MELVIN RAY MERCER

Independent Consultant
and
Professor Emeritus
Department of Electrical and Computer Engineering
Texas A & M University

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	Dallas, TX 75230	**CELL:**	(979) 676-3109
		FAX:	(866) 769-1967
		EMAIL:	ray@rmercer.com

EDUCATION: The University of Texas at Austin, Ph.D., 1980
Stanford University, MS, 1971
Texas Tech University, BS, 1968

PROFESSIONAL REGISTRATION: Texas #62016

ACADEMIC POSITIONS:

Texas A & M University, Professor Emeritus, 2006
Texas A & M University, Professor and Chair Holder, 1/95-9/2005
University of Texas at Austin, Professor, 9/91-12/94
University of Texas at Austin, Associate Professor, 9/87-8/91
University of Texas at Austin, Assistant Professor, 1/83-8/87
University of Texas at San Antonio, Lecturer, 1977-80

OTHER PROFESSIONAL EXPERIENCE:

Independent Consultant for Mercer and Associates, Inc., Dallas, TX 1984-present
Member of Technical Staff, Bell Laboratories, Murray Hill, NJ, 1980-83
Member of Technical Staff, Hewlett-Packard Laboratories, Palo Alto, CA, 1973-77
Research/Development Engineer, GTE Sylvania, Mountain View, CA, 1968-73
    (in 2000, GTE merged with Bell Atlantic to form Verizon)

CONSULTING:

Hale and Dorr, Boston, Massachusetts, Intel, 2001
Fulbright and Jaworski, Houston, TX, Emachines, 1999-2000
Akin, Gump, Strauss, Hauer & Feld, 2000
Harris Corporation, Melbourne, FL, 1999-2001
SigmaTel, Austin, TX, 1999-2000
Martin Gruppen, Denmark, 1999
AT&T, Inc., Murray Hill, NJ, 1995-98
Sematech, Inc., Austin, TX 1994
Teradyne, Inc., Boston, MA, 1993-94
Integri-Test Corp., Commack, NY 1993
Spectrum Information Technologies, Dallas, TX 1993
Motorola Semiconductor, Austin, TX, 1987-88, 1991-99
Rockwell International, Newport Beach, CA, 1991, 1995
Teltech Resource Network, Minneapolis, MN, 1986-93
Cimflex Teknowledge, Pittsburgh, PA, 1989-90
IBM, Inc., Austin, TX, 1984, 1988-90

MCC, Austin, TX, 1989
CBS, New York, NY, 1985-86
Harris Data Communications Inc., Dallas, TX, 1984-86
Cellular Technology, Inc., Lubbock, TX 1985 - 87
Attorney General's Office, State of Texas, Austin, TX, 1984
Lockheed Missiles and Space Company, Austin, TX, 1983
Rothe Development Company, San Antonio, TX, 1979

TECHNOLOGY BASED BUSINESS EXPERIENCE:

Founder, Technical Advisor, and Owner of Conference Management Services, Inc., 1993 – 2013
Technical Advisory Board Member, Test Systems Strategies, Inc., Beaverton, OR, 1988-93
Advisor and Survey Developer, IBM, Inc., Austin, TX, 1988-90
Advisor, Early Cellular Telephone Minority Carriers, Lubbock, Texas, 1983 - 1987

