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NEWS RELEASE

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Sarita Adve Named Recipient of the ACM-IEEE CS Ken Kennedy Award

University of Illinois Professor Helped Develop Memory Consistency Models

New York, NY, October 30, 2018 – The Association for Computing Machinery (ACM) and IEEE Computer Society (IEEE-CS) have named Sarita Adve of the University of Illinois at Urbana-Champaign as the recipient of the 2018 ACM-IEEE CS Ken Kennedy Award. Adve was cited for her research contributions and leadership in the development of memory consistency models for C++ and Java; for service to numerous computer science organizations; and for exceptional mentoring. The award will be presented at SC 18: The International Conference for High Performance Computing, Networking, Storage and Analysis, November 11-16, in Dallas, Texas.

Adve co-developed the memory models for the C++ and Java programming languages (with Hans Boehm, Bill Pugh, and others) based on her early work on data-race-free (DRF) models (with Mark Hill). The memory model specifies what value a read of a memory address will return, and lies at the heart of the correctness and performance of threaded programs, languages, compilers, and hardware. By impacting the models of the most widely-used programming languages, Adve's work has influenced the worldwide software community and hardware design.

More recently, with her students, Johnathan Alsop and Matthew Sinclair, Adve questioned the conventional wisdom of memory models for heterogeneous systems and showed that DRF is a superior model, even for such systems. Her group's recent work on DRFrlx provides semantics for a large class of relaxed atomics within the DRF framework, a longstanding open problem in the specification of modern memory models.

Adve's broader research interests are at the hardware/software interface and span the system stack from hardware to applications, with current focus on scalable system specialization and resiliency. She is also known for her innovations in cache coherence, hardware reliability, and power management.

Adve is also recognized for her service to the computing community. As current chair of the ACM Special Interest Group on Computer Architecture (SIGARCH), she instituted many changes inspiring new energy in the functioning of the executive committee, leading to new effective programs in communications, research visioning, and mentoring. With colleagues, she made diversity and inclusion a key focus and led

the creation of CARES, a committee to provide support to those who experienced harassment at SIGARCH- and SIGMICRO-sponsored events. Other communities have begun to emulate these activities. Adve also serves on the DARPA ISAT study group and previously served on the board of the Computing Research Association and the NSF CISE advisory committee.

Sarita Adve is the Richard T. Cheng Professor in the Department of Computer Science at University of Illinois at Urbana-Champaign. Her honors include being named a Woman of Vision in innovation by the Anita Borg Institute for Women in Technology in 2012, an IEEE Fellow in 2012, and an ACM Fellow in 2010. She also received the SIGARCH Maurice Wilkes Award in 2008. For three of the last five years, the University of Illinois has selected her students' PhD theses as one of two nominations for the ACM Doctoral Dissertation Award.

ACM and the IEEE Computer Society co-sponsor the Kennedy Award, which was established in 2009 to recognize substantial contributions to programmability and productivity in computing and significant community service or mentoring contributions. It was named for the late Ken Kennedy, founder of Rice University's computer science program and a world expert on high performance computing. The Kennedy Award carries a $5,000 honorarium endowed by the SC Conference Steering Committee.

About SC18

SC18, the International Conference for High Performance Computing, sponsored by ACM and IEEE-CS offers a complete technical education program and exhibition to showcase the many ways high performance computing, networking, storage and analysis lead to advances in scientific discovery, research, education and commerce. This premier international conference includes a globally attended technical program, workshops, tutorials, a world class exhibit area, demonstrations and opportunities for hands-on learning.

About ACM

ACM, the Association for Computing Machinery, is the world's largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field's challenges. ACM strengthens the computing profession's collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.

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