12th International Conference on

Geostatistics for Environmental Applications

July 3-6, 2018

Queen's University Belfast, Northern Ireland

https://2018.geoenvia.org/

SOCIAL PROGRAM SUMMARY

Tuesday, July 3rd

19:00-22:00   Ice Breaker Reception Riddel Hall

Wednesday, July 4th

19:00   Fourth geoENv 5Km Race - Titanic Quarter

Thursday, July 5th

19:30   Pre-dinner drinks reception - Lanyon Building, Great Hall

20:00-23:00   Gala Dinner - Lanyon Building, Great Hall

Friday, July 6th

9:00-17:30   Field Excursion 'Geology and the Games of Thrones' with Geological Survey Northern Ireland (GSNI) **(registration required)**

Wednesday 4 July 2018
Please not change to Session Hydrology, groundwater modelling III

8.00- 9.00	**Registration in Riddel Hall** **Refreshments**	
9.00	Conference Welcome by Jennifer McKinley Conference Opening by geoENVia President J. Jaime Gómez-Hernández	
	Chair: Julian Ortiz	
9.15	**Keynote I:** **Oy Leuangthong**	**Mining Geostatistics: At a Crossroads**
	Parallel Session	**Geostatistical methodology I**
	Chair: Grégoire Mariéthoz	
10.00	S. Oman, J Mateu	The Latent Scale Covariogram: A Tool for Exploring the Spatial Dependence Structure of Non-normal Responses
10.20	R. Nussbaumer, G. Mariethoz, N. Linde, K. Holliger	Simulation of fine-scale electrical conductivity fields using resolution-limited tomograms and area-to-point kriging
10.40	A Kamińska-Chuchmała	Spatial Modelling and Prediction of Wireless Network Efficiency by Turning Bands Simulation Method
	Parallel Session	**Hydrology, groundwater modelling I**
	Chair: Andrea Zanini	

10.00	K. McDermott, P. Hynds, R. Curtis, A. Majury	Development of a large (≈1million sample) private groundwater dataset (Ontario, Canada) integrating infrastructural, geological and microbial components using a spatial fuzzy logic approach
10.20	V Godoy, J.J. Gómez-Hernández	Scale effects on solute transport in groundwater: A laboratory study on dispersivity and partition coefficient
10.40	F. Oriani, S. Stisen, M. C. Demirel, and G. Mariethoz	Recovering missing rainfall data for distributed hydrological model input: can resampling lead to a more realistic hydrological response?

11.00	**Refreshment Break**

Parallel Session	**Geostatistical methodology II**

	Chair Anna Kamińska-Chuchmała	
11.30	C Wang, M. Puhan, R. Furrer	Generalised Spatial Fusion Model Framework for Multivariate Analysis of Point and Areal Data
11.50	L. Steinbuch, T. Orton, D. Brus	An analytical approach for Bayesian area-to-point kriging: a case study with crop yields
12.10	N. Desassis, T. Romary,	Combining Gaussian Markov Random fields with covariance tapering for full scale representation
12.30	N. Benoit, D. Marcotte, J.W. Molson and P. Pasquier	Geostatistical simulations of the full 3D block hydraulic conductivity tensor considering inner local-scale variability

Parallel Session	**Hydrology, groundwater modelling II**

	Chair: Marco D'Oria	
11.30	T. Xu, J.J. Gómez-Hernández, and Z.Chen	Comparison between the restart ensemble Kalman filter and the ensemble smoother with multiple data assimilation for the identification of a contaminant source in an aquifer
11.50	A. Zanini, M. D'Oria, M. G. Tanda, A. D. Woodbury	Coupling Empirical Bayes and Akaike's Bayesian Information Criterion to Estimate Aquifer Transmissivity Fields

Time	Presenter	Title
12.10	J. O'Dwyer, P. Hynds	Development of a Hierarchical Model for Predicting Microbiological Contamination of Private Groundwater Supplies in a geologically heterogeneous region.
12.30	L.G. Rasera, G. Mariethoz and S. N. Lane	The effect of small-scale terrain elevation uncertainties on surface flow processes

12.50	**Lunch**	
13.20	**General Assembly**	
13.50	**Poster session**	**Poster showcase (3-5 minutes for each poster presentation)**

