Michael R. Lightner

University of Colorado
College of Engineering and Applied Science
425 UCB
Senior Engineering Consultant, Coleman Institute for Cognitive Disabilities, July 2002 – 2004
Associate Executive Director, Coleman Institute for Cognitive Disabilities, March 2001 – July 2002
Interim Director, Coleman Institute for Cognitive Disabilities, February 2001

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Present position:

Chair, Department of Electrical and Computer Engineering, 2006- Present
Professor (by courtesy), Department of Computer Science
Professor (by courtesy), Department of Rehabilitation Medicine, UCHSC
Co-Director of the RERC-ACT NIDRR-funded Research Center
Technical Director, BDW (Boulder Digital Works)
Fellow, Univ. of Colorado Center for the Integrative Study of Work

Education:

Ph.D. in Electrical Engineering from Carnegie-Mellon University, 1979
M.S Electrical Engineering from the University of Florida, 1974
B.S. with high honors Electrical Engineering from University of Florida, 1972

Professional Experience:

University of Colorado System

University of Colorado, Boulder

- Associate Dean for Special Projects, College of Engineering, 2000 - 2001
- Associate Dean for Academic Affairs, College of Engineering, 1997 - 2000
- Professor, Electrical and Computer Engineering July 1989 - present.
- Associate Professor, Electrical and Computer Engineering, September 1983 - 1989
- Assistant Professor - Electrical Engineering September 1981 – 1983

Other

- AT&T Bell Labs, Murray Hill, New Jersey, September 1987 - August 1988 (sabbatical year)
- Summer Faculty, Mathematical Sciences Department, IBM Watson Research Center, 1982.
- Assistant Professor - Electrical Engineering - University of Illinois, August 1979 -81
- Research Assistant Professor - Coordinated Science Laboratory, August 1979 - 1981.

Awards:

- Fellow, American Institute of Medical and Biomedical Engineers (AIMBE), 2011
- IEEE CAS Society Golden Jubilee Medal, 2000
- IEEE CAS Society the Third Millennium Medal , 2000
  Elected IEEE Fellow, 1997
- College of Engineering Max S. Peters Faculty Service Award, 1997
- Received the inaugural John and Mercedes Peebles Innovation in Teaching Award, 1996
- Received the College of Engineering Hutchinson Award for Outstanding Teaching, 1995
- Distinguished Service Award from IEEE for Serving as Editor of IEEE Transactions on Computer-aided Design
- Received Best Paper Award at the 1989 Hawaii International Conference on System Sciences for "The Boulder Optimal Logic Design System, co-authored by G. Hachtel, M. Lightner, K. Bartlett, D. Bostick, R. Jacoby, P. Moceyunas, C. Morrison, X. Du, E. Schwarz.
- Received AEA Outstanding Researcher Educator Award for 1987 by the Mountain States Council of the American Electronics Association.
- 1983 NSF Presidential Young Investigator
- Listed in Who's Who in Technology Today.

Department Service – Only Major Activities

- Director of Graduate Studies, Department of ECE, 1989-92
- Department Chair, 2006-present
- Developed a MOU for Research and Education Cooperation between CU and Tongji University in Shanghai. This involved meetings in Tongji with key faculty and administrative leaders. In addition, we hosted 11 Tongji faculty leaders in a one day workshop in Jan 2010 with culminated in VCR Russ Moore signing the joint agreement with the Vice President of Tongji.
- Developed an agreement for a dual MS/PhD program with Fudan University in Shanghai. This involved visiting Fudan and meeting with their faculty and leadership. 2009
- PRP Committee, 2003
- ABET Committee, 2003
- Department Executive Committee, 2003-present
- Director of Graduate Studies, Department of ECE, 1989-92
- A variety of curriculum development activities over the years

College Service – Only Major Activities

- Member, College Administrative Council 2006-present
- Member, College Diversity Committee, 2010-11
- College 2020 Strategic Planning, 2008-09
- Associate Dean for Academic Affairs, 1997-2000
- Associate Dean for Special Projects, 2000-2001
- Acting Associate Dean for Research, 1994
- Review committee for ITP PhD Program, 1993

