

CALL FOR PAPERS

Special Issue on

Novel Embedded Systems for Ultrasonic Imaging and Signal Processing

(Submission deadline: 15 December 2010)

Embedded processing techniques are rapidly developing and making a significant impact in many fields, including ultrasonic imaging systems for both industrial and medical applications. Conventional hardware design based on microcontrollers and digital signal processors falls far short of meeting the combined demands of high speed, compact area, low power and adaptability requirements. Therefore, a system-on-chip (SoC) or a system-in-package (SiP) approach facilitates the realization of state-of-the-art ultrasonic testing devices through the integration of sensors, MEMS devices and signal processing hardware. The main objective of this special issue is to bring the latest advances in sensor arrays, embedded computing, and signal processing hardware of interest to the ultrasonic research community into a common platform that falls within the scope of the UFFC Transactions. Topics of interest in this special issue include, but are not limited to:

- Medical imaging and signal processing devices
- Industrial ultrasonic imaging devices
- Real-time signal processing for NDE applications
- Hardware for Doppler processing, 2D, 3D and 4D imaging
- Signal processing hardware for flow measurement and profiling
- Transmit/receive beamforming and array transducer control
- SoC design for ultrasonic data compression, image formation, and diagnostics
- Smart sensor design for underwater ultrasonic imaging applications
- Ultrasonic front-end and back-end processing design
- MEMS devices integrated with signal processing SoC
- Reconfigurable and programmable FPGA based ultrasonic systems
- Compact and low-power ultrasonic testing devices
- Hardware/software co-design techniques for ultrasonic application development

All contributions should be submitted to the IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Manuscript Central at <http://mc.manuscriptcentral.com/tuffc-ieee>. When submitting, authors should select the Manuscript Type, "Special Issue Papers". In addition, enter the name of this special issue in the field "If the manuscript type is 'Special Issue', please enter the name of the Special Issue". It is important that your manuscript is distinguished from a regular submission. In the first paragraph of "Comments to Editor-in-Chief", you should state that the submission is intended for the Special Issue on Novel Embedded Systems for Ultrasonic Imaging and Signal processing. Instructions for preparation and submission of your manuscript may be found on the IEEE Transactions on UFFC website: <http://www.ieee-uffc.org/main/publications/tr/contrib.pdf>. All manuscripts are subject to the normal peer-review process.

Timetable:	Deadline for manuscript submission:	December 15, 2010
	Information about manuscript acceptance:	July 15, 2011
	Estimated publication date:	December 2011

The guest editors will be Professor Jafar Saniie and Professor Erdal Oruklu
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