Edward D. Lazowska
June 2010

Personal

Born in Washington, D.C., August 3, 1950. Married; 2 children

Education

Ph.D. in Computer Science, University of Toronto, 1977 (mentor: Kenneth C. Sevcik)
M.Sc. in Computer Science, University of Toronto, 1974 (mentor: Kenneth C. Sevcik)
A.B. in Computer Science (independent concentration), Brown University, 1972 (mentors: David J. Lewis and Andries van Dam)

Employment

University of Washington, Department of Computer Science & Engineering
- Bill & Melinda Gates Chair, 2000-present
- Department Chair, 1993-2001
- Professor, 1986-present; Associate Professor, 1982-86; Assistant Professor, 1977-82

University of California, San Diego, Department of Computer Science & Engineering
- Visiting Scholar, 2001-02

Digital Equipment Corporation, Systems Research Center
- Visiting Scientist, 1984-85

Stanford University, Department of Computer Science
- Visiting Scholar, 1984-85

Research Interests

Computer systems: modeling and analysis, design and implementation, distributed and parallel systems

Representative Recognition

Inaugural ACM SIGMETRICS Test-of-Time Award, 2010
ACM Distinguished Service Award, 2009
University of Washington Computer Science & Engineering Undergraduate Teaching Award, 2007
Elected to Washington State Academy of Sciences, 2007 (founding class)
Association for Computing Machinery Presidential Award, 2005
Computing Research Association Distinguished Service Award for outstanding service to the computing research community, 2005
Named one of "Seattle's 25 most influential people," *Seattle* magazine, 2004
Fellow of the American Academy of Arts & Sciences, 2004
Named to "GT 25" (national leaders of information technology in state government) by *Government Technology* magazine, 2002
Elected to the National Academy of Engineering, 2001
Fellow of the American Association for the Advancement of Science, 2001
Bill & Melinda Gates Chair in Computer Science & Engineering, University of Washington, 2000
Named to "BAM 100" (one hundred Brown University alumni who had the greatest impact on the twentieth century), 2000
R1.edu Educational Technology Award, 2000
University of Washington Brotman Award for Instructional Excellence (departmental), 1999
University of Washington Outstanding Public Service Award, 1998
Alliance for Education "A+ Partnership Award" for Outstanding Contributions to the Seattle Public Schools, 1997
University of Washington Annual Faculty Lecturer, 1996
Fellow of the Institute of Electrical and Electronics Engineers, 1996
Fellow of the Association for Computing Machinery, 1995
Award paper, ACM SIGCOMM '93 Symposium
Award paper, 1993 Machnix Workshop
Award paper, 13th ACM Symposium on Operating Systems Principles (1991)
Award paper, 12th ACM Symposium on Operating Systems Principles (1989)
Award paper, 1989 ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems
Award paper, 1985 ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems
Award paper, 7th ACM Symposium on Operating Systems Principles (1979)

Representative Recent Grants

National Science Foundation, 2010-14. Co-Principal Investigator (with G. Andrews, S. Graham, and A. Bernat), Grant No. CNS-1019343, *The Second CI Fellows Project*, $14,994,174
Google Inc., 2010. Principal Investigator, *CS4HS* (Computer Science for High School Teachers), $20,000
Gordon and Betty Moore Foundation, 2009-11. Principal Investigator, *eScience: Computational Science for the 21st Century*, $741,358
Google Inc., 2009. Principal Investigator, *CS4HS* (Computer Science for High School Teachers), $25,000
Google Inc., 2008. Principal Investigator, *CS4HS* (Computer Science for High School Teachers), $25,000
Microsoft Corporation, 2007-08. Principal Investigator, *Oceanography Workbench*
Google Inc., 2007. Principal Investigator, *CS4HS* (Computer Science for High School Teachers), $50,000
National Science Foundation, 2006-10. Principal Investigator (with A. Bernat, S. Graham, A. Jones and D. Reed), Grant No. CNS-0637190: *The Computing Community Consortium*, $5,999,228
National Science Foundation, 2006-10. Co-Principal Investigator (with T. Anderson and A. Krishnamurthy), Grant No. MRI-0619836: *Enabling Lightweight Planetary Scale Services*, $955,933