Campus Service – Only Major Activities

- Faculty liaison for Coursera, 2013, 2014.
- School of Education Dean's Personnel Advisory Committee, 2014
- Member Campus Explortory Committee for ICT, (eventually led to new College of Media, Communication and Information) 2012
- Chair, FTEP Advisory Committee, 2012-present
- Prepared successful Distinguished Professor Nomination for Zoya Popovic, 2011
- VCAA search committee, 2008
- Flagship 2030 Research Excellence Implementation Committee, 2008
- FTEP, Presentations on PowerPoint, 2007-08
- FTEP, advisory board and co-Director Summer Institute, 1996-present
- Dean of Business School Personnel Advisory Committee, 2005-09
- Dean of College of Music Personnel Advisory Committee, 2005-09, 2011-2014
- A&S Dean ad hoc advisory committee, 2005
- IT exploratory committee, (has new name) 2000-01
- BCPC, member 1999-present with two year hiatus, chair in 2001
- Member, Boulder Faculty Assembly, in mid-90's
- CRCW 1992 -93

University Service

- Member, System Task Force for Online Education, 2014
- Co-Chair, President's Task Force on New Technology for Teaching and Learning, 2013
- Chair Privilege and Tenure Committee, 1995-97
- Member, Privilege and Tenure Committee, 1993-97
- System committee to form the Coleman Institute for Cognitive Disabilities 1999-2000
- Chair, Advisory committee Institute for BioEnergetics, headquartered on Colorado Springs Campus, 2002-

Professional Service

ABET

- Member ABET (professional accreditation body) Board of Directors 2009-present, Secretary 2014-2015
- Member ABET Audit committee 2012, chair 2013. In that capacity I authored the new rules and procedure for handling grievances against volunteers
- Served on the ABET governance committee charged with reviewing, for the first time, ABET governance documents.

IEEE

- IEEE Past VP for Edcuational Activites, 2014
- Member, IEEE Strategic Planning Committee, 2014
- Chair, IEEE Humanitarian Committee, 2014 (has a budget of $1M to devote to humanitarian projects worldwide)

- Member, IEEE ad hoc Committee to Develop Goals for the IEEE Executive Director and modify IEEE Bylaws clarifying role of Executive Director (professional staff) and President and CEO (volunteer elected position), 2014
- Chair, IEEE Initiative on Continuing and Professional Education, 2013-14
- Volunteer lead, IEEE Educational Activities in India, 2014
- Chair IEEE Education Activities Nominations and Appointments Committee, 2014
- Member IEEE Conferences Committee, 2012-2013 (concentrates on conference quality)
- Member IEEE Publications Conduct Committee, 2011-2013 – Publications grievance committee
- Serve on the executive committee for the IEEE Testbed on Intercloud Interoperability, 2013-14
- Education Lead for IEEE Cloud Computing Initiative, 2012-present
- IEEE Vice-President for Educational Activities, 2012, 2013
- Served as general co-chair and technical chair of the IEEE Conference on the Future of ICT Education, Beijing. 2012
- Chair, IEEE Committee on Earth Observations, 2011-2013
- Vice Chair for Strategy IEEE Committee on Earth Observations, 2009-2010
- Member IEEE ad hoc on Financial Equity, 2009
- Member IEEE Publications and Products Board, 2009
- Member IEEE Publications Strategic Planning Committee, 2009
- Member IEEE Publications Finance Committee, 2009
- Member IEEE Publications Operations Committee, 2009
- General co-Chair, New IEEE-IBM Conference on Accessibility, 2008-09
- Chair, IEEE Ad hoc Committee to develop a new membership model, 2007-2009
- Chair, IEEE Nominations and Appointments Committee, 2008
- Member, IEEE Nominations and Appointments Committee 2000-1, 2007, 2009, 2014
- Chair, IEEE Infrastructure Oversight Committee, 2007
- Member IEEE Infrastructure Oversight Committee, 2006
- Member IEEE Board of Directors, 1998-99, 2002-07, 2012, 2013
- Past President, IEEE, 2007
- President, IEEE, 2006
- Chair, IEEE Executive Compensation Committee, 2006
- Member, IEEE Executive Compensation Committee, 2005
- President-Elect IEEE 2005
- Member, IEEE Executive Director Search Committee, 2005
- Member, IEEE Strategic Planning Committee, 2003-05
- Member, IEEE New Initiatives Committee, 2004-05, Chair 2005
- IEEE Vice President for Publication Services and Products Board – 2003, 2004
- IEEE Vice President for Technical Activities, 2002, also duties and VP-Elect and Past VP
- Chair IEEE TAB Products Committee 2000 - 2001
- Vice Chair IEEE TAB Society Presidents' Forum Chair 2001
- Member IEEE TAB Finance Committee 2000 - 2001
- Division Director I, IEEE, 1998, 1999
- Member IEEE Tab Management Committee 1997-99
- Member of the IEEE Audit Committee, 1997-99
- Member, IEEE GOLD Committee, 1997-99
- Member of the IEEE Products Committee 1999-01
- Executive Committee, IEEE Design Automation Conference, 1997-99
- Past President, IEEE Circuits and Systems Society, 1997

