Message from the Programme Chairs

Welcome to the Second International Conference on Application of Concurrency to System Design (ACSD 2001). This meeting is a successor to the conference held at Aizu-Wakamatsu, Japan, in March 1998. Now, welcome to Newcastle upon Tyne, the capital of the North East of England and its famous Geordieland!

Like its predecessor, we expect also the present ACSD to provide a forum for disseminating advanced research results on theory, algorithms, and case studies arising in the design of concurrent systems. This year is special, because the conference is organised jointly with the 22nd International Conference on Application and Theory of Petri nets, a conference with long-standing traditions and exciting history, which we believe may be a good role model for ACSD.

The whole event, called by the Organisers the Coordinated Concurrency Conference (CCC), is aimed to epitomise the importance of the close link between theory and practice in designing systems that are both dependable and efficient. These two crucial qualities of future complex computer-based systems are nicely supported by two workshops, preceding the main conference parts, Workshop on Concurrency in Dependable Computing and Workshop on Synthesis of Concurrent Systems, as well as two advanced tutorials, on Model Checking and on Probabilistic Methods in Concurrency. Topped up with the traditional Introductory Tutorials on Petri nets, the overall event will be unprecedented in the history of conferences on concurrency.

Both conferences will share a set of invited lectures, which will be given by six prominent scientists who are also exciting and engaging speakers. Robin Milner will speak about a simple graphical model for mobile computing. The topic of Susanna Donatelli’s talk is the impact that Kronecker algebra had and is having on the solution of Stochastic Petri net models. Gerard Holzmann will present ways of automating the extraction of verification models from code. Jeff Kramer will demonstrate to us that “many of the modelling approaches can only be used effectively by the gods who created them!” Alberto Sangiovanni-Vincentelli will speak on modeling concurrency in heterogeneous systems. Mogens Nielsen will discuss the role of time in models for concurrency, including Petri nets. Three of these talks are presented in these proceedings. The other three lectures are presented in the Proceedings of the Petri net conference.

ACSD 2001 attracted 38 submissions from 18 countries on five continents. The submissions were distributed to the members of the Programme Committee, who either reviewed them themselves or forwarded them to sub-reviewers. The reviewers produced approximately half-a-megabyte or 240 A4-pages of comments on the submissions. Most papers got five reviews, and every paper got at least four.

After the review stage, there was an email discussion stage. The PC chairs collected the reviews on each paper, made them anonymous, and forwarded them to all those members of the PC who had been processing the paper. The PC members were encouraged to discuss conflicting reviews and, wherever they were convinced by the other PC members’ or reviewers’ remarks, to change accordingly the marks they had given. This resulted in a lively discussion, which concentrated on the borderline cases.
The PC meeting was held in Newcastle on February 15 and 16. Based on the reviews and the results of the discussion, the PC selected 20 papers for the conference. The geographical distribution of the accepted papers is: Germany–4, UK–3.5, Spain–3, Canada–2, Finland–1, France–1, Portugal–1, Russia–1, Switzerland–1, Australia–0.5, Denmark–0.5, Italy–0.5, Netherlands–0.5, and Sweden–0.5. Finally the PC divided the papers into sessions, attempting to put similar topics in the same session. The ACSD and Petri Net Conference PCs planned together the timing of the sessions, trying to ensure that parallel sessions are not on similar topics.

The ACSD conference, in its six sessions, will cover the following topics: semantic correctness testing and model checking, performance analysis, asynchronous communication modelling, action refinement in the verification framework, synthesis of Petri nets, asynchronous hardware design, synchronous programming and embedded systems, software engineering with concurrency models, and automated scheduling.

Both conferences will also share their tool demonstrations. Here, the software developers will present their prototypes or products and show them in action. Tool development is concerned with bridging the gap between promising research results and industrial exploitation.

Of course, to be in Newcastle and not enjoy its nightlife, be it a pub crawl on the Bigg Market or a visit to one of its numerous Chinese restaurants on the Stowell Street, would be quite a miss. The organisers of the CCC have programmed several social events, including an Elizabethan Banquet in an old castle and a Saturday excursion along the Northumbrian North Sea coast.

We should thank everyone involved in making this conference possible. In particular, our thanks must go to all authors who responded to our call for papers, to the members of the PC and their sub-reviewers for reviewing submissions and for their involvement in subsequent discussions, to the invited speakers, and the session chairs.

We are indebted to the Department of Computing Science and ONE North East for sponsoring the conference. We also thank IEEE Circuits and Systems Society, IEEE Circuits and Systems UKRI Chapter, European Commission (Working Group on Asynchronous Circuit Design), Institute of Electrical Engineers, British Computer Society and Formal Methods Europe for their support and cooperation.

Finally, we should like to address our special thanks to the University of Newcastle for helping with local arrangements.

Antti Valmari and Alex Yakovlev

ACSD 2001 Program Committee Co-chairs