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Education

Ph.D., Computer Science, Rutgers University, 1977

Dissertation: Program Schemas with Semantic Restrictions

M.S.E., Computer & Information Sciences, Moore School Electrical Engineering, University of Pennsylvania, 1968

Thesis: A Question Answering System in the Growing Machine

B.A., Mathematics, Harpur College, State University of New York at Binghamton, 1966

Thesis: Integral Distances and Rational Angles

Experience

1996–present, Distinguished Member of Technical Staff and AT&T Fellow, AT&T Labs, Florham Park, NJ.

1993–1996, Distinguished Member of Technical Staff, AT&T Bell Laboratories, Murray Hill, NJ.

1977–1995, Professor of Computer Science, Courant Institute of Mathematical Sciences, New York University.

1969–1975, Lecturer in Computer Science, Richmond College, The City University of New York.

1968–1969, Systems Engineer, I.B.M.

June 1968–August 1968, Instructor, N.S.F. Summer Institute in Computer Science, University of Pennsylvania

December 1967–August 1968, Designed and Implemented an information retrieval system for archaeological data, University of Pennsylvania Museum.

February 1966–August 1966, Programmer, Texaco, Inc.

Honors and Awards

Anita Borg Institute, Technical Leadership Award for outstanding research and technical leadership - October 2008.

ACM SIGSOFT Outstanding Research Award for deep and lasting contributions and impact to software engineering as a discipline - September 2007.

Best Paper Award - ACM SIGSOFT/SIGMETRICS WOSP05 Conference - July 2005.

IEEE Harlan D. Mills Award for long-standing, sustained, and meaningful contributions to the theory and practice of the information sciences - 2004

AT&T Chairman's Diversity Award -2004

Rutgers University 50th Anniversary Distinguished Alumni Award - for outstanding accomplishments and leadership in mentoring of women and minorities - 2003

Fellow of the IEEE - 2003

Member of the National Academy of Engineering - 2002.

YWCA Woman of Achievement Award - 2001.

AT&T Fellow - 2000

Fellow of the Association for Computing Machinery (ACM) - 1997

AT&T Bell Labs Diversity Award - 1994 - given for outstanding efforts to encourage diversity in the workplace.

Best paper - IEEE International Symposium on Software Reliability Engineering 1996 (ISSRE96).

Best paper - Sixth Annual Pacific Northwest Software Quality Conference 1988.

Recent Keynote Addresses and Invited Lectures

The Ins and Outs of Fault Prediction. Distinguished Lecture, William Paterson University, December 2008.

You Can Run, But You Can't Hide. Keynote Address, MetriKon/IWSM Conference, Munich Germany. November 2008.

Software Fault Prediction in an Industrial Environment. Keynote Address, Siemens Measurement Day. November 2008.

Predicting Defect Locations Do Models Matter? Distinguished Lecture, Brown University, October 2008.

How to Predict Where Faults Will Be ... and How Not To. Keynote Address, Grace Hopper Celebration of Women in Computing, October 2008.

Predicting Fault Locations in an Industrial Environment. Distinguished Lecture, Stony Brook University, September 2008.

Using Statistical Models to Predict Where Bugs Will Be Keynote Address, Avaya Corporate Software Testing Conference, June 2008.

What Can Fault Prediction Do For YOU? Keynote Address, Second International Conference on Tests And Proofs, Prato, Italy, April, 2008.

If You Knew Where All the Bugs Were ..., Distinguished Lecture Series, Texas A&M University, February, 2008

Software Fault Prediction, Invited Lecture, University of Illinois, November, 2007.

Come Out, Come Out, Wherever You Are (Predicting Where Faults are Hiding), Distinguished Lecture Series, Temple University, November, 2007.

Why We Need Empirical Software Engineering, Invited Lecture, Symposium on Software Engineering, University of Maryland, Oct 2007.

Software Engineering Research - From Cradle to Grave, Keynote Lecture, The 6th joint meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering Dubrovnik, Croatia, Sept 2007.

An Industrial Research Program is Software Fault Prediction, Keynote Lecture, Workshop on Software Testing, University of Hamburg, March 2007.

Fault Prediction - Goals, Models, Experience, Distinguished Lecture Series, University of Texas, Dallas, November, 2006.

