

## **Panel Discussion**

### **Researching Novel Systems: To Instantiate, Emulate, Simulate, or Analyticate?**

*Moderator:*

Doug Burger, University of Texas at Austin

*Panel Members:* Joel Emer, Intel  
Phil Emma, IBM  
Steve Keckler, Univ. of Texas at Austin  
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#### **Description**

The computer architecture research community has a rich menu of methodological options, which includes building full system prototypes, measuring in simulation, emulating on FPGAs, or constructing sophisticated analytic models. However, building custom systems has become enormously expensive, especially given the current funding climate. Simulations have become enormously complex as well, often including full operating systems. Analytic models have become less popular as system complexity has grown. Finally, some argue that FPGA emulation of hardware is the right approach for the future, while others opine that it is the worst of all worlds. This panel will debate these various points of view, which are of great interest to the funding sponsors of our community.