National Science Foundation, 2006-07. Co-Principal Investigator (with R. Nolan, D. Croson, M. Cotteleer, and M. Eisenberg), Grant No. IIS-0627990: *Seattle Innovation Symposium*, $30,000

Microsoft Corporation, 2006. Co-Principal Investigator (with T. Anderson, N. Garg, and T. Parikh), *DSH and CAM: Leveraging Low Cost Technology for Rural India*, $100,000

Ricoh Co., Ltd., 2006. Co-Principal Investigator (with T. Parikh), *ORIGINS Pilot Project*, $25,000

National Science Foundation, 2005-06. Co-Principal Investigator (with G. Borriello and C. Diorio), Grant No. CNS-0454394: *RFID Ecosystem*, $134,051

National Science Foundation, 2005-06. Co-Principal Investigator (with R. Nolan and M. Eisenberg), Grant No. IIS-0534789: *Seattle Innovation Symposium*, $30,000

National Science Foundation, 2004-08. Co-Principal Investigator (with M. Abbott, J. Delaney, R. Johnson, J. Orcutt, and L. Smarr), Grant No. ITR-0428483: *Next-Generation Cyber-Infrastructure for Interactive Ocean Observatories*, $3,972,826

National Science Foundation, 2003-07. Co-Principal Investigator (with T. Duchamp), Grant No. DUE-0323900: *Advancing Student Success in Computer Science, Engineering and the Mathematical Sciences*, $400,000

Intel Corporation, 2002-03. Principal Investigator, *Laboratory Upgrade for UW CSE*, $250,000

Microsoft Corporation and High Speed Connectivity Consortium, 2001-05. Co-Principal Investigator (with R. Anderson and F. Videon), *Distributed Education*, $480,000

Intel Corporation, 2000. Principal Investigator, *Gigabit-to-the-Desktop Initiative*, $155,000 (100% allowance on equipment)

National Science Foundation, 2000-06. Co-Principal Investigator (with T. Duchamp), Grant No. DUE-9987159: *Increasing Student Success in Engineering and the Mathematical Sciences at the University of Washington*, $495,000

National Science Foundation, 1999-2001. Co-Principal Investigator (with J. Hook, C. Pu, C. Brown, W. Hersh, and D. Steere), Grant No. ANI-9975992: *High Performance Metropolitan and Internet2 Connectivity for Portland Oregon Research Institutions*, $1,228,000 (including 55% institutional contribution)

Intel Corporation, 1997. Co-Principal Investigator (with G. Lake and G. Zick), *Technology for Higher Education 2000* (campus-wide project), $5,900,000 (100% allowance on equipment)

National Science Foundation, 1996-98. Co-Principal Investigator (with S. Corbato, T. Gray, and C. Stubbs), Grant No. NCR-9617039: *vBNS Connectivity for the University of Washington*, $904,000 (including 60% UW contribution)

Intel Corporation, 1996, 1997. Co-Principal Investigator (with B. Bershad, M. Soma, and G. Zick), *Enhancing the Engineering Curriculum on the PC Platform*, $925,000 for 1996, $1,500,000 for 1997 (100% allowance on equipment)

IBM Corporation, 1994-95. Co-Principal Investigator (with B. Bershad), *System Structure for Advanced Processors*, $750,000 (100% allowance on equipment)

Intel Corporation, 1993-94. Co-Principal Investigator (with G. Zick), *Collaborative Research in High Performance Computing*, $761,000 (100% allowance on equipment)

National Science Foundation, 1992-97. Co-Principal Investigator (with H. Levy and J. Zahorjan), Grant No. CCR-9200832: *System Support for High Performance Computing*, $1,984,000 (including 20% UW contribution)

