Call for Book Chapter Proposal Submission

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Computational Urban Geography

Computational Approaches for Urban Environments

Edited by Marco Helbich[1], Jamal Jokar Arsanjani[1], and Michael Leitner[2]

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1.   Introduction

The quantitative modeling of urban environments is a rapidly developing and challenging field. Cities are highly dynamic and complex environments composed of several interrelated subsystems including housing markets, transportation, population, etc. Although urbanization will increase up to 80% within the next three decades according to United Nations reports, the interplay of these subsystems forming urban environments and affecting our society are only partially understood so far and research about them are of utmost importance. While geographic information system-based urban analyses have reached certain levels of maturity, the capabilities and limitations of data-driven computational approaches to support urban theories as well as policy- and decision-making have not yet been adequately addressed. Additionally, the recent technological progress is grounded in large and constantly increasing amounts of multi-dimensional digital data, inherently characterized by spatial and temporal dimensions. In this context, it is expected that cutting-edge computational methods linked to novel data sources promote a deeper understanding of urban areas and urban processes in order to support urban environments for a more sustainable future.

2.   Objectives and Scope

The main objective of the intended edited volume is to seek high quality, scientific research chapters providing a wide array of urban-related subjects that contribute to the advancement of knowledge in the use of novel computational methods for the analysis of urban environments. Due to the inter- and trans-disciplinarity of the related domains as well as supporting a more holistic understanding of cities, submissions of chapter proposals from a broad range of scientific disciplines such as geography, economics, computer science, statistics, geographic information science, remote sensing, sociology, urban planning, and civil engineering are highly welcome from the Editors.

The edited book is scheduled to be published by *Springer* in its popular "*Geotechnologies and the Environment*" series, edited by Jay D. Gatrell and Ryan R. Jensen. For more detailed information about this series, we refer to the Springer webpage, accessible via the following link http://www.springer.com/series/8088.

This book will cover *several aspects* of urban-related topics including the following fields of application:

- Population and social dynamics
- Urban transportation
- Housing and real estate
- Urban dynamics and growth
- Land use planning
- Crime and law enforcement
- Health
- Service planning
- …

The major prerequisite is that manuscripts should be based on *cutting-edge computational approaches*, including, but not limited to:

- Machine learning
- Neurocomputing
- Evolutionary computing
- Geosimulation and agent-based modeling
- Optimization
- Spatio-temporal modeling
- Regionalization
- Visual analytics
- Fuzzy logic
- …

Additionally, of particular interest are chapters dedicated to innovative *data sources* to enrich urban analysis. Topics of interest include but are not limited to:

- Cell phone data
- Volunteered / Contributed geographic information
- Social networks (e.g., Twitter, Flickr)
- Humans as sensors and collaborative sensing
- ….

3.   Submission and Important Dates

All chapter proposals will be evaluated by a committee of experts before author(s) are being invited to submit the full book chapter. Chapters must not have been published elsewhere. Unpublished conference presentations are acceptable. Published conference presentations (e.g., in a proceedings volume) may be acceptable if the full copyright can be transferred.

Submission procedure for chapter proposals:

- Length: 1-3 pages
- Format: Microsoft Word or Adobe PDF
- Figures/Tables: Must be legible (<300 dpi are accepted at this stage)

Important dates:

- April 8, 2013:   First solicitation of chapter proposal submission
- May 30, 2013:   Chapter proposal submission deadline
- June 10, 2013   Notification of chapter acceptance (rejection) and invitation to submit the full book chapter
- November 1, 2013: Final chapter submission deadline

- February 1, 2014:   Acceptance / rejection notification sent to author(s)
- April 1, 2014:   Final revised chapter submission deadline
- July 1, 2014:   Expected publication of book

General:
- Submissions must include the author's name, affiliation, mailing address, and e-mail address.
- In the case of multiple authors, all names, addresses, etc., must accompany the submission and a single individual must be identified as the primary point of contact.
- If submitting a published conference presentation (e.g., one that has already appeared in a proceedings volume), the author(s) must provide proof that the article's full copyright can be transferred. Submissions must be sent as an e-mail attachment to Marco Helbich using the e-mail address listed above.

Notification:
- Notification regarding the status of each proposal will be sent by June 10, 2013 to all those who submitted a chapter proposal. At that time, authors whose chapter proposals have been accepted will also be e-mailed guidelines regarding full book chapter preparation.

Post-acceptance information:
- The full book chapter deadline is November 1, 2013. Following receipt, full chapters will be sent out for double-blind review. The Editors will make the final decision regarding final acceptance of each book chapter. All chapters with revision requests (if necessary) need to be completed by April 1, 2014.

Inquiries should be directed to
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