14.20	**Session 3: Tellus Session**	
	Chair: Mark Cooper and Jenny McKinley	
	Keynote II	
	Eric Grunsky	**Decoupling processes from soil geochemistry: Mapping surficial/bedrock geochemical signatures in Northern Ireland**
14.50	M. Cooper GSNI	Tellus-driven advancements of Northern Ireland geological understanding
15.10	M. Glennon GSI	Tellus: Opportunities for geo-environmental applications

15.30	**Refreshment break**	

	Parallel Session	**Geostatistical Applications**
	Chair: Samuel Oman	
16.00	D. Maljers, A. Chitu, J. Gunnink	Spatial interpolation of grain-size distributions: a case study from the province of Zeeland, the Netherlands
16.20	L. Steinbuch, Gerard B.M. Heuvelink	Bayesian Generalized Linear Geostatistical Modelling for mapping subsoil ripening

16.40	U. Mueller, M. Kangas and N. Caputi	Saucer scallop abundance hotspots and distribution patterns before and after an extreme heatwave event in Shark Bay Western Australia
17.00	L. Azevedo, L. Matias, F. Campuzano, R. Neves, F. Turco, A Soares	Geostatistical modelling of ocean properties integrating direct and indirect measurements
17.20	E. Grunsky	Multivariate Analysis of the United States Portion of the North American Soil Geochemical Landscapes Project – A Compositional Approach

	Parallel Session	**Hydrology, groundwater modelling III**
	Chair: Paul Hynds	
16.00	E. Laine, M. Markovaara-Koivisto	A workflow for fracture network modelling - Palmottu and Kop-parnäs study sites from southern Finland
16.20	W. Dabekaussen, E.S van Baaren, B. Siemon, J.L. Gunnink,	Interpolation of groundwater salinity using locally varying anisotropy in Zeeland, the Netherlands
16.40	C. Haslauer, B. Xiao, S. Hörning, G. Bohling, C. Haslauer, A. Bárdossy	Estimation Using Different Measurement Types at Different Locations
17.00	L. Benoit, G. Mariethoz	Space-time radar-rain gauge data fusion at the local scale

17.40	Conference Day 1 Ends
19.00	**geoENV 5k run**

Thursday 5 July 2018		
	Refreshments	
8.45	**Keynote III**	
	Chair: Peter Atkinson	
	Peter Diggle	**Spatial data analysis and model-based Geostatistics in epidemiology**

	Parallel Session:	**Health, epidemiology and the environment I**
	Chair: Peter Bossew	
9.30	P. Goovaerts	Geostatistical Prediction of Water Lead levels in Flint, Michigan: a Multivariate Approach
9.50	R. Kerry, E. Yoo, Ben Ingram	Spatial Analysis of Drug Poisoning Deaths in the American West using Profile Regression to adjust for Collinearity and Spatial Correlation
10.30	C. Boente, S. Gerassis, M.T.D. Albuquerque, J.R. Gallego, J. Taboada	Optimizing soil screening levels for the delimitation of pollution risk areas in soils with high industrial density
10.50	M. C. Ribeiro, M. J Pereira	Assessing local uncertainty in health and environmental air pollution associations by combining geographically weighted regression and geostatistical simulation

	Parallel Session:	**Mining and geological applications**
	Chair: Ute Mueller	
9.30	J. Langanay, T. Romary, V. Lagneau, G. Petit	Scenario Reduction and dimension reduction in uranium ore deposit mining simulations by In Situ Recovery
9.50	J. Ortiz, W. Kracht, G. Pamparana, J. Haas	Integrating uncertainty in rock hardness and solar irradiation in the optimization of a SAG mill energy system
10.10	A. Caceres, R. Riquelme	Spatial prediction of sedimentation kinetics for dewatering performance forecast in the mining industry.
10.30	M. Rifky, B. Setiawanb, Stevanus. Nalendra Jatic	Geostatistical Analysis on cleat aperture-size and spacing distribution: a study on Muaraenim Coal Formation, South Sumatera Basin
10.50	Y. Gao	Mapping mineral prospectivity for Cu polymetallic mineralization in southwest Fujian Province, China

