Raphaël Huser

King Abdullah University of Science and Technology (KAUST)
Computer, Electrical and Mathematical Sciences and Engineering (CEMSE) Division, Statistics program
Email: Raphaël.huser@kaust.edu.sa

EDUCATION

Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland, 2009-2013
PhD in Statistics (2014 EPFL Doctorate Award),
Dissertation Title: Statistical Modeling and Inference for Spatio-Temporal Extremes
Advisor: Prof. Anthony C. Davison

Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland, 2007-2009
MSc in Applied Mathematics,
Dissertation Title: On Kriging of Extreme Precipitation Return Levels and Tapering
Co-Advisors: Prof. Anthony C. Davison and Prof. Douglas Nychka

Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland, 2004-2007
BSc in Mathematics

PROFESSIONAL EXPERIENCE

2022-present	Associate Professor, Statistics (Primary affiliation) and Applied Mathematics and Computational Science (Secondary affiliation), CEMSE, KAUST *(Effective July 1st, 2022)* PI of Extreme Statistics (extSTAT) Research Group
2015–2022	Assistant Professor, Statistics, CEMSE, KAUST
2014-2015	Post-Doctoral Research Fellow, Statistics, CEMSE, KAUST

EDITORIAL EXPERIENCE

Current

2022–present	Associate Editor for the journal *Statistics and Computing*
2022–present	Associate Editor for the *Journal of the Royal Statistical Society: Series C*
2020–present	Associate Editor for the journal *Environmetrics*
2019–present	Associate Editor for the *Journal of Agricultural, Biological and Environmental Statistics*
2017–present	Associate Editor for the journal *Extremes*

Past

2020–2021	Associate Editor for the *Journal of the Korean Statistical Society*
2020	Guest Editor for the *Extremes* Special Issue on the "EVA 2019 Data Competition on Spatio-Temporal Prediction of Red Sea Surface Temperature Extremes"
2019–2021	Associate Editor for the journal *Econometrics and Statistics*

Reviewer experience at the end.

RESEARCHER ID NUMBER

ORC ID: 0000-0002-1228-2071
Google Scholar: link
Web of Science Researcher ID: I-7165-2019

SCOPUS: 55743671800

HONORS AND SCHOLARLY AWARDS (Student or post-doc advisees are underlined)
After joining KAUST
2019: 9. ENVR Early Investigator Award, Section on Statistics and the Environment (ENVR) of the American Statistical Association (ASA)

   8. Journal paper [J18] below with Lombardo, L., Opitz, T., and **Huser, R.**, published in the journal Stochastic Environmental Research and Risk Assessment (SERRA) in 2018, was highlighted among the top 10 most downloaded 2018 papers in Springer's Environmental Sciences Journals

2018: 7. Award for Best 2016 Paper (Journal paper [J9] below with **Huser, R.**, and Genton, M. G.) published in the Journal of Agricultural, Biological and Environmental Statistics (JABES)
   ⇨ *Work presented in a Special Invited Session at the 2018 International Biometric Conference*

2017: 6. ENAR Distinguished Student Paper Award for the Journal paper [J24] below with Vettori, S., **Huser, R.**, and Genton, M. G., from the International Biometric Society Eastern North American Region (ENAR).
   ⇨ *Work presented in an Invited Talk at the 2018 ENAR Conference, Atlanta*

   5. ENVR Student Paper Award for the Journal paper [J26] below with Vettori, S., **Huser, R.**, Segers, J., and Genton, M. G., from the American Statistical Association (ASA) Section on Statistics and the Environment (ENVR).

2016: 4. Elected Member of the International Statistical Institute (ISI)

2015: 3. 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 2015 Swiss Statistics Meeting*

Before joining KAUST
2014: 2. EPFL Doctorate Award, EPFL, Lausanne, CH
   ⇨ *2 laureates for 405 PhD theses defended university-wide*

2010: 1. Co-winner of PhD poster competition at the Workshop on Environmetrics, NCAR

PROFESSIONAL AFFILIATIONS
6. International Statistical Institute (ISI), **Elected Member**

5. Bernoulli Society (BS), Regular Member

4. The International Environmetrics Society (TIES), Regular Member

3. Swiss Statistical Society (SSS), Regular Member

2. American Statistical Association (ASA), Regular Member

1. Royal Statistical Society (RSS), Regular Member

PUBLICATIONS
*Since I was appointed Assistant Professor at KAUST in March, 2015, I published 47 papers (40 peer-reviewed journal articles + 4 contributions to papers with discussion + 3 book chapters) of which 25 (Publications: B2-3, D1-4, J12, J14-15, J18, J22-24, J26-28, J33, J35, J37-38, J40-44) were the outcome of work generated by students and post-docs I supervised.

<u>Note</u>: In my research community, there is no clear rule about the order of authors. Sometimes, the alphabetical order is even used in case of "equal contributions". However, when a paper involves a student or a post-doc, it is customary for the student or post-doc to be the 1st author as the main contributor, and for the senior author (often the PhD or post-doc advisor) to be either the 2nd author or the last author. In my publications, I am often the 1st, 2nd or last author.