Educating Through Technology Transfer, Keynote Address, Dagstuhl Workshop, June, 2006.

Where the Bugs Are, Computer Science Colloquium Series, Harvard University, April, 2006.

Looking For Bugs in All the RIGHT Places, Computer Science Lecture Series, University of Arizona, March, 2006.

I Know Where You're Hiding, Keynote Address, IEEE 16th International Symposium on Software Reliability Engineering, Chicago, Illinois, November 2005.

Where to Look for Faults in Large Software Systems, Distinguished Lecture Series, University of Illinois, Chicago, November 2005.

Finding the Bugs, Keynote Address, Research in Science and Engineering Summer Program, Rutgers University, July 2005.

Fault Prediction for Fun and Profit, Gilles Memorial Distinguished Lecture, University of Illinois, May, 2005.

Looking For Bugs in All the RIGHT Places, New Jersey Governor's School in the Sciences, Drew University, July, 2004.

Predicting Where Bugs are Hiding, Distinguished Lecture Series, Worcester Polytechnic Institute, April 2004.
Where the Bugs Are, 50th Anniversary Lecture, Rutgers University, October, 2003.
How Prediction Helps Us Create Dependable Software, Institute of Electrical and Electronics Engineers (IEEE) New Jersey Coast Section, September, 2003.
Building Dependable Software Through Prediction, Unisys Distinguished Lecture, University of Minnesota, September, 2003.
Prediction = Power, Keynote Address, *15th IFIP International Testing of Communicating Systems Conference TESTCOM 2003*, Sophia, Antipolis, France, May, 2003.
The Role of Prediction in Producing Dependable Software, Keynote Address, *IFIP Joint International Conference on Formal Techniques for Networked and Distributed Systems (FORTE)*, Nov 2002, Houston, TX
Thinking Formally About Testing Without a Formal Specification, Keynote Address, *FATES Workshop*, August, 2002, Brno, Czech Republic.
Predicting Qualities of Software Using Empirical Data, Keynote Address, *8th IEEE Symposium on Software Metrics*, June 2002, Ottawa, Canada.
The Role of Prediction in Building Dependable Software, *AT&T Software Testing Conference*, March 2002, Middletown, NJ.

Professional Activities

Chair ACM Women's Council (2004-present)
ACM Executive Board (2008-present)
Member of the Rutgers University Graduate School Advisory Board. (2004-present)
Member of the Executive Board of the Coalition to Diversify Computing (2003-present)
Editorial Board, Journal of Empirical Software Engineering (1995-present)
Advisory Editorial Board, Journal of Software and Systems (1997-present)
Member, Women in Academe Committee of the National Academies (2005-2007)
Member of the Board of Directors of the Computing Research Association (2000-2005)
Association for Computing Machinery (ACM) Fellow Selection Committee (1998 - 2003), Chair (2002-3).
Secretary/Treasurer Association for Computing Machinery (ACM) SIGSOFT (1989-1992)
Member of the Executive Committee of the IEEE Computer Society Technical Committee on Software Engineering (1984-1987, 1991-1995)
IEEE Senior member Selection Committee (2001)
Editorial Board, IEEE Transactions on Software Engineering (2004-2007)
Editorial Board, IEEE Transactions on Dependable and Secure Computing (2004-2008)
Advisory Editorial Board, IEEE Spectrum (2004 - 2007)
Editorial Board, ACM Transactions on Software Engineering and Methodology (1989-2001)
Program Co-chair, ACM Workshop on Software and Performance (WOSP08) (2008).
Program Co-chair, ACM/IEEE/CRA Richard Tapia Celebration of Diversity in Computing, 2005.
Program Chair, International Symposium on Software Testing and Analysis (1993)
Member ACM Committee on the Status of Women and Minorities in Computer Science (1990-1995)
Member Computing Research Association Committee on the Status of Women in Computer Science (1990-1993)
Volunteer Mentor for MentorNet - an organization that pairs students with professionals to encourage women to enter and remain in computer science.
Volunteer Scientist for Science By Mail, a program for elementary school aged children.

Member ACM Strategic Planning Committee (1987-1988)

ACM National Lecturer (1982-1984)

Member of the program committee for several conferences

Reviewer for the National Science Foundation

Referee for several journals