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ACM COUNCIL ON WOMEN HONORS WORLD LEADER IN HIGH PERFORMANCE COMPUTING

Berkeley Lab's Yelick Named "Athena Lecturer" for Contributions to Parallel Programming Languages that Improve Programmer Productivity

NEW YORK, March 21, 2013 – ACM-W (The Association for Computing Machinery's Council on Women in Computing) today named Katherine Yelick of the Lawrence Berkeley National Laboratory as the 2013-2014 Athena Lecturer. Yelick, also a professor at the University of California, Berkeley, has improved fundamental understanding and practice of parallel programming, which uses multiple processing elements simultaneously to solve a problem. She developed novel performance tuning, compilation and runtime systems, which implement the core behavior of computer languages. The Athena Lecturer award celebrates women researchers who have made fundamental contributions to computer science. It includes a $10,000 honorarium provided by Google Inc.

"Yelick's innovative software is used in both the research community and in production environments," said Mary Jane Irwin, who heads the ACM-W awards committee. "She has taken on the challenges of software developers in the age of exascale computing and helped them become more efficient in this environment. An effective teacher and mentor, she been a role model for the computing community."

Yelick co-invented UPC (Unified Parallel C), an extension of the C programming language designed for high performance computing on large-scale parallel machines. She also co-invented Titanium, an explicitly parallel dialect of Java, one of the most popular programming languages in use, to support high-performance scientific computing on large-scale multiprocessors. Yelick has demonstrated the applicability of these languages across architectures through the use of novel runtime and compilation methods. Her work also includes automatic performance tuning techniques as well as performance analysis, modeling, and optimization for a range of programming tools.

The author of two books and more than 100 refereed technical papers on parallel languages, compilers, algorithms, libraries, architecture and storage, Yelick has encouraged collaboration between hardware and software designers. She has worked with interdisciplinary teams on application scaling, and her own work includes parallelization of a model for blood flow in the heart.

Background

Yelick is a Professor of Electrical Engineering and Computer Sciences at UC Berkeley. She is also Associate Laboratory Director for Computing Sciences, and former Director of the National Energy Research Scientific Center (NERSC) at Lawrence Berkeley National Laboratory. She earned B.S., M.S. and Ph.D. degrees in Computer Science from the Massachusetts Institute of Technology.

An ACM Fellow, she is a member of the California Council on Science and Technology and a member of the National Academies Computer Science and Telecommunications Board.

The Athena Lecturer is invited to present a lecture at an ACM event. Yelick's lecture will be delivered at SC13 in Denver, CO, November 17-22. Each year, the Athena Lecturer honors a preeminent woman computer scientist. Athena is the Greek goddess of wisdom; with her knowledge and sense of purpose, she epitomizes the strength, determination, and intelligence of the "Athena Lecturers." The 2013-2014 Athena Lecturer award will be presented at the ACM Annual Awards Banquet, June 15, in San Francisco, CA.

About ACM

ACM, the Association for Computing Machinery **www.acm.org,** 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.

About ACM-W

ACM-W is the ACM Council on Women in Computing **http://women.acm.org**. It celebrates, informs and supports women in computing, and works with the ACM-W community of computer scientists, educators, employers and policy makers to improve working and learning environments for women.

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