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Editors

Proceedings of Workshops and Posters at the 13th International Conference on Spatial Information Theory (COSIT 2017)

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Preface

The 13th International Conference on Spatial Information Theory (COSIT 2017) is the latest edition of the series of scientific events that have been bringing together leading researchers from the field for more than 20 years. Spatial information theory is concerned with all aspects of space and spatial environments as experienced, represented, and elaborated by humans, other animals, and artificial agents. The scope of the conference includes both the conceptualization of frameworks for specific spatiotemporal domains, as well as the development of general theories of space and time and theories of spatial and temporal information.

The conference was instrumental in promoting interaction between computer science, cognitive psychology, geographic information science, logic, philosophy, and linguistics, around the way we understand, conceptualize, represent, describe, and interact with the geographic space around us. The insights produced at COSIT are now integral part of many of these fields. On its trajectory through time and space, the conference has returned to where it started: Italy. This year, it was held at L'Aquila, the capital city of the Abruzzo region, in Central Italy. The beauty of the city and the region is matched by the diversity and quality of COSIT 2017 scientific program.

While the main conference proceedings have been published in a different volume, the current volume collects 27 short papers, presented at a poster session at the main conference, and 20 papers discussed at four satellite workshops. The short papers section, edited by Christian Kray and May Yuan, gathers a set of contributions covering a wide range of subjects, spanning from classical COSIT topics to emergent research areas.

After the short papers, this volume collects the proceedings of four workshops organized as satellite events to the main conference. These workshops raised an extraordinary interest in the scientific community, significantly broadening the scope of the conference to uncharted territories. Each workshop was a one-day mini-conference with its own program chairs, program committee members, and a peer-reviewed selection process.

The workshop on *Rethinking Wayfinding Support Systems* was chaired by Jakub Krukar, Angela Schwering, Heinrich Löwen, Marcelo De Lima Galvao, and Vanessa Joy Anacta. It focused on the emergent challenges in GPS-powered navigation systems, taking into account the spatial-cognitive dimension beyond traditional usability studies.

The second workshop, entitled *Speaking of Location: Future Directions in Geospatial Natural Language Research*, was chaired by Kristin Stock, Chris Jones, and Maria Vasardani, and tackled facets of the fascinating relation between language and space. These include frames of reference, referencing of landmarks, and spatial mental models.

The workshop on *Spatial Humanities meets Spatial Information Theory: Space, Place, and Time in Humanities Research* was chaired by Ben Adams, Karl Grossner, and Olga Chesnokova. The event opened COSIT to the digital humanities, an interdisciplinary area in which a “spatial turn” has brought researchers to engage with the geographies of their entities. Deep mapping, narratology of space, and modeling of historical data are trends of high relevance to spatial information theory.

Finally, the humanities were also central to the workshop on *Computing Techniques for Spatio-Temporal Data in Archaeology and Cultural Heritage*, chaired by Alberto Belussi, Roland Billen, Pierre Hallot, and Sara Migliorini. It discussed the need to foster more interaction between archaeology and the COSIT community, providing new problem-driven challenges for information representation and discovery.

Organizing an event such as COSIT and making it a success is only possible with the help and commitment of many people. We thank the workshop organizers who proposed the topics, ensured a quality program, and managed the entire editorial process, from the promotion of the events to the peer review. We would also like to thank the local organizers and University of L’Aquila that hosted the conference and its satellite events, offering the location and technical and logistic support. For the first time, this year COSIT was promoted by the IFIP (International Federation for Information Processing) and by the AICA (Italian Association for Informatics and Automatic Calculus), without financial support. Finally, we would like to thank all who attended COSIT 2017 to present their work, to discuss the work showcased at the conference and at the workshops, and to advance the state of the art in the field of spatial information theory.

L’Aquila, Italy
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