Preface

This volume contains the proceedings of ACSD 2004, the Fourth International Conference on Application of Concurrency to System Design, organized in Hamilton, Ontario, Canada, in June 2004. The previous ACSD conferences were held in Aizu-Wakamatsu (1998), Newcastle Upon Tyne (2001), and Guimarães (2003). The ACSD meetings serve as a forum for disseminating theoretical results and advanced methods and tools for the design of complex concurrent systems. While there are already a few success stories in the field, there is still a strong need to bring theory and practice closer together, and this is a specific goal of the conference. The wide area covered is illustrated by the titles of the sessions of ACSD 2004: Architecture, Circuits and Communication, Synchronous Systems and Components, Process Algebras and Petri Nets, Programming Languages and Translations, Verification. A global view of System Design, where Concurrency is pervasive, but may take different forms at different levels, is needed to appraise and compare the contributions of theories, methods, and tools that deal with concurrency at all levels of design.

We would like to express our gratitude to the authors of the 61 papers submitted to ACSD 2004. Each paper was sent for review to four members of an international program committee. As a result of the program committee’s intensive discussions, 21 papers were accepted. The geographical distribution of the accepted papers is as follows: Australia 0.5, Belgium 0.33, Canada 2, Finland 4, France 4.5, Iran 2, Spain 1.33, Sweden 0.33, UK 3.66, US 2.33. The paper submissions and reviews were handled by the “PC-Expert” system that gave full satisfaction during the week of the program committee discussion. We are indebted to Dr. Andrei Voronkov, who developed this system and put it at our disposal. The program committee members and the reviewers who contributed to the high-quality program are listed after this preface. We are grateful to all of them for the amount of work they have done within a short time period.

Three distinguished speakers have been invited to give talks at the conference. They are: Ed Brinksma, whose talk is entitled “Testing Times: On Model-Driven Test Generation for Non-deterministic Real-Time Systems,” Gregor v. Bochmann presenting “Comparison of Methods for Supervisory Control and Submodule Construction,” and John Thistle with a talk on “Synthesis of Supervisory Controls for Discrete Event Systems.” We thank these invited speakers for the abstracts of talks they contributed to the proceedings.

We are grateful to Ms. Stephanie Kawada from the IEEE Computer Society Press for having collected the final versions of the accepted papers and preparing these proceedings. The conference ACSD 2004 has been sponsored by the Software Quality Research Laboratory of McMaster University (SQRL), the Faculty of Engineering of McMaster University, the Communications and Information Technology Ontario (CITO), and the companies Intel and Motorola. The ACSD conference is held immediately after the satellite workshop MOMPES 2004 (the First International Workshop on Model-Based Methodologies for Pervasive and Embedded Software), which has been organized by João M. Fernandes, Johan Liljus, Ricardo J. Machado, and Ivan Porres. We would like to thank both the sponsors of ACSD 2004 and the organizers of MOMPES 2004 for their contributions to the success of the conference.

We would also like to express our gratitude to the steering committee, who helped us a lot to set ACSD 2004 on the rails, and to the organizing committee who handled all communications with the community and all the material and financial aspects of the conference, not to speak of a delightful social program culminating in observing the high concurrency of Niagara falls.

Program Committee Co-Chairs
Mike Kishinevsky and Philippe Darondeau