

CompleXity: Big Data and Technology for Complex Urban Systems

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Call for Papers

About the Symposium

Today's cities are using systems and infrastructure, which are partly based on outdated technologies, making them unsustainable, inflexible, inefficient and difficult to change. In addition, the increasing pace of urbanization and transformation of the cities challenges traditional approaches for urban system forecasting, policy and decision-making even further. In order to solve these challenges, we have to understand cities as hyper-complex interdependent systems that, with their interconnected layers and subsystems, cannot be efficiently understood separately from one another, but form a complex interdependent system of infrastructural, economic, and social components that cannot be seen in isolation and therefore require a holistic system model.

On the other hand modern challenges in complex urban system studies come together with new unprecedented opportunities, such as digital sensing. The technological revolution resulted in the broad penetration of digital technologies in everyday life of people and the cities creating big data records of human behavior. Also recent advances in the network science allow considering interactions between people, companies and urban infrastructure from the new complex network perspective

Data, Analytics and Technology are therefore the keys to understand the city, to create sustainable solutions and innovations and to improve the quality of a city. However the high complexity of modern urban systems create a challenge for the data and analytic methods used to study them, calling for new more unified, robust and efficient approaches.

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The primary goal of the this symposium is to delineate important research milestones and challenges of studying the complex urban systems discussing applicable data sources, methodology and their current limitations.

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The following are some of the broad contexts that we will consider:

- City as a complex system
- Multiplex urban networks
- Sustainability and resilience of the complex urban systems
- Digital sensing of complex urban systems through multi-layered big urban data created by human activity
- Data-driven urban innovations
- Evidence based decisions in urban government. . .

We invite papers and presentations on the topics above. Submitted papers should present a novel scientific contribution and will undergo a regular peer-review procedure.

Accepted papers will be published in the two venues: "IJDecision, Negotiation, Leadership, Social Communities and Technology" minitrack proceedings and outstanding papers will be given the opportunity to be published in a special issue of the peer-reviewed journal "Transactions on Large-Scale Data- and Knowledge-Centered Systems". The goal of this special issue is to present novel methodological and technical approaches as well as use cases in urban (big) data analysis applications and technology and share the related practical experiences with the readers. This special issue will provide clear proof that (big) data analytics and technologies are playing an ever increasing important and critical role in urban governing, sustainable and resilient cities and business intelligence nowadays, which is a new cross-discipline research in computer science and business. It is also expected that this special issue will further research new best practices and learn from the past experiences in (big) data analytics applications.

Important Dates

- **June 14, 2015**

Early submission deadline - for the papers to be published in a Mini-Track proceedings; based on the results of the review process those papers could be also recommended for the special issue.

- **September 13, 2015**

Final deadline for presentation/paper submission to the Symposium, papers submitted by that date will be considered for publication in the special issue.



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- **November 08, 2015**

On this day the reviews for the first round are due.

- **December 13, 2015**

The improvements to papers that have been accepted with mandatory changes have to be done and the paper has to be resubmitted by now.

- **January 31, 2016**

On this day the reviews for the first round are due.

- **February 12, 2016**

A camera ready version of the paper has to be uploaded to the submission system.

- **May-June, 2016**

Final Publication

Submissions

Please submit your papers to be included in the conference proceedings (mini-track) through PSC online system⁴ and select Minitrack "Decision, Negotiation, Leadership, Social Communities and Technology".

Paper formatting guidelines are available at the conference website⁵. The total paper size including references is limited to 10 pages. Detailed requirement for the submission to the special issue to be specified. Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. To submit a paper for the journal please use the TLDKS submission system⁶.

⁴ <https://precisionconference.com/hicss/>

⁵ <http://www.hicss.org/#!/author-instructions/c1dsb>

⁶ <https://confdriver.ifs.tuwien.ac.at/tldks/>

Guest editors

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About the HICSS Conference

The HICSS conference brings together researchers from over 40 countries (approximately 50 % non-US) to an aloha-friendly atmosphere conducive to free exchange of scientific ideas. The conference is a matrix structure of tracks and themes that enables research on a rich mixture of computer-based applications and technologies. For three full days researchers from all over the world present papers on a diverse range of topics within the field of system sciences. Besides the presentations the conference offers a full day of Symposia, Workshops, and Tutorials that enables the participants for viable discussions in a workshop setting that promotes interaction leading to revised and extended papers that are published in journals, books, and special issues as well as additional research. A keynote address and a distinguished lecture explore actual business challenges, particularly relevant topics and concepts and leading edge research insights.

All accepted and presented papers are published in the Proceedings by the IEEE Computer Society Press and included in the IEEE digital library Xplore. The access to HICSS papers is constantly in the top 2 % of all IEEE Conferences. Further the HICSS conference is the #1 IS conference in terms of citations as recorded by Google Scholar. Recent research also shows that HICSS is ranked second in citation ranking among 18 Information Systems (IS) conferences, ranked third in value to the MIS field among 13 Management Information Systems (MIS) conferences, and ranked second in conference rating among 11 IS conferences.



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