- President, IEEE Circuits and Systems Society, 1996
- Member IEEE Tab Management Committee 1997-99
- President-Elect, IEEE Circuits and Systems Society, 1995
- Vice President, Technical Activities IEEE Circuits and Systems Society, 1991-93
- General Chairperson, 1993 International Conference on Computer Aided Design.
- Technical Program Chairperson, 1992 International Conference on Computer Aided Design.
- Technical Committee of the European Design Automation Conference, 1993
- Technical Program Chair of IEEE VLSI Winter Workshop, 1992, 1993
- Technical Committee of Winter Simulation Meeting, 1992
- Chair, IEEE Technical Committee on Computer-Aided Network Design (CANDE) 1987-89
- Secretary Treasurer, IEEE Technical Committee on Computer-Aided Network Design (CANDE) 1985-87
- Member Technical Program Committee 1984-1988 International Conference on   Computer Aided Design
- Member, Administrative Committee (AdComm) of the IEEE Circuits and Systems   Society 1984-87.
- Chaired sessions at each ICCAD 1984-1988
- Member International Organizing Committee 1984 European Simulation Meeting.
- Member of Technical Program Committee, 1987 International Logic Synthesis Workshop
- Member of Technical Program Committee, 1989 International Behavioral Synthesis Workshop
- Presented invited tutorial on Modeling and Simulation at 1989 and 1988 Custom   Integrated Circuits Conferences
- Chair for Special Session on Logical Design for VLSI, 1982 ISCAS, April 1982.
- Chair and Organizer for Special Session on Applications of Optimization to Circuit Design, 1981 ISCAS, April 1981.

Editorial Service

- Series Associate Editor on new ACM Journal Transactions on Electrical Design Automation Editor Oxford University Press
- Member ad hoc ACM/SIGMA Committee to found an electronic journal on CAD(TODAES)
- Editor, IEEE Transactions on Computer Aided Design, June 1989-June 1991.
- Associate Editor, IEEE Transactions on Computer Aided Design, June 1986-1989
- Associate Editor, IEEE Circuits and Devices Magazine, 1986-1989
- Series Editor, Saunders Publishing Company - Series in Computer Engineering
- Member Editorial Board of CAD/CAM Abstracts - Bowers Publishing.
- Series Editor, Holt, Rinehart and Winston - Series in Computer Engineering
- Member Editorial Board of CAD/CAM Abstracts - Bowers Publishing.

Additional Service

- Served as external examiner for a promotion to full professor at Hong Kong Polytechnic 2013
- Served as speaker and photography judge for the Flatirons PhotoClub. This includes their annual photo competition. 2013
- Served as the photography judge for the St. Stephens art show. 2013
- President and founding board member of the Baroque Chamber Orchestra of Colorado, 2005-10
- Member of Board and Secretary, Arts and Humanities Assembly of Boulder County, 1993-95. Now Bould County Arts Alliance

