


14TH

INTERNATIONAL
CONFERENCE ON
GEOSTATISTICS FOR
ENVIRONMENTAL
APPLICATIONS



geoENV
JUNE 22-24
PARMA 2022



PRELIMINARY PROGRAM
May 25, 2022



UNIVERSITÀ
DI PARMA

Preface

The 14th International Conference on Geostatistics for Environmental Applications (geoENV2022) will take place in Italy, for the first time, at the Campus of the University of Parma from Wednesday June 22nd to Friday June 24th, 2022. After two years of restrictions due to Covid-19 pandemic, the conference returns in presence. About 80 people from all over the world registered to the conference.

Colleagues who reach Parma on Tuesday June 21st are welcome to the icebreaker event at 18:30 in the main building of the University of Parma, in downtown Parma. During the icebreaker, attendees will be able to pre-register and have a drink with friends.

The 5K race will take place at Parco Ducale on Wednesday evening. All geoENVerS are invited to run or to support their friends.

On Thursday evening, the Gala dinner will be at the exit of the world's largest Labyrinth. (Only for those who manage to exit the labyrinth! 😊)

In the following, information on keynote speakers, social and scientific programs are detailed.

Austria Colombia Saudi Arabia Germany Turkey
Greece Australia Netherlands Switzerland France
Japan Ireland United States of America Portugal Iran
Spain Belgium United Kingdom Canada Italy
Cyprus Kazakhstan Argentina India

Organizing Committee



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Ilaria Butera – Politecnico di Torino – Italy

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Eduardo Cassiraga – Universitat Politècnica de València – Spain

Alessandro Comunian – Università degli Studi di Milano – Italy

Nadim Coptý – Bogazici University – Turkey

Sandra De Iaco – University of Salento – Italy

Aldo Fiori – Roma Tre University – Italy

Chantal de Fouquet – MINES ParisTech, Université PSL – France

Jaime Gómez-Hernández – Universitat Politècnica de València – Spain

Pierre Goovaerts – BioMedware, Inc. – United States

Dario Grana – University of Wyoming – United States

Alberto Guadagnini – Politecnico di Milano – Italy

Claus Haslauer – University of Stuttgart – Germany

Harrie-Jan Hendricks-Franssen – Forschungszentrum Jülich – Germany

George P. Karatzas – Technical University of Crete – Greece

Scientific Committee

Sara Kasmaee – University of Bologna – Italy

Liangping Li – South Dakota School of Mines – United States

Gregoire Mariethoz – University of Lausanne – Switzerland

Jennifer McKinley – Queen’s University Belfast – United Kingdom

Alessandra Menafoglio – Politecnico di Milano – Italy

Paula Moraga – King Abdullah University of Science and Technology – Saudi Arabia

Julian Ortiz – Queen’s University – Canada

Monica Palma – University of Salento – Italy

Edzer Pebesma – University of Muenster – Germany

Maria João Pereira – CERENA, Instituto SuperiorTécnico, Universidade de Lisboa – Portugal

Pierre Petitgas – IFREMER – France

Javier Rodrigo Ilarri – Universitat Politècnica València – Spain

Thomas Romary – MINES ParisTech, Université PSL – France

Xavier Sanchez-Vila – Universitat Politecnica de Catalunya – Spain

Amilcar Soares – Instituto SuperiorTécnico, Universidade de Lisboa – Portugal

Francesco Tinti – University of Bologna – Italy

Emmanouil Varouchakis – Technical University of Crete – Greece

Hans Wackernagel – Mines Paris Tech, Université PSL – France

Social Program

Tuesday, June 21, 2022 from 18:30

Icebreaker – [Main building](#) of the University of Parma, in downtown Parma (Strada Università 12, Parma)

Wednesday, June 22, 2022 at 19:00

5K Race at Ducale Park. Meeting point at the [Ducale Palace](#)

Thursday, June 23, 2022 at 13:00

geoENV2022 Group Photo outside the main conference room

Thursday, June 23, 2022 at 19:30

Gala Dinner at the [Labyrinth](#). Meeting at [Pilotta bus stop](#) at 19:00

Keynote Speakers

Wednesday, June 22, 2022 9:20 – 10:10

Carolina Guardiola Albert, Geological Survey of Spain (IGME-CSIC)