National Science Foundation, 1992-96. Co-Principal Investigator (with R. Anderson, A. Borning, T. DeRose, H. Levy, D. Notkin, L. Snyder, S. Tanimoto, and J. Zahorjan), Grant No. CDA-9123308*: High Performance Parallel/Distributed Computing* (II Program), $1,765,000 (including 25% UW contribution)

National Aeronautics and Space Administration, 1992-95. Investigator (with L. Adams, R. Anderson, J. Bardeen, R. Carlberg, C. Hogan, G. Lake (PI), W. Petersen, and L. Snyder), *Large Scale Structure and Galaxy Formation*, $1,549,000

Digital Equipment Corporation, 1990-93. Co-Principal Investigator (with H. Levy), Research Agreement #1076: *Operating System Support for Contemporary Multi-Computers*, $960,000 (80% allowance on $1,200,000 in equipment)

National Science Foundation, 1989-92. Co-Principal Investigator (with H. Levy), Grant No. CCR-8907666: *Amber: Programming Support for Networks of Multiprocessors*, $343,000

National Science Foundation, 1987-92. Project Director and Co-Principal Investigator (with J.-L. Baer, H. Levy, L. Snyder, W. Ruzzo, S. Tanimoto, and J. Zahorjan), Grant No. CCR-8619663: *Effective Use of Parallel Computing* (CER Program), $4,808,000 (including 25% UW contribution)

National Science Foundation, 1987-91. Co-Principal Investigator (with J. Zahorjan), Grant No. CCR-8703049: *Performance of Parallel Systems*, $320,000

Representative Recent Professional Activities

Chair, Computing Community Consortium, 2007-10

Co-chair (with D.E. Shaw), Working Group of the President's Council of Advisors on Science and Technology (PCAST) to review the Networking and Information Technology Research and Development (NITRD) Program, 2010

National Research Council Committee on Management of University Intellectual Property, 2008-10

National Research Council Committee on Assessing the Impacts of Changes in the Information Technology Research and Development Infrastructure, 2006-08

Chair, Computing Research Association GENI Community Advisory Board, 2006-07

Co-chair (with M. Benioff), President's Information Technology Advisory Committee, 2003-05

Chair, Information Science and Technology (ISAT) Study Group of the Defense Advanced Research Projects Agency, 2004-06; Vice Chair (Chair-designate), 2002-04; Member, 1998-2001

Corporate Technical Advisory Boards: Microsoft Research, 1991-; Voyager Capital, 1996-; E-Quill, 2000-02; Ignition Partners, 2000-; Frazier Technology Ventures, 2000-06; Madrona Venture Group, 2000-; Impinj, 2001-; Conenza, 2007-09

Corporate Boards of Directors: Data I/O Corp., 1996-2009; Intrepid Learning Solutions, 1999-2006; Pacific Northwest GigaPoP, 1999-

Organizational Boards of Directors: Washington State Academy of Sciences, 2007- (Secretary, 2009-10); Washington Technology Industry Association (formerly Washington Software Alliance), 1996- (Executive Committee, 2008-); Computing Research Association, 1995-2003 (Chair, 1997-2001; Chair, Government Affairs Committee, 1992-97 and 2001-03); Technology

Alliance of Washington, 2000- (Executive Committee, 2001-; Vice President, 2001-03; Council member, 1995-2000); ACM Council, 2000-03; Lakeside School, 2001-04; Washington Digital Learning Commons, 2003-; Pacific Wave, 2001-

State of Washington Information Services Board, 1995-

National Academy of Engineering Section 5 (Computer Science & Engineering) Chair, 2006-08; Vice Chair (Chair-designate), 2006; Peer Committee Chair (and member of the NAE Committee on Membership), 2004; Vice Chair (Chair-designate), 2003; Member, 2002-06

