EcoSta, University of Yonsei, Seoul, SK (*postponed due to COVID-19 pandemic*)]  
[Workshop on Functional Data over Multidimensional domains, EPFL, Lausanne, CH (*cancelled due to COVID-19 pandemic*)]
- 2019, CMStatistics (ERCIM), University of London, London, UK  
ISI World Statistics Congress, Kuala Lumpur, MY (*Special Topic Session*)  
JSM, Denver CO, US (*Invited Session*)  
Workshop on Risk Analysis for Extremes in the Earth System, Lawrence Berkeley National Lab, Berkeley CA, US (*2 Invited talks: 3h short course on Spatial Extremes & Research talk*)  
EVA, University of Zagreb, Zagreb, Croatia (*2 Invited talks: Invited Session & Introduction to EVA Competition*)
- 2018, JSM, Vancouver, CA (*Topic Contributed Session*)  
TIES, CIMAT, Guanajuato, MX  
IMS Asia Pacific Rim Meeting Conference, Singapore, SG  
4<sup>th</sup> Conference of the ISNPS, Salerno, IT  
Transition Workshop on Mathematical and Statistical Methods for Climate and the Earth System (CLIM), SAMSI, Raleigh NC, US (*Special Plenary Lecture*)
- 2017, CMStatistics (ERCIM), University of London, London, UK  
EMS, University of Helsinki, Helsinki, FI  
ISI World Statistics Congress, Marrakech, MA (*Discussant and Invited Session Organizer*)  
EVA, University of Technology, Delft, NL (*2 Invited talks: Invited Session & EVA Competition*)  
EcoSta, Hong Kong University of Science and Technology, Hong Kong, CN  
Workshop on Risk Quantification and Extreme Values in Applications, EPFL, Lausanne, CH
- 2016, CMStatistics (ERCIM), University of Seville, Seville, ES

- STATMOS Workshop, Pennsylvania State University, State College PA, US  
 IMS Asia Pacific Rim Meeting Conference, The Chinese University of Hong Kong, CN  
 Workshop on Uncertainty Modeling in the Analysis of Weather, Climate and Hydrological  
 Extremes, BIRS, Banff, CA  
 Workshop on Uncertainty and Causality Assessment in Modeling Extreme and Rare Events,  
 NCAR, Boulder CO, US  
 Workshop on Computational Challenges of Multivariate Extremes with Applications in the  
 Environment and Geosciences, Edinburgh, UK  
 2015, TIES, UAE University, Al Ain, UAE  
 EVA, University of Michigan, Ann Arbor MI, US  
 Workshop on New Developments in Econometrics and Time Series, RUB, Bochum, DE  
 2014, CFE (ERCIM), University of Pisa, Pisa, IT  
 COMPSTAT, Geneva, CH  
 2013, PEPER workshop, Aussois, FR  
 2012, Zürich Extremes Meeting, Zurich, CH  
 Workshop on Composite Likelihood Methods, BIRS, Banff, CA  
 CLAPEM, Viña del Mar, CL  
 2011, EVA, Lyon, FR (*Invited talk shared with Prof. Anthony C. Davison*)  
 2010, Transition Workshop on Space-Time Analysis for Environmental Mapping, Epidemiology and  
 Climate Change, SAMSI, Rayleigh NC, US

Invited seminars:

- 2020, Chalmers University, Gothenburg, SE  
 University of Melbourne, Melbourne, AU  
 2018, North Carolina State University, Raleigh NC, US  
 2016, University of Chicago, Chicago IL, US (*2 Talks*)  
 Purdue University, West Lafayette IN, US  
 University of Michigan, Ann Arbor MI, US  
 Ohio State University, Columbus OH, US  
 Colorado School of Mines, Golden CO, US  
 Newcastle University, Newcastle, UK  
 Lancaster University, Lancaster, UK  
 2015, Pontificia Universidad Católica de Chile, Santiago, CL  
 Bristol University, Bristol, UK  
 2014, KAUST, Thuwal, SA  
 Laboratoire de Statistique Théorique et Appliquée (LSTA), St-Quentin-en-Yvelines, FR  
 Laboratoire des Sciences du Climat et de l'Environnement (LSCE), Paris, FR  
 EPFL, Lausanne, CH  
 EPFL (course for Ph.D. students in statistics), Lausanne, CH  
 2013 KAUST, Thuwal, SA