Exploitation of InSAR ground movement measurements through geostatistics

Thursday, June 23, 2022 9:00 – 9:50

Leonardo Azevedo, CERENA, Instituto Superior Técnico, Universidade de Lisboa– Portugal

Modelling the ocean with acoustic waves: a geostatistical inversion approach

Friday, June 24, 2022 9:00 – 9:50

Laura Poggio, ISRIC–World Soil Information, the Netherlands

Geostatistics, machine learning and spatial patterns

Scientific Program Summary

Wednesday, June 22, 2022

8:00 – 9:00	Registration
9:00 – 9:20	Opening Ceremony
9:20 – 10:00	Keynote lecture - Carolina Guardiola Albert
10:00 – 10:40	Plenary Session
10:40 – 11:10	Coffee Break
11:10 – 12:30	Parallel Sessions (A1 and B1)
12:30 – 14:00	Lunch
14:00 – 15:40	Parallel Sessions (A2 and B2)
15:40 – 16:10	Coffee Break
16:10 – 17:30	Parallel Sessions (A3 and B3)

Thursday, June 23, 2022

8:00 – 9:00	Registration
9:00 – 9:40	Keynote lecture - Leonardo Azevedo
9:40 – 10:40	Plenary Session
10:40 – 11:10	Coffee Break
11:10 – 12:30	Parallel Sessions (A1 and B1)
12:30 – 14:00	Lunch ¹
14:00 – 15:20	Parallel Sessions (A2 and B2)
15:20 – 17:00	Poster Session and Coffee Break

Friday, June 24, 2022

8:00 – 9:00	Registration
9:00 – 9:40	Keynote lecture - Laura Poggio
9:40 – 10:40	Plenary Session
10:40 – 11:10	Coffee Break
11:10 – 12:30	Plenary Sessions
12:30 – 12:50	Closing Ceremony
12:50	Lunch Box

¹ 13:20 geoENVia General Assembly

Wednesday

June 22nd, 2022

Plenary Session
Main Conference Room

9:00 – 9:20 **geoENV2022 Opening Ceremony**

9:20 – 10:00 **Keynote Speaker in Plenary Session**

EXPLOITATION OF INSAR GROUND MOVEMENT
MEASUREMENTS THROUGH GEOSTATISTICS

Carolina Guardiola Albert

10:00 – 10:40 **Oral Plenary Session**

Chairman: To be defined

10:00 - 10:20
ENVIRONMENTAL
POLLUTION AND
RISK ASSESSMENT

GEOSPATIAL MODEL OF COMPOSITION OF WATER
SERVICE LINES IN FLINT, MI: VALIDATION USING
EXCAVATION DATA AND A NEW COMPOSITIONAL
GEOSTATISTICAL APPROACH

Pierre Goovaerts

10:20 - 10:40
HEALTH,
EPIDEMIOLOGY,
ECOTOXICOLOGY

FUNCTIONAL DATA ANALYSES TO MODEL COVID-19
WAVES

**Maria João Pereira, Leonardo Azevedo, Manuel Ribeiro,
Amilcar Soares**

10:40 – 11:10 **Coffee Break**

Wednesday

June 22nd, 2022

Parallel Session A
Main Conference Room

11:10 – 12:30	Oral Session A1	Chairman: <i>To be defined</i>
11:10 - 11:30 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	A COMPARISON BETWEEN BAYESIAN AND ORDINARY KRIGING BASED ON VALIDATION CRITERIA: APPLICATION TO RADIOLOGICAL CHARACTERISATION <u>Martin Wieskotten</u>, Marielle Crozet, Bertrand Iooss, Céline Lacaux, Amandine Marrel	
11:30 - 11:50 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	BIVARIATE DEEPKRIGING FOR LARGE-SCALE SPATIAL INTERPOLATION OF WIND FIELD <u>Pratik Nag</u>, Ying Sun, Brian Reich	
11:50 - 12:10 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	USING SEQUENTIAL INDICATOR SIMULATION TO MODEL NON-STATIONARY GEOLOGICAL DOMAINS COMBINING WITH A MACHINE LEARNING ALGORITHM Almas Amirzhan, Nasser Madani	
12:10 - 12:30 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	USING GEOSTATISTICAL APPROACHES TO ESTIMATE THE RGB VALUES UNDER A CLOUD COVERED AREA WITHIN THE SENTINEL-2 IMAGES Ashkan Tayebi Gholamzadeh	
12:30 – 14:00	Lunch	