HONORS AND AWARDS:
National and International:
Fellow of the Institute of Electrical and Electronics Engineers, 1994
National Science Foundation -- Presidential Young Investigator, 1986
Best Paper Award, VLSI Test Conference, Dana Point, CA, 1999
Best Paper Award, Design Automation Conference, San Francisco, CA, 1991
Best Paper Award, International Test Conference, Philadelphia, PA, 1982
Best Paper Award, Honorable Mention, Int. Test Conference, Washington, DC, 1988
Texas Tech Electrical Engineering Academy, Lubbock, Texas, 1999
Who's Who in America, 48th, 49th, 50th, 63rd, 67th and 69th Editions, 1994, 1995, 1996, 2009, 2012 and
    2015
Who's Who in America, Millennium Edition, 2000
Who's Who in America, 56th, 58th, and 59th Editions, 2002, 2004, and 2005
Who's Who in American Education, 3rd Edition, 1992-1993
Who's Who in America Finance and Industry, 31st Edition, 1999
Who's Who of Emerging Leaders in America, 7th Edition, 1990 & 1992
Who's Who in Science and Engineering, 3rd, 4th, 7th, 9th & 10th Editions, 2003-2009
Who's Who in the South and Southwest, 21st, 22nd, 23rd, 24th, 37th, 38th, 40th & 41st Editions,
    1988, 1990, 1992, 1995, 2011, 2012, 2013, 2014, & 2015
Who's Who in the World, 10th, 11th, 17th, and 21st Editions, 1991, 1992, 2000 & 2004
Meritorious Service Award, IEEE Computer Society, 1993
Faculty Nominator and Advisor for Jennifer Dworak – Recipient of a National Science Foundation
        Graduate Research Fellowship 2000 – 2003
Co-Author and Advisor for Jennifer Dworak and Amy Wang – Recipient of the "IEEE Test Technology
        Technical Council Naveena Nagi Award for 2004" presented in Napa Valley, California

Local:
Computer Engineering Chair in Electrical Engineering, A&M, 1995-2005
Faculty Nominator and Advisor for Jennifer Dworak – Recipient of The Ethel Ashworth-Tsutsui
        Memorial Award for Graduate Student Research 2002
Texas A&M Outstanding Masters Thesis Award: Jennifer Dworak, 1999-2000
Listed in the Texas A&M Center for Teaching Excellence 2002 Eagle Award Booklet, May 3, 2002
Temple Foundation Endowed Professorship #3 in Engineering, UT, 1991-94
Engineering Foundation Endowed Faculty Fellowship in Engineering, UT, 1990-91
Werner W. Dornberger Centennial Teaching Fellowship in Engineering, UT, 1984-90
Engineering Foundation Faculty Award, UT, 1986
Outstanding Doctoral Dissertation: Honorable Mention, T. E. Kirkland, UT, 1986-87
MCC Sponsored Outstanding Student Paper Award: Bill Underwood, 1991-92
High School Valedictorian

PROFESSIONAL SOCIETIES AND ACTIVITIES:

Government:

National Science Foundation Advisory Committee for Microelectronic Information
Processing Systems (MIPS), 1987-88
National Science Foundation Engineering Initiation Awards Evaluation Panel Member
—Design, Tools and Test Program, 1987 and 1993
National Science Foundation Advisory Workshops
Future of Testing and Design for Testability, June 30, 1989
Future of VLSI and Computer-Aided Design, October 15-16, 1992
Presentation to the Texas State Board of Registration for Professional Engineers on
Computer Engineering and suitable criteria for registration, 1985

Journals and Archival Publications:

Guest Editor, Special Issue on Design for Testability, *IEEE Design and Test of Computers*, October, 1986
Editor, Design for Testability, *IEEE Design and Test of Computers*, 1985-88
Guest Editor, *IEEE Transactions on Computer-Aided Design of Circuits and Systems,* 1988
Guest Editor, Special Issue on 1989 International Test Conference, *IEEE Design and Test of Computers,*
April 1990.
Editorial Board Member, *Journal of Electronic Testing: Theory and Applications,* 1990-92
Editorial Advisory Board, *Microelectronics Journal: Circuits and Systems*, 2000 – 2003

Conferences and Workshops:

Finance Chair, Third IEEE Workshop on Microprocessor Test and Verification, (MTV'02), 2002
Program Committee, Ninth IEEE International Test Synthesis Workshop, (ITSW), 2002
Program Committee, Second IEEE Workshop on Microprocessor Test and Verification, (MTV 99), 1999
Exhibits Chairman, Fault-Tolerant Computing Symposium 1994
Planning Chairman, International Test Conference, 1992-93
Marketing Vice-Chairman, International Test Conference, 1990
Program Chairman, International Test Conference, 1989
Program Vice-Chairman, International Test Conference, 1988
Steering Committee, International Test Conference, 1987-93
Program Committee, International Test Conference, 1986-89
Program Committee, IEEE Design for Testability Workshop, 1988-96
Program Committee, International Conference on Computer-Aided Design, 1987
Program Committee, First MCC-University Research Symposium, Austin, TX, 1987

Local Offices:

Vice-Chairman, Central Texas Chapter, IEEE Computer Society, 1983-85
Chairman, Central Texas Chapter, IEEE Computer Society, 1985-86

Memberships:

Institute of Electrical and Electronics Engineers (IEEE), Fellow 1994, Life Member 2012

TEXAS A & M UNIVERSITY COMMITTEE ASSIGNMENTS:

City/County Committees:

Bryan/College Station Economic Development Group
Marketing Committee for the Information Technology Task Force, 1999

University Committees:

Search Committee -- Associate Provost for Information Technology, 1997-99
Research Infrastructure Committee, 1998-99

College of Engineering Committees:

Computer Engineering Committee, Chairman, 2002
Tenure and Promotion Committee, 2000 - 2002
Computer Engineering Committee, Chairman, 1996-1999
Chair Holders Committee, 1995-
Compaq Liaison Committee 1996-
Computer Science Department Head Search Committee, 1996-98

ABET Review Committee, Computer Engineering, 1995
ABET Review Committee, Computer Engineering, Chair, 1998
Ad Hoc Committee to Study the Merger of the CS and EE Departments, 1996
PAM Advisory Committee, 1995-96
Spencer J. Buchanan Professorship Review Committee, 1997

Departmental Committees:

Computer Engineering Area Leader, 1995-present
Faculty Search Committee for the Computer Engineering Group, Chairman, 1995-present
Teaching Assignments for the Computer Engineering Group, 1995-present
Tenure and Promotion Committee, 1996-98, 2000-02, 2003-2005
Graduate Studies Committee, 1996-present
Faculty Advisory Committee, 1997-99
Strategic Planning Committee, 1998
Search Committee for the Eugene Webb Professorship, 1998-99
Search Committee for the Texas Instruments Jack Kilby Chair in Analog Engineering, 1998-99

UNIVERSITY OF TEXAS COMMITTEE ASSIGNMENTS:

University Committees:

Presentation to the MCC Site Selection Committee, the MCC Fact Finding Committee,
 and the MCC Technology Advisory Board, 1983
Science and Engineering Development Program Review for Dr. Thomas Everhart
 and Dr. Frank Press, National Academy of Sciences, 1984
Parking and Traffic Panel of the General Faculty, 1983-85
Hearing Officer for Faculty Grievances, 1987-88
University Council Representative, 1992-94
University Faculty Senate, 1992-94
 Faculty Governance Committee, 1992-93

College of Engineering Committees:

Scholastic Appeals Committee, 1983-84
Ad Hoc Committee to Prepare a DOD Proposal for a Software Engr. Institute, 1984
State Agency Research Forum Speaker, May 10, 1984
Continuing Engineering Studies Committee, 1984-85
Ad Hoc Committee on Microelectronics and Computer Engineering, 1983-85
Presentation to Heads of State Agencies and Selected Federal Personnel, 1985
Computer Committee, 1985-86
GEC Faculty Meritorious Service Award Committee, 1987
Presentation to Industrial Representatives Research Forum, April 30, 1987
Undergraduate Degree Program Evaluation, 1986-88
Continuing Engineering Studies Committee, 1986-88
Televised Instruction Committee, 1987-91
Briefing for AT&T Visitors, November 21, 1991