Contributed talks

- 2020, [CRG Workshop, Lancaster University, Lancaster, UK (*cancelled due to COVID-19 pandemic*)]  
 2019, Spatial Statistics Conference, Sitges, ES  
 CRG Workshop, KAUST, Thuwal, SA  
 2018, XIV EBEB – Brazilian Meeting on Bayesian Statistics, Rio de Janeiro, BR  
 2016, Workshop on Statistics for High-Dimensional and Complex Data, KAUST, Thuwal, SA  
 2015, Workshop on Computational Space-Time Statistics, KAUST, Thuwal, SA  
 JSM, Seattle WA, US  
 2014, Workshop on Statistics of Extremes, KAUST, Thuwal, SA  
 JSM, Boston MA, US  
 Workshop on High-Dimensional and Multivariate Extremes, Bristol, UK  
 2013, 10<sup>th</sup> Graduate Colloquium in Mathematics, University of Berne, Berne, CH  
 2011, Annual Meeting of the EXTREMES Group, Davos, CH  
 2010, Annual Meeting of the EXTREMES Group, Davos, CH

## Posters

- 2018, Workshop in honor of Anthony C. Davison's 60<sup>th</sup> birthday, EPFL, Lausanne, CH
- 2017, Workshop on Modern Statistics and Complex Data Structures, KAUST, Thuwal, SA
- 2016, Workshop on Uncertainty Modeling in the Analysis of Weather, Climate and Hydrological Extremes, BIRS, Banff, CA (*Invited Poster*)
- 2014, KAUST Industry Collaboration Program (KICP) Research Symposium, KAUST, Thuwal, SA  
Workshop on Spatial Statistics for Environmental and Energy Challenges, KAUST, Thuwal, SA
- 2013, CRAG-IRGC Symposium on Uncertainty: From Insight to Action, EPFL, Lausanne, CH
- 2010, Workshop on Environmetrics, NCAR, Boulder CO, US (*1<sup>st</sup> prize for best poster*)  
IMSC, Edinburgh, UK
- 2009, EVA, Fort Collins CO, US

## Editorial Service and Reviewing Activity (*see also <https://publons.com>*)

- 2020– Associate Editor for the journal *Environmetrics*
- 2020– Associate Editor for the *Journal of the Korean Statistical Society (JKSS)*
- 2020 Guest Editor for the *Extremes* Special Issue on the “EVA 2019 Data Competition on Spatio-Temporal Prediction of Red Sea Surface Temperature Extremes”
- 2019– Associate Editor for the journal *Econometrics and Statistics (EcoSta)*
- 2019– Associate Editor for the *Journal of Agricultural, Biological and Environmental Statistics (JABES)*
- 2017– Associate Editor for the journal *Extremes*

## Reviewer for the following journals:

*Annals of Applied Statistics; Biometrika; Computational Statistics and Data Analysis; Earth System Dynamics; Electronic Journal of Statistics; Environmetrics; Extremes; Hydrology and Earth System Sciences; IEEE Transactions on Signal Processing; IEEE Transactions on Smart Grid; Journal of the American Statistical Association – Applications and Case Studies; Journal of the American Statistical Association – Theory and Methods; Journal of Computational and Graphical Statistics; Journal of Hydrology; Journal of Mountain Science; Journal of Multivariate Analysis; Machine Learning; Mathematical Geosciences; Metron; REVSTAT; Sankhya; Scandinavian Journal of Statistics; Spatial Statistics; Stat; Statistical Science; Statistics and Computing; Stochastic Environmental Research and Risk Assessment; TEST; Water Resources Research*

