

1.1 Message from General Chair

WELCOME TO IEEE APCCAS 2014 !

It is my great pleasure to welcome you to the IEEE Asia Pacific Conference on Circuits and Systems, APCCAS 2014, and Ishigaki Island, Japan. The APCCAS is a biennial important conference of the IEEE Circuits and Systems Society and represents large number of gatherings of researchers and industry professionals in the corresponding fields in the world. This year's conference brings together more than 300 delegates from around the globe to discuss the latest advances in this vibrant and constantly evolving field.

Circuits and Systems (*CaS*) is not only fundamental technology in various electrical, electronics, network and mobile systems but also can change our society more sustainable in such a way that this technology is able to produce energy efficient green systems. In order to reflect this *CaS* future possibility, APCCAS 2014 has chosen its theme as “*The Smart and Green Circuits and Systems*”. The *CaS* technology itself is continuously progressing and exploring new horizons. The delegates in APCCAS 2014 will discuss and present the latest advances in next generation *CaS* in various applications. A diverse range of topics from VLSI systems, system on chip, analog and RF circuits, digital signal processing for multimedia, *CaS* for communication systems, biomedical *CaS*, as well as energy efficiency and green systems technology are featured in the conference. In the APCCAS 2014, you will also hear about visible light communication, systems and networks for safe and secure life, multi-core network on chip, post silicon, and a range of other exciting new topics about the way that *CaS* are poised to change our lives and paradigm.

In addition to the stimulating program of the conference, Ishigaki, with its world-class beautiful coral beaches and neighbor islands, great sub-tropical nature, the quality of local cuisine and traditional culture such as Karate and old-fashion dancing, is an unforgettable place to visit. It is my hope, therefore, that you get a chance to explore Ishigaki Island and its surroundings, and enjoy the exotic and full-of-nature island.

The APCCAS 2014 has been made up by hundreds of volunteers who contributed to the various processes and it would not be possible for me to name them all in this short message. In particular, the Technical Program Committee, led by our indefatigable TPC Chair and supported by the TPC Co-Chairs, completed a thorough peer-review process of around 300 technical and special session papers as well as Live Demo proposals to select a comprehensive and high-quality technical program for the conference. This program is augmented and complemented by two Keynote Speeches and three Tutorials organized through the efforts of our General Co-Chairs and Tutorial Chair. In addition, the Organizing Committee, in particular, Special Session, Finance, Publication, Registration, and Local Arrangement Chairs, and Secretary, worked tirelessly to ensure the best quality experience for the delegates during the technical sessions and the social programs. Finally, I would also like to thank our sponsors, exhibitors and supporters for their contribution to the conference.

It is a fantastic experience for me to serve as the General Chair of APCCAS 2014 and it is my hope that you find the conference stimulating, fulfilling and enjoyable. I thank you for your support of APCCAS and your attendance, and wish you a pleasant experience in Ishigaki Island and conference.



APCCAS 2014 General Chair
Hiroshi Ochi, Kyushu Institute of Technology, Japan

1.2 Message from Technical Program Chairs

On behalf of the Technical Program Committee of the 2014 IEEE Asia Pacific Conference on Circuits and Systems (APCCAS 2014), we welcome you to the most beautiful island in the world, Ishigaki Island, and to ANA InterContinental Ishigaki Resort Hotel. We are very grateful for your participations and contributions to APCCAS 2014.

APCCAS 2014 attracted 263 submissions from 26 countries and regions, of which 198 high-quality papers were accepted through a rigorous review process. These papers cover main research thrusts of the IEEE Circuits and Systems Society. Among 198 accepted papers, 92 papers are selected for lecture sessions, 73 papers for poster sessions, 25 papers for special sessions, and 8 papers for live demo session. They are organized into 19 lecture sessions, 5 poster sessions, 5 special sessions, and 1 live demo session.

We are happy to report that we have invited two prominent researchers as keynote speakers, Prof. Takeo Kanade from Carnegie Mellon University and Prof. Thanos Stouraitis from The University of Patras, to present recent developments in augmented reality and security in Internet age. Prof. Takeo Kanade will present the Smart Headlight Project, a new type of augmented reality, with its idea, approach and the current status while Prof. Thanos Stouraitis will discuss current and future hardware designs for modern cryptography.

In addition, we also organized 3 tutorials on emerging topics that are of interests to circuits and systems community. “3-D Integration” presents the overview of technologies currently being developed for 3D stacking of silicon and new concepts for construction of heterogeneous layers on chip. “WBAN Standard and its Energy Consumption Issues” details the bit error rate versus energy consumption in the wearable wireless devices. “From MIMO to Massive MIMO” highlights several potential research problems for the design and implementation of future massive MIMO systems.

The success of technical program depends heavily on the contributions of Technical Program Committee and reviewers. The TPC, consisting of 23 Track Chairs, conducted rigorous and thorough reviews with the help of 397 reviewers. Without their devoted works, this technical program would never have been completed. We would like to express our sincere thanks to all the Track Chairs and the reviewers for their contributions.

The authors took an incredible number of hours to prepare their papers. Your hard work is greatly appreciated. To recognize the outstanding contributions from the authors, the conference will give several awards including the Best Paper awards, Outstanding Student Paper awards and Student Travel Support grants. The TPC made the selections based on the reviews. Six papers will receive the Best Paper awards, three for the Outstanding Student Paper awards, and ten Student Travel Support grants. The winners of these awards will be announced at the banquet held on Wednesday night.

Finally, we would like to thank all the contributors to the success of APCCAS 2014. We do wish that all the attendees enjoy the technical and social programs of APCCAS 2014, and take this opportunity to exchange ideas with fellow researchers, talk to friends, and establish new connections. We also hope that all the attendees will have great time at Ishigaki Island,



Shigetaka Takagi

Yong Lian

Andy Wu

Takashi Morie

APCCAS 2014 Technical Program Chair

Shigetaka Takagi, Tokyo Institute of Technology, Japan

APCCAS 2014 Technical Program Co-Chairs

Yong Lian, Singapore University, Singapore

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