

MAY 9 , 2024

3rd MOPT CONFERENCE

ADVANCED SPATIAL
MODELING AND ANALYSIS

PROGRAM



IGOT | UNIVERSITY OF LISBON, PORTUGAL

THURSDAY, 09 MAY, 2024
INSTITUTE OF GEOGRAPHY AND SPATIAL PLANNING
CONFERENCE ROOM JORGE GASPAR

Since the 2nd Conference on Advanced Spatial Modeling Analysis (CASMA), we have witnessed the pervasive integration of interdisciplinary methodologies in geographical research including Artificial intelligence (AI), Machine Learning, Data Mining, high-performance computing geospatial big data extraction, and complex spatial models. Also, there has been a notable integration of citizen-based science and participatory modeling helping collection, visualization, analysis, scenario building, and validation, thus supporting decision-making in land use and spatial planning.

In this current context, we can ask “How are geospatial technologies contributing to advancements in sustainable landscapes, land use planning, and the creation of greener, healthier, and more equitable environments?”

This conference aims to:

- Foster discussions on theoretical and applied research in land use modeling in natural and urban socio-environmental design, and specifically for urban and spatial planning purposes.
- Provide an overview of how theoretical and quantitative geographies are adapting to the technological revolution of AI, Data Mining, and Machine Learning, while addressing associated risks and opportunities.
- Bridge the gap between practical problem-solving and curiosity-driven science.

9H30 | WELCOME RECEPTION

9H45 | OPENING SESSION

Mário Vale (IGOT/ULisboa, President of IGOT-ULisboa)

Eduarda Marques da Costa (CEG/IGOT-ULisboa, MOPT Coordinator)

Cláudia M. Viana (CEG/IGOT-ULisboa, Organizing committee)

10H15 | PANEL 1 – EXPLORING INTERSECTIONS: FROM LAND CHANGE MODELING TO URBAN NEUROBIOLOGY MAPPING

Chair: Eduardo Gomes (CEG/IGOT-ULisboa)

Robert Gilmore Pontius Jr (Clark University, USA) - How and why do some authors claim their data and models are good?

11H15 – 11H35 | COFFEE BREAK

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11H35 | PANEL 1 - EXPLORING INTERSECTIONS: FROM LAND CHANGE MODELING TO URBAN NEUROBIOLOGY MAPPING

Chair: Eduardo Gomes (CEG/IGOT-ULisboa)

Paulo Morgado (CEG/IGOT-ULisboa) - eMOTIONAL Cities project

12H30 - 14H00 | LUNCH BREAK

14H00 | PANEL 2 - MOPT SHOWROOM PITCH

Chair: Jorge Rocha (CEG/IGOT-ULisboa, GeoModLAB coordinator)

António Monteiro (CEG/IGOT-ULisboa) - Modeling Vegetation and Soil Moisture Content in Atlantic Humid Mountains with Sentinel-1 and 2 satellite sensor data

Patricia Veloza (CEG/IGOT-ULisboa) - Past and future land use land cover changes in wetlands landscape

Cláudia M. Viana (CEG/IGOT-ULisboa) - AgroecoDecipher – Tracing geographic land patterns through historical agricultural records and artificial intelligence

Iuria Betco (CEG/IGOT-ULisboa) - Exploring Urban Features Sentiment Analysis through Explainable AI

Ana Louro (CEG/IGOT-ULisboa) - Bridging the potential accessibility with the realities of older people for Age-Friendly Cities in Portugal

15H40 - 16H00 | COFFEE BREAK

16H00 | PANEL 3 - SUSTAINABLE PATHWAYS: INTEGRATING LAND USE MODELS INTO SPATIAL PLANNING

Chair: Patrícia Abrantes (CEG/IGOT-ULisboa)

Peter H. Verburg (VU Amsterdam, Netherlands) - Land use Modelling for Land Use Planning (virtual participation)

17H00 | CLOSING SESSION

José Luís Zêzere (CEG/IGOT-ULisboa, Director of CEG-ULisboa)

Eduardo Gomes (CEG/IGOT-ULisboa, Organizing committee)

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INVITED KEYNOTE SPEAKERS ABSTRACTS

Robert Gilmore Pontius Jr is a Professor in Clark University's Graduate School of Geography. Dr. Pontius specializes in Geographic Information Science (GIS) with particular expertise in statistics, simulation modeling, and land change science. He derives quantitative methods that are in the GIS software TerrSet, which Clark Labs produces. Pontius works with Clark Labs to improve the methods for carbon offset projects to reduce greenhouse gas emissions from deforestation and forest degradation. The United States National Science Foundation continues to fund his research through more than two decades via the Plum Island Ecosystems site of the Long-Term Ecological Research network. The National Aeronautics and Space Administration also funds his research in the Brazilian Cerrado Biome via the Land-Cover and Land-Use Change program. Pontius is a member of the Scientific Advisory Board of MapBiomas and a Fulbright Scholar of Brazil.

Paulo Morgado is a GIScientist passionate about cities and urban planning. Paulo holds a Degree in Geography and Regional Planning from FCSH-UNL, a MSc in Geographic Information Systems, from IST-UTL, and a PhD in Regional and Urban Planning (Geocomputation) from IGOT-ULisboa. Paulo is currently an Associate Professor at the Institute of Geography and Spatial Planning of the University of Lisbon, a researcher at Centre of Geographical Studies (CEG) and a coordinator of GeoModLAB at CEG. At the present moment Paulo is actively involved, and with some tasks coordination responsibilities, in an ongoing research project funded over four million euros (eMOTIONAL). Paulo is also a member of the Applied Geography e GIScience and Systems, of Association of American Geographers and Associação Portuguesa de Geógrafos.

Peter H. Verburg is full professor in Environmental Spatial Analysis and leads the Environmental Geography group that is part of the Institute for Environmental Studies, Vrije Universiteit Amsterdam. Peter is named a Highly Cited Researcher, his publications being amongst the top 1% most cited in the Web of Science. Peter has established a leading position in the field of land use analysis and modelling. He has developed and applied a wide range of methods to analyze spatial patterns of land use at scales from local to global. His work on regional and global scale land use modeling has resulted in one of the most frequently used land use models worldwide (CLUE). Currently he is a member of the Earth Commission (www.earthcommission.org), a member of the Science-Policy Interface of UNCCD, and co-Editor-in-Chief of the journal Landscape and Urban Planning.

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