## Reviewer for the following funding agencies:

*Army Research Office (ARO), US*  
*Natural Sciences and Engineering Research Council of Canada (NSERC), Canada*

## Other:

*KAUST Research Computing Allocation Committee (RCAC), SA*

## Service to the Profession (*additional to Editorial and Reviewing Service; see above*)

### Ph.D. thesis committee member:

- Alhagie Hydera, KAUST, Ph.D. proposal (2020, upcoming)
- Yan Gong, KAUST, Ph.D. proposal (2020)
- Rishikesh Yadav, KAUST, Ph.D. proposal (2020)
- Wanfang Chen, KAUST, Ph.D. proposal (2018) and Ph.D. defense (2020, upcoming)
- Daniela Andrea Castro Camilo, PUC (Chile), Ph.D. defense (2015)
- Nadhira Ben Rached, KAUST, Ph.D. proposal (2015) and Ph.D. defense (2018)

### M.S. thesis committee member:

- Amine Bejaoui, KAUST, 2020
- Zhuldyzay Baki, KAUST, 2018
- Soumaya Elkantassi, KAUST, 2017
- Rui Meng, KAUST, 2016



#### Conference and workshop organization:

[*Scientific Committee Member*: TIES 2020 Conference, Imperial College, London, UK (*postponed due to COVID-19 pandemic*)]

[*Scientific Committee Member*: 2020 Spatial Data Science Workshop, UNIL, Lausanne, CH (*cancelled due to COVID-19 pandemic*)]

[*Scientific Program Committee Member*: EcoSta 2020 conference, Seoul, SK (*postponed due to COVID-19 pandemic*)]

*Scientific Program Committee Member*: CFE-CMStatistics 2019 conference, London, UK

*Co-organizer*: 2019 Workshop on Statistics and Data Science, KAUST

*Co-organizer*: 2018 Workshop on Statistics and Data Science, KAUST

*Co-organizer*: 2017 Workshop on Modern Statistics and Complex Data Structures, KAUST

*Chair*: 2016 Workshop on Statistics for High-Dimensional and Complex Data, KAUST

*Co-organizer*: 2015 Workshop on Computational Space-Time Statistics, KAUST

*Co-organizer*: 2014 Workshop on Statistics of Extremes, KAUST

#### Organization of invited sessions at international conferences:

CMStatistics 2020, King's College London, London, UK (*upcoming*)

[TIES 2020, Imperial College, London, UK (*postponed due to COVID-19 pandemic*)]

[EcoSta 2020, Yonsei University, Seoul, SK (*postponed due to COVID-19 pandemic*)]

CMStatistics 2019, University of London, London, UK

CMStatistics 2018, University of Pisa, Pisa, Italy

4<sup>th</sup> conference of the International Society for Non-Parametric Statistics (ISNPS) 2018, Salerno, Italy

CMStatistics 2017, University of London, London, UK

ISI World Statistics Congress 2017, Marrakech, Morocco

#### Other:

*Co-organizer*: One World Extremes Seminar (online seminars on Extreme-Value Theory), 2020–

*Member*: ISI Publications Committee (TIES representative), 2020–

*Co-chair*: team “Statistics of Extremes and Applications” of the CMStatistics network, 2020–

*Organizer*: EVA 2019 Data Competition on Spatio-Temporal Prediction of Red Sea Surface Temperature Extremes (led to a Special Invited Session at EVA 2019, and a Special Issue in the journal *Extremes*)

#### Other skills

Languages: French (mother tongue), English (fluent), German (basic)

Computing: Programming: R, Matlab, C++

Supercomputing: Unix, Slurm, OpenMP

Other: LaTeX, MS Office

#### Scientific and professional memberships

International Statistical Institute (ISI), Elected Member

Bernoulli Society (BS), Regular Member

The International Environmetrics Society (TIES), Regular Member

Swiss Statistical Society (SSS), Regular Member

American Statistical Association (ASA), Regular Member

#### References

Upon request.