American Academy of Arts & Sciences, Membership Panel, Class I Section 6 (Computer Sciences), 2006-

American Association for the Advancement of Science Section T (Information, Computing, and Communication) Chair, 2009-10; Steering Group, 2003-; ACM liaison to AAAS, 2002-08

Chair, ACM Distinguished Dissertation Award Committee, 2005; Member, 2002-06

Executive Advisory Council, National Center for Women and Information Technology, 2004-

Prosperity Partnership Higher Education Working Group, 2005-07

Computer Science and Telecommunications Board of the National Research Council, 1996-2002

Chair, NSF Advisory Committee for Computer and Information Science and Engineering, 1998-99; Member, 1995-2000

National Research Council Committee on Science and Technology for Countering Terrorism: Panel on Information Technology, 2001-02

National Research Council Committee on Improving Learning with Information Technology, 2001-02

National Research Council Committee on Research Horizons in Networking, 2000-01

Chair, ACM A.M. Turing Award Committee, 1999; Member, 1996-2001

National Science Foundation 50th Anniversary Public Advisory Committee, 1998-99

National Research Council Committee to Review the Multi-Agency HPCC Program ("Brooks/Sutherland Committee"), 1994-95

Chair, university-level review committees for UC Berkeley Dept. of EECS (2009), UC San Diego Dept. of CSE (2008), Georgia Institute of Technology College of Computing (2002), Princeton Univ. Dept. of CS (1999), Univ. of Virginia Dept. of CS (1999), Rice Univ. Dept. of CS (1998)

Standing advisory committee for Univ. of Virginia Dept. of CS (in past years, also for Georgia Institute of Technology College of Computing, Hong Kong Univ. of Science & Technology Dept. of CS, National College of Ireland Program in Informatics, Princeton University Dept. of CS)

Editor, *IEEE Transactions on Computers*, 1988-94

Chair, Committee of Examiners, GRE Computer Science Test, 1986-90; Member, 1982-90

Chair, ACM Special Interest Group on Measurement and Evaluation (SIGMETRICS), 1985-89

IFIP Working Group 7.3 on Computer System Modeling, 1986-

Representative Recent Departmental and University Activities

UW Technology Working Group, 2008-09

University Technology Advisory Committee, 2003-

Information Technology Advisory Committee, 2003-

UW-Tacoma Institute of Technology Advisory Board, 2003-

Information School Founding Board, 2004-

Schidler Center for Law, Commerce and Technology Advisory Committee, 2001-

External Relations and Development Coordinator, Dept. of Computer Science & Engineering, 2001-

Chair, Dept. of Computer Science & Engineering, 1993-2001

Chair, University Advisory Committee for Academic Technology, 1990-2000

Search Committee for the Dean of the College of Education, 1999-2000

Chair, Committee to Review the Department of Statistics, 1998-99

Search Committee for the Dean of the Information School, 1997-98

Committee on the Future of the Graduate School of Library and Information Science, 1996-97

Committee on the Deanship of the College of Arts and Sciences, 1994

Chair, Committee to Review the Proposed Ph.D. Program in Molecular Biotechnology, 1994

Committee to Review the Performance of the Dean of Engineering, 1992-93

Student Supervision

21 Ph.D. completed, 23 M.S. completed. Recent Ph.D. students:

John K. Bennett, 1988 (Rice University -> University of Colorado)

Haim E. Mizrahi, 1988 (co-supervised with J.-L. Baer) (Raphael (Israel))

David B. Wagner, 1989 (University of Colorado -> Principia Consulting -> Google)

Brian N. Bershad, 1990 (co-supervised with H. Levy) (Carnegie Mellon University -> University of Washington) (NSF PYI Award, NSF PFF Award, and ONR YI Award recipient)

Yi-Bing Lin, 1990 (Bell Communications Research -> National Chiao-Tung University (Taiwan))

Mark S. Squillante, 1990 (IBM T.J. Watson Research Center)

