Convergence of Hardware and Software in the Heterogeneous Computing Revolution

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Reception to follow in 301 CSL

ABSTRACT | The boundary between hardware design and software development is quickly diminishing: many software applications have to leverage hardware accelerators and hardware accelerators must behave like software components for popular programming languages. This convergence will likely accelerate in the coming decade and reshape the landscape of EDA tools, programming systems, and system architectures. In this talk, I will present the lessons that we learned from addressing heterogeneous system design challenges as well as some open research questions.

WEN-MEI W. HWU is a Professor and holds the Sanders-AMD Endowed Chair in the Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign. He is also CTO of MulticoreWare Inc., chief scientist of UIUC Parallel Computing Institute and director of the IMPACT research group. He co-directs the IBM-Illinois Center for Cognitive Computing Systems Research (C3SR) and serves as one of the principal investigators of the NSF Blue Waters Petascale supercomputer. He is a fellow of IEEE and ACM. Dr. Hwu received his Ph.D. degree in Computer Science from the University of California, Berkeley.