Peer-Reviewed Journal Articles (*corresponding author; student or post-doc advisees are <u>underlined</u>)

Publications at KAUST

[J44] <u>Guerrero, M. B.</u>, **Huser*, R.**, and Ombao, H. (2022+), *Conex-Connect: Learning patterns in extremal brain connectivity from multi-channel EEG data*, Annals of Applied Statistics, to appear

[J43] <u>Zhong, P.</u>, **Huser*, R.**, and Opitz, T. (2022+), *Exact simulation of max-infinitely divisible processes*, Econometrics and Statistics, to appear

[J42] <u>Zhang, Z.</u>, **Huser*, R.**, Opitz, T., and Wadsworth, J. (2021+), *Modeling spatial extremes using normal mean-variance mixtures*, Extremes, to appear

[J41] <u>Gong, Y.</u>, and **Huser*, R.** (2021+), *Asymmetric tail dependence modelling, with application to cryptocurrency market data*, Annals of Applied Statistics, to appear

[J40] Opitz*, T., Bakka, H., **Huser, R.**, and <u>Lombard, Luigi</u> (2021+), *High-resolution mapping of landslide hazard with unobserved trigger event*, Annals of Applied Statistics, to appear

[J39] Jóhannesson, Á. V., Siegert, S., **Huser*, R.**, Bakka, H., and Hrafnkelsson, B. (2021), *Approximate Bayesian inference for analysis of spatio-temporal flood frequency data*, Annals of Applied Statistics, to appear

[J38] <u>Zhong, P.</u>, **Huser*, R.**, and Opitz, T. (2022), *Modeling nonstationary temperature maxima based on extremal dependence changing with event magnitude*, Annals of Applied Statistics 16, 272-299

[J37] **Huser*, R.**, and Wadsworth, J. (2022), *Advances in statistical modeling of spatial extremes*, Wiley Interdisciplinary Reviews (WIREs): Computational Statistics 14, e1537

[J36] <u>Lombardo*, L.</u>, Tanyas, H., **Huser, R.**, Guzzetti, F., and <u>Castro-Camilo, D.</u> (2021), *Landslide size matters: a new data-driven, spatial prototype*, Engineering Geology 293, 106288

[J35] <u>Hazra, A.</u>, and **Huser*, R.** (2021), *Estimating high-resolution Red Sea surface temperature hotspots, using a low-rank semiparametric spatial model*, Annals of Applied Statistics 15, 572-596

[J34] Hrafnkelsson*, B., Siegert, S., **Huser, R.**, Bakka, H., and Jóhannesson, Á. V. (2021), *Max-and-Smooth: a two-step approach for approximate Bayesian inference in latent Gaussian models*, Bayesian Analysis 16, 611-638

[J33] <u>Yadav, R.</u>, **Huser*, R.**, and Opitz, T. (2021), *Spatial hierarchical modeling of threshold exceedances using rate mixtures*, Environmetrics 32, e2662

[J32] Bopp*, G., Shaby, B., and **Huser, R.** (2021), *A hierarchical max-infinitely divisible spatial model for extreme precipitation*, Journal of the American Statistical Association (Applications and Case Studies) 116, 93-106

[J31] **Huser*, R.** (2021), *Editorial: EVA 2019 data competition on spatio-temporal prediction of Red Sea surface temperature extremes*, Extremes 24, 91-104

[J30] **Huser, R.**, Opitz*, T., and Thibaud, E. (2021), *Max-infinitely divisible models and inference for spatial extremes*, Scandinavian Journal of Statistics 48, 321-348

[J29] Khandavilli*, M., Yalamanchi, K. K., **Huser, R.**, and Sarathy*, M. (2020), *Effects of fuel composition variability on high temperature combustion properties: A statistical analysis*, Applications in Energy and Combustion Science 1-4, 100012

[J28] <u>Lombardo*, L.</u>, Opitz, T., Ardizzone, F., Guzzetti, F., and **Huser, R.** (2020), *Space-time landslide predictive modelling*, Earth-Science Reviews 209, 103318

[J27] <u>Castro Camilo*, D.</u>, 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

[J26] <u>Vettori, S.</u>, **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*

[J25] 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

[J24] <u>Vettori, S.</u>, **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*

[J23] <u>Castro Camilo*, D.</u>, **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

[J22] <u>Lombardo*, L.</u>, 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

[J21] **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

[J20] **Huser*, R.**, Dombry, C., Ribatet, M., and Genton, M. G. (2019), *Full likelihood inference for max-stable data*, Stat 8, e218

[J19] 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

[J18] <u>Lombardo*, L.</u>, 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*

[J17] Hofert*, M., **Huser, R.**, and Prasad, A. (2018), *Hierarchical archimax copulas*, Journal of Multivariate Analysis 167, 195-211

[J16] 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

[J15] <u>Vettori*, S.</u>, **Huser, R.**, and Genton, M. G. (2018), *A comparison of dependence function estimators in multivariate extremes*, Statistics and Computing 28, 525-538

[J14] <u>Lombardo*, L.</u>, 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

[J13] **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

[J12] <u>Castro Camilo, D.</u>, <u>Lombardo*, L.</u>, 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

[J11] 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

[J10] 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

[J9] **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*

[J8] **Huser*, R.**, Davison, A. C., and Genton, M. G. (2016), *Likelihood estimators for multivariate extremes*, Extremes 19, 79-103

[J7] 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

[J6] Davison*, A. C., and **Huser, R.** (2015), *Statistics of Extremes*, Annual Review of Statistics and its Application 2, 203-235

