Technical University of Crete

Space-time stochastic models and their Applications

Scientific Workshop

September 17-18, 2015

Chania

Geostatistics Laboratory
School of Mineral Resources Engineering

The growing availability of spatiotemporal data and their numerous applications has drawn the attention to the development of computationally efficient, realistic space-time stochastic models. In this workshop results of the research program "Development of Space-Time Random Fields based on Local Interaction Models" shall be presented by the members of the Geostatistics Laboratory of school of Mineral Resources Engineering of Technical University of Crete (TUC) (http://www.geostatistics.tuc.gr/4933.html). Moreover we will welcome presentations by broader research fields which include new methods to collect space-time data, mathematical and statistical models of spatial and space-time data, stochastic models of space-time systems and applications.

Event Schedule

THURSDAY, MORNING SESSION 9.30-12.45

- ❖ A Quick Review of Local-Interaction Energy Functionals and their Applications in Space-Time Data Analysis, *Dionissios T. Hristopulos, TUC*

- ❖ Spatiotemporal Stochastic Models Inspired by Statistical Physics, *Ivi C. Tsantili, TUC*

- ❖ Non-stationary Covariance Functions Based on Local Interaction Models, *Manolis P. Petrakis, TUC*

- ❖ Stochastic Local Interaction Model as Alternative to Kriging for Missing Data Problems, *Andreas G. Pavlides, TUC*

COFFEE BREAK 11.15-11.45

- ❖ Sparse Matlab Implementation of SLI model, *Konstantinos Giannis, TUC*

- ❖ Application of Local Interaction Models to Precipitation Data on the Island of Crete, *Vasiliki D. Agou, TUC*

- ❖ Space-Time Modelling of Groundwater Level Using the Spartan Covariance Function and Bayesian Bootstrapping, *Emmanouil A. Varouchakis, TUC*

LUNCH BREAK 12.45

AFTERNOON SESSION 14.30-18.00

- ❖ Functional Kriging for Probability Density Functions: A Bayes Space Approach, *Alessandra Menafoglio, Politecnico di Milano*

- ❖ Efficient Uncertainty Assessment Methods in Spatially Distributed Hydrogeological Models of Flow and Transport, *Stelios Liodakis, Phaedon Kyriakidis, Petros Gaganis, University of the Aegean*

- ❖ Spatiotemporal Covariance Models as a Basis for the Design of Effective Risk Management Tools, *Nikolaos S. Thomaidis, Aristotle University of Thessaloniki*

COFFEE BREAK 16.00-16.30

- ❖ Modified Spin Model for Efficient Sspatial Prediction, *Milan Žukovič, Pavol Jozef Šafárik University, Slovakia*

- ❖ Measurements and Structural Analysis of Masonry Monuments, *Georgios A. Drosopoulos, Maria E. Stavroulaki, Georgios E. Stavroulakis, TUC, and Borja Conde, Belen Riveiro, University of Vigo, Spain*

- ❖ Numerical Simulation of Grain Coarsening and Coalescence Process, *Aliki D. Muradova, TUC*

FRIDAY, MORNING SESSION 10.00-15.00

- ❖ Scientific meetings

LUNCH BREAK 13.00

Acknowledgments

The workshop's poster was painted for the Geostatistics Lab by Dimitris Vallatos.