Panel:
ASICs vs ASIPs

A few years ago, the term ASIC (application specific integrated circuit) was the buzzword at conferences. At that time, CAD-tools, process technology and manufacturing costs made ASICs feasible. ASICs make very efficient use of silicon and are therefore ideal for mass-products. Their disadvantage is their low flexibility.

This is completely different for ASIPs (application specific instruction set processors). ASIPs are processors executing instruction streams. ASICs are usually generic architectures with an application-dependent functionality. With respect to flexibility and area-efficiency they fill the gap between ASICs and standard microprocessors. Also, they can serve as adequate building blocks for current chips which can accommodate major amounts of hardware.

The panel will address the potential and the problems of both ASICs and ASIPs. Areas which are crucial for the success of these approaches will be identified. Examples of these include code generation and testability issues for ASIPs.

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