[J5] Genton*, M. G., Castruccio, S., Crippa, P., Dutta, S., **Huser, R.**, Sun, Y., and Vettori, S. (2015), *Visuanimation in statistics*, Stat 4, 81-96

Publications before joining KAUST

[J4] **Huser, R.**, and Davison*, A. C. (2014), *Space-time modeling of extreme events*, Journal of the Royal Statistical Society: Series B 76, 439-461

[J3] Davison*, A. C., **Huser, R.**, and Thibaud, E. (2013), *Geostatistics of dependent and asymptotically independent extremes*, Mathematical Geosciences 45, 511-529

[J2] **Huser, R.**, and Davison*, A. C. (2013), *Composite likelihood estimation for the Brown-Resnick process*, Biometrika 100, 511-518

[J1] 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 (*corresponding author; student or post-doc advisees are underlined) – *all published since joining KAUST*

[D4] Hazra*, A., and **Huser, R.** (2021+), *Discussion of "Multilevel linear models, Gibbs samplers and multigrid decompositions" by Giacomo Zanella and Gareth Roberts*, Bayesian Analysis, to appear

[D3] **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

[D2] **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

[D1] 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 (*corresponding author; student or post-doc advisees are underlined) – *all published since joining KAUST*

[B3] Hazra, A., **Huser*, R.**, and Jóhannesson, Á. V. (2021+), *Bayesian latent Gaussian models for high-dimensional spatial extremes*, Book chapter, In *Statistical Modeling Using Bayesian Latent Gaussian Models – With Applications in Geophysics and Environmental Sciences*, editor B. Hrafnkelsson, Springer, to appear

[B2]   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

[B1]   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

Theses – *all published before joining KAUST*

[T2]   **Huser, R.** (2013), *Statistical Modeling and Inference for Spatio-Temporal Extremes*, PhD thesis, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland. Supervised by Prof. Anthony C. Davison
⇨   *EPFL Doctorate Award 2014, EPFL, Lausanne, CH*

[T1]   **Huser, R.** (2009), *On Kriging of Extreme Precipitation Return Levels and Tapering*, M.Sc. thesis, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland. Performed while visiting the National Center for Atmospheric Research (NCAR), CO, US, and co-supervised by Prof. Anthony C. Davison and Prof. Douglas Nychka.

Journal Articles Under Review (*corresponding author; student or post-doc advisees are underlined) – *all submitted since joining KAUST*

[R10] **Huser*, R.**, Stein, M., and Zhong, P. (2022+), *Vecchia likelihood approximation for accurate and fast inference in intractable spatial extremes models,* arXiv preprint 2203.05626, Submitted to the Journal of the Royal Statistical Society: Series B

[R9]   Zhang*, Z., Krainski, E., Zhong, Z., Rue, H., and **Huser, R.** (2022+), *Joint modeling and prediction of massive spatio-temporal wildfire count and burnt area data with the INLA-SPDE approach,* arXiv preprint 2202.06502, Submitted to Extremes

[R8]   Cisneros, D., Gong, Y., Yadav, R., Hazra*, A., and **Huser, R.** (2021+), *A combined statistical and machine learning approach for spatial prediction of extreme wildfire frequencies and sizes,* arXiv preprint 2112.14920, Submitted to Extremes

[R7]   Hazra, A., **Huser*, R.**, and Bolin, D. (2021+), *Realistic and fast modeling of spatial extremes over large geographical domains,* arXiv preprint 2112.10248

[R6]   Yadav, R., **Huser*, R.**, and Opitz, T. (2021+), *A flexible Bayesian hierarchical modeling framework for spatially dependent peaks-over-threshold data,* arXiv preprint 2112.09530, In revision for Spatial Statistics (Minor revisions, 1st round)

[R5]   Castro-Camilo*, D., **Huser, R.**, and Rue, H. (2021+), *Practical strategies for GEV-based regression models for extremes*, arXiv preprint 2106.13110, In revision for Environmetrics (Major revisions, 1st round)

[R4]   Hazra*, A., Alahmadi, E., and **Huser*, R.** (2021+), *Extreme-value analysis*, Submitted

[R3]   Krupskii, P., and **Huser*, R.** (2021+), *Modeling spatial tail dependence with Cauchy convolution processes*, arXiv preprint 2102.07094, In revision for the Electronic Journal of Statistics (Major revisions, 1st round)

[R2]   Zhang, Z., Arellano-Valle, R. B., Genton, M. G., and **Huser*, R.** (2021+), *Tractable Bayes of skew-elliptical link models for correlated binary data*, arXiv preprint 2101.02233, Resubmitted to Biometrics (after a 1st round with major revisions)

[R1]   Rubio, R., de Carvalho*, M., and **Huser, R.** (2017+), *Similarity-based clustering for stock market extremes*, In revision for the Journal of the Royal Statistical Society: Series C (Major revisions, 1st round)

[P12] <u>Yadav, R.</u>, **Huser*, R.**, Opitz, T., and Lombardo, L. (2022+*), Joint modeling of landslide counts and sizes using spatial marked point processes with sub-asymptotic mark distributions*

[P11] <u>Redondo, P. V.</u>, **Huser, R.**, Ombao*, H. (2022+), *Functional-coefficient models for multivariate time series in designed experiments: With applications to brain signals*

[P10] <u>Gong, Y.</u>, <u>Zhong, P.</u>, Opitz, T., and **Huser*, R.** (2022+), *The partial tail correlation coefficient: With application to extremal network learning*

