

William Richards Adrion

## ADDRESSES

104 Wildflower Drive  
Amherst, MA 01002  
Department of Computer Science  
140 Governors Drive  
University of Massachusetts  
Amherst, MA 01003-4610

## TELEPHONE

(413) 256-8808 home  
(413) 687-3114 mobile  
(413) 545-2475 office  
(413) 545-3729 fax

## NET ADDRESSES

*adrion@cs.umass.edu*  
*adrion@citi.mass.edu*  
*rickadrion@comcast.net*

## EDUCATION

Ph.D., 1971, The University of Texas at Austin  
M.E. (E.), 1967, Cornell University  
B.S., 1966, Cornell University

## EXPERIENCE

Department of Computer Science, UNIVERSITY OF MASSACHUSETTS  
AMHERST, Amherst, MA

Professor, 1986 --

On IPA assignment to NSF 2000 -- 2003 (part-time 9/2002 -- 8/2003)

On sabbatical leave 1992-93, 2004

Department Chairman, 1986-94

Director, Commonwealth Alliance for Information Technology Education, 2007 --

Co-Director, Commonwealth Information Technology Initiative, 2004 --

Director, RIPPLES Laboratory 1994 --

Director, Centers for Real-time and Intelligent Complex Computing Systems, 1989-

Chair, Program and Budget Council, 2002 -- 05, 2007 -- 09, Member 2005 -- 2006,  
1997--2000

Chair, Chancellor's Budget Planning TF, Subcommittee on Expenditures 2008 --

Member, Academic Matters Council, 2003 -- 2007

Chair, Faculty Senate IT Program Review Committee 2006 -- 07

Member, Ad-Hoc Committee on On-Line Learning Committee, 2004 --

Member, Ad-Hoc Committee on Student Info. Sys. 2004 --

Member, Instructional Technology Task Force, 2003 -- 04

Member, Academic Priorities Council, 1999 -- 2000

Member, University Information Technology Council, 1994 -- 98

Member, System and Campus Econ. Dev. Task Forces, 1993 -- 2000

Chair, University Research Foundation Task Force, 1993

Chair, University Research Council, 1991 -- 92

Member, Ad Hoc Committee on 5-campus reorganization, 1991 -- 92

Chair, University Strategic Planning Council, 1991

William Richards Adrion

**THE NATIONAL SCIENCE FOUNDATION, Washington, DC**

Senior Advisor, Computer and Information Science and Engineering 2002 -- 03  
Division Director, Experimental and Integrative Activities, Computer and Information Science and Engineering 2000 -- 02  
Acting Chief Scientist, Computer and Information Science and Engineering, 1986  
Deputy Director, Division of Computer Research, Mathematics and Physical Sciences 1985 -- 86  
Program Director, Networking, Office of Advanced Scientific Computing, Office of the Director 1984 -- 85  
Program Manager, CSNET, Div. of Computer Research, Mathematics and Physical Sciences 1982 -- 85  
Program Director, Coordinated Experimental Research, Div. of Computer Research, Mathematics and Physical Sciences 1980 -- 85  
Program Director, Special Projects, Computer Science Section, Mathematics and Physical Sciences 1980 -- 83  
Program Director, Theoretical Computer Science, Computer Science Section, Mathematics and Physical Sciences 1976 -- 78

**CS CUBED GROUP LLC Silver Spring, MD**

Affiliated Senior Consultant 2003 --

**APPLIED COMPUTING SYSTEMS INSTITUTE OF MASSACHUSETTS, Inc.**

(ACSIOM, Inc.) Amherst, MA [a 501c(3) Technology-Transfer Affiliate of the University of Massachusetts]

