Welcome to ASYNC 2008, the fourteenth IEEE International Symposium on Asynchronous Circuits and Systems, held in Newcastle University, United Kingdom, April, 7-11, 2008.

Newcastle upon Tyne has a lot of historical flavor. It was founded in Roman times under the name Pons Aelius. People from Newcastle and surrounding areas are very friendly and differentiate themselves from the people of other regions – they are commonly called Geordies. The Geordie dialect is a special dialect, with a large amount of vocabulary that does not exist in other parts of England. Newcastle is an area of active Hi-Tech development, for example Newcastle is the home of the UK’s first biotechnology village, the “Centre for Life”. The village is the first step in the City Council’s plans to transform Newcastle into a science city.


This year, the symposium received 40 submissions from 13 countries, of which Program Committee (44 members from 15 countries) selected 15 for presentation. For the first time in the history of ASYNC most submissions were reviewed by six reviewers (by five in a very few cases).

This year, ASYNC is co-located with NoCS 2008, the Second IEEE International Symposium on Networks-on-Chip. The organization and the programs of both symposia have been jointly coordinated, including keynote lectures, tutorials, exhibitions and social events.

The papers collected in these proceedings represent cutting-edge worldwide research reports, by and large balanced over the following seven areas:

- High-speed/low-power asynchronous logic, memories, and interconnects
- High-level design and synthesis of self-timed circuits
- Physical design of unclocked logic and pipelines
- Test, reliability, security, and radiation tolerance
- CAD for asynchronous design and validation
- Motivating case studies, comparisons, and applications
- Asynchronous design for manufacturing

This year the Best Paper Award has been determined in advance by a selected subcommittee chaired by Jens Sparso. The program committee’s top-ranked papers were used as initial candidates, and with further post-acceptance input from the program committee, a final subset was selected for consideration. The Best Paper subcommittee that carefully read camera-ready revised versions of each of these papers, and after detailed discussion, selected the winner.

We are lucky to be able to include two invited talks and three invited tutorials into the program. The first keynote talk “Asynchronous Circuit Technology is on the Market” will be by Ad Peeters. The second keynote talk “Statistical Device Variability and its Impact on Design” will be by Asen Asenov.

The first invited tutorial “Metastability and Synchronization in SOCs and NOCs” will be presented by David Kinniment, the second invited tutorial “Physical Design and Timing” will be presented by Sachin Sapatnekar and the third invited tutorial “Elastic Systems” by Mike Kishinevsky.

The conference banquet will be set in the Newcastle’s Civic Centre, located in the City Centre. We have managed to invite Professor Tom Anderson as our after-dinner speaker. Prof. Anderson is the Director of a world-renowned Centre for Software Reliability, but being a ‘local lad’ he is also a brilliant orator!
We would like to thank many people who help make this symposium possible. We are grateful to all the authors who submitted papers and the program committee members for the great work that they have done. We would like to thank all invited speakers who provided the extended scientific content to ASYNC 2008.

We gladly accepted generous contributions from industrial sponsors and Engineering and Physical Sciences Research Council (EPSRC). This support helps the visibility and value of this event by providing funding for our invited speakers and student travel grants. There is a continued emphasis on trying to achieve greater impact on the practical exploitation of the asynchronous technology. One session is devoted to an industrial panel shared with the NoCS 2008.

We also thank the IEEE Computer Society for its sponsorship of the symposium.

Personal thanks go to Finance Chair: David Kinniment (Newcastle University, UK), Local Arrangements Co-Chairs: Albert Koelmans (Newcastle University, UK) and Fei Xia (Newcastle University, UK) Tutorials Chair: Alex Bystrov (Newcastle University, UK), Exhibits Chair: Graeme Chester (Newcastle University, UK), Publications Chair: Erik Brunvand (The University of Utah, USA), Sponsorships Chair: Gordon Russell (Newcastle University, UK), Industrial Liaison Chair USA: Marly Roncken (Intel), Industrial Liaison Chair Europe: Pascal Vivet (Commissariat à l'Énergie Atomique), Publicity Chair: Robert Mullins (University of Cambridge, UK), Web Chair: Ian Clark (Newcastle University, UK), Invited Speakers Chair: Simon Moore (University of Cambridge, UK), Best Paper Award Chair Jens Sparsø (Danmarks Tekniske Universitet).

Special thank you goes to the people from Newcastle University for their efforts and professionalism in dealing with all aspects of the local arrangements.

We wish you an exciting symposium and a very pleasant stay in Newcastle.

**General Chair: Alex Yakovlev**  
**Programme Co-Chairs: Jordi Cortadella and Alexander Taubin**