

Programme of the Spatial Accuracy 2018

Monday 21 May			
08:00–18:00	Registration Hall of the second region of IGSNRR		
18:00–19:30	Welcome Reception Room: IGSNRR 2602		
Tuesday 22 May			
07:30-16:00	Registration Hall of the third floor of CNCC		
08:30-09:00	Opening Ceremony (Chair: Yong Ge) Room: Auditorium (3 rd floor of CNCC)		
	Welcome speeches		
	Xiaohan Liao (Deputy director of IGSNRR, Professor) Chenghu Zhou (Chair of Scientific Committee, Academician of Chinese Academy of Sciences) Daniel A. Griffith (Chair of ISARA Steering Committee, Professor) Fenzhen Su (Director of LREIS, Professor)		
09:00-09:20	Group photo Room: Park View Foyer (3 rd floor of CNCC)		
09:20-10:40	Plenary session Room: Auditorium (Session Chair: Chenghu Zhou)		
	Keynote: Latest Advances in China Beidou Satellite Navigation System – Yuanxi Yang (Academician of CAS, State Key Laboratory of Geoinformation Engineering, Xi'an, China)		
	Keynote: Theory and Method of High Precision Geometric Processing for Chinese Satellite Imagery – Jianya Gong (Academician of CAS, Wuhan University, China)		
10:40-11:00	Coffee/tea break		
11:00-12:20	Plenary session Room: Auditorium (Session Chair: Xin Li)		
	Keynote: Taking Advantage of System Dynamics to Improve Spatial Characterization – Jaime Gómez-Hernández; Universitat Politècnica de València (UPV), Spain		
	Keynote: Trust in Spatial Data: Concept and Framework – Xiaohua Tong (Tongji University, China)		
12:20-13:30	Lunch Room: Park View Foyer (3 rd floor of CNCC)		
13:30-15:00	Parallel sessions		
	Uncertainty in mapping Room: 301A	Uncertainty assessment Room: 301B	Spatio-temporal modelling Room: 302A
	Session Chairs: A-Xing Zhu and Nicholas Hamm	Session Chairs: Yongwan Chun and Jianghao Wang	Session Chairs: Wenzhong Shi and Yaolong Zhao
	Comparing the Impact of the Mapping Error on Aggregation Methods Peijun Sun*, Russell Congalton and Yaozhong Pan * Beijing Normal University, China	Remote Sensing Accuracy and Resolution for Precision Agriculture in Small Farms, Malawi Shenqian Lin*, Brad Peter and Joseph Messina *Michigan State University, USA	Statistical Framework of Functional Data Analysis for Spatiotemporal Analysis and Modeling Guofeng Cao* *Texas Tech University, USA
	Analysis and application of Drought Characteristics Based on Run Theory and Copula Function Xiaofeng Wang*, Yuan Zhang* and Xiaoming Feng *Chang'an University, China	The Impact of Locational Uncertainty on Local Geographic Cluster Detection: An Application to Cancer Data from Florida in 2006 to 2010 Monghyeon Lee*, Daniel A. Griffith and Yongwan Chun *The University of Texas at Dallas, USA	Prediction of Urban PM2.5 Concentrations Using A Bayesian Spatio-Temporal Modeling Approach Qiang Pu and Eun-Hye Yoo* *University at Buffalo, USA
	Uncertainty Characterization for Cropland Products at the Country Level from Different Sources Jiong You*, Zhiyuan Pei and Haiqi Liu *Chinese Academy of Agricultural Engineering, China	Small Area Estimation of Cancer Rates: A Case Study of Lung Cancer in Florida, 2000-2010 Lan Hu*, Yongwan Chun and Daniel A. Griffith *The University of Texas at Dallas, USA	Spatio-Temporal Difference Assessment of Urban Rainstorm Waterlogging Affected by Imperious Surface Expansion Yaolong Zhao*, Huafei Yu and Yingchun Fu *South China Normal University, China F