Founder, President, Chairman of the Board and CEO, 1988 -- 2000

**Laboratoire de Recherche en Informatique, UNIVERSITE DE PARIS-SUD, Orsay, France**

Professeur Visite', 1992 -- 93

**Department of Computer Science, GEORGETOWN UNIVERSITY, Washington, DC**

Adjunct Research Professor, 1985 -- 86

**Department of Electrical Engineering and Computer Science, UNIVERSITY OF CALIFORNIA AT BERKELEY, Berkeley, CA**

Visiting Professor, 1984 -- 85

**Department of Electrical Engineering, THE GEORGE WASHINGTON UNIVERSITY, Washington, DC**

Lecturer, 1980

**Center for Software and Systems, NATIONAL BUREAU OF STANDARDS, Gaithersburg, MD**

Manager, Software Engineering Group, 1979 -- 80  
Computer Scientist, 1978 -- 80

**Department of Mathematics, Computer Science, and Statistics, THE AMERICAN UNIVERSITY, Washington, DC**

## William Richards Adrion

Professorial Lecturer, 1978 -- 79

Department of Electrical and Computer Engineering, OREGON STATE UNIVERSITY, Corvallis, OR

Assistant Professor, 1972 -- 78 (on leave 1976 -- 78)

Chair, Computer and Communications Engineering Division, 1973 -- 76

Department of Electrical Engineering, THE UNIVERSITY OF TEXAS AT AUSTIN, Austin, TX

Assistant Professor, 1971-72

Teaching Associate, 1967-71.

Research Scientist II, Electronics Research Center, 1969-1971

Electronic Data Processing Center, HONEYWELL EDP, INC., Waltham, MA

Consultant, 1969-70

Computer Systems Engineer, 1969

## AWARDS AND HONORS

CRA Distinguished Service Award, 2008

UMass College of NSM Outstanding Faculty Award/Service, 2001

Fellow, Association for Computing Machinery, 1997

Fellow, American Association for the Advancement of Science, 1997

ACM/SIGSOFT Distinguished Service Award, 1996

University of Massachusetts Advancement Award, 1996

NSF Special Achievement Award, 1986, NSF Outstanding Performance

Award, 1985, NSF Merit Award, 1980, 1981, 1982, 1983, 1984, NSF

Sustained Superior Performance Award, 1978

DOW/ASEE Outstanding Young Professor, 1974

Sigma Xi

New York Academy of Sciences

Phi Kappa Phi

Who's Who in America, 1994-

American Men and Women of Science, 1978-

## PROFESSIONAL ACTIVITIES

Professional Journals

Founder and Editor-in-Chief, *ACM Transactions on Software Engineering and Methodology*, 1989-95

Editorial Board, *Information Systems Research*, The Institute of Management Science, 1995 - 2006

Professional Societies and Boards

American Association for the Advancement of Science

Chair-Elect, Chair, Outgoing Chair, Section T: Information and Computing Science, 1998-2001

Computing Research Association

Member, Board of Directors, 1987-96

Chair, CRB Election Committee, 1994-96

Chair, CRB Workshop Committee, 1993-96

Member, CRB Steering Committee 1990-93

Chair, CRB Government Relations Committee 1990-92

Member, CRB Government Relations Committee 1993-96

IEEE Computer Society

TC on Database Engineering

TC on Foundations of Computer Science

TC on Software Engineering

## William Richards Adrion

### IEEE Computer Society Education Committee

#### Association for Computing Machinery

Chair, ICSE Steering Committee, 1992-94 [Member, 1989-]  
Chairman, SIGSOFT Annual Meeting Steering Committee, 1988-90  
Member, Executive Committee, SIGSOFT, 1989-91  
Chairman, SIGSOFT, 1985-89  
Vice-Chairman, SIGSOFT, 1981-85  
Chairman, Willamette Valley Chapter, ACM, 1975-76  
Program Chairman, Willamette Valley, ACM, 1974-75  
Editor, Willamette Valley ACM NEWSLETTER, 1973-75  
Member, SIGSOFT, SIGMOD, SIGMETRICS

#### CSNET Executive Committee

Vice Chair, CSNET Executive Committee, 1988-90  
Member, CSNET Executive Committee, 1986-90  
Member, CSNET/BITNET Merger Trans. Team, 1988-89

#### Other Boards and Panels

Member, Networking Research Liaison Council, Internet2, 2001-  
Member, Internet Activities Board, Task Force on Sci. Computing,  
1985-90  
Member, National Academy of Science COSEPUP Panel on  
Information Technology, 1986-88

