Call for Papers

18th Annual IEEE

International Mixed-Signals, Sensors, and Systems Test Workshop (IMS3TW'12)

Taipei, Taiwan

May 14-16, 2012

http://bug.ee.ntu.edu.tw/IMS3TW2012/

The rapid pervasion of micro/nanoelectronics into various application fields like biology, chemistry, mecha unprecedented types of heterogeneous integrated systems and associated interfaces between these previous Microsystems that combine advanced sensors and actuators with embedded, high-performance microprocessors a new applications in life sciences, aerospace, the environment, communications, etc. The design and test of such h formidable challenges. In particular, as the inherent quality and reliability of the fundamental building blocks gene number of test and design-for-test, diagnosability, -manufacturability, -reliability considerations grows rapidly an test of such systems is a multidimensional challenge that grows in criticality with increased levels of integration implied that individual or multiple signals of a specific nature needed to be observed or monitored. For heterog different types of signals observed and/or monitored at different levels of integration or packaging, will need to b for both low and high volume levels of production. In addition to the mixture of signals, a mixture of processes encompass signal sensing, conversion and conditioning. Reliability assessment and external and/or self-diagnosis a facets of such systems.

Eighteen years ago, the IEEE Mixed-Signal Test Workshop (IMSTW) was inaugurated as a forum focused on test and design issues related to electronic systems with digital and analog components. In view of accelerated developments in heterogeneous system design and production, IMSTW was expanded in 2008 to include new topics that address test, design for test, reliability and manufacturability of today's sensors and sensor-based systems, as well as emerging devices and systems. Renamed to include sensors and systems, IMS3TW aims to bring together a community of researchers working on the next-generation of devices, circuits and systems. This year, IMS3TW will continue to address the traditional technology spectrum of IMSTW, in particular all aspects of analog, mixed-signal, and RF testing, but with increased attention to all aspects of current design complexity (e.g., parametric variability, power consumption, temperature effects). To guaranteeing design robustness for the new generation of nanoelectronic devices, we need to exploit self-monitoring functionality (such as self-test/-calibration), allowing the circuit or system to adapt to varying circuit parameters or functional demands. The sensors focus of the workshop will highlight all aspects of built-in sensors for device adaptation, MEMS, and biomedical applications such as lab-on-chip and implantable devices.

Primary Topics of Interest include:

- Test & Design for (on/off-line) Test
- Reliability & Design for Reliability
- Fault and Error Modelling & Simulation
- Verification & Design for Verification
- Monitoring/Diagnosis & Design for Debug/Diagnosis
- Fault Tolerance

Pertaining to the following systems or underlying technologies:

- Analog/Mixed-Signal Circuits
- Biomedical Circuits & Systems
- RF & Wirelessly Controlled Devices
- Optoelectronics & Photonics
- Drug Delivery Microsystems
- Embedded Systems
- Lab-on-Chip
- MEMS
- Microfluidics
- Heterogeneous Systems
- Implantable Devices

Prospective authors are invited to submit papers on the topics of interest. Submissions should be via the workshop website and consist of either an extended summary of at least 750 words or a full paper up to 6 pages. The accepted papers will be published in an IEEE Computer Society Proceedings available on the IEEE digital library (EXPLORE).

Key Dates

Submission deadline:	**February 5, 2012**
Notification of acceptance:	**March 18, 2012**
Camera-ready full papers:	**April 18, 2012**