	Uncertainty of Endmember on Super-Resolution Mapping Xinyan Li, Xiaodong Li*, Yihang Zhang, Yun Du and Feng Ling *IGG, CAS, China	Constrained Total Least Squares Method with Applications in Map Generalization Yanmin Jin* and Xiaohua Tong *Tongji University, China	Daily MODIS AOD Missing Data Gaps Filling Based on Spatiotemporal Interpolation Jing Yang, Maoqui Hu*, Chengdong Xu and Yilan Liao *IGSNRR, CAS, China
	Robust Variogram Estimation Combined with Isometric Log-Ratio Transformation for Improved Accuracy of Soil Particle-Size Fraction Mapping Wenjiao Shi*, Zong Wang *IGSNRR, CAS, China	Adopting Semantic Signatures to Quantify the Uncertainty of Volunteered Geographic Information Rui Zhu* *University of California, Santa Barbara, USA	Spatial-temporal Reconstructing of Forest Percent Cover by Fusing Multiresolution Remotely Sensed Images Yihang Zhang, Feng Ling* and Xiaodong Li *IGG, CAS, China
Assessing Spatial Uncertainty in 3D Stochastic Mapping of Soil Properties Leonardo Azevedo*, Ana Horta, Amilcar Soares, Tiago Ramos and Rachel Whitsed *Universidade de Lisboa, Portugal	A Contributor based approach for assessing the quality of volunteered geographic information Die Zhang and Yong Ge* *IGSNRR, CAS, China	An Integrated Runoff Risk Support Tool for Predicting Agrochemical Runoff Risk at Field and Landscape Scales Alexis Comber*, Adrian Collins, Tim Hess, David Haro Monteagudo, Andy Turner and Yusheng Zhang *University of Leeds, UK	
15:00-15:30	Coffee/tea break		

15:30-17:00	Parallel sessions		
	Spatial sampling and interpolation Room: 301A	Spatial mapping Room: 301B	Classification Room: 302A
	Session Chairs: Steve Stehman and Lin Yang	Session Chairs: Paul Harris and Binbin Lu	Session Chairs: Feng Ling and Rachel Whited
	Class-Stratified Random Sampling with Sub-Stratifications by Edge and Interior Pixels for Reference Data Collection to Increase Accuracy in Area Estimation <i>Jingxiong Zhang*</i> , Yue Wan and Wangle Zhang <i>*Wuhan University, China</i>	Mapping Soil Particle-Size Fractions: A Comparison of Compositional Kriging and Log-Ratio Kriging <i>Zong Wang and Wenjiao Shi*</i> <i>*IGSNRR, CAS, China</i>	Maximum Consistency Block based Image Segmentation Methods <i>Hexiang Bai* and Feng Cao</i> <i>*Shanxi University, China</i>
	Error Index for Additional Sampling to Map Soil Contaminant Grades <i>Bingbo Gao*</i> , Yu Liu, Yuchun Pan, Yunbing Gao and Ziyue Chen <i>*IGSNRR, CAS, China</i>	Alternative Interpretations of the Particle Size Distribution of Soils (0 – 500cm) in the Loess Plateau, China <i>Paul Harris^{1*}, Ming'An Shao, Yihe Lü, Lianhai Wu^{1*} and Alexis Comber^{2*}</i> <i>^{1*}Rothamsted Research, UK</i> <i>^{2*}University of Leeds, UK</i>	Object-oriented Classification Based on Deep Features for High Spatial Resolution Remote Sensing Images <i>Han Gao, Linhai Jing*</i> , Yunwei Tang, Hui Li and Haifeng Ding <i>*RADI, CAS, China</i>
	Comparison of Interpolation Models for Estimating Heavy Metals in Soils Under Various Spatial Characteristics and Sampling Methods <i>Dongyue Li, Yilan Liao*</i> , Maogui Hu and Chengdong Xu <i>*IGSNRR, CAS, China</i>	A Comparison of Open-Source Geographically Weighted Regression (GWR) Packages <i>Ziqi Li*</i> <i>*Arizona State University, USA</i>	Spatial Dependence Modelling for Object-Based Classifications of Remote-Sensing Images <i>Yunwei Tang*</i> , Jingxiong Zhang, Linhai Jing, Han Gao, Jiong You, Ying Zhang and Ru Xu <i>*RADI, CAS, China</i>