Selected Presentations

- Keynote speaker for the 2013 IEEE International Conference on Technology for Education held at IIT-Kharagpur, India. This was a one hour talk on MOOCs and online education. The slides are available on the conference website.
- Co-organizer and main presenter for the five day IEEE Faculty Development workshop in IIT-Ghandinegar, India. My talks focused on pedagogy and the slides are all available on the conference website. 2013
- Gave keynote address for the IEEE Early Career Faculty Development Workshop. Presentation is available on conference website. 2013
- Presented talk on future of engineering education at a engineering dean's meeting in Nairobi, Kenya. 2013
- Presented talk on future accreditation challenges to the ECE Department Heads Association 2012
- Engineering Education Faces New Challenges, Michael Lightner and Moshe Kam, University of Hong Kong Invited lecture. 2012
- Cloud Computing Symposium, Future Challenges of Cloud Computing, Hong Kong Polytechnic University. 2012
- Presented plans for outreach and education for Working Group 4 of the Eye on Earth Summit, sponsored by UNESCO, Abu Dhabi, UAE 2012
- Presented the RERC-ACT activities at the 2012 RESNA conference in Toronto, Canada
- Presented one hour invited talk on the Future of Engineering Education at the College of Engineering of the University of Pretoria, S. Africa. 2012
- Presented a talk on IEEE's role in Continuing Education at the 4th Software Engineering Colloquium (SE12) , Cape Town, South Africa.
- Keynote speaker for the IEEE International Conference on Computational Intelligence and Cybernetics - CYNBERNETICSCOM 2012. This one hour talk was on the application of Machine Learning to Assistive Technology with a review of Machine Learning taking a good portion of the talk.
- Engineering Education Faces New Challenges, Michael Lightner and Moshe Kam, University of Hong Kong Invited lecture. 2011
- Organized and chaired session on Future Challenges in Energy Education at the 2011 ECE Department Heads Association annual meeting.
- Cloud Computing Symposium, Future Challenges of Cloud Computing, Hong Kong Polytechnic University. 2011
- Invited keynote talk on Trends in Cloud Computing Education at the IEEE Cloud Computing Symposium, Hong Kong Polytechnic University 2011
- Was co-chair of the IEEE Conference on the Future of ICT Education. Held in Beijing. I presented a 40 minute keynote on the current trends in engineering education and the challenges for the near future. This talk was presented to 300 attendees including the Microsoft VP of Research. 2011
- Was one of the three keynote speakers at the IEEE Education Conference, TALE, in Hong Kong. This was a 45 minute talk on the current challenges and future of engineering education. This talk was published online. 2011
- Presented specific proposal for GEO activities at the GEO Summit in Geneva on behalf of the IEEE ICEO. 2009
- Presented talk on The future of technology for people with cognitive disabilities to the ATIA (Assistive Technology Industry Association) Leadership Forum and the ATIA Annual meeting in Orlando, October. 2009
- Invited panel member at US Department of Labor workshop on technology for workforce support

for people with disabilities. Presided over by the Assistant Secretary of Labor. 2009
- Presentation on ABET accreditation at first all China Engineering Accreditation Workshop, Beijing, China 2008
- Presentation on Future Challenges in Electrical Engineering Education to the 100th Anniversary of Electrical Engineering Education in China Conference, Xi'an, China, 2008
- Presentation, Assistive Technology: An Emerging Discipline various versions given at the following locations in 2006-08. Quito, Ecuador, Lima, Peru, Xi'an, China, Harbin, China, Chengdu, China, Beijing China, Weizmann Institute, Israel, Andescon conference in Quito, Ecuador, Engineering workshop HangZhou, China, University of South Africa, Johannesburg, University of Pretoria, South Africa, Royal Society of Edinburgh, Scotland, Engineering Student Congress in Lima, Peru, Asia-Pacific Student Congress in Beijing, China, Technology and Family Conference in Dubai, UAE, Popov Society in Moscow, Russia, Engineering in Medicine and Biology Society Chapter in Denver, Colorado, India Institute of Technology, Delhi, India, India Institute of Science in Bangalore, India, IEEE Section meeting in Thailand, IEEE Section meeting in Brazil, Hong Kong Section of IEEE
- Presentation at AAMR annual meeting, June 2002 – "Awareness as the Unifying Metaphor of Current Caregiver Practice and Advances in Technology"
- Keynote speaker, IEEE Asia Pacific Circuits and Systems Society, Seoul, Korea December 1996
- Presented talk at the SASIMI Conference,Japan, December 1996
- Invited talk at Osaka University, OsakaJapan, December,1996
- Invited talk at the University of Hong Kong, April, 1996
- Paper presented at the Frontiers in Education Conference "A Paperless Laboratory for Circuits and Electronics" November 1996
- Presented talk on Validating and Synthesizing Behavioral VHDL Descriptions to research group of Matshushita Electrical in Osaka, Japan, August 1995
- Presented talk on Validating and Synthesizing Behavioral VHDL Descriptions to research Fujitsu Semiconductor, Japan, August 1995
- Presented lecture on "Relationships between semantic models of concurrent systems and parallel Digital Simulation" Computer Science Department, University of Leiden, Leiden, The Netherlands, 1995
- Invited panelist on Future Research Directions for Circuits and Systems at 1989 ISCAS
- Invited talk at Tsinghua University, Beijing, China
- Invited talk at 1st International Conference on Semiconductor Processing and Design, Beijing, China
- Invited Participant at the NATO Advanced Study Institute on Computer Design Aids for VLSI Circuits, Urbino, Italy, July 1980.