Sung K. Chung, 1990 (co-supervised with D. Notkin) (IBM T.J. Watson Research Center (postdoc))

Thomas E. Anderson, 1991 (co-supervised with H. Levy) (University of California, Berkeley -> University of Washington) (NSF PYI Award, NSF PFF Award, and Sloan Research Fellowship recipient)

B. Clifford Neuman, 1992 (USC Information Sciences Institute)

Edward W. Felten, 1993 (co-supervised with J. Zahorjan) (Princeton University) (NSF YI Award and Sloan Research Fellowship recipient)

Chandramohan A. Thekkath, 1994 (co-supervised with H. Levy) (DEC Systems Research Center -> Microsoft Research)

Robert Bedichek, 1994 (co-supervised with H. Levy) (MIT (postdoc) -> Transmeta Corp. -> AMD Corp.)

Michael Rabinovich, 1994 (AT&T Bell Laboratories -> Case Western Reserve University)

Jeffrey S. Chase, 1995 (co-supervised with H. Levy) (Duke University)
Dylan J. McNamee, 1996 (co-supervised with H. Levy) (Oregon Graduate Institute -> Galois)
Brian Pinkerton, 2000 (co-supervised with J. Zahorjan) (Consultant)
Tapan Parikh, 2007 (co-supervised with D. Notkin) (University of California, Berkeley)
Sujay Parekh, 2010 (IBM Research)

Representative Publications

E. Lazowska, J. Zahorjan, G. Graham, and K. Sevcik. *Quantitative System Performance: Computer System Analysis Using Queueing Network Models*. Prentice-Hall, 1984.

D. Eager, E. Lazowska, and J. Zahorjan. Adaptive Load Sharing in Homogeneous Distributed Systems. *IEEE Trans. on Software Engr. SE-12*,4 (May 1986).

D. Eager, E. Lazowska, and J. Zahorjan. A Comparison of Receiver-Initiated and Sender-Initiated Adaptive Load Sharing. *Performance Evaluation 6* (1986). (Award Paper, 1985 ACM SIGMETRICS Conf., and inaugural ACM SIGMETRICS Test-of-Time Award, 2010.)

D. Eager, J. Zahorjan, and E. Lazowska. Speedup vs. Efficiency in Parallel Systems. *IEEE Trans. on Computers 38*,3 (March 1989).

T. Anderson, E. Lazowska, and H. Levy. The Performance Implications of Thread Management Alternatives for Shared-Memory Multiprocessors. *IEEE Trans. on Computers 38*,12 (Dec. 1989). (Award paper, 1989 ACM SIGMETRICS Conf.)

J. Chase, F. Amador, E. Lazowska, H. Levy, and R. Littlefield. The Amber System: Parallel Programming on a Network of Multiprocessors. *Proc. 12th ACM Symp. on Operating Systems Principles* (Dec. 1989).

B. Bershad, T. Anderson, E. Lazowska, and H. Levy. Lightweight Remote Procedure Call. *ACM Trans. on Computer Systems 8*,1 (Feb. 1990). (Award paper, 12th ACM Symp. on Operating Systems Principles.)

T. Anderson and E. Lazowska. Quartz: A Tool for Tuning Parallel Program Performance. *Proc. ACM SIGMETRICS Conf. on Measurement and Modeling of Computer Systems* (May 1990).

T. Anderson, H. Levy, B. Bershad, and E. Lazowska. The Interaction of Architecture and Operating System Design. *Proc. 4th International Conf. On Architectural Support for Programming Languages and Operating Systems* (April 1991).

B. Bershad, T. Anderson, E. Lazowska, and H. Levy. User-Level Interprocess Communication for Shared Memory Multiprocessors. *ACM Trans. on Computer Systems 9*,2 (May 1991).