Departmental Committees:

Committee on CAD/CAM and Advanced Graphics, 1983
Chairman, MCC Graduate Fellowships Recruiting Poster Committee, 1984
Microelectronics and Computer Engineering Research Support Committee, 1984
Chairman, Computation, Word Processing, and Telecom. Committee, 1984-85
Chairman, Industrial Liaison Committee, 1985-86
Computation, Word Processing, and Telecommunications Committee, 1985-86
Equipment Committee, 1984-86
ABET Accreditation for ECE in Computer Engineering (Site Visit), 1987
VLSI Course Area Committee, 1986-87
Chairman, Local Area Network Committee, 1987-88
Search Committee for New ECE Chairman, 1988-89
ECE Visiting Committee, 1989-90

Chairman, Annual Research Review Committee, 1988-92
Graduate Student Recruitment at Stanford University, January 1992
Alumni Committee 1992-93
Computer Engineering Research Center Executive Committee, 1988-93
Computer Sciences Liaison, 1988-93
Digital Systems Course Area Committee, 1988-93
Chairman, Teaching Effectiveness Committee, 1991-94
Budget Council, 1991-94
Computer Engineering Representative to the ECE Area Committee 1993-94
Junior Faculty Recruiting Committee, Computer Engineering, 1985-94

PUBLICATIONS:
Refereed Conference and Archival Journal Publications:

M. R. Mercer and V. D. Agrawal, "A Novel Clocking Technique for VLSI Circuit Testability," *IEEE Journal of Solid-State Circuits*, Vol. SC-19, April 1984, pp. 207-212.

K. S. Hwang and M. R. Mercer, "Derivation and Refinement of Fanout Constraints to Generate Tests in Combinational Logic Circuits," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, October 1986, pp. 564-572.

T. Kirkland and M. R. Mercer, "Automatic Test Pattern Generation Algorithms," *IEEE Design and Test of Computers*, June 1988, pp. 43-55.

E. S. Park, M. R. Mercer, and T. W. Williams, "A Statistical Model for Delay-Fault Testing," *IEEE Design and Test of Computers,* February 1989, pp. 45-55. { NSF, ONR}

D. E. Ross, K. M. Butler, and M. R. Mercer, "Exact Ordered Binary Decision Diagram Size When Representing Classes of Symmetric Functions," *Journal of Electronic Testing: Theory and Applications*, vol. 2, no. 3, August 1991, pp. 243-259. { NSF}

E. S. Park, M. R. Mercer, and T. W. Williams, "The Total Delay Fault Model and Statistical Delay Fault Coverage," *IEEE Transactions on Computers*, vol. 41, no. 6, June 1992, pp. 688-698. { NSF, ONR}

E. S. Park and M. R. Mercer, "An Efficient Delay Test Generation System for Combinational Logic Circuits," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, vol. 11, no. 7, July 1992, pp. 926-938. {NSF, ONR, TATP}

R. Kapur and M. R. Mercer, "Bounding Signal Probabilities for Testability Measurement Using Conditional Syndromes," *IEEE Transactions on Computers*, vol. 41, no. 12, December 1992, pp. 1580-1588. { NSF, ONR, SRC}

M. Heap and M. R. Mercer, "Least Upper Bounds on OBDD Sizes," *IEEE Transactions on Computers*, accepted for publication, July 1993.

C. Oh and M. R. Mercer, "Efficient Logic-Level Timing Analysis Using Constraint-Guided Critical Path Search," *IEEE Transactions on VLSI*, September 1996. {ONR}

J. Dworak, J. Wicker, S. Lee, M. R. Grimaila, K. M. Butler, B. Stewart, L-C. Wang, and M. R. Mercer, "Defect-Oriented Testing and Defective-Part-Level Prediction," IEEE *Design and Test of Computers*, January-February, 2001, Vol. 18, No. 1, pp. 31 - 41. {SRC, NSF, TATP}

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