Wednesday

June 22nd, 2022

Parallel Session A
Main Conference Room

14:00 – 15:40	Oral Session A2	Chairman: To be defined
14:00 - 14:20 INVERSE MODELING	GEOSTATISTICAL INVERSION FOR ROCK PHYSICS PROPERTIES IN THE CRITICAL ZONE <u>Dario Grana</u>, Andrew Parsekian	
14:20 - 14:40 INVERSE MODELING	MACHINE LEARNING-BASED INVERSE MODELING FOR THE IDENTIFICATION OF HYDRAULIC CONDUCTIVITY Vanessa A. Godoy, Gian F. Napa-Garcia, J. Jaime Gómez- Hernández	
14:40 - 15:00 INVERSE MODELING	GEOSTATISTICAL ELECTRICAL RESISTIVITY TOMOGRAPHY INVERSION FOR GROUNDWATER CHARACTERIZATION <u>João Lino Pereira</u>, Mafalda Oliveira, Rui Guinote, Emmanouil A. Varouchakis, J. Jaime Gómez-Hernández, Leonardo Azevedo	
15:00 - 15:20 INVERSE MODELING	MODELLING THE COMPLEXITY BENEATH OUR FEET: A JOINT INVERSION FDEM AND ERT TECHNIQUE <u>João Narciso</u>, Ellen Van De Vijver, Leonardo Azevedo	
15:20 - 15:40 INVERSE MODELING	SEISMIC OCEANOGRAPHY IMAGING AND INVERSION OF THE MADEIRA ABYSSAL PLAIN <u>Ana Filipa Duarte</u>, Leonardo Azevedo, Luis Matias, Álvaro Peliz, Renato Mendes	
15:40 – 16:10	Coffee Break	

Wednesday

June 22nd, 2022

Parallel Session A
Main Conference Room

16:10 – 17:30	Oral Session A3	Chairman: To be defined
16:10 - 16:30 INVERSE MODELING	PERMEABILITY PREDICTION WITH GEOSTATISTICAL SEISMIC INVERSION CONSTRAINED BY ROCK PHYSICS Roberto Miele, Dario Grana, João Felipe Costa, Paula Bürkle, Luiz Eduardo Varella, Bernardo Viola Barreto, Leonardo Azevedo	
16:30 -16:50 INVERSE MODELING	IDENTIFICATION OF CONTAMINANT SOURCES AND PLUMES AFFECTED BY BIODEGRADATION AND SORPTION PROCESSES BY ENSEMBLE KALMAN FILTERS <u>Alicia Sanz-Prat</u>, J. Jaime Gómez-Hernández	
16:50 -17:10 OTHER	MODELING DENSITY DATA ACROSS THE IBERIAN MASSIF (PORTUGAL): RELIABILITY ASSESSMENT FOR ENVIRONMENTAL APPLICATIONS Filipa Domingos, Gustavo Luís, Sérgio Sêco, Alcides Pereira	
17:10 -17:30 OTHER	CONDITIONED SIMULATION FOR GEOSTATISTICAL TREATMENT OF SEISMIC THREAT IN ANTIOQUIIA STATE, NORTHWESTERN COLOMBIA Luis Hernán Sánchez Arredondo, Lilian Posada Garcia, Adiel Martínez	

