



Call for Papers: Workshop on 'Computational Approaches for Smart, Conscious Cities'

The 22nd [International Conference on Computational Science and Its Applications \(ICCSA 2022\)](#) will be held on July 4 - 7, 2022 in collaboration with the University of Malaga, Spain. ICCSA 2022 will be the next event in a series of highly successful International Conferences on Computational Science and Its Applications. The conference offers a real opportunity to discuss new topics, tackle complex problems and find advanced solutions that can shape new trends in computational science. The conference-wide Call for Papers and further workshops can be found [here](#).

Main conference themes are: Computational Methods, Algorithms and Scientific Applications; High Performance Computing and Networks; Geometric Modelling, Graphics and Visualization; Advanced and Emerging Applications; Information Systems and Technologies; Urban and Regional Planning

For this workshop ([ConsCity 2022](#)), we invite interdisciplinary contributions from research, development and application that relate to the context of a smart city and point to the transformation towards a conscious city.

Important Dates

- March 27, 2022: Deadline for abstract submission
- April 30, 2022: Notification of Acceptance
- May 10, 2022: Deadline for submission of camera ready
- May 10, 2022: End of registration
- July 4-7, 2022: ICCSA 2022 Conference in Malaga, Spain

Workshop Description

This workshop aims at identifying, discussing, and evaluating concepts, methods and technologies that enable the creation and operation of "conscious cities" and extend the existing notion of "smart cities". To create consciousness in that respect, spatio-temporal digital twins with data about the state, activities, and processes taking place in different types of infrastructures, in the environment and in different data spaces need to be considered holistically and integrated in a way that analytics, simulation, collaboration, and visualization can work on top of the data.

To achieve "conscious cities", digital twins technology needs to be seamlessly combined with various computational approaches. A particular challenge, for example, is the need for short-term updates and real-time data: How can data with different dynamics be integrated into a holistic digital twin model of a city? Another challenge, for example, is the question "How can abstract insights be gained about dynamics and current events on different time scales?"

Consciousness in our context goes beyond intelligence or smartness: It provides a kind of long-term memory, maintains and updates a knowledge base of static and dynamics states and events, offers a framework, e.g., for analyses to verify or falsify hypotheses about complex, tightly intertwined phenomena (e.g., air quality, traffic volumes), and extracts features about human and economic phenomena such as population movements, delivery requirements, health care, or changes in quality of life. Fields of applications of conscious city technology are manifold and include for example urban risk assessment, urban emergency management, sustainable environmental planning, renewable energy grids, or automation and domotics.

Versatile Themes and Topics

Spatial digital twins; 3D and 4D point clouds; Domotics and metadomotics; Sensor analytics; Urban sensing; SDI; Virtual 3D city models; Spatial analytics; Geospatial AI; Spatial Modeling; Smart cities; Resilient cities; Sustainable Urban Development; GIS-based mobile applications for Smart Cities; Urban VR, AR, and Metaverse; Participatory games; Ubiquitous Computing Environment; Urban computing; Risk assessment; Emergency management; Renewable Energy for Cities and Smart grids; Spatio-temporal modeling; Geospatial visual analytics; Geovisualization; Spatial data mining; Spatio-temporal simulation; Space-time dynamics;

Submission and Publication

Workshop contributions can be submitted as full (12 - 18 pages) or short (7 - 11 pages) papers, formatted according to LNCS rules. Submitted papers will be peer-reviewed strictly by at least three experts in the relevant field and assessed carefully in terms of originality, significance, technical foundation and clarity of exposition. Each contribution must be original and unpublished work that has not been submitted for publication elsewhere. Copyright issues are the sole responsibility of the authors.

Accepted papers will be presented at the conference and published by Springer LNCS. The acceptance rate of all conference papers has been about 30% since the first edition, which ensures that only high quality papers are published.

To submit a paper, please access the submission website, which can be found [here](#). Only papers submitted via the electronic system and strictly adhering to the appropriate format will be considered for review and publication. Information on formatting and templates can be found [here](#).

All accepted papers will be included in the conference proceedings published in Springer Lecture Notes in Computer Science (LNCS) series and indexed by Scopus, EI Engineering Index, Thomson Reuters Conference Proceedings Citation Index (included in ISI Web of Science), and several other indexing services. The papers will contain linked references, XML versions and citable DOI numbers.

Conference Registration

On acceptance of a paper, at least one of the authors must register for the conference and give the corresponding presentation. Otherwise, the application for participation in the next year's conference will be rejected and the contribution will be excluded for the current year's conference proceedings. Registration fees for the conference vary depending on whether you register for the virtual or in-person event. Registration information, fees, and further information can be found [here](#).

Organising Committee

Jürgen Döllner	Hasso Plattner Institute for Digital Engineering, University of Potsdam, Germany
Andreas Fricke	Hasso Plattner Institute for Digital Engineering, University of Potsdam, Germany
Salvador Merino	Institute of Domotic and Energy Efficiency, University of Malaga, Spain
Francisco Guzman	Institute of Domotic and Energy Efficiency, University of Malaga, Spain
Markus Jobst	Austrian Federal Office for Metrology and Surveying, Austria
Jürgen Bund	GraphicsVision.AI Network

Venue

The venue in Malaga, Spain, will be announced soon. The 'ConsCity' workshop is part of the ICCSA 2022 conference hosted by the University of Malaga. This workshop is organised by the Computer Graphics Systems Group at the Hasso Plattner Institute for Digital Engineering, University of Potsdam, Germany.

Questions

Any questions you may have are welcome to be answered [via mail](#):

>> The latest information and details are available via [workshop website](#).