

# Curriculum Vita

Alan Mickelson  
Electrical and Computer Engineering  
University of Colorado  
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## Employment, Education, Honors

### Professional Preparation :

Ph.D., Electrical Engineering (subject minor in Physics), June 1978  
California Institute of Technology, Pasadena, California 91125  
Thesis Title: "Electromagnetic Wave Propagation in Almost Periodic Media"  
Thesis Adviser: Dr. Charles H. Papas  
M.S., Electrical Engineering, June 1974  
California Institute of Technology, Pasadena, California 91125  
B.S., Electrical Engineering, June 1973  
University of Texas at El Paso, El Paso, Texas 79999

### Scholarships and Honors :

Fulbright Specialist Residence at Indian Institute of Technology (IIT) Mandi in May of 2022  
2022 Open Educator Award, University of Colorado  
Fulbright Specialist Roster November 15, 2019 - November 15, 2022  
Royal Norwegian Council for Scientific and Industrial Research Postdoctoral Fellowship,  
1980-1982  
National Academy of Sciences USSR Exchange Program Participant, 1979-1980  
Honorable mention for Best Paper Award, 1979, from IEEE Antennas and Propagation  
Society  
California Institute of Technology Fellowship Scholarship, 1973-1978  
President, Student IEEE Branch, University of Texas at El Paso, 1972-1973  
Weaver Company Tuition Scholarship, 1971-1973  
National Science Foundation Undergraduate Research Program Fellowship, 1972  
Tau Beta Pi Engineering Honor Society  
Eta Kappa Nu Electrical Engineering Honor Society

## Work Experience :

Associate Professor, Electrical and Computer Engineering, University of Colorado, 1986-present

Assistant Professor, Electrical and Computer Engineering, University of Colorado, 1984-1986

Staff Scientist, Elektronikklaboratoriet<sup>1</sup>, Norges Tekniske Høgskole<sup>2</sup>, 1982-1983

NTNF<sup>3</sup> Research Fellow, Fysikalsk Elektronikk<sup>4</sup>, Norges Tekniske Høgskole<sup>5</sup>, 1980-1981

NAS<sup>6</sup> Visiting Scientist, Byurakan Astrophysical Observatory, Byurakan, Armenian SSR<sup>7</sup>, 1979-1980

Research Associate, California Institute of Technology, 1978-1979

Staff Scientist Schellinger Research Laboratory, University of Texas, El Paso, 1973

NSF<sup>8</sup> URP<sup>9</sup> Fellow, Texas Technological University, Lubbock, Texas, Summer, 1972

## Professional Activities :

President, Denver Chapter of IEEE Lasers and Electrooptic Society (LEOS) 1991-1993

Officer, Rocky Mountain Optical Society of America 1988-1992 (President in 1991)

Director at Large, Rocky Mountain Optical Society of America 1992-2003

Officer, Commission D URSI (National Radio Science Union) 1993-2002

Chair, Commission D URSI (National Radio Science Union) 1998-2002

General Chairman, Symposium on Optoelectronic Packaging Science (SOEPS 1992) (Estes Park), International Workshop on Optoelectronic Packaging Science (IWOPS '93) (Santa Barbara), IWOPS '94 (Breckenridge), International Workshop on Ferroelectric Integrated Optics (IWFIO'94) (Breckenridge), Conference on Defect Recognition and Image Processing in Semiconductors (DRIP VI 1995) (Estes Park, CO).

Organizing Committee Member of Integrated Photonics Research (IPR 1992) (New Orleans), IEEE Lasers and Electrooptics (LEOS 1992) (Boston), Conference on Defect Recognition and Image Processing in Semiconductors (DRIP V 1993) (Santander, Spain), LEOS 1993 (San Jose)(subcommittee chair), LEOS 1994 (Boston) (subcommittee chair), National Radio Science Meeting 1994 URSI 1994(Boulder), LEOS 1995 (San Francisco), National Radio Science Meeting 1995 (Boulder), National Radio Science Meeting 1996 (Boulder), DRIP VII 1997 (Templen, Germany), National Radio Science Meeting 1998 (Boulder), National Radio Science Meeting 1999 (Boulder), DRIP VIII 1999 (Narita, Japan), National Radio Science Meeting 2000 (Boulder), DRIP IX 2001 (Rimini, Italy),

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<sup>1</sup>Electronics Laboratory

<sup>2</sup>Norwegian Institute of Technology

<sup>3</sup>Norges Tekniske og Naturvitenskapelige Forskningsråd (Royal Norwegian Council for Scientific and Industrial Research)

