



2010 IEEE Workshop on Signal Processing Systems

October 6-8, 2010, Cypress Hotel, San Francisco Bay Area, California, USA

<http://www.sips2010.org>

SiPS is a major international forum for discussion of new technology progress and innovations in the design and implementation of digital signal processing systems. The workshop program will include keynote speeches; contributed papers; and oral and poster sessions. Prospective authors are invited to submit manuscripts on topics including, but not limited to:

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- Optimization of Signal Processing Algorithms and Architectures
 - Optimization of signal processing algorithms
 - Compilers and tools for signal processing system design
 - Algorithm transformation and algorithm-to-architecture mapping
- Software Based Design and Implementation of Signal Processing Systems
 - Programmable digital signal processor architecture and systems
 - Application specific instruction-set processor (ASIP) architecture and systems
 - SIMD, VLIW, and multi-core CPU architecture and systems
 - Graphic processing unit (GPU) based massively parallel implementation
- VLSI Based Design and Implementation of Signal Processing Systems
 - Low-power signal processing circuits and applications
 - High performance VLSI systems
 - FPGA and reconfigurable architecture based systems
 - System-on-chip and network-on-chip
- Signal Processing Application Systems
 - Audio, speech and language processing
 - Biomedical signal processing and bioinformatics
 - Image, video and multimedia signal processing
 - Information forensics, security and cryptography
 - Machine learning for signal processing
 - Sensing and sensor signal processing
 - Wireless communications and networking

In 2010, SiPS's special theme is on "Bio-medical Signal Processing Systems." In-depth understanding of biological systems requires both to quantify in a robust and systematic manner their spatiotemporal characteristics and to model the complex signaling networks that regulate the cellular interplay of proteins and gene expression. To present some recent advances that have provided new methods and insights into the inner working of cells, we will feature a special session on "Bioimaging and Bioinformatics."

There will also be a special session on "Application-specific Signal Processing Architectures." Compared to more general-purpose architectures, application-specific architectures have the potential to provide significant improvements in throughput and energy efficiency. This session will feature research that explores the design and analysis of signal processing architectures that are targeted towards specific application domains.

Furthermore, the San Francisco Bay Area is home to famous academic institutions and numerous high-tech companies. SiPS 2010 will feature a number of Silicon Valley related events, including a special kind of excursion---visiting the relevant companies in the area, e.g., Cisco, HP, and so on, and panel discussions with the local academic/industrial attendees and venture capitalists.

The conference proceedings will be published by IEEE. Moreover, for the best papers, we are organizing a special issue of the Journal of Signal Processing Systems on "Top Picks from the SiPS 2010". This is based on extended versions of selected top 7-10 papers from the conference. The best student paper(s) will win the Bob Owens Memorial Paper Award, which is sponsored by the Journal of Signal Processing Systems.

Important Deadlines	
Paper submission deadline	March 31- April 9
Acceptance notification	June 27
Final version due	July 25