Wednesday

June 22nd, 2022

Parallel Session B

Aula Centrale Room

11:10 – 12:30	Oral Session B1	<i>Chairman: To be defined</i>
11:10 - 11:30 HEALTH, EPIDEMIOLOGY, ECOTOXICOLOGY	A STOCHASTIC MODEL OF AN ALERT SYSTEM FOR DETECTING LOCAL ANOMALOUS INCIDENCE VALUES OF COVID-19 <u>Ana Filipa Duarte, Leonardo Azevedo, Amilcar Soares</u>	
11:30 - 11:50 HEALTH, EPIDEMIOLOGY, ECOTOXICOLOGY	UNPACKING OCCUPATIONAL HEALTH DATA IN THE TERTIARY SECTOR. FROM SPATIAL CLUSTERING TO BAYESIAN DECISION MAKING <u>María Pazo, Carlos Boente, Teresa Albuquerque, Natália Roque, Saki Gerassis, Javier Taboada</u>	
11:50 - 12:10 HEALTH, EPIDEMIOLOGY, ECOTOXICOLOGY	SPATIO-TEMPORAL POINT PROCESS COMPARTMENT MODELING FOR INFECTIOUS DISEASES <u>André Victor Ribeiro Amaral, Jonatan A. González, Paula Moraga</u>	
12:10 - 12:30 HEALTH, EPIDEMIOLOGY, ECOTOXICOLOGY	GEOSPATIAL MODELING OF NATIONAL HEALTH SERVICE DELIVERY SURVEY DATA <u>Eun-Hye Enki Yoo, John E. Roberts, Becky Powell, Tia Palmero, Qiang Pu</u>	
12:30 – 14:00	Lunch	
14:00 – 15:40	Oral Session B2	<i>Chairman: To be defined</i>

Wednesday

June 22nd, 2022

Parallel Session B

Aula Centrale Room

14:00 - 14:20

**SURFACE AND
SUBSURFACE
HYDROLOGY**

CRITICAL COMPARISON OF THREE COMPOSITIONAL INDICES TO TRACE GEOCHEMICAL CHANGES DOWNRIVER

Caterina Gozzi, Antonella Buccianti

14:20 - 14:40

**SURFACE AND
SUBSURFACE
HYDROLOGY**

USING GEOSTATISTICAL METHODS TO HELP OPTIMIZING AN EXISTING GROUNDWATER MONITORING NETWORK

Nathalie Courtois, Claire Faucheux

14:40 - 15:00

**SURFACE AND
SUBSURFACE
HYDROLOGY**

A SINGLE SPATIOTEMPORAL FRAMEWORK FOR MONTHLY LOW FLOW ESTIMATION IN AUSTRIA – INCLUDING EMPIRICAL ORTHOGONAL FUNCTIONS, VARIABLE SELECTION, AND FUNCTIONAL CLUSTERING

Johannes Laimighofer, Michael Melcher, Gregor Laaha

15:00 - 15:20

**SURFACE AND
SUBSURFACE
HYDROLOGY**

ROBUST STATISTICAL PROCESSING OF LONG-TIME DATA SERIES ON SOIL-ATMOSPHERE INTERACTION: PRELIMINARY RESULTS

**Mirko Anello, Marco Riani, Fabrizio Laurini, Marco Bittelli,
Massimiliano Bordoni, Claudia Meisina, Roberto Valentino**

15:20 - 15:40

**SOIL
APPLICATIONS**

A NOVEL METHODOLOGY FOR THE IDENTIFICATION OF ERRORS AND SIGNIFICANT ACCELERATION EVENTS FROM AUTOMATIC INCLINOMETERS TIME SERIES RELATED TO SLOW AND VERY SLOW-MOVING LANDSLIDES

Valerio Vivaldi, Massimiliano Bordoni, Laura Pedretti, Mauro Tarabro, Luca Lanteri, Matteo Parnigoni, Alessandra Grossi, Silvia Figini, Nicoletta Negro, Claudia Meisina

15:40 – 16:10

Coffee Break

Wednesday

June 22nd, 2022

Parallel Session B
Aula Centrale Room

16:10 – 17:30	Oral Session B3	Chairman: To be defined
16:10 - 16:30 MULTIPLE POINT GEOSTATISTICS	APPLYING MPS TO POINT DATA MERGING USING PATTERN-TO-POINT (P2P) CATALOGS Fabio Oriani, Gregoire Mariethoz	
16:30 -16:50 MULTIPLE POINT GEOSTATISTICS	GEOSTATISTICAL SIMULATION FOR OFFSHORE WIND SPEED SPATIO-TEMPORAL GAP-FILLING Stylios Hadjipetrou, Gregoire Mariethoz, Phaedon Kyriakidis	
16:50 -17:10 MULTIPLE POINT GEOSTATISTICS	HANDLING NON-STATIONARITY IN MULTIPLE-POINT STATISTIC SIMULATION WITH A HIERARCHICAL APPROACH <u>Alessandro Comunian</u>, Edoardo Consonni, Chiara Zuffetti, Riccardo Bersezio, Mauro Giudici	
17:10 -17:30 MULTIPLE POINT GEOSTATISTICS	PIXEL-BASED MULTIPLE-POINT-STATISTICS PARAMETRIZATION BASED ONLY ON TRAINING IMAGES <u>Mathieu Gravey</u>, Gregoire Mariethoz	

