

Richard E. Ladner

January 3, 2000

Education

1971 Ph.D. Mathematics, University of California, Berkeley
1965 B.S. Mathematics, St. Mary's College of California

Employment

1981 - present, Professor of Computer Science, University of Washington
1976 - 1981, Associate Professor of Computer Science, University of Washington
1972 - 1976, Assistant Professor of Computer Science, University of Washington
1971 - 1972, Acting Assistant Professor of Computer Science, University of Washington

Visiting Appointments

Fall 1999, AT&T Shannon Labs, Florham Park, NJ
Spring 1993, Victoria University of Wellington, New Zealand
Spring 1986, Mathematical Sciences Research Institute, Berkeley
Fall 1985, Gallaudet University, Washington, D.C.
Spring 1978, Yale University
Fall 1977, University of Toronto

Awards

Fellow of the ACM, 1994
Fulbright Travel Grant to New, Zealand, 1992-1993
Guggenheim Fellowship, 1985-1986

Selected Professional Activities

Memberships:

Association of Computing Machinery
IEEE Computer Society
American Mathematical Society
Association of Symbolic Logic

Editorships:

Associate Editor for *Journal of Computer and System Sciences*, 1989-present
Area Editor for *Journal of the Association of Computing Machinery*, 1986-1992
Editor for *SIAM Journal on Computing*, 1980-83

Program committee member for:

Twenty-Sixth ACM Symposium on Theory of Computing, 1994
Twenty-Fourth ACM Symposium on Theory of Computing, 1992
10th ACM Symposium on Principles of Distributed Computing, 1991, Chair
31st Annual IEEE Symposium on the Foundations of Computer Science, 1990
and nine other major conferences

Other Professional Activities:

External Review Committee for CCNY, 1990, 1998

External Review Committee for Purdue University, 1999
Pacific Region Representative to the ACM Council, 1990-91

Selected University and Departmental Activities

Departmental Activities:

Chair of Faculty Recruiting, 1999
Graduate Program Coordinator for Computer Science, 1988-1992
Associate Chair of Computer Science, 1984-85, 1987-88

University Activities:

Senate Planning and Budget Committee, 1996-1998
Member of College of Engineering Promotion and Tenure Committee, 1995-1998
Chair of Faculty Council for University Facilities and Services, 1990-1992
Chair, External Review Committee for Department of Speech and Hearing Sciences, 1990

Research Interests

Design and analysis of algorithms
Cache performance of algorithms
Data compression
Computer network protocols
Complexity theory and logic

Five Recent Representative Papers

E.S. Hong and R.E. Ladner. Group Testing for Image Compression. 2000 IEEE Data Compression Conference.

A. E. Mohr, E. A. Riskin, and R. Ladner. Graceful Degradation over Packet Erasure Channels through Forward Error Correction. 1999 IEEE Data Compression Conference.

J.D. Fix and R.E. Ladner. Multiresolution Banded Refinement to Accelerate Surface Reconstruction from Polygons. Accepted to *Journal of Computational Geometry: Theory and Applications*.

A. LaMarca and R.E. Ladner. The Influence of Caches on the Performance of Sorting. *Journal of Algorithms*, Vol. 31, 1999, 66-104.

R.E. Ladner, A. LaMarca, and E. Tempero. Counting Protocols for Reliable End-to-End Transmission. *Journal of Computer and System Sciences*, Vol. 56, No. 1, 1998, 96-111.

and about 70 other papers in journals and major conferences.

Courses Taught

Undergraduate:

Formal languages and automata
Computability and complexity
Data structures
Analysis of algorithms

Discrete structures
Computer networks

Graduate:

Formal languages and automata
Computability and complexity
Analysis of algorithms
Computer networks
Theory of distributed computing
Logic for computer science

Ph.D. Students

Ed Hong, 2000 (expected)
James Fix, 2000 (expected) (Reed College)
Suzanne Bunton, 1996 (co-supervised with Gaetano Borriello) (Microsoft)
Anthony LaMarca, (Yahoo) 1996
David Cohn, 1992 (JustResearch)
H.K. Dai, 1991 (Oklahoma State University)
Soma Chaudhuri, 1990 (Iowa State University)
Ewan Tempero, 1990 (Victoria University, Wellington, New Zealand)
Anne Condon, 1987 (University of British Columbia)
Robert J. Fowler, 1985 (Rice)
Garret Swart, 1985
Albert Greenberg, 1983 (co-supervised with Martin Tompa) (AT&T)
Glenn Goodrich, (HP) 1983
Udi Manber, 1982 (Yahoo)
Paul Frank, 1979 (Applied Magnetics)
and five Masters Students

Recent Grants

Principal Investigator, NSF Grant No. CCR-9732828, 8/1/98 - 7/31/01, Design and Analysis of Algorithms in the Presence of Caches, \$262,346

Co-investigator with H. Levy, A. Karlin, and T. Anderson. NSF Grant No. EIA-9870740, 8/1/98 - 7/31/01, Distributed Resource Management in Local-Area and Wide-Area Networks, \$870,336

Senior Researcher with E.A. Riskin, Army Grant No. DAAH04-96-1-0255, 7/1/96 - 6/30/99, Wavelet and Vector Quantization Image Compression for Noisy Channel Transmission, \$243,722

Co-Investigator with E.A. Riskin, WTC grant 7/1/96 - 6/30/98, VQ and Wavelets for Image Processing Applications, \$60,000

and 7 other NSF grants.