Selected Refereed Publications:

- 'The Next Transformation in Electrical and Computer Engineering Education in the United States', Moshe Kam, Drexel, Michael Ligthner, Colorado. To be submitted Summer 2014 to the Proceedings of the IEEE.
- S. Mousavinezhad, E. Schlesinger, M. Lightner, M. Smith, A, Venkata, R, Baheti, B. Sullivan, "Electric Energy and Power Educational Programs Development Workshop", 2011 ASEE conference.
- Engineering Education Faces New Challenges, Michael Lightner and Moshe Kam, NSF Power Education Workshop, Tucson, AZ 2010
- M. Lightner, "Chapter 3. Performance-Yield Trade-Offs in Work in Manufactured and Living Systems: Design Centering Looks at the World of Work" pp. 125-174, Work Meets Life, R. Levin, editor, MIT Press, 2010.
- Fisher, Erik and Lightner, Michael (2009) 'Entering the Social Experiment: A Case for the Informed Consent of Graduate Engineering Students', Social Epistemology, 23: 3, 283 — 300
- Engineering Education Faces New Challenges, Michael Lightner and Moshe Kam, First Chinese International Conference on Engineering Education, Beijing, October, 2009.
- Engineering Accreditation: Challenges and Opportunities, Michael Lightner, First Chinese International Conference on Engineering Education, Beijing, October, 2009.
- Lightner, M.R.; Erdogmus, D.; 'Signal processing challenges in cognitive assistive technology [Exploratory DSP] ', Signal Processing Magazine, IEEE Volume 25, Issue 5, September 2008 Page(s):103 – 108
- Griesbach, J.D.; Lightner, M.R.; Etter, D.M.; 'Mean square error analysis of nonuniform subband adaptive filters for system modeling ', Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and Signal Processing, IEEE Transactions on] Volume 53, Issue 2, Part 1, Feb 2005 Page(s):550 - 563
- Griesbach, J.D.; Lightner, M.R.; Etter, D.M.; 'Constituent subband allocation for system modeling nonuniform subband adaptive filters ', Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and Signal Processing, IEEE Transactions on] Volume 53, Issue 2, Part 1, Feb 2005 Page(s):539 – 549
- " Data Sonification for Detection of Digital Communication Signals in Low SNR Settings", Prof. M. Lightner, K. Arehart, R. Muelheisen, S. Johnson, J. Greisbach, in preparation.
- J.D. Griesbach, M. Lightner, D. Etter, "Subband Adaptive Filtering Decimation Constraints for Oversampled Non-Uniform Filterbanks", IEEE Transactions on Circuits and Systems II, 2002, vol. 49, no. 10, pp. 677-681
- J.D. Griesbach, M. Lightner, D. Etter, "Subband MMSE Bounds for Filterbank Adaptation in Non-Uniform System Modeling Subband Adaptive Filters", ICASSP-01: IEEE International Conference on Acoustics, Speech, and Signal Processing, 2001, vol. 6, pp. 3709-3712
- J.D. Griesbach, M. Lightner, D. Etter, "Spectral Domain (MMSE) Estimators for Non-Uniform System Modeling Subband Adaptive Filters", 34th Asilomar Conference on Signals, Systems, and Computers, 2000, vol. 2, pp. 1489-1493
- " Subband Adaptive Filtering Decimation Constraints for Oversampled Non-uniform Filterbanks", J. D. Griesbach, M. Lightner, and D. M. Etter to appear, IEEE Transactions on Circuits and Systems II – 2003.
- "Virtual Circuit Laboratory", Hess Hodge, H. Scott Hinton, Michael R. Lightner ASEE Journal of Engineering Education, October 2001
- "A Technology-Enhanced Learning Environment for a Graduatae/Undergraduate Course on Optical Fiber Communications," H. Scott Hinton, Roberto Gonzalez, Laura L. Tedder, Sandeep Karandikar, Harpreet Behl, Paul C. Smith, John Wilbanks, James Humphrey, Murray Gordon,