Thursday

June 23rd, 2022

Plenary Session
Main Conference Room

9:00 – 9:40

Keynote Speaker in Plenary Session

MODELLING THE OCEAN WITH ACOUSTIC WAVES: A
GEOSTATISTICAL INVERSION APPROACH

Leonardo Azevedo

9:40 – 10:40

Oral Plenary Session

Chairman: To be defined

9:40 - 10:00
SPATIO-
TEMPORAL
PROCESSES

COVARIANCE MODELING FOR SPATIO-TEMPORAL
COMPLEX-VALUED RANDOM FIELDS

Sandra De Iaco

10:00 - 10:20
GEOSTATISTICAL
THEORY AND NEW
METHODOLOGIES

SURROGATE MODELS AS MANAGEMENT TOOLS FOR THE
REQUENA-UTIEL AND CABRILLAS-MALACARA AQUIFERS

**Janire Uribe-Asarta, Vanessa A. Godoy, J. Jaime Gómez-
Hernández**

10:20 - 10:40
OTHER

ANALYSIS OF SURFACE TEXTURE USING SPATIAL
CONTINUITY INDICES: INTERPRETABILITY, FLEXIBILITY,
AND ROBUSTNESS

Sebastiano Trevisani

10:40 – 11:10

Coffee Break

Thursday

June 23rd, 2022

Parallel Session A
Main Conference Room

11:10 – 12:30	Oral Session A1	Chairman: <i>To be defined</i>
11:10 - 11:30 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	A RIEMANNIAN TOOL FOR CLUSTERING OF GEO-SPATIAL MULTIVARIATE DATA <u>Alvaro Riquelme</u>, Julian Ortiz	
11:30 - 11:50 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	GEOSTATISTICS FOR COMPOSITIONAL DATA: COMPARISON OF LOGARITHMIC TRANSFORMATION METHODS IN AN IRON DEPOSIT <u>Milena Nasretdinova</u>, Nasser Madani	
11:50 - 12:10 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	ASSISTED 3D MODEL CONSTRUCTION AND FACIES PROPAGATION IN GOLFO SAN JORGE BASIN RESERVOIRS FOR MODELLING EOR Damian LLanes Jose, Alejo Viñales, Juan Ernesto Juri, Mario Grinberg	
12:10 - 12:30 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	IMPLICIT GEOLOGICAL DOMAIN MODELING BY USING GAUSSIAN PROCESSES ALGORITHM <u>Talgatbek Bazarbekov</u>, Nasser Madani, Timur Merembayev	
12:30 – 14:00	Lunch	
13:00	geoENV2022 Group Photo	

Thursday

June 23rd, 2022

Parallel Session A
Main Conference Room

14:00 – 15:00	Oral Session A2	<i>Chairman: To be defined</i>
14:00 - 14:20 SPATIO- TEMPORAL PROCESSES	A NONPARAMETRIC SPATIO-TEMPORAL APPROACH TO EVALUATE UNCERTAINTY IN GEOSTATISTICS Claudia Cappello, Sandra De Iaco, Sabrina Maggio, Monica Palma	
14:20 - 14:40 SPATIO- TEMPORAL PROCESSES	GEOSTATISTICAL ANALYSIS OF EXTREME PRECIPITATION RECORDS OVER NORTH-WEST ITALY <u>Paola Mazzoglio</u>, Ilaria Butera, Pierluigi Claps	
14:40 - 15:00 SPATIO- TEMPORAL PROCESSES	A MARKED POINT-PROCESS SPATIO TEMPORAL MODEL TO UNDERSTAND FOREST FIRES IN THE MEDITERRANEAN BASIN Oscar Rodriguez de Rivera Ortega, Juncal Espinosa Prieto, Javier Madrigal, Marta Blangiardo, Antonio Lopez-Quilez	
15:20 – 17:00	Poster Session and Coffee Break	

