

Advanced Multivariate Geostatistics

Proposed Short Course to be taught by Professor Clayton V. Deutsch, May 26-30, 2014 at UFRGS

The concept is to build on existing courses to cover advanced and emerging techniques for multivariate geostatistics. This is an important and relevant subject for both mining and petroleum geostatistics. Lectures will be held all morning and in the late afternoon. Time will be allocated in the early afternoon for a hands-on exercise.

Day One	Review: <ul style="list-style-type: none">• Conventional and non-stationary geostatistics, kriging with external drift• Models of coregionalization and cokriging• Collocated alternatives, merged super secondary variables, intrinsic model
Day Two	Parametric: <ul style="list-style-type: none">• Transformation methods including (Log)ratios and data reexpression• Orthogonalization methods including principal components and MAF• Ordination methods and multidimensional scaling
Day Three	Non-parametric: <ul style="list-style-type: none">• Stepwise conditional transformation• Kernel fitting of univariate and multivariate distributions• Direct multivariate modeling for categorical and continuous variables
Day Four	Emerging: <ul style="list-style-type: none">• Projection pursuit multivariate transformation (PPMT)• Multivariate data imputation• Spatial mapping with heterotopic data
Day Five	Practice: <ul style="list-style-type: none">• Post Processing and checking multivariate realizations• Workflows and practical application in different contexts• Advanced topics including locally varying anisotropy