Michael R. Lightner, ASEE Journal of Engineering Education, October 2001

- "The See-Through Building" As an Educational Tool" , Proceedings of the IEEE Special Issue on Electrical and Computer Engineering Education January 2000.
- "Spectral Domain MMSE Estimators for Non-Uniform System Modeling Subband Adaptive Filters," Jacob D. Griesbach, Michael Lightner, and Delores M. Etter in 34th Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, October 29-1, 2000. IEEE.
- "Rationally Decimated Constituent-Based Filterbanks for Subband Adaptive Filters," Jacob D. Griesbach, Michael Lightner, and Delores M. Etter in 34th Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, October 29-1, 2000. IEEE. Originally published in 33rd Asilomar Conference on Signals, Systems, and Computers, 1999
- J.D. Griesbach, M. Lightner, "Rationally Decimated Constituent-Based Filterbanks for Subband Adaptive Filters", 33rd Asilomar Conference on Signals, Systems, and Computers, 1999, vol. 2, pp. 908-911
- "Validating Behavioral VHDL Descriptions"A. Alkar and M. Lightner submitted to ACM Transactions on Design Automation of Electronic Systems - in revision
- "The Influence of Two Level Optimization on the Area and Routability of FSMs Embedded in Lookup Table FPGAs" Proceedings of the 1995 International Workshop on Logic Synthesis, May 1995
- "Behavorial Validation of VHDL" Proceedings of 1995 Sasimi Conference, Nara, Japan, August, 1995. A. Alkar and M. Lightner
- "Technology Independent Estimation of Area and Delay in Logic Synthesis" Q. GI, Y.-S. Oh, M. R. Lightner, and F. Somenzi.   In SASIMI '92 pages 171-180, Kyoto, Japan, April, 1992.
- "Program Restructuring and Parallel Extraction of VHDL for Parallel Simulation, pp. 81-87, B. Vellandi and M. Lightner, Proceedings of 1992 European Design Automation Conference, Brussels March 16, 1992.
- "Periodic Don't Cares and Sequential Synthesis", D. Bostick and M. Lightner Proceedings of the 1991 MCNC Logic Synthesis Workshop.
- "Technology Independent Estimation of Area and De4lay in Logic Synthesis" Q. Ji, Y.-S. Oh, M.R. Lightner, and F. Somenzi.   In SASIMI '92 pages 171-180, Kyoto, Japan, April, 1992.
- "Program Restructuring and Parallel Extraction of VHDL for Parallel Simulation, pp. 81-87, B. Vellandi and M. Lightner, Proceedings of 1992 European Design Automation Conference, Brussels March 16, 1992.
- "Periodic Don't Cares and Sequential Synthesis", D. Bostick and M. Lightner Proceedings of the 1991 MCNC Logic Synthesis Workshop.
- "Technology Independent Estimation of Area and Delay in Logic Synthesis" Q. Ji, Y.-S. Oh, M.R. Lightner, and F. Somenzi.   In SASIMI '92 pages 171-180, Kyoto, Japan, April, 1992.
- "Technology Independent Estimation of Area and Delay in Logic Synthesis" Q. Ji, Y.S. Oh, M. Lightner and F. Somenzi, to appear in Proceedings of Sasimi Conference, April 1992, Kobe, Japan.
- W. G. Bliss and M. R. Lightner, "The Reliability of Large Arrays for MatrixMultiplication with Algorithm-Based Fault-Tolerance," 3rd Workshop on Wafer-scale Integration, co-sponsored by AICA, AEI (Milano), Como, Italy, June 8,1989
- Approximations," in SIAM Conference on Optimization, April 1989.
- W. G. Bliss and M. R. Lightner, "The Reliability of Large Arrays for Matrix Multiplication with Algorithm-Based Fault-Tolerance," 3rd Workshop on Wafer-scale Integration, co-sponsored by AICA, AEI (Milano), Como, Italy, June 8, 1989.
- M. R. Lightner, G. D. Hachtel, R. H. Byrd, M. H. Heydemann, "A Theory and Algorithmic Frame for Switch Level Simulation," Simulation in Research and Development, A. Javor (ed.), Elsevier Science Publishers B.V., (North-Holland).