Thursday

June 23rd, 2022

Parallel Session B

Aula Centrale Room

11:10 – 12:30	Oral Session B1	Chairman: To be defined
11:10 - 11:30 REMOTE SENSING	A GEOSTATISTICAL POINT OF VIEW ON HETEROSUPPORT AND HETEROTOPIC CO-REGIONALIZATION OF REMOTE SENSED INFORMATION	Roberto Bruno, Sara Kasmaeeyazdi, Francesco Tinti
11:30 - 11:50 REMOTE SENSING	MAPPING OF CRITICAL RAW MATERIALS IN BAUXITE MINING RESIDUES USING GEOSTATISTICS AND REMOTE SENSING	Sara Kasmaee, Adriana Guatame-Garcia, Francesco Tinti, Mike Buxton, Emanuele Mandanici, Joachim Schick, Francoise Bodenan, Dimitris Sparis, Elefthymios Balomenos, Roberto Bruno
11:50 - 12:10 REMOTE SENSING	DETECTION OF GROUND DEFORMATION EVENTS: A METHODOLOGY FOR THE STATISTICAL ANALYSIS OF INSAR TIME SERIES	Laura Pedretti, Massimiliano Bordoni, Valerio Vivaldi, Silvia Figini, Matteo Parnigoni, Alessandra Grossi, Luca Lanteri, Mauro Tarabra, Nicoletta Negro, Claudia Meisina
12:10 - 12:30 REMOTE SENSING	REMOTE SENSING CHANGE DETECTION FOR THE APPEARANCE AND DISAPPEARANCE OF OASES FARMLAND IN CENTER ASIA	<u>Hoshino Buho</u>
12:30 – 14:00	Lunch	
13:00	geoENV2022 Group Photo	

Thursday

June 23rd, 2022

Parallel Session B

Aula Centrale Room

14:00 – 15:20	Oral Session B2	Chairman: <i>To be defined</i>
14:00 - 14:20 ENVIRONMENTAL POLLUTION AND RISK ASSESSMENT	THE GEOGRAPHICAL PATTERN OF LOCAL STATISTICAL DISPERSION OF ENVIRONMENTAL RADON IN EUROPE <u>Peter Bossew</u>	
14:20 - 14:40 ENVIRONMENTAL POLLUTION AND RISK ASSESSMENT	GEOSTATISTICAL MAPPINGS OF INDOOR RADON CONCENTRATIONS DATA IN FRANCE Jean-Michel Metivier, Claire Greau, Nahla Mansouri	
14:40 - 15:00 ENVIRONMENTAL POLLUTION AND RISK ASSESSMENT	SPATIOTEMPORAL PREDICTIONS OF MULTIPLE AIR POLLUTION DATA: A CASE STUDY Claudia Cappello, Sandra De Iaco, Monica Palma	
15:00 - 15:20 OTHER	ENVIRONMENTAL GEOSTATISTICS OF HEAVY METALS IN FINE ACTIVE SEDIMENTS OF OESTE ANTIOQUEÑO SUBREGION ANTIOQUIA-COLOMBIA Luis Hernán Sánchez Arredondo, Jheyson Andrés Bedoya Londoño, Sergio Alejandro Garavito Higuera	
15:20 – 17:00	Poster Session and Coffee Break	

Thursday

June 23rd, 2022

Poster Session

Corridor in front of Aula Centrale Room

15:20 – 17:00

Poster Session

ECOLOGY,
NATURAL
RESOURCES

A GEOSTATISTICAL APPROACH FOR MERCURY SPATIAL PATTERNS ASSESSMENT IN SEDIMENTS IN AN OLD MINING REGION -THE CAVEIRA MINE CASE STUDY, PORTUGAL

Natália Mota, Rita Fonseca, Joana Araújo, Margarida Antunes, Teresa Valente, Ana Barroso, Alexandre Araújo, Teresa Albuquerque

ENVIRONMENTAL
POLLUTION AND
RISK ASSESSMENT

STREAM SEDIMENTS POLLUTION: A COMPOSITIONAL BASELINE ASSESSMENT AT THE CAVEIRA MINE, PORTUGAL

Joana Araújo, Rita Fonseca, Natália Mota, Alexandre Araújo, Margarida Antunes, Teresa Valente, Ana Barroso, Teresa Albuquerque

