

Inverse and Stochastic Methods in Subsurface Hydrology, Sulz/Neckar, Germany, October 2014

PhD and master students from the Universities of Tübingen and Stuttgart attended the Fall School on “***Inverse and stochastic methods in subsurface hydrology***” on Oct. 6–10, 2014 in Sulz/Neckar, Germany. This IRTG Fall School extended the knowledge of participants on how to apply the theory of geostatistics in subsurface hydrology. The lectures were given by guest professor Prof. Dr. Mary C. Hill (U.S. Geological Survey), Dr. Thomas Wöhling, Dr.-Ing. Claus Haslauer, Prof. Dr.-Ing. Olaf A. Cirpka (University of Tübingen) and Prof. Dr.-Ing. Wolfgang Nowak (University of Stuttgart).

Lectures and Students’ Presentation

The interesting lectures and exercises were given from Monday to Thursday by:

- (i) Mary Hill on “**Classical**” model calibration using MODFLOW/UCODE/Model Muse;
- (ii) Thomas Wöhling and Wolfgang Nowak on **Global optimization methods**;
- (iii) Claus Haslauer on **Wonder world of geostatistics and spatial dependence**;
- (iv) Olaf Cirpka and Wolfgang Nowak on **Bayes miracles and geostatistical inversion in several flavors**.

The lecturers presented their knowledge on geostatistics by introducing the theoretical concepts and further explanations came along with practical exercises. Mary Hill introduced the theory of model calibration with many practical exercises and models on Monday. Olaf Cirpka, Thomas Wöhling and Wolfgang Nowak presented their recent works on inverse modeling and optimization theory on the morning with the afternoon exercise sessions using Matlab on Tuesday and Thursday. Claus Haslauer described the wonderful world of geostatistics and spatial dependence with exercise session using Python on Wednesday. On Friday, Alicia Sanz Prat, Anneli Schöniger, Diane von Gunten, Jeremy Bennett, Moritz Gosses, Julia Knapp, Emilio Sanchez Leon, Evgenii Kortunov and Matthias Loschko presented what they discovered during their master/PhD studies to the audience.

Summary

In general, the IRTG 2014 Fall School introduced the wonderful world of geostatistics and inverse modeling in subsurface hydrology. The lectures were very attractive and helpful. Participants were motivated to extend their knowledge and to work with geostatistical theory and tools.