- G. Colon-Bonet, E. M. Schwarz, D. G. Bostick, G. D. Hachtel, M. R. Lightner, "On Optimal Extraction of Combinational Logic and Don't Care Sets from Hardware Description Languages," IEEE International Conference on Computer-Aided Design, November 6-9, 1989.
- Sazegari, R. Byrd, M. Lightner, "Fast Algorithms for Best Real Rational Approximations," SIAM Conference on Optimization, April 1989.
- W. Bliss, B. Friedlander, and M. R. Lightner, "Numerical Properties of Algorithm Based Fault Tolerance for High Reliability Computation," May 7, 1988, Twenty-second Asilomar Conference on Signals, Systems, and Computers, November 1988.
- M. Lightner and W. Wolf, "Experiments in Logic Synthesis," Proceedings of ICCAD 1988.
- G. Hachtel, M. Lightner, D. Bostick, R. Jacoby, C. Keene, P. Moceyunas, C. Morrison, X. Du, E. Schwarz, "BOLD: The Boulder Optimal Logic Design System," Hawaii International Conference on System Sciences, 1988. Received Best Paper Award.
- D. Bostick, G. D. Hachtel, R. Jacoby, M.R. Lightner, P. Moceyunas, C. R. Morrison, D. Ravenscroft, "The Boulder Optimal Logic Design System," Proceedings of 1987 ICCAD.
- W. Bliss and M. R. Lightner, "The Design of Fault Tolerant Arrays of Integer Arithmetic Multipliers," Proceedings of 1987 ICCAD
- G. D. Hachtel and M. R. Lightner, "Don't Care Conditions in Top Down Synthesis," Proceedings of 1987 ICCAD
- W. Bliss and M. R. Lightner, "The VLSI Complexity of MAP Sequence Estimation," Proceedings, Twenty-first Asilomar Conference on Signals, Systems, and Computers, November 2-4, 1987.
- W. Bliss and M. R. Lightner, "Fault Tolerant Two-Dimensional Arrays for L-U and Q-R Factorization," Proceedings, Twenty-first Asilomar Conference on Signals, Systems, and Computers, November 2-4, 1987.
- W. Bliss and M. R. Lightner, "The VLSI Complexity of Maximum A Posteriori Sequence Estimation," 1988 Maple Press, Asilomar Conference 1987.
- F. Lombardi, M. R. Lightner, and W. K. Huang, "A Prediction and Fitting Method for Evaluating the Fault Coverage of Combinational Circuits Using Random Testing," Proceedings International Test Conference, 1987.
- M. R. Lightner, "Modeling and Simulating VLSI Digital Systems - A Tutorial," Proceedings of the IEEE, Volume 75, No. 6, June 1987, pp. 786-796.
- R. Byrd, G. D. Hachtel, and M. R. Lightner, "Switch Level Simulation, Part I: Theory and Algorithmic Frame," IEEE Transactions on Computer Aided Design.
- G. D. Hachtel, M. R. Lightner, M. R. Faucher, M. H. Heydemann, "Switch Level Simulation, Part II: Bottleneck Shortest Path Algorithm," IEEE Transactions on Computer Aided Design.
- W. Bliss, J. Girard, J. Avery, M. Lightner, and L. Scharf, "A Modular Architecture for Dynamic Programming and Maximum Likelihood Sequence Estimation," Proceedings 1986 ICASSP, April 1986, pp. 357-360
- D. L. Ravenscroft and M. R. Lightner, "Functional Language Extractor and Boolean Cover Generator," IEEE International Conference on Computer Aided Design, November 11-13, 1986, Santa Clara, California, pp. 120-123.
- G. Cortelazzo and M. R. Lightner, ``The Use of Multiple Criterion Optimization for Frequency Domain Design of Non Causal IIR Filters," IEEE Trans. on Acoustics, Speech and Signal Processing, February 1985, Vol. ASSP-33, Vol. 1, no. 1, pp. 126-135.
- M. R. Lightner, H. P. Mueller, B. Vellandi and H. Vellandi, "CSIM: The Evolution of a Behavioral Level Simulator from a Functional Simulator: Implementation Issues and Performance Measurements," Proceedings of 1985 ICCAD, Nov. 1985, Santa Clara, CA.
- V. Pulges and M. R. Lightner, ``Recursive Bipartitioning PLA Placement and Layout," 1984 International Conference on Computer Design.
- Z. L. Mo and M. R. Lightner, ``A Two Parameter Delay Model for Switch Level Simulation,"