[P9] Krupskii*, P., and **Huser, R.** (2022+), *Max-convolution processes with random shape indicator kernels*

[P8] Sainsbury-Dale, M., Zammit-Mangion*, A., and **Huser, R.** (2022+), *Enhanced Parameter Estimation using Neural Networks*

[P7] <u>Richards, J.</u>, and **Huser*, R.** (2022+), *High-dimensional extreme quantile regression using partially-interpretable neural networks: With application to U.S. wildfires*

[P6] <u>Guerrero, M. B.</u>, **Huser*, R.**, and Ombao, H. (2022+), *Club Exco: Clustering extreme brain communities from multi-channel EEG data*

[P5] <u>Gong, Y.</u>, and **Huser*, R.** (2022+), *Flexible joint tail modeling of multivariate spatial processes*

[P4] **Huser*, R.**, and Opitz, T. (2022+), *Should max-stable models be used for modeling spatial extremes in practice?*

[P3] <u>Zhang, Z.</u>, **Huser*, R.**, Opitz, T., and Wadsworth, J. (2022+), *Extremal kriging based on a spatio-temporal mean-variance mixture model*

[P2] <u>Zhong, P.</u>, Brunner, M., **Huser*, R.**, and Opitz, T. (2022+), *Are spatial precipitation extremes becoming more intense, wider, or both? An extreme-value statistics perspective*

[P1] de Carvalho*, M., <u>Rubio, R.</u>, Leonelli, M., and **Huser, R.** (2022+), *Diagonal distributions*

CONFERENCE PRESENTATIONS

Invited Talks at International Conferences/Workshops

After joining KAUST

2022,   Climate and Weather Extremes workshop, Institute for Mathematical and Statistical Innovation (IMSI), University of Chicago, Chicago IL, US *(upcoming)*

JSM, Washington DC, US *(Topic Contributed Session) (upcoming)*

24th National Symposium on Probability and Statistics (SINAPE), Gramado, BR *(upcoming)*

5th Conference of the ISNPS, Pathos, CY *(upcoming)*

Workshop on Combining Causal Inference and Extreme Value Theory in the Study of Climate Extremes and their Causes, BIRS, Banff, CA (Virtual) *(upcoming)*

EcoSta, Ryukoku University, Kyoto, JP *(upcoming)*

EGU General Assembly *(Solicited Talk) (upcoming)*

2021,   CMStatistics (ERCIM), King's College London, London, UK

Spatial Data Science Conference (Virtual)

[ICSA Symposium *(cancelled)*]

EcoSta (Virtual), Hong Kong University of Science and Technology, HK

2020,   Virtual TIES Meeting

[TIES, Imperial College, London, UK *(postponed to 2021 due to COVID-19 pandemic)*]

JSM, Philadelphia PA, US *(Invited Session)*

[EcoSta, University of Yonsei, Seoul, SK *(postponed to 2021 due to COVID-19 pandemic)*]

[Workshop on Functional Data over Multidimensional domains, EPFL, Lausanne, CH *(postponed to 2021 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

International Biometric Conference, Barcelona, ES *(JABES Showcase Session, presentation for JABES Best 2016 Paper Award [J9])*

IMS Asia Pacific Rim Meeting Conference, Singapore, SG

4th Conference of the ISNPS, Salerno, IT

Transition Workshop on Mathematical and Statistical Methods for Climate and the Earth System (CLIM), SAMSI, Rayleigh NC, US *(Special Plenary Lecture)*

Conference on Computational and Statistical Interface to Big Data, KAUST, Thuwal, SA *(Plenary talk)*

2017, CMStatistics (ERCIM), University of London, London, UK

EMS, University of Helsinky, Helsinky, 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

Swiss Statistics Meeting, Berne, CH *(Plenary talk for Lambert Award 2015)*

EVA, University of Michigan, Ann Arbor MI, US

Workshop on New Developments in Econometrics and Time Series, RUB, Bochum, DE

Before joining KAUST

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/Webinars

After joining KAUST
2021, University of New South Wales, Sydney, AU
        Clemson University, Clemson SC, US
        EPFL, Lausanne, CH
        CMU/STAMPS Webinar, CMU, Pittsburgh, US
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

Before joining KAUST
2015, 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 PhD students in statistics), Lausanne, CH
2013, KAUST, Thuwal, SA

Contributed Talks

After joining KAUST
2021, JSM (Virtual) *(Contributed Speed Talk)*
        EVA (Virtual), University of Edinburgh, UK
        Spatial Data Science conference (Virtual), UNIL, Lausanne, CH
        EGU General Assembly (Virtual) *(vPICO Talk)*
        Virtual CRG Workshop
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

Before joining KAUST
2014, Workshop on Statistics of Extremes, KAUST, Thuwal, SA
        JSM, Boston MA, US

Workshop on High-Dimensional and Multivariate Extremes, Bristol, UK
2013,   10th 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

Poster Presentations

After joining KAUST
2018,   Workshop in honor of Anthony C. Davison's 60th 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)*

Before joining KAUST
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 *(1st prize for best poster)*
            IMSC, Edinburgh, UK
2009,   EVA, Fort Collins CO, US

