Association for Computing Machinery

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ACM COUNCIL ON WOMEN HONORS INNOVATOR IN DATABASE SYSTEMS

Stanford's Widom Launched Entirely New Research Areas in the Database Field

NEW YORK, April 7, 2015 – ACM-W, the Association for Computing Machinery's Council on Women in Computing, today named Jennifer Widom of Stanford University as the 2015-2016 Athena Lecturer for pioneering foundations, architecture, and applications of database systems. Widom introduced active database systems, a major area of research in the database field today. Her work with semi-structured data has been extremely influential and has led to the popularization of XML and query languages for XML data. She has made contributions to streaming data management, data integrity, data lineage, and data accuracy and uncertainty.

The Athena Lecturer award celebrates women researchers who have made fundamental contributions to computer science. It includes a $25,000 honorarium provided by Google Inc.

"Jennifer Widom has had a profound impact on the database field," said Judith Olson, who heads the ACM-W awards committee. "Her contributions have influenced both the direction of research and of commercial products. But just as important, she is passionate about teaching, be it in the classroom or through her highly successful series of MOOCs."

Widom introduced the fundamental concepts and architectures of active database systems, a major area of research in the database field today. Active database systems allow application developers to embed logic into the database that allow actions to be executed when certain conditions are met. Active database systems have had a major impact on commercial database management systems, and most modern relational databases include active database features.

Widom made fundamental contributions to the study of semi-structured data management. Semi-structured data management systems are a key technology to support many advanced applications today, such as genomic databases, multimedia applications and digital libraries. Widom led the Lore project, which made important contributions on how to share, index and query semi-structured data sets, and developed the Lorel query language. Lorel has had a major impact on the research community, and many of its concepts have been applied to the design of query languages for XML data.

Widom has made valuable contributions to data provenance, managing uncertain data, query processing on data streams, combining databases and the Web, and data transformation and data warehouses, in addition to her work on active and semi-structured database systems.

Widom is the author of more than 150 refereed conference and journal articles on database management systems. She has published many highly cited and influential papers and several of her papers have received awards years after publication for their lasting scientific significance.

Background

Jennifer Widom is the Fletcher Jones Professor of Computer Science and Electrical Engineering at Stanford University, where she currently also serves as Senior Associate Dean for Faculty and Academic Affairs in the School of Engineering. Prior to joining the Stanford faculty, she was a Research Staff Member at the IBM Almaden Research Center.

Widom has co-authored textbooks widely used for teaching database systems design, use and implementation. She has served as editor of *ACM Transactions on Database Systems (TODS), VLDB Journal,* and *IEEE Transactions on Knowledge and Data Engineering (TKDE).* A frequent keynote speaker, she has served on the program committees of a variety of technical conferences, and as program chair for the ACM SIGMOD and the VLDB conferences.

An ACM Fellow, Widom is a member of the American Academy of Arts and Sciences and a member of the U.S. National Academy of Engineering. She received the SIGMOD Edgar F. Codd Innovations Award and was a Guggenheim Fellow. Widom is a graduate of the Indiana University Jacobs School of Music, and earned a Ph.D. in Computer Science from Cornell University.

The Athena Lecturer is invited to present a lecture at an ACM event. Widom's lecture will be delivered on June 2 at the 2015 ACM SIGMOD Conference in Melbourne, Australia. 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 2015-2016 Athena Lecturer award will be presented at the ACM Annual Awards Banquet, June 20, in San Francisco, Calif.

About ACM-W

ACM-W is the ACM Council on Women in Computing (**http://women.acm.org**). ACM-W supports, celebrates, and advocates internationally for the full engagement of women in all aspects of the computing field, providing a wide range of programs and services to ACM members and working in the larger community to advance the contributions of technical women.

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.

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