	Spatial Sampling Optimization Design for Monitoring Poverty <i>Mengxiao Liu, Yong Ge*</i> , Jianghao Wang and Shan Hu <i>*IGSNRR, CAS, China</i>	Registration of Point Cloud Data Based on Principle of Least-Squares <i>Yuefeng Lu*</i> , Yong Ge and Yangyang Fu <i>*Shandong University of Technology, China</i>	A Quantitative Assessment of Spectral Unmixing Strategy on the Following Subpixel Mapping for Hyperspectral Imagery. <i>Xiong Xu*</i> , Xiaohua Tong and Huan Xie <i>*Tongji University, China</i>
	Study on Spatial Interpolation of Daily Precipitation Considering Spatiotemporal Autocorrelation and Non-Stationarity: A Case Study over the Upper Reaches of the Bengbu Sluice in the Huai River Basin <i>Lingjie Li*</i> , Qingfang Hu*, Yintang Wang and Leizhi Wang <i>*Nanjing Hydraulic Research Institute, China</i>	High-Resolution Mapping of Direct CO2 Emissions and Uncertainties at the Urban Scale <i>Shaoqing Dai, Shudi Zuo and Yin Ren*</i> <i>*Chinese Academy of Sciences, China</i>	A Comparative Study of Class-Aggregated Versus Class-Specific Logistic Modelling Approaches for Estimating Local Accuracies in Remotely Sensed Land Cover Information <i>Jingxiong Zhang, Wenjing Yang*</i> , Wangle Zhang and Yingying Mei <i>*Wuhan University, China</i>
Accounting for Access Costs in Optimal Stratification for Validation of Soil Maps <i>Dick Brus^{1*}, Lin Yang^{2*} and A-Xing Zhu^{1*}</i> <i>^{1*}Nanjing Normal University, China</i> <i>^{2*}Nanjing University, China</i>	A Platform for Sharing and Analysis of Low-Cost Environmental Sensor Data <i>Nicholas Hamm*</i> , Alfredo Vasquez Gomez and Rob Lemmens <i>*University of Nottingham, China</i>	Using Multiple Classifiers with AdaBoost in Google Earth Engine for Land Use <i>Yuhao Wang*</i> <i>*Michigan State University, USA</i>	
18:00-20:00	Conference Gala Dinner Meizhou Rest.		
Wednesday 23 May			
09:00-10:20	Plenary session Room: Auditorium (Session Chair: Daniel A. Griffith)		
	Keynote: Analysis of Uncertainty and its Propagation in Spatial Information System – A General Approach – Yee Leung, The Chinese University of Hong Kong, China		
	Keynote: Who Can We Trust? Making the Most of Heterogeneous Evidence When Timely Decisions Have to Be Made – Lucy Bastin, Aston University, UK		
10:20-10:50	Coffee/tea break		
10:50-12:15	Plenary session Room: Auditorium (Session Chair: Pierre Goovaerts)		
	2018 James Smith Medal (Chair of the ISARA Medal Committee: Gerard Heuvelink)		
	Keynote: Uncertainties in Sea Ice Remote Sensing and the Propagation to Polar Climate Modeling – Xi Zhao (James Smith Medal Winner), Wuhan University, China		
	Keynote: Some reflections on prediction error – Daniel Griffith, University of Texas at Dallas, USA		
12:15-13:30	Lunch Room: Park View Foyer (3rd floor of CNCC)		
13:00-13:30	Business Meeting Business Center Meeting Room 1		
13:30-15:00	Parallel sessions		
	Spatial simulation and prediction Room: 301A	Uncertainty propagation and assessment Room: 301B	Validation Room: 302A
	Session Chairs: Ashton Shortridge and Yilan Liao	Session Chairs: Xiaohang Liu and Tom Hengl	Session Chairs: Liangyun Liu and Rui Jin
	Daily Sea Ice Lead Retrieval from MODIS Images and the Uncertainty Handling in Cloud Mask <i>Meng Qu*</i> , Xi Zhao* and Xiaoping Pang <i>*Wuhan University, China</i>	Uncertainty in the Relationship between Spatial Autocorrelation and the Modifiable Areal Unit Problem: A Simulation Study <i>Sang-Il Lee*</i> , Monghyeon Lee, Yongwan Chun and Daniel A. Griffith <i>*Seoul National University, Korea</i>	Uncertainties in Using Kriging Method to Upscale In-Situ Soil Moisture to Multiscale Pixel Estimations <i>Wenjun Zuo and Xiaohu Zhang*</i> <i>*Nanjing Agricultural University, China</i>