11.10	**Refreshments**	

	Parallel Session:	**Health, epidemiology and the environment II**
	Chair: Sandra De Iaco	
11.40	T. Cocerva, S.F. Cox, U. Ofterdinger, R. Doherty, M. Carey, M. Cave	Tellus Survey, a powerful tool for the Human Health Risk Assessment in Belfast metropolitan area
12.10	P. Bossew	Radon priority areas – definition, estimation and uncertainty
12.30	J. Elío, Crowley Q.,Scanlon R. , Hodgson J., Gallagher V. , Long S.	Correlation between topsoil geochemistry and indoor radon concentration

	Parallel Session:	**Geostatistics and the environment**
	Chair: Mário Gonzalez Pereira	
11.40	S. Kasmaeeyazdi, F. Tinti, R. Bruno	Contribution of geostatistics in mapping subsoil temperature evolution in urban areas
12.10	M. Aldis, J. Aherne	An exploration of major soil oxide data from the North American Soil Geochemical Landscapes Project at sites across Canada
12.30	A.Horta , J. Neves, L. Azevedo, A.Soares	Updating of a contaminated soil site using portable X-ray fluorescence uncertain data
12.50	M. Kanevski and M.G. Pereira	Analysis of Wildfires Spatial Patterns Using City Clustering Algorithm
13.10	**Lunch**	
14.00	**Group Photo geoENV2018**	

	Chair	
	Keynote III	
	Chair: J. Jaime Gomez-Hernandez	
14.10	**Grégoire Mariéthoz, 2018 IAMG Distinguished Lecturer**	**Multiple point geostatistics for earth observations**

	Parallel Session	**Multiple point geostatistics and Machine learning**
	Chair: Thomas Romary	
14.55	A. Comunian, M. Marini, F. Felletti	Multiple-point statistic simulation of alluvial lithofacies using a large borehole dataset: tuning the simulation set up to account for input data quality
15.15	M. Gravey, G Mariethoz	Shall we use kernel weighting in multi-point statistics simulation?
15.35	F. Guignard, M. Leuenberger , M.Kanevski	Quantification of Extreme Learning Machine modelling uncertainty using bootstrapping

	Parallel Session	**Spatial-temporal statistics I**
	Chair: Pierre Petitgas	
14.55	J.Avers Butt, A.Wieser	Spatiotemporal geostatistics for optimal estimation of deformation rates in terrestrial radar interferometry
15.15	C. Cappello, S. De Iaco, S. Maggio, D. Posa	Modeling spatio-temporal complex covariance functions for vectorial data
15.35	S. De Iaco, S. Maggio, M. Palma, D. Pellegrino	Geostatistical modeling for multiple correlated time series
15.55	Q. Wang, P Atkinson	The effect of the point spread function on the geostatistical downscaling of continua

16.15	**Refreshment break**	

	Parallel Session	**Spatial and geostatistical applications for the environment**
	Chair: Ruth Kerry	
16.45	M J. Pereira, A. Ramos, R. Durão, C. Branquinho, A. Soares	Multiscale Uncertainty Characterization of Precipitation Impact on Vegetation Patterns
17.05	E.H. Yoo, M. Chipeta	Adaptive Sampling for Optimal Mobile Sensor Data Collection
17.25	R. Durão, M. Belo-Pereira, L. Azevedo, R. Nunes, A. Soares, J. A. Santos	High resolution temperature models: an application of Stochastic Simulation with Local Distribution Functions

	Parallel Session	**Spatial-temporal statistics II**
	Chair: Monica Palma	
16.45	P. Petitgas, J. Rivoirard, M. Woillez, M. Doray, J.B. Romagnan, M. Huret	Analyzing temporal variability in spatial distributions using min-max autocorrelation factors (MAF): a case study on sardine eggs in the Bay of Biscay
17.05	M. Berenguer, E. Cassiraga, D.Sempere-Torres and J. Gómez-Hernández	Radar-rain gauge blending using spatio-temporal geostatistical techniques for improved rainfall estimation
17.25	B Johnston. J McKinley, P Warke	Spatiotemporal investigation of material property changes in building stone following initial emplacement
17.45	Closing session	
19.30	**Drinks reception**	
20.00	**Conference dinner**	**Great Hall, Lanyon Building, Queen's University Belfast**