#### Advisory and Review Committees

##### National Science Foundation

Member, NSF AC/GPRA 2006 – 07  
Member, NSF/CISE Advisory Committee, 1995-98  
Chair, NSF/CISE/EIA Working Group, 1997-98  
Chair, NSF/CISE Committee on CISE Organization, 1995-97  
Chair, NSF/DNCRI Committee of Visitors, 1995-96  
Member, NSF/DNCRI Infrastructure Review Panel, 1995-96  
Chairman, NSF/CISE-CDA Advisory Committee, 1989-92  
Member, NSF/DNCRI NSFNET Advisory Group on Operations and  
Management, 1986-87

##### National Institutes of Health

Ex-Officio Member, Board of Directors, National Library of Medicine  
2000-2002  
Technical Consultant, Advisory Council, National Institute for Neurological  
Disorders and Stroke, 2001-2002

##### National Aeronautic and Space Administration

Chairman, Data Mgmt Subcommittee, NASA CESDIS Review  
Committee, 1990  
Chairman, Software Subcommittee, NASA CESDIS Review  
Committee, 1988

##### Other Advisory and Review Committees

Chair, CSET Review Committee, ISERC, Science Foundation Ireland 2003  
Member, Computing Advisory Committee, Superconducting Super Collider  
National Laboratory, 1990-92  
Member, Review Committee, Advanced Technology Program, Texas  
Higher Education Coordinating, 1988  
Member, Office of Naval Research Visiting Committee for CS, 1986-  
88  
Member, Linked-Systems Project Technical Committee, 1985-87  
Head, U.S. Delegation to the Organization for Economic and Cooperative  
Development Experts Panel on the Software Industry, Paris, France 1983-84  
(on behalf of U.S. Dept. of State)

## William Richards Adrion

### Visiting Committees

Member, University at Albany External Review, 2009  
Member, University of Arizona CS External Review Committee, 2007  
Chair, University of Illinois Chicago, CS External Review Committee and  
Member College of Engineering External Review Committee, 2004  
Chair, University at Stony Brook, CS External Review Committee, 1998  
Member, Univ. of Colorado-Boulder, External Advisory Committee, 1998  
Chair, Michigan State University, CS External Review Committee, 1994  
Member, University of Utah, CS Review Committee, 1992  
Chair, Temple University Provost's CS External Review Committee, 1991  
Member, Univ. of Wisconsin, Milwaukee MS/CS Review Committee, 1991  
Member, Virginia Polytechnic and State Univ. CS Review Committee, 1991  
Member, University of Iowa, CS External Review Committee, 1989  
Chairman, UC Irvine, ICS External Review Committee, 1989  
Member, Univ. of New Hampshire CS External Review Committee, 1987

### Conference Organization

Chair, Plenary Session on Education in the New Millennium, '00, Snowbird  
Conference, 2000  
General Chair, 19th International Conference on Software Engineering, 1997  
General Chair, ACM SIGSOFT Symposium on the Foundations of Software  
Engineering, 1994  
Steering Comm. Co-Chair, 1st MA Technical Conference on  
Telecommunications, 1994  
Chair, Plenary Session on Research Directions, '94 Snowbird Conf.,  
1994  
Organizer, NSF/CRA Workshop on Research Infrastructure, 1991  
Organizer, AAAS Symposium on Strategic Directions in Computing, 1990  
Program Chair, ACM/CRB Conf. on Strategic Directions in Computing, 1989  
Program Committees: ICSE-14(1992), ICSE-15(1993), ICSE-16(1994),  
ICSE-18(1996), SEKE-95, 2nd Mass Telecom R&D/Conference (1996)

## GRANTS AND CONTRACTS

PI, "BPC-AE: Commonwealth Alliance for Information Technology Education  
Extension," \$1,911,928, December 1, 2008 – November 30, 2011, National Science  
Foundation

PI, "REU-Site: A Summer Information TEchnology Research Experience for  
Undergraduates (SITe-REU)," \$299,000 January 1, 2008 – June 30, 2011, National  
Science Foundation

PI, "Commonwealth Alliance for Information Technology Education (CAITE),"  
\$1,914,000, January 1, 2007 – June 30, 2009, National Science Foundation  
(additional supplements: \$99,371.00 and \$20,000.00)

PI, "Ghana Summer School," Microsoft Research Europe €10,000 Gift, no time  
period

PI, "Cooperative Learning Environment for a Multidisciplinary IT Course," Information  
Technology Council \$24,847, April 25, 2006 – June 1, 2007

Co-PI and Co-Director, "Commonwealth Information Technology Initiative, Phase III,"  
Commonwealth of Massachusetts CITI Fund, \$1,000,000. July 1, 2006 – December

William Richards Adrion

31, 2008

Co-PI and Co-Director, "Commonwealth Information Technology Initiative, Phase II," Commonwealth of Massachusetts/Anonymous Donor, \$1,000,000, July 1, 2004-December 31, 2005.

