WELCOME MESSAGE FROM THE CHAIRS

Welcome to ASYNC 2014, the twentieth IEEE International Symposium on Asynchronous Circuits and Systems, held in Potsdam, Germany, May 12-14, 2014.

Potsdam, the capital of the German federal state of Brandenburg, is a city with a rich historical heritage. The affluent and vivid city is often compared to Windsor in the United Kingdom. Potsdam was the residence of Prussian Emperors and the German Kaiser until 1918. That heritage gives Potsdam an outstanding collection of castles and parks. Park and castle Sanssouci is a well-known international attraction, and is registered as a UNESCO World Heritage Site. Potsdam hosted the major post World War Two conference, known as the Potsdam Conference, with Allied leaders Stalin, Truman and Churchill meeting at Castle Cecilienhof. Today, Potsdam is a modern university city, attracting artists, researchers and industry. Its vicinity and excellent connection to the German capitol, Berlin, has further increased its popularity among the elite of German society.


This year the symposium received 48 abstract submissions which were followed by 36 full-paper submissions. From these, the program committee selected 12 papers for regular presentation and publication in the IEEE proceedings, yielding an accept rate of 33%. The ASYNC 2014 papers collected in these proceedings represent research results of the highest quality in the following areas of asynchronous design:

- Mixed-timed circuits, GALS systems, Network-on-Chip, and multi-chip interconnects
- Elastic and latency-tolerant synchronous design and clock domain crossing
- Asynchronous pipelines, architectures, CPUs, and memories
- Asynchronous ultra-low power systems, energy harvesting, and mixed-signal/analogue
- Asynchrony in emerging technologies, like bio-, neural-, nano-, and quantum- computing
- CAD tools for asynchronous design, synthesis, analysis, and optimization
- Formal methods for verification and performance/power analysis
- Test, security, and fault tolerance
- Asynchronous variability-tolerant design and design for manufacturing
- Circuit designs, case studies, comparisons, and applications

In addition to the regular paper presentations, ASYNC 2014 also presents industry reports about the latest impacts of asynchronous design concepts in industrial products and prototypes, as well as posters and demos about novel tools and interesting experiments. To further promote the interactive character of the conference, ASYNC 2014 features, for the first time, special discussion sessions about “fresh ideas” to provide a forum for controversial statements and unconventional ideas that are not yet fully explored. Overall you can look forward to a program comprising 33 presentations, contributed by 102 authors from 15 countries around the globe.

And, as traditionally with ASYNC, invited talks by renowned experts form an important pillar of the symposium. This year we have been able to attract Jan M. Rabaey from UC Berkeley in the United States, Paul D. Mitcheson from the Imperial College London in the United Kingdom, and Joseph Sylvester Chang from Nanyang Technology University in Singapore.
We would like to thank all the people who are contributing to the organization of this event. We especially thank the authors of regular, industry, demo and "fresh ideas" papers. The high quality of their papers made it difficult for the program committee to select the best ones for presentation at ASYNC 2014. We thank the members of the program committee and the additional reviewers for their detailed and competent evaluation of the papers, making ASYNC such a unique and high-quality conference. Our sincere thanks also go to our invited speakers for keeping us on our toes by presenting their best work and for challenging us by sharing their experience and viewpoints.

We thank the IEEE Computer Society for sponsoring this symposium, and all the companies and organizations who provided direct or indirect financial sponsorship for the conference. Specifically, we would like to thank CEA/Leti, IHP, Intel Corporation, NVIDIA Corporation, Oracle, Rohde & Schwarz, and Tiempo for their generous support of this symposium. Special thanks go to the management and all colleagues from IHP, Frankfurt (Oder), who supported this ASYNC 2014 symposium over the last two years of intensive organizational work.

Personal thanks go to: Stefanie Baudach (Registration Portal Development), Erik Brunvand (Publication Chair), Ramona Doktorowski (Administration), Zoya Dyka (Finance Chair), Jo Ebergen (PC Co-Chair for Industrial Papers), Xin Fan (Registration Chair), Christoph Heer (Industry Chair), Moisés Herrera (Demo Organization Chair), Ian Jones (Best Paper Award Chair), Nadine Lehmann (Conference Secretariat), Stefan Scholz (Web Chair), Michaela Schreier (Art Chair), Pascal Vivet (Publicity Chair), Alex Yakovlev (Invited Speaker Chair), Steffen Zeidler (Local Arrangements Chair),

We wish you an exciting interactive symposium, and an enjoyable stay in Potsdam and Germany!

**Milos Krstic and Eckhard Grass**
General Co-Chairs

**Marly Roncken and Andreas Steininger**
Program Co-Chairs