ENVIRONMENTAL
POLLUTION AND
RISK ASSESSMENT

INTERPOLATED SURFACES AS MAPPING UNITS FOR BINARY CLASSIFICATION OF RADON PRONE AREAS: A CASE-STUDY FROM CENTRAL PORTUGAL

Gustavo Luís, Alcides Pereira

ENVIRONMENTAL
POLLUTION AND
RISK ASSESSMENT

A SPATIO-TEMPORAL MULTILEVEL MULTIVARIATE MODEL TO EVALUATE THE DETERMINANTS OF AIR POLLUTION IN APULIA REGION

Sabrina Maggio, Claudia Cappello, Sandra De Iaco

FORESTRY,
AGRICULTURE

OPERATIONAL SPATIALISATION OF HOURLY AND DAILY WEATHER DATA (AIR TEMPERATURE AND RELATIVE HUMIDITY) FOR AGRICULTURAL DECISION SUPPORT SYSTEMS

Damien Rosillon, Alban Jago, Jean Pierre Huart, Viviane Planchon, Michel Journée, Patrick Bogaert

Thursday

June 23rd, 2022

Poster Session

Corridor in front of Aula Centrale Room

GEOSTATISTICAL
THEORY AND NEW
METHODOLOGIES

APPLICATION OF GEOSTATISTICS AND SELF-ORGANIZING
MAPS FOR ESTIMATION OF GROUNDWATER LEVEL SPATIAL
DISTRIBUTION IN COMPLEX HYDROGEOLOGICAL SYSTEMS

Emmanouil Varouchakis, George Karatzas, Ioannis Trichakis

GEOSTATISTICAL
THEORY AND NEW
METHODOLOGIES

ANALYSIS OF TWO PRECIPITATION DATA GAP-FILLING
METHODS IN A STUDY AREA OF NORTHERN ITALY

**Camilla Fagandini, Valeria Todaro, Maria Giovanna Tanda,
Andrea Zanini**

HEALTH,
EPIDEMIOLOGY,
ECOTOXICOLOGY

SPATIALEPISIM: AN R SHINY APP FOR TRACKING INFECTIOUS
DISEASES IN LOW- AND MIDDLE-INCOME COUNTRIES (LMIC)

**Ashok Krishnamurthy, Crystal Wai, Gursimran Dhaliwal, Jake
Doody**

HEALTH,
EPIDEMIOLOGY,
ECOTOXICOLOGY

GEOSTATISTICAL COVID-19 RISK AND UNCERTAINTY IN A
SINGLE MAP WITH R OPEN-SOURCE CODE

**Manuel Ribeiro, Leonardo Azevedo, Amílcar Soares, Maria João
Pereira**

INVERSE
MODELING

SOLVING GEOPHYSICAL RANDOM EFFECT MODELS WITH
INTRACTABLE LIKELIHOODS: LINEARIZED GAUSSIAN
APPROXIMATIONS VERSUS THE CORRELATED PSEUDO-
MARGINAL METHOD

Lea Friedli, Niklas Linde, David Ginsbourger

INVERSE
MODELING

ON A CONSTRUCTIVE SPECTRAL METHOD FOR
CONDITIONING PLURIGAUSSIAN SIMULATIONS TO
BOREHOLES OBSERVATIONS AND INDIRECT DATA.
APPLICATION TO AQUIFER MODELS

Dany Lauzon, Denis Marcotte

Thursday

June 23rd, 2022

Poster Session

Corridor in front of Aula Centrale Room

INVERSE
MODELING

EFFICIENT INVERSION WITH COMPLEX GEOSTATISTICAL PRIORS USING NORMALIZING FLOWS AND VARIATIONAL INFERENCE

Shiran Levy, Eric Laloy, Niklas Linde

INVERSE
MODELING

GROUNDWATER CONTAMINANT SOURCE CHARACTERIZATION THROUGH ARTIFICIAL NEURAL NETWORKS

Laura Molino, Daniele Secchi, Andrea Zanini

INVERSE
MODELING

ASSESSMENT OF HYDRAULIC CONDUCTIVITY FIELD USING LABORATORY SANDBOX TRACER TEST DATA AND AN ENSEMBLE KALMAN FILTER METHOD