T. Anderson, B. Bershad, E. Lazowska, and H. Levy. Scheduler Activations: Effective Kernel Support for the User-Level Management of Parallelism. *ACM Trans. on Computer Systems 10*,1 (Feb. 1992). (Award paper, 13th ACM Symp. on Operating Systems Principles.)

C. Thekkath, T. Nguyen, E. Moy, and E. Lazowska. Implementing Network Protocols at User Level. *IEEE/ACM Trans. on Networking 1*,5 (Oct. 1993). (Award paper, ACM SIGCOMM '93 Symp.)

M. Vernon, E. Lazowska, and S. Personick, eds. *R&D for the NII: Technical Challenges*. EDUCOM, May 1994.

C. Thekkath, H. Levy, and E. Lazowska. Separating Data and Control Transfer in Distributed Operating Systems. *Proc. 6th International Conf. On Architectural Support for Programming Languages and Operating Systems* (Oct. 1994).

J. Chase, H. Levy, M. Feeley, and E. Lazowska. Sharing and Protection in a Single Address Space Operating System. *ACM Trans. on Computer Systems 12*,4 (Nov. 1994).

G. Voelker, H. Jamrozik, M. Vernon, H. Levy, and E. Lazowska. Managing Server Load in Global Memory Systems. *Proc. ACM SIGMETRICS Conf. on Measurement and Modeling of Computer Systems* (June 1997).

T. Alberg, W. Finkbeiner, E. Lazowska, and D. Rosen. *Policy Initiatives to Increase the Availability of Advanced Telecommunications Services Throughout Washington State*. Technology Alliance of Washington, 1998.

B. St. Arnaud, A. Chave, A. Maffei, E Lazowska, L. Smarr, and G. Gopalan. An Integrated Approach to Ocean Observatory Data Acquisition/Management and Infrastructure Control Using Web Services. *Marine Technology Society Journal* (2004).

E. Lazowska and D. Patterson. An Endless Frontier Postponed. *Science 308*, 6 May 2005.

E. Lazowska and D. Patterson. Computing Research: A Looming Crisis. *ACM SIGCOMM Computer Communication Review 35*,3, July 2005.

D. Richardson, S. Gribble, and E. Lazowska. The Limits of Global Scanning Worm Detectors in the Presence of Background Noise. *Proc. 3rd Workshop on Rapid Malcode* (Nov. 2005).

T. Parikh and E. Lazowska. Designing an Architecture for Delivering Mobile Information Services to the Rural Developing World. *Proc. World Wide Web Conf. 2006* (May 2006).

E. Lazowska and J. Zahorjan. In Memoriam: Kenneth C. Sevcik. *Proc. ACM SIGMETRICS / Performance '06*, June 2006.

Synergistic Activities

Lazowska has received the Seattle Alliance for Education *A+ Partnership Award* and the University of Washington *Outstanding Public Service Award* for more than a decade of high-impact contributions to K-12 outreach and educational technology in the Seattle area and throughout the State of Washington. On the UW campus, he was one of two PIs on the University of Washington's two NSF CSEMS projects, and received the 2007 *Computer Science & Engineering Undergraduate Teaching Award*. Under his leadership as chair, UW Computer Science & Engineering received the first *UW Brotman Award for Instructional Excellence* and CSE faculty received 4 *UW Distinguished Teaching Awards* and the *UW Outstanding Graduate Mentor Award*. Nationally, he received the 2005 *Computing Research Association Distinguished Service Award* for outstanding service to the computing research community, the 2005 *ACM Presidential Award* from the Association for Computing Machinery "for showing us how to advocate effectively for IT research and advanced education," and the 2009 *ACM Distinguished Service Award* "for more than two decades of wide-ranging and tireless service to the computing community, especially in advocacy at a national level." He serves on the Board of Directors of the Washington Digital Learning Commons, and on the Executive Advisory Council of the National Center for Women and Information Technology.

World Wide Web and Email

http://lazowska.cs.washington.edu; lazowska@cs.washington.edu