

Model-based geostatistical prediction

Jürgen Pilz

Spatial and Financial Statistics
Institute of Statistics
Alpen-Adria-Universität Klagenfurt

The major disadvantage with conventional spatial (Kriging) interpolation methodology is the fact that the claimed property of best linear unbiased prediction (BLUP) no longer holds when estimates of the spatial covariance parameters are plugged in. In my talk I report on recent work with my colleagues Gunter Spöck and Hannes Kazianka in the area of Bayesian spatial prediction, with particular emphasis on non-Gaussian data and uncertain covariance structure. I will also report on some experiences gained with our approach during a European project on “Automatic mapping of radioactivity in case of emergency”. Finally, I present recent results on finding objective priors for the crucial nugget and range parameters of the widely used Matern-family of covariance functions.