

# The Roadmap to Reconfigurable Supercomputing

scheduled for invited presentation  
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**Abstract.** Yaw-dropping hit rates by Google illustrate the pervasiveness of Reconfigurable Computing (RC), already mainstream in embedded systems, and now being adopted by supercomputing. From FPGA usage as accelerators, speed-up factors by up to two orders of magnitude are reported, as well as floor space requirements and electricity invoice amounts reduced by one order of magnitude. Algorithmic cleverness is the secret of success, based on software to configure migration mechanisms, striving away from memory-cycle-hungry instruction-stream-based computing paradigms. The main hurdle on the way to heart-stopping new horizons of cheap highest performance are CS-related educational deficits causing the configware / software chasm and a methodology fragmentation between the different cultures of application domains. The talk gives a survey on fundamental issues and on new directions in CS-related curricula, focused on a dual paradigm approach.

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