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Preface

This volume contains the papers presented at the "Conference on Spatial Information Theory", held in Ellicottville, New York in September 2005. COSIT 2005 was the 7th International Conference held under the COSIT name. When Andrew Frank and his colleagues organized the first COSIT conference on the island of Elba, Italy, in 1993, it represented the maturing of an international research community that had already met four or five times in the United States, Spain, and Italy. Of course, cognitive and computational approaches to space and spatial phenomena were not themselves new topics, but a context of providing theoretical underpinning for geographic information systems refocused some of these researchers and brought them up against practical and conceptual challenges. A second international symposium under the COSIT name, held in Semmering, Austria in 1995, established COSIT as a biennial conference series that continued at Laurel Highlands, Pennsylvania, USA (1997), Stade, Germany (1999), Morro Bay, California, USA (2001) and Ittingen, Switzerland (2003). A productive partnership with Springer's Lecture Notes in Computer Science has ensured that the papers from every COSIT meeting have been widely disseminated, and the COSIT community has contributed significantly to the development of Geographic Information Science, Geoinformatics and Spatial Information Theory in general.

This volume contains 30 papers, carefully selected from 82 manuscripts submitted for consideration. We believe that this is the largest number of papers ever submitted to a COSIT conference. Each submission was rigorously reviewed by three members of the program committee, and in cases where the reviewers disagreed on the quality of the paper or its appropriateness for COSIT, we initiated debates among the reviewers to resolve the disagreements. An acceptance rate of 37 percent meant that some solid papers were rejected, as well as some exciting new developments that the reviewers felt were not ready for publication in a fully refereed volume.

We believe that the authorship of the papers in this COSIT 2005 volume reflects both the continuity and strength of the series, and its openness to new blood and new ideas. The 30 accepted papers have a total of 58 authors. Of those, 26 have written or co-authored a paper in a previous COSIT volume, but 32 are appearing in their first COSIT volume (55 percent new). Of the 30 first authors, 18 are entirely new to the COSIT volumes (60 percent). Eleven of the papers have single authors, six of whom are appearing in a COSIT volume for the first time. Among the 19 co-authored papers, 11 had a mix of new and experienced COSIT authors, expanding the COSIT community through co-authorship; the remaining eight papers were equally split between four with all new authors and four with all authors having previously published in COSIT. The author list is also highly international, and the authors list current residences in 12 countries

on four continents. Countries of residence of authors include USA (9 papers), Germany (7), UK (4), Canada (3), France (3), Australia (2), Austria (1), China (1), Israel (1), Italy (1), Japan (1), and The Netherlands (1). (The total adds up to more than 30 because 3 papers had multinational co-author lists.) By country of origin, the list would be even longer.

In addition to the refereed contributions, COSIT 2005 also featured two keynote presentations by Wolfram Burgard and Barbara Landau; abstracts of their talks can be found in this volume, and we thank them for their contributions to the conference. The conference also included a poster session one evening, and a Doctoral Consortium on the Sunday.

Like any other scientific conference, COSIT 2005 would not have been possible without the intellectual contributions and hard work of many people. We can thank only a few here. Most important are the authors and the Program Committee. The authors decided to share a significant piece of their academic lives with the COSIT community, and we thank them. Each PC member reviewed four or five papers, almost all within the short time frame available. Of the 246 reviews requested, only one failed to appear! We wish especially to thank the COSIT Steering Committee for providing advice on policy issues and some special cases in the review process. We also wish to thank Rich Gerber and his excellent START conference management software, which facilitated a very smooth review and manuscript handling process; we can certainly recommend it to other conference organizers! Finally, a long and incomplete list of others who contributed in many ways: Springer Lecture Notes in Computer Science and their staff for publishing the volume; Environmental Systems Research Institute (ESRI) for supporting the Doctoral Consortium, and Femke Reitsma for organizing and chairing it; Diane Holfelner, Linda Doerfler, LaDona Knigge, Pat Shyhalla, and others at NCGIA-Buffalo; Chip Day, Patti Perks, and other staff at the Holiday Valley resort and conference center; and Bruce Kolesnick and Mable Tartt Sumpter at the University at Buffalo Office of Conferences and Special Events for handling the conference registration. We thank Matt Duckham for continuing to maintain the www.cosit.info domain.

July 2005 Tony Cohn and David Mark

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