PI, "Creating a flexible undergraduate program in computer science: curriculum, educational technology and pedagogy," National Science Foundation, \$475,894, September 1, 1999-December 31, 2004. Had an additional \$200K in matching, \$45K RET supplement, \$45K in REU supplements. [Jim Kurose was substitute PI for 1/2000-9/2003]

Co-PI, Learning with Distributed Instruction, National Science Foundation, \$373,800, NSF, June 1, 1998-May 31, 2001.

Co-PI, "PARSEC, Platform for Adaptable, Resilient, Safe, and Efficient Configurations," DARPA, \$900,000, January 1, 1998-June 1, 1999.

Co-PI, "NSF Connections: UMass Connection to the vBNS," National Science Foundation, \$350,000 October 1, 1997- September 30, 1999

PI, "Research Infrastructure for Multimedia Systems," National Science Foundation, \$1,400,000 July 1, 1995-June 30, 2000.

PI, "State-Industry University Research in Intelligent Information Retrieval," National Science Foundation, \$7,200,000 July 1, 1992- June 30, 2000 [Bruce Croft became the PI in 1997]

PI, "A Center for Research on Intelligent Real-Time Computation in Complex Systems," National Science Foundation, \$1,800,000 July 1, 1992- June 30, 1996

PI, "Real-Time Computing: Issues and Applications," National Science Foundation, June 15, 1990- February 1, 1996, \$1,627,924

PI, "UMass Pilgrim Project", Digital Equipment Corporation, Hewlett-Packard, others \$8,000,000, June 15, 1989- (\$6M in equipment discounts, \$2,000,000 in gifts, grants and memberships.)

Co-PI, "Testing Techniques for Concurrent and Real-Time Systems," Office of Naval Research, November 1, 1989- October 31, 1991, \$238,000.

PI, "CISE Research Instrumentation (Connection Machine)," National Science Foundation, March 15, 1990 - August 31, 1991, \$273,000

PI, "CISE Research Instrumentation (Utah/MIT Hand)," National Science Foundation, March 15, 1990 - August 31, 1991, \$139,146

PI, "Workshop on Research Issues in Software Engineering," National Science Foundation, February 1, 1988- January 31, 1989, \$27,830.

Co-PI, "Testing Techniques for Concurrent and Real-Time Systems," Office of Naval

William Richards Adrion

Research, November 1, 1987- October 31, 1989, \$220,000.

## SELECTED PUBLICATIONS AND PRESENTATIONS

"Broadening Participation: a Community College Strategy," *Tapia Celebration of Diversity in Computing 2009* [with Renee Fall]

"Whiteboard Content Extraction and Analysis for the Classroom Environment," IEEE International Workshop on Multimedia Technologies for E-Learning (MTEL), will be published in the *Proceedings of the IEEE International Symposium on Multimedia*, Berkeley, December 2008 [with Paul E. Dickson and Allen R. Hanson]

"Automatic creation of indexed presentations from classroom lectures," *Proceedings of the 13th Annual Conference on Innovation and Technology in Computer Science Education ITiCSE'08*, Madrid, Spain, June 30 - July 02, 2008 [with Paul E. Dickson and Allen R. Hanson]

"Automatic Capture And Presentation Creation From Multimedia Lectures," *Proceedings of the Frontiers in Education Conference (FIE2008)*, Saratoga Springs, October 2008 [with Paul E. Dickson and Allen R. Hanson]

"Broadening Participation In Computing: K12-Community-College-University-Graduate Pathways," *Proceedings of the Frontiers in Education Conference (FIE2008)*, Saratoga Springs, October 2008. [with Sharon Biskup, Deborah Boisvert, Lori Clarke, Jane Fountain, Priscilla Grocer, Sue Mackler, Alan R. Peterfreund, Kenneth A. Rath, Adrienne Smith, Dianne D. Snyder and Alana Wiens]