RESEARCH FUNDS

Collaborator:	Title: *New Methods for Modelling Real-World Extremes* PI: Prof. S. Sisson, University of New South Wales, Australia Australian Research Council Total value: US $398,575 (My portion: 0%)	2022–2025
Collaborator:	Title: *21st Century Projections of Sub-Daily Extreme Precipitation by Spatio-Temporal Recalibration* PI: Prof. B. Hrafnkelsson, University of Iceland, Iceland University of Iceland Research Fund Total value: US $122,700 (My portion: 0%)	2022–2025
Lead Principal Investigator:	Title: *Sparse Models for Spatio-Temporal Extremes* KAUST Competitive Research Grant, CRG 2020 Total value: US $1,050,000 (My portion: 63%)	2021–2024
Co-Principal Investigator:	Title: *Natural Hazard Chain (NaHaC): from Earthquake Shaking to Landslide Disasters* Lead PI: Prof. P. Martin Mai, KAUST, Saudi Arabia KAUST Competitive Research Grant, CRG 2020 Total value: US $1,050,000 (My portion: 26%)	2021–2024
Lead Principal Investigator:	Title: *Statistical Estimation and Detection of Extreme Hot Spots, with Environmental and Ecological Applications* KAUST Competitive Research Grant, CRG 2017 Total value: US $771,674 (My portion: 58%)	2018–2021

Lead Principal Investigator:	Computing resources on KAUST's supercomputer, Shaheen II:	
	Project k1359, 80M core hours (equiv. to US $1.04M grant)	2019–2022
	Project k1342, 2M core hours (equiv. to US $26K grant)	2018–2019
	Project k1241, 2M core hours (equiv. to US $26K grant)	2017–2018
	Project k1209, 2M core hours (equiv. to US $26K grant)	2017–2018
	Project k1201, 10.05M core hours (equiv. to US $130K grant)	2017–2019
Lead Principal Investigator:	KAUST's generous sustained funding (Baseline + Start-up)	2015–2022

RESEARCH SUPERVISED

*The list of Post-Doctoral Researchers and graduate (MS and/or PhD) students that I have supervised so far is summarized in the following table. After leaving KAUST, my former Post-Doctoral Researchers have all secured faculty positions at top institutions (University of Glasgow, UK; University of Twente, NL; and Indian Institute of Technology (IIT) of Kanpur, India). Moreover, I have supervised ten PhD students at KAUST (3 completed; 7 current). Sabrina Vettori, who graduated in December 2017, received an offer for a competitive Eberly Postdoctoral Research Fellowship at Pennsylvania State University, US, which she declined to work as the CEO of Edama Organic Solutions, a successful KAUST start-up that she co-founded. Vettori was co-supervised due to the nature of her PhD project, but I had the role of a primary advisor. In addition, Rishikesh Yadav secured a Post-Doc offer at HEC Montréal, Canada, and Peng Zhong got a Post-Doctoral Fellowship position at the University of New South Wales, Australia. Moreover, seven students completed their MS degree in my group, and then either pursued PhD studies at KAUST or at another university, or secured jobs in reputable institutions.

Supervision at KAUST (of KAUST students and Post-Doctoral Researchers)		
Post-Doc Supervision	**Primary Supervision – PhD**	**Primary Supervision – Masters**
Competed: 3 In Progress: 1	Completed: 3 In Progress: 7	Completed: 7 In Progress: 0

Post-Doctoral Researchers Supervised
1. Jordan Richards; November 2021–present
    PhD in Statistics, 2021, Lancaster University, UK
    Co-authored Papers (see details above): [P7]
2. Arnab Hazra; March 2018–December 2021
    PhD in Statistics, 2017, North Carolina State University, US
    Position after Post-Doc: Assistant Professor at IIT Kanpur, India
    Co-authored Papers (see details above): [J35, B3, D4, R4, R7, R8]
3. Luigi Lombardo; in co-supervision with Prof. Martin Mai (PSE, KAUST); April 2016–December 2018
    PhD in Geology, 2015, University of Tuebingen, Germany, and University of Palermo, Italy
    Position after Post-Doc: Assistant Professor at the University of Twente, Netherlands
    Co-authored Papers (see details above): [J12, J14, J18, J22, J28, J36, J40, B2, D2]
4. Daniela Castro-Camilo; November 2015–June 2019
    PhD in Statistics, 2015, Pontifical Catholic University of Chile (PUC), Chile
    Position after Post-Doc: Lecturer (i.e., equiv. to Assistant Professor) at the University of Glasgow, UK
    Co-authored Papers (see details above): [J12, J23, J27, J36, D1, R5]

PhD: Advisor or co-Advisor (Primary)

Completed

1. Rishikesh Yadav, Statistics; Start date: Fall 2017; Graduated: Spring 2022
   Next position: Post-Doc at HEC Montréal, Canada
   Co-authored Papers (see details above): [J33, R6, R8, P12]
2. Peng Zhong, Statistics; Start date: Spring 2019; Graduated: Spring 2022
   Next position: Post-Doctoral Fellow position at the University of New South Wales, Sydney, Australia
   Co-authored Papers (see details above): [J38, J43, R9, R10, P2, P10]
3. Sabrina Vettori, Statistics; Start date: Fall 2014; Graduated: Fall 2017; co-supervision with Prof. Marc Genton* (STAT, CEMSE, KAUST).
      *Due to the nature of her PhD project, Sabrina Vettori was co-supervised together with Prof. Marc Genton, and was fully part of both research groups. I had the role of a *Primary Advisor*.
   Next position: CEO of Edama Organic Solutions (KAUST start-up)
   Co-authored Papers (see details above): [J15, J24, J26]