1984 International Conference on Computer Design.

- C. T. Bye, M. R. Lightner and D. L. Ravenscroft, ``A Functional Modeling and Simulation Environment based on ESIM and C,'' 1984 International Conference on Computer Aided Design.

- D. E. Hocevar, M. R. Lightner, T. N. Trick, ``An Extrapolated Yield Approximation Techniques for Yield Maximization,'' Fifth International Symposium on Network Theory, September 1984, Sarajevo, Yugoslavia

- D. E. Hocevar, M. R. Lightner, and T. N. Trick,"An Extrapolated Yield Approximation Technique for Use in Yield Maximation," IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, Volume CAD-3, Number 4, pp. 279-287, October 1984.

- D. E. Hocevar, M. R. Lightner, and T. N. Trick,"An Extrapolated Yield Approximation Technique for Use in Yield Maximation," IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, Volume CAD-3, Number 4, pp. 279-287, October 1984.

- G. Cortelazzo and M. R. Lightner, "Simultaneous Design in Both Magnitude and Group-Delay of IIR and FIR Filters Based on Multiple Criterion Optimization," IEEE Transactions on Acoustics, Speech, and Signal Processing, Volume ASSP-32, No. 5, October 1984, pp 949-967.

- G. Cortelazzo and M. R. Lightner, "On the Design of Digital Filters with Monotonic Transition Regions Using 'Don't Care' Bands," Transactions of Illinois Academy of Sciences, Volume 77, 3 and 4, 1984, pp. 261-270.

- D. E. Hocevar, M. R. Lightner, and T. N. Trick, ``A Study of Variance Reduction Techniques for Estimating Circuit Yield,'', Vol. CAD-2, no. 3, IEEE Trans. on CAD of Integrated Circuits and Systems, pp. 180-191, July 1983.

- D. Hocevar, M. R. Lightner and T. Trick, ``A Study of Variance Reduction Techniques for Estimating Circuit Yields,'' Proceedings of 1983 IEEE International Symposium on Circuits and Systems, May 1983.

- D. Hocevar, M. R. Lightner and T. Trick, ``Monte Carlo Based Yield Maximization with a Quadratic Model,'' Proceedings of the 1983 IEEE International Symposium on Circuits and Systems, May 1983.

- G. Cortelazzo and M. R. Lightner, ``Simultaneous Design in Both Magnitude and Group-Delay of IIR and FIR Filters: Problems and Results,'' Proceedings of the 1983 IEEE International Conference on Acoustics, Speech and Signal Processing, May 1983.

- G. Cortelazzo, M. R. Lightner, and W. K. Jenkins, ``An Alternate Technique for Min-Max Design of Multiband Finite Impulse Response Digital Filters, Journal of Circuits, Systems, Signal Processing, Vol. 2, no. 3, 1983.

- M. R. Lightner and G. Cortelazzo, ``Multiple Objective Design of Digital Filters,'' 1982 IEEE International Conference on Acoustics, Speech, and Signal Processing, Paris, May 1982.

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