

Symposium program

40th Anniversary Symposium

Department of
Computer Science,
Cornell University

1 October 2005

*Celebrating 40 years
of leadership in
research and
education*

- 9⁰⁰ *Welcome* Robert L. Constable
Dean, CIS
Introduced by Charles Van Loan
Chair, Computer Science
- 9¹⁵ *When complexity was king
and life thereafter* Al Borodin
Professor, Computer Science
University of Toronto
- 9⁴⁵ *From a bear to a lion* Zvi Galil
Dean, Engineering & Applied Science
Columbia University
- 10¹⁵ *Break*
- 10³⁰ *A cryptographer's perspective on privacy-preserving
data mining and statistical disclosure control* Cynthia Dwork
Senior Researcher
Microsoft Research
- 11⁰⁰ *Certifying algorithms* Kurt Mehlhorn
Director
Max Planck Institut für Informatik, Saarbruecken
Vice President, Max Planck Society
- 11³⁰ *Model checking: My 30-year quest to
make verification practical* Ed Clarke
FORE Systems Professor, Computer Science
Carnegie Mellon University
- 12⁰⁰ *Lunch*
- 1³⁰ *Beyond mice and menus* Barbara J. Grosz
Dean of Science, Radcliffe Inst. for Advanced Study
Harvard University
- 2⁰⁰ *Competition, cruelty, and compassion at Cornell
and the future of computer science* Bobby Schnabel
Vice Provost
Colorado University
- 2³⁰ *Gerry Salton's information retrieval
reaches the masses* Amit Singhal
Distinguished Engineer
Google
- 3⁰⁰ *Break*
- 3³⁰ *Security in distributed systems: Where we are, how we
got there, and how Cornell is trying to save us* Mike Reiter
Professor, Computer Science
Carnegie Mellon University
- 4⁰⁰ *Databases aren't dull
and other life lessons after Cornell* Jennifer Widom
Professor, Computer Science
Stanford University
- 4³⁰ *Evaluation + Design +
Implementation (Repeat) = Systems* Randy Katz
UMC Distinguished Professor, Computer Science
University of California Berkeley
- 7⁰⁰ *Banquet* David Gries
Associate Dean of Engineering
Introduced by Kent Fuchs
Dean of Engineering

Symposium speakers



Allan Borodin, PhD Cornell, 1969. Advisor: Juris Hartmanis

Allan's PhD thesis was on the existence of complexity gaps, so there must have been some simplicity in it, too. Allan planned to spend a year or so at his first academic position, CS at Toronto, but he forgot to move and has been there for 36 years. In recent years, his interests have gravitated toward the design and analysis of algorithms (greedily utilizing the title of well-known textbooks).



Edmund Clarke, PhD Cornell, 1976. Advisor: Bob Constable

In his thesis, Ed proved that certain control structures did not have good Hoare-style proof systems. After his PhD, Ed spent time at Duke and Harvard and ended up at CMU. In 1981, Ed and his student Allen Emerson first proposed the use of model checking as a technique for finite state verification, and that set Ed off on 25 years of pioneering research. Ed is a member of the National Academy of Engineering.



Cynthia Dwork, PhD Cornell, 1981. Advisor: John Hopcroft

Cynthia's PhD thesis was on bounds on fundamental problems in parallel and distributed computation. She is a senior researcher at

Microsoft Research, Silicon Valley Campus, and a consulting professor at Stanford. Her principal areas of research are cryptography, distributed computing, and data privacy. She has made significant contributions in complexity theory, Web search, voting theory, interconnection networks, and algorithm design and analysis.



Zvi Galil, PhD Cornell, 1973. Advisor: John Hopcroft

Zvi's PhD thesis concerned the complexity of resolution procedures for theorem proving. After a postdoc at IBM Watson, Zvi joined Tel-Aviv University. In 1982, he joined Columbia. He has been the Dean of Engineering &

Applied Science since 1995. His main interests are in algorithms, and he also contributes to complexity and cryptography. He is a member of the National Academy of Engineering.



Barbara Grosz, PhD Berkeley, 1977; Cornell BA, 1969.

Barbara's thesis, on focus of attention in dialogue processing, established the field of computational modeling

of discourse. After 13 years out west, she realized she would never turn into a Californian and took a professorship at Harvard. She works on the design of collaborative multi-agent and human-computer interface systems. Her research and service to AI have been recognized by various honors, and she is widely respected for her contributions to the advancement of women in science.



Randy Katz, PhD Berkeley, 1980; Cornell BA, 1976.

Randy joined EECS Berkeley in 1983, serving as chair from 1996–1999. While on leave in 1993–1994, he established whitehouse.gov and connected the White House to the Internet. He was one of the developers of RAID.

His current research interests are reliable, adaptive distributed systems supported by new services deployed on "network appliances". He has numerous awards and is a member of the National Academy of Engineering.



Kurt Mehlhorn, PhD Cornell, 1974. Advisor: Bob Constable

Kurt's thesis was in abstract complexity theory. He then returned to Germany and switched his interest to algorithms. In 1975, he became full professor of computer science at the University des Saarlandes and in 1989 founding director

of the Max Planck Institute of Computer Science. His research interests are in algorithms, algorithms engineering, and software libraries. He is a co-founder of Algorithmic Solutions GmbH.



Michael Reiter, PhD Cornell, 1993. Advisor: Ken Birman

Mike's PhD thesis was on security architectures for fault-tolerant systems. He joined Bell Labs in 1993, moved to AT&T Labs—Research during the breakup of AT&T, returned to Bell Labs in 1998, and joined CMU in 2001. He is Technical Director of

CMU's CyLAB, a university-wide center focused on developing new technologies for trustworthy computing. His research interests include computer security and distributed computing.



Robert Schnabel, PhD Cornell, 1977. Advisor: John Dennis

Bobby's thesis was on quasi-Newton methods for unconstrained optimization. Bobby then headed west to Colorado, where he discovered perpetual sunshine and his wife. The combination have conspired to keep him

in Boulder ever since. His career has evolved from research in numerical optimization and parallel languages and systems to heading the Alliance for Technology, Learning, and Society, serving as campus CIO, and co-founding the National Center for Women and Information Technology.



Amitabh Singhal, PhD Cornell, 1997. Advisors: the late Gerry Salton and Claire Cardie

Amit's thesis revisited Term Weighting. After Cornell, he worked at AT&T labs as a senior member of the technical staff and then joined

Google, where he is now a Distinguished Engineer. Amit's research interests include information retrieval and its application to Web search, Web graph analysis, and user interfaces for search.



Jennifer Widom, PhD Cornell, 1987. Advisor: David Gries

David made Jennifer play her trumpet at her Admission-to-Candidacy Exam (her minor was music). Her thesis was on trace-based networks proof systems. After a few

years at IBM Almaden, she joined CS at Stanford in 1993. A leader in the database community, she was a Guggenheim Fellow and is a member of the National Academy of Engineering; but she is best known for scoring the first goal of the first game of the first Cornell CS women's intramural ice hockey team.