"Evolution of a cross-platform, multimedia courseware presentation system," submitted to the *ACM Transactions on Internet Technologies* [with Byron Wallace, Ken Watts, Irene Ros, Paul Dickson, Wayne Burleson, Wendy Cooper]

"Commonwealth Information Technology Initiative," presented to the Massachusetts State Legislature, House (3/8/07), Senate (3/28/07)

"Commonwealth Alliance for Information Technology Education" presented at the NSF BPC PI meeting, Boulder CO, May 13-15, 2007

"Automatic Capture of Classroom Activities," UMass Instructional Technology Conference, April 5, 2007 [with Paul Dickson and Allan Hanson]

"Automatic identification and storage of significant points in a computer-based presentation," in *International Journal on Interactive Technology and Smart Education* Volume: 4 Issue: 1 Page: 43 – 53, 2007 [with Paul Dickson and Allan Hanson]

"Automatic Capture of Significant Points in a Computer-Based Presentation," to be presented at the 2006 IEEE International Workshop on Multimedia Technologies for E-Learning (MTEL) San Diego December 2006 In the Proceedings of the IEEE International Symposium on Multimedia [with Paul Dickson and Allan Hanson]

“Applying Information Technology To Improve Teaching And Learning In An African University,” In the *Proceedings of the Frontiers in Education Conference (FIE2006)*, San Diego, October 2006 [with Daniel Obuobi and Ken Watts]

“Research in Presentation Production for Learning Electrically,” submitted to *IEEE Transactions on Education*. [with Wayne Burleson, Wendy Cooper, Jim Kurose, Ken Watts]

“Using Multimedia To Support Research, Education and Outreach in an NSF Engineering Research Center,” in the Proceedings of the Frontiers in Education Conference (FIE2005), Indianapolis, IN, November 2005. [with Byron Wallace, Wayne Burleson, Wendy Cooper, James Cori and Kenneth Watts]

“Assessing Supplemental Courseware in an IT Fluency Course,” in the *Proceedings of the Frontiers in Education Conference (FIE2005)*, Indianapolis, IN, November 2005. [with Glenn Caffery and Kenneth Watts]

“Supporting Constructivist Learning in a Multimedia Presentation System,” in *Proceedings of the Frontiers in Education Conference (FIE2004)*, Savannah, GA, October 2004. [with Dula Kumela and Ken Watts]

“Extending Record and Playback Technologies to Support Cooperative Learning” in *Proceedings of the Frontiers in Education Conference (FIE2004)*, Savannah, GA, October 2004. [with Esha Ray and Ken Watts]

“Information Technology Across the Curriculum” presented at the 2004 Computing Research Association Snowbird Conference, July 2004 [with Glenn Caffery and William L. Israel]

“A Multimedia Virtual Classroom,” *Proceedings of the International Conference on Information Communications Technologies in Education (ICICTE-04)*, Samos, Greece, July 2004. [with James Kurose, Edward Riseman and Zhigang Zhu]

“EXCITE: Enabling X--Campus Information Technology Education,” *Proceedings of the Frontiers in Education Conference*, November 2003 [with Wayne Burleson, Wendy Cooper, William L. Israel, James Kurose, and Kenneth Watts]

“Trends in Research Funding,” CRA Snowbird Meeting, Snowbird, July 2002 “New Initiatives in Learning Technologies,” EU-NSF Learning Grid Workshop, Sintra Portugal, May 2002

“Digital Government and Governance,” Keynote Address, Symposium on the Future of Citizen and Government Interaction in the Information Age, College Station, Texas, October 7-9, 2001

“New Initiatives in Learning Technologies,” World Conference on Computers in Education, Copenhagen, July 2001

“Biology and Information Technology: A Strategy for Organizing NSF Programs,” International Joint Conference on Neural Networks, July 2001



"Biological Information Technology," *Proceedings of the DOE/NSF Workshop on Biological Information Technology*, January 2001 (with Frederica Darema and James Hickman)

