



## Advanced Geostatistical Simulations

### Brisbane Seminar

**Date:** Thursday, 9 February 2017

**Time:** 3:30 pm to 4:30 pm

**Registration:** Please register online at <https://fesaus.org/>  
**Numbers are limited so book early to avoid disappointment!**

**Place:** Arrow Energy Office  
Level 39, 111 Eagle Street  
Brisbane, QLD 4001

**Cost:** **FESQ Members and Student Members free**  
**Social drinks after talk**

**Presented by:** *Prof András Bárdossy, Dr Sebastian Hörning and Jaco du Plessis*  
University of Stuttgart (Germany) and University of Queensland

#### **Abstract:**

This presentation will explore methods for geostatistical simulation including some well known methods (e.g. Simulated Annealing, Sequential Gaussian Simulation), their problems and our recent advances to address these issues. Examples of simulations using point observations and structural information will be presented. The challenge and promise of using non-linear relationships between variables in form of partial differential equations (inverse modelling) is discussed including problems to evaluate simulations. Methods of uncertainty evaluations, completeness of simulation methods and proper embedding of available information are explored.

#### **About the presenters:**

***Prof András Bárdossy** is Professor for Hydrology and Geohydrology at the University of Stuttgart (Germany) and an expert in using mathematics to address uncertainty in various fields of science and engineering. He was the 2006 recipient of the prestigious Henry Darcy medal of the European Geosciences Union. Between December 2016 and February 2017 he has been a Visiting Scholar at the University of Queensland and the Centre for Coal Seam Gas. He has authored more than 300 articles on a wide variety of subjects from pacemaker control, groundwater contamination, precipitation modelling and mining.*

***Dr Sebastian Hörning** is a Post-Doctoral Fellow at the University of Queensland and the Centre for Coal Seam Gas on the subject of advanced geostatistics. He obtained his PhD from the University of Stuttgart on modelling of spatial random fields using copulas. His current research interests are the application of copulas in creating subsurface geological and flow models, inverse problems, spatial analysis and stochastic modelling.*

***Jaco du Plessis** is a Scientific Programmer and Data Analyst at the University of Queensland. He attained a Bachelor in Engineering, Mechatronics, Robotics and Automation. He has contributed to research and software development in the areas of geostatistics, data analytics, real-time visualisation, inversion of geophysical data, image and signal processing.*

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