Workshop

Emerging Application Domains – Research Challenges and Opportunities for FPGAs

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Communications infrastructure, data processing and industrial electronics are the cornerstone application areas for programmable logic today. But what are the application domains of tomorrow? What nascent application areas could explode the growth of programmable logic usage and expand the programmable market? In this workshop, we will hear speakers from industry and academia talk about the emerging application areas for FPGAs and the challenges and opportunities in these areas. We will consider how programmable hardware and the associated tools should be enhanced to become better-suited to tomorrow’s applications. The overarching aim of the workshop is to seed ideas in the research community by giving an applications perspective of the fertile topics for future research on FPGA architecture, CAD and applications.

Workshop Presentations:

- "Can FPGAs Accelerate Data Analytics? A Skeptic's View"
  Maya Gokhale, Lawrence Livermore National Laboratories
- "Searching For E.T. With FPGAs"
  Dan Werthimer, University of California, Berkeley
- "Reconfigurable Computing For Personalized Medicine"
  Narges Bani Asadi, Stanford University
- "Fast And Very Accurate Computer System Simulation Via FPGA-Based Acceleration"
  Derek Chiou, University of Texas at Austin
- "Implementing Line-Rate Services For Gigabit Networks With The NetFPGA"
  John Lockwood, Stanford University
- "Low Power Programmable Logic"
  Ted Speers, Actel Corporation

Categories and Subject Descriptors
B.6.0 [Logic Design]: General; B.7.1 [Integrated Circuits]: Types and Design Styles – Algorithms implemented in hardware

General Terms
Design, Algorithms

Keywords
Field-Programmable Gate Array, FPGA, applications, reconfigurable computing, high-performance computing, performance, power