"Cyberseminar: An audiovisual, interactive web-based approach to continuing education for nutrition practitioners," *Proceedings of The 128th Annual Meeting of American Public Health Association*, November, 2000, Boston, MA (with Nancy L. Cohen, Mary Jane Laus, David Hart, Cindy Stein, Wendy Cooper, and Morton Sternheim)

"Developing and Deploying Software Engineering Courseware in an Adaptable Curriculum Framework," *Proceedings of ICSE-2000*, Limerick, Ireland, June 2000

"Multimedia Courseware (MANIC) in the classroom and at a distance," 2000 UMass Instructional Technology Conference, April, 2000 (with Wayne Burleson, Wendy Cooper, Jim Kurose, Kimberly Marcello, Jitendre Padhye, Mia Stern, and Gary Wallace)

"CyberSeminar: An Interactive Web-based Approach to Continuing Education for Professionals," UMass Instructional Technology Conference, April, 2000 (with Nancy L. Cohen, David Hart, Morton Sternheim, Mary Jane Laus, Cindy Stein, Wendy Cooper, and Patricia Beffa-Negrini)

"Report on the IT Workforce Workshop," October, 1999 (with Kevin Aiken, Leslie Ball, Wendy Cooper, Stephen Demski, Joseph Goldstein, Stephen Levey, Rachel Llewellyn, Charles Schweik, and Joan Stoia)

"Experience with Multimedia for Asynchronous Learning," 1999 UMass Instructional Technology Conference, April, 1999 (with J. Kurose, J. Padhye, M. Stern, and G. Wallace)

"Experience with Multimedia for Asynchronous Learning," UMass Instructional Technology Conference 98 (with James Kurose, Jitendre Padhye, Mia Stern, and Gary Wallace)

"MANIC," Third International Conference on the Learning Sciences (with James Kurose, Jitendre Padhye, Mia Stern, and Gary Wallace)

"A three-pronged strategy for technology creation, transfer and absorption', in Levine, L., (Eds.), *Diffusion, transfer and implementation of information technology*," Elsevier Science BV, Amsterdam, pp. 309-320.. (with P. McOwen).

"From Discipline in Crisis to Mature Science: Evolving Needs for Computing Research Infrastructure", *IEEE Computer*, December 1992. (with E. Lazowska and A. van Dam)

"Research Methodology in Software Engineering," *Proceedings of the First Dagstuhl Seminar on Future Directions in Software Engineering*, February, 1992 Schloß Dagstuhl (included in Tichy, W.F., Hackerman, N., and Prechelt, L., "Future

Directions in Software Engineering, Summary of the 1992 Dagstuhl Workshop," ACM *SIGSOFT Software Engineering Notes*, Nov., 1993)

"From Basic Research in Computer Science to the Marketplace", *Industry and Higher Education*, Vol.5, No. 1 (1991) (with J. Chernoff and P. McOwen).

"Government Policy and Planning", *Strategic Directions in Computer Science Research*, Peter Wegner, Ed., ACM Press, 1990.

"From Basic Research in Artificial Intelligence to the Marketplace", *Proceedings of the Grenoble Conference*, Grenoble, October, 1990 (with J. Chernoff and P. McOwen)

"Directions in Software and Systems Research", *Proceedings of the American Association for the Advancement of Science Annual Meeting*, New Orleans, November, 1989

"Strategic Directions in Computing Research", *Proceedings of the American Association for the Advancement of Science Annual Meeting*, New Orleans, November, 1989

"Testing of Concurrent and Real-Time Systems", *Proceedings of the ONR Workshop on Testing, Analysis and Verification*, San Diego, August 1989. "Communication and Reuse in CAD Systems: Data Model Issues", *Proceedings of the ACM SIGMOD/SIGSOFT SCAD Workshop*, Napa, CA, February 1989.

"Information Technology and the Conduct of Science" *Science* Vol. 239, 1988.

"Trends in National Science Foundation Funded Research and Their Impact on Software Engineering Education," *Software Engineering Education: the Educational Needs of the Software Community*, N. Gibbs and R. Fairley, Eds., Springer-Verlag, Berlin, 1987. (with B. Barnes)

"Observations on Developing Networks to Support Scientific Research," in *Pacific Computer Communications*, K. Kim, K. Chon, C.V. Ramamoorthy, eds., North Holland, Amsterdam, 1986.

