

**Wednesday 13 October**

*Updated version: 1st of October 2004*

8:15 9:00 *Registration*

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**Plenary Session**

Chairman:

Aula Unimail

*Amilcar Soares*

9:00 9:15 Opening

9:15 10:00 C. A. Gotway Crawford and  
L. J. Young

Keynote lecture: Change of support: An interdisciplinary challenge

10:00 10:30 *Coffee Break*

10:30 11:00 P. Goovaerts and G. Jacquez

Detection of spatial clusters and outliers using the lisa statistics and geostatistically simulated spatial neutral models

11:00 11:30 N. Desassis, P. Monestiez, J-  
N. Bacro, Ph. Lagacherie, J-  
M. Robbez-Masson

Mapping unobserved factors on vine stock mortality by model-based kriging

11:30 12:00 L. Feyen and J.Caers

Multiple-point geostatistics: a powerful tool to improve groundwater flow and transport predictions in multi-modal formations

12:00 12:30 D. D'Or

Towards a real-time multiphase sampling strategy optimisation

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12:30 14:00 *Lunch*

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**Parallel Sessions**

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**Remote sensing**

Chairman:

Aula Unimail

*Peter Atkinson*

14:00 14:30 P. Bottelier, C. Briese, N.  
Hennis, R. Lindenbergh, N.  
Pfeifer, G. Sithole

Distinguishing features from outliers in automatic kriging-based filtering of mbes data: a comparative study.

14:30 15:00 C. Lloyd, P. Atkinson, P.  
Aplin

Characterising spatial variation in land cover imagery using geostatistical functions and the discrete wavelet transform

15:00 15:30 J. Carvalho; J. Delgado-  
garcía and H. Cateno

Merging landsat and spot digital images using geostatistical stochastic simulation

15:30 16:00 *Coffee Break*

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**Hydrogeology and surface water**

Chairman:

Aula Unimail

*Ghislain de Marsily*

16:00 16:30 H.-J. Hendricks Franssen, F.  
Stauffer and W. Kinzelbach

Inverse stochastic estimation of well capture zones with application to the lauswiesen site (tübingen, germany)

## Technical program

16:30	17:00	B. Ortuani	Inverse problem for highly heterogeneous porous media: the factorial geostatistical analysis in differential system method
17:00	17:30	P. Pasquier and D. Marcotte	A fast and simple method to solve the groundwater inverse problem: the successive flux estimation method
17:30	18:00	C. Bernard-Michel and C. de Fouquet	Construction of geostatistical indicators for the estimation of waterway's quality
<b>Air, Ecology &amp; Health</b>			Auditoire Louis Guillaume
Chairman:			<i>Pascal Monestiez</i>
14:00	14:30	A.M. Russo and A.M. F. Bio	Sines bio-ar: air quality models resulting from multi-source emissions
14:30	15:00	M. Bouleau and N. Bez	Simplification of cokriging by a markov-type model : application to combine acoustic and trawl data in fish surveys.
15:00	15:30	U. Mueller, L. Bloom, M. Kangas, N. Caputi and T. Tran	The delineation of allowed fishing times and locations for the shark bay scallop fishery
15:30	16:00	<i>Coffee Break</i>	
<b>Soil contamination</b>			Auditoire Louis Guillaume
Chairman:			<i>Hélène Demougeot-Renard</i>
16:00	16:30	A. Papritz, C. Herzig, F. Borer and R. Bono	Modelling the spatial distribution of copper in the soils around a metal smelter in northwestern Switzerland
16:30	17:00	E.J. Pebesma, R.N.M. Duin	Spatio-temporal mapping of sea floor sediment pollution in the North Sea
17:00	17:30	R. Parkin, E. Savelieva, M. Serre	"soft" geostatistical analysis of radioactive soil contamination
17:30	18:00	F. Bação, S. Caeiro, M. Painho, P. Goovaerts, M.H. Costa	Delineation of estuarine management units: evaluation of different methods
18:00	20:30	<i>Posters + Technical exhibition With drinks and snacks</i>	

### Thursday 14 October

<b>Plenary Session</b>			Aula Unimail
Chairman:			<i>Jaime Gómez-Hernández</i>
8:45	9:30	G. de Marsily	Keynote lecture: Dealing with spatial heterogeneity in hydrogeology
9:30	10:00	M. Genton	Separable approximations of space-time covariances