In Progress

4. Daniela Cisneros Arce, Statistics; Start date: Fall 2017; Expected Graduation: Fall 2022.
   Co-authored Papers (see details above): [D3, R8]
5. Yan Gong, Statistics; Start date: Spring 2018; Expected Graduation: Fall 2022.
   Co-authored Papers (see details above): [J41, R8, P5, P10]
6. Zhongwei Zhang, Statistics; Start date: Fall 2018; Expected Graduation: Fall 2022.
   Co-authored Papers (see details above): [J42, R2, R9, P3]
7. Matheus B. Guerrero, Statistics; Start date: Fall 2018; Expected Graduation: Fall 2022; co-supervision with Prof. Hernando Ombao (STAT, CEMSE, KAUST). I have the role of a *Primary Advisor*.
   Co-authored Papers (see details above): [J44, P6]
8. Noura Alotaibi, Statistics; Start date: Fall 2020; Expected Graduation: Fall 2024.
9. Paolo Redondo, Statistics; Start date: Spring 2021; Expected Graduation: Fall 2025; co-supervision with Prof. Hernando Ombao (STAT, CEMSE, KAUST). I have the role of a *Primary Advisor*.
   Co-authored Papers (see details above): [P11]
10. Xuanjie Shao, Statistics; Start date: Spring 2022; Expected Graduation: Spring 2026.

PhD: Advisor or co-Advisor (Secondary)

Completed

11. Rodrigo Rubio, Statistics, Pontifical Catholic University of Chile (PUC); Start date: Fall 2014; Graduated: Spring 2020; joint supervision with Prof. Miguel de Carvalho (PUC, Chile) as primary supervisor;
    Next position: Senior Data Analyst at Banco Bci, Santiago, Chile.
    Co-authored Papers (see details above): [R1, P1]

PhD: Dissertation Committee Member

At KAUST

1. Rishikesh Yadav; Statistics; April 2022
   PhD Advisor: Prof. Raphaël Huser
   Thesis title: Bayesian Modeling of Sub-Asymptotic Spatial Extremes
2. Peng Zhong; Statistics; Graduated: April 2022
   PhD Advisor: Prof. Raphaël Huser

Thesis title: Modeling and Simulation of Spatial Extremes based on Max-Infinitely Divisible and Related Processes

3. Wardana Saputra; Ali I. Al-Naimi Petroleum Engineering Research Center; Graduated: November 2021
   PhD Advisor: Prof. Tadeusz W. Patzek
   Thesis title: Physics-Guided Data-Driven Production Forecasting in Shales

4. Wanfang Chen; Statistics; Graduated: October 2020.
   PhD Advisor: Prof. Marc Genton
   Thesis title: Spatio-Temporal Statistical Modeling with Application to Wind Energy Assessment in Saudi Arabia

5. Nadhir Ben Rached; Applied Mathematics and Computational Science; Graduated: October 2018.
   PhD Advisor: Prof. Mohammed-Slim Alouini
   Thesis title: Rare Events Simulations with Applications to the Performance Evaluation of Wireless Communication Systems

6. Sabrina Vettori; Statistics; Graduated: December 2017.
   PhD co-Advisors: Prof. Raphaël Huser and Prof. Marc Genton
   Thesis title: Models and Inference for Multivariate Spatial Extremes

Outside KAUST

7. Junho Lee; University of Edinburgh, UK; Graduated: January 2022.
   PhD Advisor: Prof. Miguel de Carvalho
   Thesis title: Bayesian Analysis of Nonstationary Extremes

8. Rodrigo Rubio; Pontifical Catholic University of Chile (PUC); Graduated: January 2020.
   PhD co-Advisors: Prof. Miguel de Carvalho (PUC) and Raphaël Huser (KAUST)
   Thesis title: Interfaces Between Statistical Learning and Risk Management

9. Daniela A. Castro-Camilo; Pontifical Catholic University of Chile (PUC); Graduated: August 2015.
   PhD Advisor: Prof. Miguel de Carvalho
   Thesis title: Bivariate Extremes: Modeling, Smoothing, and Regression

PhD: Proposal Committee Member
At KAUST

1. Daniela Cisneros Arce; May 2022 *(upcoming)*
   PhD Advisor: Prof. Raphaël Huser
   Thesis title: Spatial Modeling of Extreme Events, with Application to Wildfire Risk Assessment

2. Zhongwei Zhang; January 2022
   PhD Advisor: Prof. Raphaël Huser
   Thesis title: Subasymptotic Modeling of Spatial-Temporal Extremes

3. Zhedong Liu; November 2021
   PhD co-Advisor: Prof. Haavard Rue
   Thesis title: Leave-Group-Out Cross-Validation in INLA

4. Matheus B. Guerrero; September 2021
   PhD co-Advisors: Prof. Raphaël Huser and Prof. Hernando Ombao
   Thesis title: Modeling and Inference for Multivariate Time Series, with Applications to Integer-Valued Processes and Nonstationary Extremes Data

5. Peng Zhong; Statistics; July 2021
   PhD Advisor: Prof. Raphaël Huser
   Thesis title: Modeling and Simulation of Spatial Extremes based on Max-Infinitely Divisible Processes