"Computer Networking for Scientists," *Science*, vol. 231, no. 4741, February 28, 1986. (with D. Jennings, L. Landweber, I. Fuchs, and D. Farber). Reprinted in the *Educom Bulletin*, Vol.21, No.2, Summer 1986 and in *BIT* (in Japanese), Vol.19, No.2, February, 1987.

"Enhancing the Scientific/Engineering Workbench Through Access to National Supercomputing Resources," *Proceedings of the First International Conference on Supercomputing Systems*, St. Petersburg, December, 1985. (with D. Farber and L. Landweber)

"Multiple Inheritance in CAD Data Models," *Proceedings of the Third International Workshop on Software Specification and Design*, London, August 1985.

"SCIENCENET: A Report on the Evolution of a National Supercomputer Access Network. Report to NSF Advisory Committee on Supercomputers and Networking, December 1984. (with D. Farber, F. Kuo, L. Landweber, D. Nagel, and J. Wyatt)

"Stimulating Software Engineering Progress," *ACM Software Engineering Notes*, vol. 8, no. 2, April, 1983 (with J. Musa, et al).

"Funding for experimental computer science." *Proceedings of the 1983 ACM Annual Computer Science Conference*, pp. 4-5 (with L. Druffel, S. Matsa and R. Ritchie)

"Validation, verification, and testing of computer software," *ACM Computing Surveys*, Vol. 14, No. 2, June, 1982 (with M. Branstad and J. Cherniavsky). (version also appeared as NBS Special Publication 500-75; translated and republished in Japan; excerpted and republished in Sweden; and included in *Software Quality Assurance: A Practical Approach*, T. S. Chun, Ed., IEEE Press(EH0223-8), 1985)

"NBS Programming Environment Workshop," *ACM Software Engineering Notes*, vol. 6, no.4, (editor with M.Branstad). (version also appeared as NBS Special Publication 500-78)

"High level language programming environments," *ACM SIGSOFT Software Engineering Notes*, Volume 6, Issue 4 (August 1981) (with Marvin Zelkowitz, Terry Straeter, Alfred Aho, Daniel Bobrow, Thomas Cheatham, John Cherniavsky, Susan Gerhart, Gordon Lyon, John Nestor)

"A view of software development support systems," in *Proceedings of the National Electronics Conference*, vol. 35, National Engineering Consortium, Oakbrook, October 1981 (with M. Branstad and J. Cherniavsky).

"NBS Programming Environment Workshop" in *ACM Software Engineering Notes*, vol. 6, no.4, (editor with M.Branstad). (version also appeared as NBS Special Publication 500-78)

"Validation, verification, and testing for the individual programmer," in *IEEE Computer* vol. 13, no. 12, December 1980. (with M. Branstad and J. Cherniavsky). (version also appeared as NBS Special Publication 500-56 and is included in *Structured Testing*, T. J. McCabe, ed., IEEE Press (AA452), October 1982)

"The role of programming environments in software quality assurance," *Proceedings of the National Electronics Conference*, vol. 34, National Engineering Consortium, Oakbrook, October 1980 (with M. Branstad and J. Cherniavsky)

"The role of automated tools in software validation and verification," *ORSA/TIMS Bulletin*, no. 10, September, 1980.

"The role of testing tools and techniques in the procurement of quality software and systems," *Proceedings of the Thirteenth Annual Asilomar Conference on Circuits, Systems, and Computers*, November 1979. (with M. Branstad and J. Cherniavsky).

"A model for the design and analysis of distributed real-time digital systems," *Applications and Research in Information Systems and Sciences*, D. Lainiotis and N. Tzannes eds., Hemisphere Publishing Company, Washington, 1977.

William Richards Adrion

"Analysis and decomposition of complex real-time processes with a real-time schemata model," in *Proceedings of the 1976 International Telemetry Conference*, September 1976. (with P. Frick and S. Szulewski).

"Real-time schemata," *Proceedings of the Ninth Annual Asilomar Conference on Circuits, Systems, and Computers*, November 1975.

"Analysis of real time systems: an information theoretic approach," *Proceedings of the 13th Annual Allerton Conference on Circuits and Systems Theory*, October 1975. (with P. Frick and P. Szulewski)