

# CENICS 2012

## Foreword

The Fifth International Conference on Advances in Circuits, Electronics and Micro-electronics [CENICS 2012], held between August 19-24, 2012 in Rome, Italy, continued a series of events initiated in 2008, capturing the advances on special circuits, electronics, and micro-electronics on both theory and practice, from fabrication to applications using these special circuits and systems. The topics cover fundamentals of design and implementation, techniques for deployment in various applications, and advances in signal processing.

Innovations in special circuits, electronics and micro-electronics are the key support for a large spectrum of applications. The conference is focusing on several complementary aspects and targets the advances in each on it: signal processing and electronics for high speed processing, micro- and nano-electronics, special electronics for implantable and wearable devices, sensor related electronics focusing on low energy consumption, and special applications domains of telemedicine and ehealth, bio-systems, navigation systems, automotive systems, home-oriented electronics, bio-systems, etc. These applications led to special design and implementation techniques, reconfigurable and self-reconfigurable devices, and require particular methodologies to be integrated on already existing Internet-based communications and applications. Special care is required for particular devices intended to work directly with human body (implantable, wearable, eHealth), or in a human-close environment (telemedicine, house-oriented, navigation, automotive). The mini-size required by such devices confronted the scientists with special signal processing requirements.

We take here the opportunity to warmly thank all the members of the CENICS 2012 Technical Program Committee, as well as the numerous reviewers. The creation of such a high quality conference program would not have been possible without their involvement. We also kindly thank all the authors who dedicated much of their time and efforts to contribute to CENICS 2012. We truly believe that, thanks to all these efforts, the final conference program consisted of top quality contributions.

Also, this event could not have been a reality without the support of many individuals, organizations, and sponsors. We are grateful to the members of the CENICS 2012 organizing committee for their help in handling the logistics and for their work to make this professional meeting a success.

We hope that CENICS 2012 was a successful international forum for the exchange of ideas and results between academia and industry and for the promotion of progress in the field of circuits, electronics and micro-electronics.

We are convinced that the participants found the event useful and communications very open. We also hope the attendees enjoyed the historic charm Rome, Italy.

### **CENICS 2012 Chairs:**

Peeter Ellervee, Tallinn University of Technology, Estonia

Martin Horauer, University of Applied Sciences Technikum Wien, Austria

Josu Etxaniz Marañon, University of the Basque Country / Universidad del País Vasco / Euskal Herriko Unibertsitatea - Bilbao, Spain

Adrian Muscat, University of Malta, Malta

Vladimir Privman, Clarkson University - Potsdam, USA

Falk Salewski, Lacroix Electronics, Germany

Ravi M. Yadahalli, PES Institute of Technology & Management - Karnataka, India

Sergey Y. Yurish, Technical University of Catalonia (UPC-Barcelona), Spain

Yulong Zhao, Xi'an Jiaotong University, China