Geostatistical Prediction of Water Lead levels in Flint, Michigan: A Multivariate	An Uncertainty-Based Approach to Quantify the Spatial Representativeness of Local	Cross-Calibration of Passive Microwave Satellite Brightness Temperatures Observed	

	Approach <u>Pierre Goovaerts*</u> <i>*BioMedware, Inc, USA</i>	Health Datasets <u>Rachel Whitshed*</u> , Ana Horta, Amilcar Soares and Herbert Jelinek <i>*Charles Sturt University, Australia</i>	by F13 SSM/I and F17 SSMIS for the Retrieval of Thickness and Area on Antarctic Thin Ice <u>Yue Liu*</u> , Xi Zhao and Xiaoping Pang <i>*Wuhan University, China</i>
	Reducing the Uncertainty in Precipitation Forecasting among Statistical and Dynamic Models <u>Lei Xu and Nengcheng Chen*</u> <i>*Wuhan University, China</i>	An Interval Uncertainty Propagation Method Based on Kernel Density Estimation <u>Dandan Feng, Jianghong Ma*</u> and Yee Leung <i>*Chang'an university, China</i>	Evapotranspiration Upscaling from Sparsely Distributed Ground Measurements to Continuous Grids over Heihe River Basin <u>Tongren Xu, Shaomin Liu*</u> and Ziwei Xu <i>*Beijing Normal University, China</i>
	Improving the Prediction Accuracy of Forest Aboveground Biomass Reference Map by Integrating Machine Learning and Spatial Statistics <u>Xiaoman Zheng, Shaoqing Dai, Shudi Zuo and Yin Ren*</u> <i>*Chinese Academy of Sciences, China</i>	A Hybrid Approach for Uncertainty Propagation with Random and Interval Variables <u>Xiaojing Song, Jianghong Ma*</u> and Yee Leung <i>*Chang'an university, China</i>	A Comparison of Upscaling Methods for Remotely Sensed Evapotranspiration Based on Flux Observation Matrix <u>Xiang Li, Shaomin Liu*</u> , Ziwei Xu and Tongren Xu <i>*Beijing Normal University, China</i>
	High Accuracy Surface Modelling <u>Tianxiang Yue^{1*}, Zemeng Fan, Zhengping Du and Na Zhao^{1*}</u> <i>¹*IGSNRR, CAS, China</i>	Reduction of Systematic Length Error Involved by Polygonal Approximation of Curves Using Polynomial Interpolation Methods <u>Jean-François Girres*</u> <i>*Université Paul-Valéry Montpellier 3-UMR GRED, France</i>	A Validation Framework for Remote Sensing Evapotranspiration Products: A Case Study in The Heihe River Basin <u>Yuan Zhang, Shaomin Liu*</u> , Ziwei Xu, Tongren Xu and Xiang Li <i>*Beijing Normal University, China</i>
	Efficient Nonstationary Auto-correlated Field Simulation Using Convolution Filtering <u>Ashton Shortridge*</u> and Thomas Bilintoh <i>*Michigan State University, USA</i>	Accuracy Assessment of LiDAR-Derived DEM for Flood Risk Mapping <u>Xiaohang Liu*</u> <i>*San Francisco State University, USA</i>	Spatial Scaling Methods and Models for Leaf Area Index <u>Liangyun Liu*</u> <i>*RADI, CAS, China</i>
15:00-15:30	Coffee/tea break		
15:30-17:00	Parallel sessions		
	Spatial simulation and prediction Room: 301A	Land use/cover change Room: 301B	Scaling and validation Room: 302A
	Session Chairs: Tianxiang Yue and Hexiang Bai	Session Chairs: Alexis Comber and Huan Xie	Session Chairs: Jaime Gómez- Hernández and Yanfei Zhong
	Exploring Spatial Heterogeneities in Real Estate Market via Geographically Weighted Summary Statistics: A Case Study in Wuhan <u>Binbin Lu*</u> , Jiayi Xie, Wenzhong Shi and Paul Harris <i>*Wuhan University, China</i>	Validation of High Resolution Global Land Cover Dataset: Methodology and Practice <u>Huan Xie*</u> , Wen Meng, Fang Wang, Ang Zhao, Yali Gong and Xiaohua Tong <i>*Tongji University, China</i>	Spatial Downscaling methods based on Area-to-Area and Area-to-Point Geostatistical Techniques for Regular Support <u>Yan Jin, Yong Ge*</u> and Gerard Heuvelink <i>*IGSNRR, CAS, China</i>
