

**Spatial Statistics for Environmental and Energy Challenges**  
**8<sup>th</sup> - 12<sup>th</sup> March 2014**

**CONFERENCE DAY 1**

**Saturday March 8<sup>th</sup>, 2014**

Engineering Science Building 9 Lecture Hall II

08:15 – 9:00: **Breakfast**

09:00 - 10:30: Tutorial 1A: *Spatial Statistics for Environmental Challenges*  
Douglas Nychka (NCAR)

10:30 - 11:00: **Break**

11:00 - 12:30: Tutorial1B: *Spatial Statistics for Environmental Challenges*  
Douglas Nychka (NCAR)

12:30 - 13:30: **lunch in Campus Diner**

13:30 - 15:00: Tutorial 2A: *Spatial Statistics for Energy Challenges*  
Tilmann Gneiting (HITS and KIT)

15:00 - 15:30: **Break**

15:30 - 17:00 Tutorial 2B: *Spatial Statistics for Energy Challenges*  
Tilmann Gneiting (HITS and KIT)

18:00 - 21:00: **Dinner in KAUST Beach**

## CONFERENCE DAY 2

**Sunday March 9<sup>th</sup>, 2014**

Engineering Science Building 9 Lecture Hall II

08:15 – 9:00: **Breakfast**

08:45 - 09:00: *Welcome Remarks*

Mootaz Elnozahy, CEMSE Dean (KAUST)

09:00 - 09:45: *A non-parametric entropy based approach to detect changes in climate extremes*

Philippe Naveau (LNRS, CNRS)

09:45 - 10:30: *Simulating the regional climate in Middle East climate using high-resolution general circulation and nested limited area models*

Georgiy Stenchikov (KAUST)

10:30 - 11:00: **Break**

11:00 - 11:45: *Assessing fit in Bayesian models for spatial processes*

Mikyoung Jun (Texas A&M University)

11:45 - 12:30: *Non-parametric cross covariograms for multivariate spatial data*

Hao Zhang (Purdue University)

12:30 - 14:00: **lunch in Campus Diner**

14:00 - 14:45: *A stochastic space-time model for intermittent precipitation occurrences*

Ying Sun (Ohio State University)

14:45-15:30: *The need for improved assessment, evaluation and integration techniques in hydrological science*

Matthew McCabe (KAUST)

15:30 - 16:00: **Break**

16:00 - 16:45: *Assimilation of reservoir production data by the Ensemble Kalman Filter*

Henning Omre (Norwegian University of Science and Technology)

16:45 - 17:30: *Space-time mapping of ocean chlorophyll: Dynamical or data driven problem*

Ibrahim Hoteit (KAUST)

19:00 - 21:00 **Dinner in Island Recreation Center**

## CONFERENCE DAY 3

**Monday March 10<sup>th</sup>, 2014**

Engineering Science Building 9 Lecture Hall II

08:15 - 9:00: **Breakfast**

09:00 - 09:45: *State-of-the-art in probabilistic forecasting of wind and solar power generation*  
Henrik Madsen (Technical University of Denmark)

09:45 - 10:30: *Assessing the Performance of Model-Based Clustering Methods in Multivariate Time Series with Application to Identifying Regional Wind Regimes*  
Amanda Hering (Colorado School of Mines)

10:30 - 11:00: **Break**

11:00 - 11:45: *Multivariate max-stable spatial processes*  
Simone Padoan (Bocconi University of Milan)

11:45 - 12:30: *A fresh look at Stein's half spectral spatial-temporal model*  
John Kent (University of Leeds)

12:30 - 14:00: **Poster Session lunch in Library**

14:00 - 14:45: *Spatial regression with PDE regularization*  
Laura Sangalli (Politecnico di Milano)

14:45 - 15:30: *Multiscale modeling of wear degradation in cylinder liner*  
Raul Tempone (KAUST)

15:30-16:00: **Break**

16:00-17:30: *Visit of CORNEA and SHAHEEN for external participants*

19:00 - 21:00: **Dinner in Yacht Club**

## CONFERENCE DAY 4

**Tuesday March 11<sup>th</sup>, 2014**

Engineering Science Building 9 Lecture Hall II

08:15 - 9:00: **Breakfast**

09:00 - 09:45: *Equivalent kriging*

William Kleiber (University of Colorado at Boulder)

09:45 - 10:30: *Extending tapering to multivariate spatial processes: concepts and illustrations*

Reinhard Furrer (University of Zuerich)

10:30 - 11:00: **Break**

11:00 - 11:45: *Nonseparable and stationary covariance functions on spheres cross time*

Emilio Porcu (University Federico Santa Maria)

11:45 - 12:30: *New classes of nonseparable space-time covariance functions*

Tatiana Apanasovich (George Washington University)

12:30 - 14:00: **Lunch in Campus Diner**

14:00 - 14:45: *Quasi-likelihood for spatial point processes*

Rasmus Waagepetersen (Aalborg University)

14:45 - 15:30: *Climate change and variability: A spatio-temporal data mining perspective*

James Faghmous (University of Minnesota)

15:30 - 16:00: **Break**

16:00 - 16:45: *Spatial statistics and coral reef ecology*

Michael Berumen (KAUST)

16:45-17:00: **Closing**

## CONFERENCE DAY 5

**Wednesday March 12<sup>th</sup>, 2014**

**Local activities**