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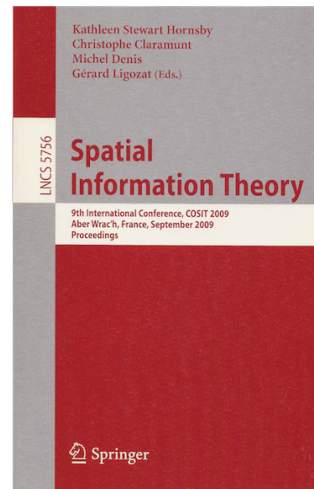


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Preface

First established in 1993 with a conference in Elba, Italy, COSIT (the International COncference on Spatial Information Theory) is widely acknowledged as one of the most important conferences for the field of spatial information theory. This conference series brings together researchers from a wide range of disciplines for intensive scientific exchanges centered on spatial information theory. COSIT submissions typically address research questions drawn from cognitive, perceptual, and environmental psychology, geography, spatial information science, computer science, artificial intelligence, cognitive science, engineering, cognitive anthropology, linguistics, ontology, architecture, planning, and environmental design. Some of the topical areas include, for example, the cognitive structure of spatial knowledge; events and processes in geographic space; incomplete or imprecise spatial knowledge; languages of spatial relations; navigation by organisms and robots; ontology of space; communication of spatial information; and the social and cultural organization of space to name a few. This volume contains the papers presented at the 9th International Conference on Spatial Information Theory, COSIT 2009, held in Aber Wrac'h, France, September 21-25, 2009.

For COSIT 2009, 70 full paper submissions were received. These papers were carefully reviewed by an international Program Committee based on relevance to the conference, intellectual quality, scientific significance, novelty, relation to previously published literature, and clarity of presentation. After reviewing was completed, 30 papers were selected for presentation at the conference and appear in this volume. This number of papers reflects the high quality of submissions to COSIT this year. These papers were presented in sessions held September 22-24, 2009 at the Centre de la Mer, Aber Wrac'h, France.

The conference began with a day of tutorials and workshops. Two tutorials were offered for COSIT registrants. They included a half-day tutorial on "Processes and Events in Geographical Space" (Antony Galton) and a full-day tutorial on "Perspectives on Semantic Similarity for the Spatial Sciences" (Martin Raubal and Alex Klippel). Full-day workshops were offered on "Spatial and Temporal Reasoning for Ambient Intelligence Systems" (Mehul Bhatt and Hans Guesgen) and "Presenting Spatial Information: Granularity, Relevance and Integration" (Thora Tenbrink and Stephan Winter). Based on the outcome of the workshops, special issues of journals are planned that will feature the research presented at these workshops. The final day of the conference is traditionally reserved for the COSIT doctoral colloquium. The COSIT 2009 doctoral colloquium was organized and chaired by Clare Davies of the Ordnance Survey, UK. This colloquium provides an opportunity for PhD students to present their research in a friendly atmosphere to an international audience of fellow students, researchers, and industry participants. Students at any stage of their PhD can apply to

participate. This colloquium is an ideal forum for presenting research in the early stages, as well as work that is nearing completion.

A highlight of the COSIT conference series is its excellent keynote speakers. At COSIT 2009, three keynote speakers were featured. On the first day of full presentations, the speaker was James Pustejovsky, Director of the Brandeis Lab for Linguistics and Computation, Brandeis University. The next speaker on day two of the conference was Neil Burgess, Deputy Director, Institute of Cognitive Neuroscience, at University College London. The third speaker was Bill Hillier, Director of the Space Syntax Laboratory, University College London.

COSIT is held every two years, most recently during the month of September. COSIT 2009 was held in the Centre de la Mer that overlooked the beautiful Baie des Anges, site of the picturesque village of Aber Wrac'h in Brittany, France. In addition to the beautiful location on the coast, conference participants also enjoyed an exhibition by a modern artist, Bruno Kowalski, who kindly organized an exhibition of his recent paintings.

We are very grateful to the numerous generous sponsors of COSIT 2009 that helped us to organize a high-level event, in particular the Region Brittany and city of Brest, Groupement d'Intérêt Scientifique Europôle Mer, Canadian GEOIDE Network, Institut Géographique National, Ordnance Survey, UK, Taylor and Francis, and the German Transregional Collaborative Research Center SFB/TR 8 on spatial cognition. The Cognitive Science Society of the United States assisted student participation at the doctoral colloquium. The success of the conference can be also attributed to the members of staff and doctoral students of the French Naval Academy Research Institute that provided continuous support to the organization of the event from the very start. Special thanks to Marie Coz, who supervised much of the administration and day-to-day organizing.

COSIT has both a Steering Committee and a Program Committee. The Steering Committee now has 16 members, while the Program Committee for COSIT 2009 consisted of 63 leading researchers drawn from the fields listed previously. The COSIT 2009 organizers would like to thank both committees for their help with this conference. These committees oversaw all the reviewing and contributed greatly to the shaping of the conference program. We thank also any additional reviewers who contributed reviews on the papers submitted. Sadly, in late May 2009, the COSIT community lost a valued member, Professor Reginald Golledge of the Geography Department at the University of California, Santa Barbara. Professor Golledge's pioneering work in spatial cognition and behavioral geography, for example, developing personal guidance systems for blind travelers, has been immensely important for the field and is widely recognized for its significance. Professor Golledge contributed greatly to the COSIT conference series right from the early years of this conference, serving on both the Steering Committee and the Program Committee, and he will be missed very much by all COSIT participants.

In addition to the Steering Committee and Program Committee, the COSIT organizers would also like to acknowledge Matt Duckham, who maintained the main COSIT website, and Jean-Marie Le Yaouanc who set up the local COSIT website. The organizers thank all these individuals for all their hard work in making COSIT 2009 a great success.

KSH, CC, MD, GL