## Technical program

10:00	10:30	M. Huysmans, A. Berckmans and A. Dassargues	Simulation of radionuclide mass fluxes in a heterogeneous clay formation locally disturbed by excavation
10:30	11:00	<i>Coffee Break</i>	
11:00	11:30	A. Pozdnoukhov and M. Kanevski	Monitoring network optimisation using support vector machines
11:30	12:00	R. Ababou and A. Al-Bitar	Random function generation, estimation, and conditioning : applications to hydrogeologic problems (aquifer flow , seawater intrusion)
12:00	12:30	O. Jaquet and R. Carniel	Forecasting volcanic eruptions using geostatistical methods

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12:30 14:00 *Lunch*

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### Parallel Sessions

<b>Hydrogeology</b>		Aula Unimail	
Chairman:		<i>Fritz Stauffer</i>	
14:00	14:30	D. Fernández-García and J. Jaime Gómez-Hernández	Strategies to determine dispersivities in heterogeneous aquifers
14:30	15:00	M. Riva, M. De Simoni and M. Willmann	Effect of variogram model choice on flow and travel time predictors in radial flows
15:00	15:30	S. Cintoli, S. P. Neuman and V. Di Federico	Scaling effects on finite-domain fractional brownian motion

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15:30 16:30 *Poster + exhibition and coffee break*

<b>Hydrogeology</b>		Aula Unimail	
Chairman:		<i>Rachid Ababou</i>	
16:30	17:00	B. Dafflon, J. Tronicke and K. Holliger	Estimation of the lateral correlation structure of the shallow subsurface from surface georadar data
17:00	17:30	C. Castillo, X. Sanchez-Vila, L. Núñez and A. Guadagnini	Residence time of sorbent solutes under radial flow conditions. conditional statistical moments.
17:30	18:00	K.-J. Röhlrig, H. Fischer and B. Pörtl	Modelling density-dependent flow using conductivity distributions obtained by means of instationary indicator simulation

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### Ecology & Health

Chairman:

Auditoire Louis Guillaume

*Denis Allard*

14:00	14:30	N. Jeannée, V. Nedellec, S. Bouallala, J. Deraisme and H. Desqueyroux	Geostatistical assessment of long term human exposure to air pollution
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## Technical program

14:30	15:00	L. Bel, J.M. Dubois, A. Bar-Hen, D. Allard and R. Cheddadi	A spatial extension of CART: application to classification of ecological data
15:00	15:30	D. Doktor, F. W. Badeck, F. Hattermann and J. Schaber	Analysis and modelling of spatially and temporarily varying phenological phases

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15:30 16:30 *Poster + exhibition and coffee break*

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**Climate**  
Chairman:

Auditoire Louis Guillaume  
*Noel Cressie*

16:30	17:00	I. Cañamón, M.C. Domínguez, A. Mangin, F.Z. Elorza, and A. Eraso	For a better comprehension of subpolar glaciers discharges with the aid of correlation and spectral analysis
17:00	17:30	F.S. Gomes de Oliveira and R. Imbrozio Barbosa	Maximum likelihood geostatistical missing data estimation

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18:30 19:30 *Cultural event - Visit of the Latenium Museum*

20:00 *Conference Dinner - Hôtel DuPeyroux*

### Friday 15 October

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**Plenary Session**  
Chairman:

Aula Unimail  
*Pierre Goovaerts*

8:30	9:00	C. Nunes and A. Soares	Variogram estimation with noisy data in the space-time domain: application to air quality modelling
9:00	9:30	F. Stauffer and H.-J. Hendricks Franssen	Uncertainty estimation of well catchments: a semi-analytical post-processing for groundwater modelling
9:30	10:00	R. Sidler and K. Holliger	Kriging of scale-invariant data: optimal parametrization of the autocovariance model
10:00	10:30	<i>Coffee Break</i>	
10:30	11:00	P. Bogaert and M.A. Wibrin	Combining categorical and continuous information within the bayesian maximum entropy paradigm
11:00	11:30	J. Pilz, P. Pluch and G. Speock	Bayesian kriging with lognormal data and uncertain covariance parameters
11:30	12:00	N. Cressie, J. Zhang, and P. F. Craigmile	Geostatistical prediction of spatial extremes and their extent

