Building reliable and resilient integrated systems in the presence of increasing process variations still remains challenging problems confronting the design community. Lower power supply voltages significantly reduce noise margins and increase visibilities in process, device and design parameters. Process variation cannot be solved by improving manufacturing tolerances. Instead, new technology or design methodologies, and design tools must manage these problems in order for scaling to continue.

Multicore architectures are the trend for current and future microprocessor designs. On-chip concurrency based on the multicore architecture provides better performance via thread-level parallelism, better power/thermal scaling, and easy design by design reuse. Design, testing, and verification of systems or embedded systems with heterogeneous or homogeneous cores and the related parallel computing for design tools have been identified as one of the biggest challenges for semiconductor and design tool industries.

Configurability is needed at both system and circuit levels to lower NAE costs and enhance resilience to process variation and defects. Examples include field programmable gate arrays, post-silicon tuning for both analog and digital circuits, and runtime power and thermal management.

This workshop will provide a forum for researchers from industry and academia where the latest results can be presented and ideas exchanged between those working on different approaches for designing emerging circuits and systems such as resilient, multicore and configurable integrated systems, and parallel computing design tool and methodologies.

Further Information:

Workshop schedule:

The workshop consists of two-day events. The first and a half day will be technical sessions consisting of presentations given by invited guests on latest technologies and innovations on emerging circuits and systems. The second half day consists of social and networking events combined with touring activities to explore Shanghai’s nearby attractions, and experience her culture, heritage and history. (see more)

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