Valeria Todaro, Andrea Zanini, Marco D'Oria, J. Jaime Gómez-Hernández, Maria Giovanna Tanda

REMOTE SENSING

DERIVING HIGH SPATIAL RESOLUTION DAILY VEGETATION INDEX IMAGES FROM SENTINEL AND MODIS DATA: A GEOSTATISTICAL APPROACH

Alzira Ramos, Leonardo Azevedo, Cristina Branquinho, Gregory Duveiller, Maria João Pereira

SPATIO-
TEMPORAL
PROCESSES

VARIABLE KERNEL ESTIMATES OF FIRST-ORDER SUMMARY DESCRIPTOR OF SPATIO-TEMPORAL POINT PROCESSES

Jonatan A. González, Paula Moraga

SPATIO-
TEMPORAL
PROCESSES

AN ENSEMBLE-BASED APPROACH FOR THE ANALYSIS OF SPATIALLY MISALIGNED DATA

Ruiman Zhong, Paula Moraga

Thursday

June 23rd, 2022

Poster Session

Corridor in front of Aula Centrale Room

OTHER

IMPORTANCE OF MULTI-PARAMETER APPROACHES IN THE
DEVELOPMENT OF MACHINE LEARNING ALGORITHMS FOR
LANDSLIDE DISPLACEMENT FORECASTING

Marco Conciatori, Alessandro Valletta, Andrea Segalini

Friday

June 24th, 2022

*Plenary Session
Main Conference Room*

9:00 – 9:40	Keynote Speaker in Plenary Session	
	GEOSTATISTICS, MACHINE LEARNING AND SPATIAL PATTERNS	
	Laura Poggio	
9:40 – 10:40	Oral Plenary Session	<i>Chairman: To be defined</i>
<i>9:40 - 10:00 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES</i>	COMBINED ANALYSIS OF SPATIALLY MISALIGNED DATA USING GAUSSIAN FIELDS AND THE STOCHASTIC PARTIAL DIFFERENTIAL EQUATION APPROACH	
	<u>Paula Moraga</u>	
<i>10:00 - 10:20 ECOLOGY, NATURAL RESOURCES</i>	BAYESIAN U-NET FOR ORE TYPE UNCERTAINTY MODELING IN COMPLEX GEOLOGICAL ENVIRONMENTS	
	Helga Jordão, Amílcar Soares	
<i>10:20 - 10:40 OTHER</i>	COUPLED SURFACE-SUBSURFACE HYDROLOGICAL MODEL FOR THE ESTIMATION OF NET RECHARGE OF THE KONYA CLOSED BASIN, TURKEY	
	Onur Cem Yologlu, <u>Nadim Copty</u>, Izel Uygur, Mehmet Can Tunca, Elif Bal, Buse Yetisti, Irem Daloglu, Ali Kerem Saysel	
10:40 – 11:10	Coffee Break	

Friday

June 24th, 2022

Plenary Session
Main Conference Room

11:10 – 12:30	Oral Plenary Session	Chairman: To be defined
11:10 - 11:30 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	DOES MORE INFORMATION INCLUDED IN SPATIALLY DISTRIBUTED FIELDS LEAD TO AN IMPROVED MATCH TO OBSERVED DEPENDENT VARIABLES? Bo Xiao, <u>Claus Haslauer</u>, Geoff Bohling, András Bárdossy	
11:30 - 11:50 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	AN OBJECT-ORIENTED APPROACH TO THE ANALYSIS OF SPATIAL FUNCTIONAL DATA OVER STREAM-NETWORK DOMAINS Chiara Barbi, <u>Alessandra Menafoglio</u>, Piercesare Secchi	
11:50 - 12:10 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	TWO APPROACHES TO SCENARIO MODELLING USING THE EMBEDDED ESTIMATOR METHOD <u>Colin Daly</u>	
12:10 - 12:30 GEOSTATISTICAL THEORY AND NEW METHODOLOGIES	A NEW APPROACH TO SIMULATE CONDITIONAL RANDOM FIELDS WITH CORRELATION TO AN EXTERNAL VARIABLE USING FFTMA AND P-FIELD SIMULATION <u>Sebastian Hörning</u>, Andras Bardossy	
12:30 – 12:50	geoENV2022 Closing Ceremony	
12:50	Lunch Box	