

NARSC 2022

Call for submissions for Special Session

Perspectives on GeoComputation Approaches for Urban and Regional Systems

Session Organizers

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At the very core of it, GeoComputation is focused on enriching geography with a panoply of methods to model, simulate and analyse a range of highly complex, often non-linear systems. Urban and regional systems are examples of such complex systems that can be studied and understood from the doubly-informed perspective of geography and computer science. Processes of city formation, growth and sprawl, transportation planning and analysis, urban heat island effect, urban ecological processes, ecosystem industrial location analysis, among others, make up for the complex dynamics within cities and between regions, and can be examined through the lens of Geocomputation. This session would like to invite papers, for oral presentation, from experts in different fields that are interested in sharing their perspective on diverse geocomputational methods applied to the study of urban and regional systems.

The topics in these sessions may include, but are not limited to:

- GeoAI and Big data analytics for urban and regional systems
- Spatiotemporal analysis in complexity theories
- New geosimulation approaches
- Dynamic geo-social network analysis
- Digital twins for smart cities
- Urban ecosystem services assessment tools
- New approaches to validate modelled patterns or processes with real-time data
- Virtual reality and the visualization and communication urban and regional complexities to stakeholders
- Gamification as a mean to validate agent-based models
- Synthetic population generation algorithms for agent-based model simulations
- Machine learning applications to support and complement agent-based modelling
- Hybrid intelligent models-integration of AI and ABMs

If you would like to contribute to this special session, please submit an abstract (2,000 to 5,000 characters and spaces) through the conference portal before June 27th, 2022. Information on how to prepare and submit your abstract can be found [here](#). Upon submitting your abstract, you will receive an abstract ID number (PIN). In addition, please then email a copy of your abstract with the title, abstract, PIN, author information and contact details to **Dr. Liliana Perez** (l.perez@umontreal.ca) by **June 27th, 2022**.

Looking forward to seeing you in Montréal!