The Geostatistical Association of Southern Africa in conjunction with the University of Alberta is pleased to present Dr. Clayton Deutsch's short course on

Advanced Multivariate Geostatistics

Monday 7 – Friday 11 November 2016
Glen Hove Conferencing, 52 Glenhove Road, Melrose Estate

Clayton V. Deutsch and Ryan M. Barnett

Centre for Computational Geostatistics
School of Mining and Petroleum Engineering
University of Alberta • Edmonton, Alberta CANADA

3 ECSA CPD points awarded through SAIMM
CPD points will be awarded to GSSA members (please visit their website for more information)

COURSE OVERVIEW

This course will cover essential theory and practice of advanced multivariate geostatistical modeling. This course builds on existing courses to cover advanced and emerging techniques for multivariate geostatistics. Selected CCG software may be used for some hands-on exercises. The morning will be reserved for lecturing. The afternoons will be a combination of lectures, hands-on exercises and demonstrations.

ABOUT THE PRESENTER

Dr. Deutsch is Director and Professor in the School of Mining and Petroleum Engineering, Department of Civil & Environmental Engineering at the University of Alberta. He teaches and conducts research into better ways to model heterogeneity and uncertainty. Prior to joining the University of Alberta, Dr. Deutsch was an Associate Professor (Research) in the Department of Petroleum Engineering at Stanford University. His employment history also includes three years with Exxon Production Research Company and three years of experience with Placer Dome Inc. Dr. Deutsch has published six books and over 200 research papers. Dr. Deutsch holds the Alberta Chamber of Resources Industry Chair in Mining Engineering and the Canada Research Chair in Natural Resources Uncertainty Characterization.

PLANNED SCHEDULE FOR THE WEEK

Day One	01 – Introduction and Overview 02 – Multiple Variables and Transformations 03 – Multivariate Distributions Including the Gaussian 04 – Linear Model of Coregionalization and Cokriging
Day Two	05 – Cokriging with Unequally Sampled Data 06 – Colocated Cokriging and Variants 07 – Simulation with Colocated Cokriging and Variable Aggregation 08 – Principal Component Analysis
Day Three	09 – Sphering and Minimum/Maximum Autocorrelation Factors 10 – Projection Pursuit Multivariate Transformation 11 – Gaussian Mixture Models and Stepwise Conditional Transform 12 – Other Transforms and Guide to Modelling Technique Selection
Day Four	13 – Multivariate Data Imputation 14 – Clustering and Classification 15 – Response Surface Fitting and Sensitivity Analysis 16 – Direct Multivariate Estimation and Kernel Density Estimation
Day Five	17 – Issues of Scale and Averaging; Geometallurgy Case Study 18 – Trends, Universal Kriging and Kriging with External Drift 19 – Post Processing and Checking 20 – Special Topics from CCG

This schedule will be modified to meet the objectives and pace of the instructor/participants

COURSE REGISTRATION FEES

The cost for the week's course is **R18 000-00 per delegate**.

Please complete the attached registration form and return to info@selahproductions.co.za

For any queries please contact the Course Secretariat:

Yolandé van den Berg

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