6. Wardana Saputra; Ali I. Al-Naimi Petroleum Engineering Research Center; November 2020
   PhD Advisor: Prof. Tadeusz W. Patzek
   Thesis title: Generalized Extreme Value Statistics, Physical Scaling, and Data-Driven Forecasts of Oil and Gas Production in Shales
7. Yan Gong; Statistics; May 2020
   PhD Advisor: Prof. Raphaël Huser
   Thesis title: Models for Multivariate and Spatial Extremes with Flexible Tail Dependence Structures
8. Rishikesh Yadav; Statistics; April 2020
   PhD Advisor: Prof. Raphaël Huser
   Thesis title: Bayesian Modeling of Spatial and Spatio-Temporal Extremes
9. Wanfang Chen; Statistics; December 2018
   PhD Advisor: Prof. Marc Genton
   Thesis title: Spatio-Temporal Statistical Models for Wind Energy Assessment in Saudi Arabia
10. Sabrina Vettori; Statistics; November 2015
    PhD co-Advisors: Prof. Raphaël Huser and Prof. Marc Genton
    Thesis title: Models and Inference for High-Dimensional Multivariate and Spatial Extremes
11. Nadhir Ben Rached; Applied Mathematics and Computational Science; Graduated: June 2015.
    PhD Advisor: Prof. Slim Alouini
    Thesis title: Fast Simulation Methods of Rare Events with Application to the Performance Evaluation of Wireless Communication Systems

<u>MS: Advisor</u>
Completed
1. Xuanjie, Shao; Statistics; Start date: Fall 2020; Graduated: Spring 2022
   Next position: PhD student in statistics at KAUST with Prof. Raphaël Huser
2. Abdulaziz Almutlaq; Statistics; Start date: Fall 2020; Graduated: Fall 2021
   Next position: Management consultancy at Strategic Gears, Riyadh, KSA
3. Enas Alahmadi; Statistics; Start date: Fall 2018; Graduated: Spring 2020;
   Next position: Assistant Market Analyst at the Saudi Industrial Development Fund (SIDF), Riyadh, KSA
4. Rustam Bekishev; Statistics; Start date: Fall 2017; Graduated: Fall 2018;
   Next position: Senior Business Analyst at the Applied Economics Research Center, Astana, Kazakhstan
5. Peng Zhong; Statistics; Start date: Fall 2017; Graduated: Fall 2018;
   Next position: PhD student in statistics at KAUST with Prof. Raphaël Huser
6. Zhuldyzay Baki; Statistics; Start date: Fall 2016; Graduated: Spring 2018;
   Next position: Risk Assurance Associate at PwC, Astana, Kazakhstan
   Now: PhD student in Statistics at the University of Twente, Netherlands, with Prof. Marie van Lieshout
7. Yan Gong; Statistics; Start date: Fall 2016; Graduated: Fall 2017;
   Next position: PhD student in statistics at KAUST with Prof. Raphaël Huser

<u>MS: Thesis Committee</u>
At KAUST
1. Miguel A. A. Ballesteros; Applied Mathematics and Computational Science; Spring 2022
   MS Advisor: Prof. Ajay Jasra
   Thesis title: Unbiased Estimators Applied to the Ensemble Kalman-Bucy Filter
2. Xuanjie Shao; Statistics; Spring 2022

MS Advisor: Prof. Raphaël Huser

Thesis title: Flexible Modeling of Nonstationary Extremal Dependence Using Spatially Fused Lasso and Ridge Penalties

3. Xi Peng; Computer Science; Spring 2022
    MS Advisor: Prof. Robert Hoehndorf
    Thesis title: Description Logic EL++ Embeddings with Intersectional Closure

4. Amine Bejaoui; Statistics; Spring 2020
    MS Advisor: Prof. Mohammed-Slim Alouini
    Thesis title: Improved Quadratic Discriminant Analysis in Unbalanced Settings

5. Zhuldyzay Baki; Statistics; Spring 2018
    MS Thesis Advisor: Prof. Raphaël Huser
    Thesis title: Local Likelihood Approach for High-Dimensional Peaks-Over-Threshold Inference

6. Soumaya Elkantassi; Applied Mathematics and Computational Science; Spring 2017
    MS Thesis Advisor: Prof. Raul Tempone
    Thesis title: Probabilistic Forecast of Wind Power Generation by Stochastic Differential Equation Models

7. Rui Meng; Applied Mathematics and Computational Science; Spring 2016
    MS Thesis Advisor: Prof. Ying Sun
    Thesis title: Growth Curve Analysis and Change-points Detection in Extremes

Interns: Research Supervised
At KAUST
1. Silius M. Vandeskog; PhD Student of Sara Martino at NTNU, NO; Jan-Mar, 2022; VS program
2. Mahnoor Ahmed; MS Student of Luigi Lombardo at the Univ of Twente, NL; Jan-Apr, 2022; VS program
3. Enas Alahmadi; BS Student; Jun-Jul, 2018; KGSP program

TEACHING EXPERIENCE

*As an Instructor at KAUST, I have taught four courses in total, namely Probability and Statistics (STAT 220), Linear Models (STAT 230), Statistics of Extremes (STAT 380) and Dependence Modeling with Copulas (STAT 390), the last three of which I have fully developed myself from scratch. Cumulatively, these courses have respectively been taken for credit by 69 students over three years (STAT 220), 40 students over four years (STAT 230), 23 students over five years (STAT 380) and 14 students over two years (STAT 390/394). Moreover, I have also coordinated the organization of the AMCS/STAT Graduate Seminars in the academic year 2017–2018 (involving 37 students).