	Study on Topographic Correction Approach of Leaf Area Index Product Derived from Remote Sensing Data <u>Yuetong Hu and Xianfeng Feng*</u> <i>*IGSNRR, CAS, China</i>	Super Resolution Mapping of Farmland Based on Convolutional Neural Network <u>Yuanxin Jia, Yong Ge*</u> , Yuehong Chen and Yan Jin <i>*IGSNRR, CAS, China</i>	GSLPE: A Spatial Upscaling Method for Multipoint P-Normal Measurements <u>Feng Liu*</u> and Xin Li <i>*CAREERI, CAS, China</i>
	Investigation of the Multivariate Spatial Structure of A Soils Micronutrients Data Set at the Farm-Scale <u>Paul Harris*</u> , Tegan Darch, Binbin Lu, Alexis Comber and Michael Lee <i>*Rothamsted Research, UK</i>	The monitoring method of economic forest in Southern Jiangsu based on the high-resolution remote sensing images <u>Jia Jin, Xianfeng Feng*</u> , Zhou Lu, Liang Pei and Ming Luo <i>*IGSNRR, CAS, China</i>	Comparison between Three Split Window Algorithms on Ice Surface Temperature Retrieval in the Arctic <u>Pei Fan*</u> , Xi Zhao, Xiaoping Pang and Qing Ji <i>*Wuhan University, China</i>
	Evaluation of Heavy Metal Cu Pollution in Soil Based on Cokriging <u>Yingjun Sun*</u> , Yunting Jiang and Wei Qi <i>*Shandong Jianzhu University, China</i>	A novel change approach for Quantifying Land Over Change: Urbanisation in the Pearl River Delta <u>Alexis Comber*</u> and Ru Xu <i>*University of Leeds, UK</i>	Comparison between the Accuracy of SMOS Sea Ice Thickness Products and the Thin Ice Thickness Retrieved from AMSR2 Based on Ship Observation Data by Sikuliaq <u>Xueyi Ma*</u> , Xi Zhao, Meng Qu and Zian Cheng <i>*Wuhan University, China</i>
	Including Spatial Correlation in Structural Equation Modelling of Soil Properties <u>Gerard Heuvelink*</u> and Marcos Esteban Angelini <i>*Wageningen University, The Netherlands</i>	A Modified Change Vector Approach for Land Use Change Mapping in the Loess Plateau, China, Supporting Critical Zone Science <u>Alexis Comber*</u> , Yihe Lü, Ying Luo, Yanjiao Ren and Paul Harris <i>*University of Leeds, UK</i>	Evaluating of Terrain Shading Algorithms Using Artificial Surfaces for Solar Radiation Modeling Over Mountainous Terrain <u>Shuhua Zhang*</u> , Xingong Li and Jiangfeng She <i>*Nanjing university, China</i>
			Downscaling African Disease Case Data from Hospitals to Fine Resolution Maps <u>Peter Atkinson*</u> <i>*Lancaster University, UK</i>
18:30-19:30	Cold Buffet Room: IGSNRR 2602		
20:00-21:00	Chinese Folk Music Room: IGSNRR 2602		
Thursday 24 May			
08:30-9:50	Plenary session Room: Auditorium (Session Chair: Peter Atkinson)		
	Keynote: Handling Uncertainties in Spatial Big Data – Wenzhong Shi, The Hong Kong Polytechnic University, China		

	Keynote: Uncertainty in Machine Learning: Modeling and Visualizing Errors in Spatial Prediction Based on Machine Learning – Tom Hengl, The Netherlands
09:50-10:20	Coffee/tea break
10:20-10:35	Student Paper Award Room: Auditorium (Chair: Ashton Shortridge)
10:35-11:55	Plenary session Room: Auditorium (Session Chair: Gerard Heuvelink)
	Keynote: Spatial Stratified Heterogeneity, Biased Sample, and BLUE Estimators –Jinfeng Wang, IGNSRR, CAS, China
	Keynote: Spatial statistics for monitoring land use changes: towards optimal use of big data –Alfred Stein, University of Twente, The Netherlands
11:55-12:25	Closing Ceremony (Chair: Gerard Heuvelink) Room: Auditorium