12:00 12:30 **Closing of the conference**

12:30 14:00 *Lunch*

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**Air**

- C. de Fouquet, D. Gallois, L. Malherbe, G. Cardenas and G. Perron Mapping annual nitrogene dioxide concentrations above Mulhouse urban area
- F. Ferreira, S. Mesquita, P. Torres and H. Tente Using systematic diffusive sampling campaigns and geostatistics to map air pollution in Portugal
- G. Cardenas and L. Malherbe Mapping air quality using a geostatistical approach: Application to a regional ozone measurement campaign in the North of France

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**Ecology and health**

- C. Vinagre, V. Fonseca, H.N. Cabral and M.J. Costa Habitat suitability index models for the sympatric soles *Solea solea* and *Solea senegalensis* using GIS procedures
- E. Järpe Modelling and monitoring epidemics by means of spatio-temporal lattices
- S. Bocchi, A. Castrignanò and L.S. Viganò Agrogeomatic techniques application for a more precise management of corn (*Zea mays* L.)

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**Groundwater and Hydrology**

- A. Assteerawatt, A. Bardossy and R. Helmig Generation of fracture network based on geostatistical approach
- A. Gutiérrez and M. Preciado A geostatistical approach for rainfall patterns, using proximity indices
- E. Mendoza, G. Herrera and M. Díaz Cokriging of the phreatic level using a digital elevation model
- G.A. Onnis, H.J. Hendricks Franssen, F. Stauffer and W. Kinzelbach Stochastic inverse modeling of groundwater flow and environmental tracer transport: Baltenswil case study (Switzerland)
- J. Kerrou, P. Renard, I. Lunati, S. Madier and H.J. Hendricks-Franssen How many transmissivity data are required to safely delineate a protection zone in a braided alluvial aquifer when using kriging and upscaling?
- J.O. Skøien, G. Blöschl Spatio-temporal geostatistical analyses of runoff and precipitation
- M. Jalali Mapping spatial distribution of nitrate contamination of groundwater in Hamadan, Western Iran

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**Theory**

- C. Regli, P. Huggenbergera and L. Rosenthaler GEOSSAV: a simulation tool for subsurface applications
- P. Juan, E. Porcu and J. Mateu Testing independence for spatial processes through spectral analysis

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**Soil**

- B. Cafarelli, A. Castrignanò and N. Romano A study of the spatial variability of soil water retention by mixed effects linear models with a spatial continuous autoregressive correlation structure
- C. Hervada, E. Jarauta, Y.G. Tyutyunnik, S.M. Bednaiya and N.D. Kuchma Environmental radioactive pollution: biogeochemical assessment of <sup>90</sup>Sr in trees using geostatistical methods. Theory, methodology and a case study
- C. Hofer, A. Papritz and A. Borer Estimating the frequency of polluted soils in allotment gardens and mapping their spatial distribution using proxy data
- C.R. Grego and S.R. Vieira Analyzing of variability for soil moisture content in the space and time
- F. Lagueche Use of kriging to assess the ground contamination
- F. Weibel Survey and evaluation of land use and land cover in switzerland
- J.H. Flores Ruiz, A. Mejía Ramírez, J. Fucugauchi Urrutia, E. Hernández-Quintero and G Domínguez Zacarías Geostatistical model for total petroleum hydrocarbons (tph) in santa alejandrina porous media, veracruz (mexico)
- J.M. Carvalho and A. Fiúza Application of geostatistics to soil and groundwater samples contaminated by petroleum products – A case study
- L. Eisenlohr and V. Laperche Soil sampling strategy versus mapping element concentration in contaminated sites
- M. Maignan, M. Kanevski, F. Celardin and A. Besson Mapping and simulations of geneva soils, using geostatistics and ANN
- A.A. Montenegro, W. Lundgren, S.M.G.L Montenegro Cokriging field measured soil hydraulic conductivity and texture in a brazilian semi-arid watershed
- R. Lilla Manzione, G. Camara, A. M. Vieira Monteiro, C.R. Lopes Zimback and S. Druck Exploring the multivariate spatial structure of soil acidity data
- Fucks
- S. Pfeleiderer, H. Reitner, H. Pirkel, P. Klein and M. Heinrich Temporal and spatial variations of geo-environmental parameters in soil, rock and groundwater samples of the northern calcareous alps in austria
- S. Sgallari, R. Bruno and C. Zampighi Sampling plan criteria for the bottom mud characterisation of a drainage channel

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**Other**

- J. M. Matías, C. Ordóñez and J. Taboada Using ordinal support vector machines to model the risks associated with the transportation of hazardous goods
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