Instructor at KAUST
Dependence Modeling with Copulas (STAT 390/394); Spring 2020, 2022 [Syllabus]
Statistics of Extremes (STAT 380); Spring 2016, 2017, 2018, 2019, 2021 [Syllabus]
Linear Models (STAT 230); Fall 2015, 2016, 2017, 2018 [Syllabus]
Probability and Statistics (STAT 220); Fall 2019, 2020, 2021 [Syllabus]
Graduate Seminar series (AMCS/STAT 298/398); Fall 2017, Spring 2018

Teaching Assistant at EPFL
Monte Carlo Inference; Fall 2010, 2012
Mathematics projects; Spring 2012
Statistics of Extremes; Fall 2009, 2011

Calculus; Fall 2011
Time Series; Spring 2010, 2011
Probability and Statistics; Spring 2011
Statistics; Spring 2010

Short Courses and Special Lectures
Are heatwaves getting more intense, wider or both? A statistical perspective; AMCS-STAT Winter School, KAUST; February 2021
Statistical Analysis of Extreme Events; AMCS-STAT Winter School, KAUST; February 2021
Statistical Analysis of Extreme Events; AMCS Summer School, KAUST; September 2019
Contemporary Advances in Statistical Analysis of Extreme Events; 3h Invited Lecture at the Workshop on Risk Analysis for Extremes in the Earth System, Lawrence Berkeley National Lab, Berkeley CA, US, Summer 2019
Climate Extremes and Max-Stable Processes; 1.5h Invited Lecture at the Transition Workshop on Mathematical and Statistical Methods for Climate and the Earth System (CLIM), SAMSI, Rayleigh NC, US
Statistics of Extremes, 3-day short course for statisticians at KAUST, Fall 2014
Space-Time Modeling of Extreme Events, 2h Invited lecture at EPFL, Switzerland, Fall 2014

UNIVERSITY SERVICE AND OUTREACH
University Committees
Chair, Organizing Committee for the Al-Kindi Distinguished Statistics Lectures, KAUST: 2021
Member, Nomination Committee for the Al-Kindi Distinguished Statistics Lectures, KAUST: 2015–present
Member, Statistics Program Qualifying Exam Committee, KAUST: 2015–present
Member, Statistics Program Student Recruitment Committee, KAUST: 2020–present
Member, Statistics Program Curriculum Committee, KAUST: 2020–present

Outreach
Speaker at the AMCS-STAT Winter School for Saudi students, February 2020–2021
Speaker at the AMCS Summer School, September 2019
Co-Organizer of the Annual Statistics and Data Science Workshops, October/November 2015–2019
Presentation of Statistics Program to KGSP students, February 2019
Participation in SciCafe on "Power of Statistics: Extreme or Environmentally Friendly", April 2017
Research presentation for Saudi General Authority of Statistics, April 2017
Research presentation for KAUST Big Data Day, December 2016

PROFESSIONAL SERVICE
Conference and workshop organization
[*Scientific Committee Member*: TIES 2020 Conference, Imperial College, London, UK *(postponed to 2021 due to COVID-19 pandemic)*]
[*Scientific Committee Member*: 2020 Spatial Data Science Workshop, UNIL, Lausanne, CH *(postponed to 2021 due to COVID-19 pandemic)*]
[*Scientific Program Committee Member*: EcoSta 2020 conference, Seoul, SK *(postponed to 2021 due to COVID-19 pandemic)*]
Member, Scientific Program Committee: 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 2021, King's College London, London, UK
CMStatistics 2020, King's College London, London, UK
[TIES 2020, Imperial College, London, UK *(postponed to 2021 due to COVID-19 pandemic)*]
[EcoSta 2020, Yonsei University, Seoul, SK *(postponed to 2021 due to COVID-19 pandemic)*]
CMStatistics 2019, University of London, London, UK
CMStatistics 2018, University of Pisa, Pisa, Italy
4th 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
Member: ISI Nominations Committee (TIES representative), 2021–present
Co-organizer: One World Extremes Seminar (online seminars on EVT), 2020–present
Member: ISI Publications Committee (TIES representative), 2020–present
Co-chair: team "Statistics of Extremes and Appl." of the CMStatistics network, 2020–present
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*)

REVIEWER EXPERIENCE
Journals
Annals of Applied Statistics;
Biometrika;
Computational Statistics and Data Analysis;
Earth System Dynamics;
Econometrics and Statistics;
Electronic Journal of Statistics;
Environmetrics;
Extremes;
Hydrology and Earth System Sciences;
IEEE Transactions on Signal Processing;
IEEE Transactions on Smart Grid;
Journal of Agricultural, Biological, and Environmental Statistics;
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;
Journal of the Royal Statistical Society: Series B
Journal of the Royal Statistical Society: Series C
Machine Learning;
Mathematical Geosciences;

Metron;
Natural Hazards;
Nature Climate Change;
REVSTAT;
Sankhya;
Scandinavian Journal of Statistics;
Scientific Reports;
Spatial Statistics;
Stat;
Statistical Science;
Statistics and Computing;
Stochastic Environmental Research and Risk Assessment;
TEST;
Water Resources Research

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

Other
KAUST Research Computing Allocation Committee (RCAC), Saudi Arabia