<sup>4</sup>Physical Electronics Department

<sup>5</sup>Norwegian Institute of Technology

<sup>6</sup>National Academy of Sciences

<sup>7</sup>Soviet Socialist Republic

<sup>8</sup>National Science Foundation

<sup>9</sup>Undergraduate Research Program

National Radio Science Meeting 2002 (Boulder), Member Technical Program Committee and International Advisory Committee of Photonics 2008 (Delhi, India), Member International Advisory Committee Photonics 2010 (Guwahati, India), Member Technical Program Committee, Asia Pacific Communications (ACP) 2011 (Shanghai, China), Chair of the International Advisory Committee of the International Conference on Microwaves and Photonics (ICMAP) 2013 (Dhanbad, India), Member Technical Program Committee and co-chair Agriculture and Water Track, IEEE Global Humanitarian Technology Conference (GHTC) 2014 (San Jose, CA), Member Technical Program Committee and co-chair Energy Track, IEEE Global Humanitarian Technology Conference (GHTC) 2015 (Seattle, WA), Member International Advisory Committee of the International Conference on Microwaves and Photonics (ICMAP) 2015 (Dhanbad, India), Member International Advisory Committee of the IEEE Workshop on Recent Advances on Advances in Photonics (WRAP) 2015 (Bangalore, India), Member Organizing Committee the US/Morocco Workshop on Sensors and Wireless Networks for Smart Cities 2016 (Rabat, Morocco), Member Advisory Committee, International Optical Society of America (OSA) Network of Students (IONS) Dhanbad, India, September 7 - 10, 2016, Member Technical Program Committee and co-chair Bio-Medical Track, IEEE Global Humanitarian Technology Conference (GHTC) 2016 (Seattle, WA), Member of the Technical Program Committee of the Third International Workshop on Optical/Photonic Interconnects for Computing Systems (OPTICS) co-located with Design, Automation and Test in Europe (DATE'17), March 26 - 31, 2017, Lausanne, Switzerland. Member Technical Program Committee of International Conference of Smart Digital Environment, Rabat, Morocco, June, 2017, Member Technical Program Committee and co-chair Bio-Medical Track, IEEE Global Humanitarian Technology Conference (GHTC) 2017 (San Jose, CA), Member Technical Program Committee of IEEE Smart Cities, Bangkok, December, 2017, Member Advisory Committee for the Third International Conference on Microwave and Photonics (ICMAP2018), Indian Institute of Technology Dhanbad (Indian School of Mines), February 9 - 11, 2018.

Member of the Institute of Electrical and Electronic Engineers; Optical Society of America, Secretary, Commission D of URSI; Society of Photo Instrumental Engineers; and the American Association for the Advancement of Science. Member Technical Program Committee of International Conference of Smart Digital Environment, Rabat, Morocco, September, 2018.

Reviewer (at one time or another) for the National Science Foundation, the Cooperative Grants Program and Armenian-U. S. Bilateral Grants Program of the United States (US) Civilian Research Development Foundation (CRDF), the Associateship Program of the National Research Council and American Society for Engineering Education, Cambridge University Press, Taylor and Francis Publishing, Wiley Interscience of John Wiley and Sons, Antennas and Wireless Propagation Letters, Applied Optics, Applied Physics Letters, Canadian Journal of Physics, Electronics, Electronics Letters, Environmental Progress, IEEE Journal of Quantum Electronics, IEEE Microwave and Guided Wave Letters, IEEE Microwave and Wireless Components Letters, IEEE Microwave Magazine, IEEE Transactions on Communications, IEEE Transactions of Microwave Theory and Technique, IEEE Transactions on Antennas and Propagation, IEEE Transactions on Education, IEEE Transactions on Electromagnetic Compatibility, Journal of

Applied Physics, Journal of Lightwave Technology, Journal of Luminescence, Journal of Modern Optics, Journal of the Optical Society of America A and B, Liquid Crystals (Taylor Francis), Materials, Micro and Nano Letters, Optical Engineering, Optics Express, Optics Letters, Opto-Electronics Review, Photonics Technology Letters, Plos One, Proceedings of the IEE, Society of Photo Instrumental Engineers Optical Engineering and Symposium on Optical Fiber Measurements.

Paid Consultant (at one time or another) for Agilent, AMP, Ball Aerospace, Chorum, Corning, Digital Equipment Corporation, Hewlett-Packard, IBM, Lucent, Lumera, Photonport, Prima Luci, Research Development Laboratory (RDL), Rochester Photonics, and Vescent Photonics.

Contractor with (at one time or another) for Air Force Office of Scientific Research (AFOSR), AMP Inc., Army Research Office (ARO), Corning Inc., Digital Equipment Corporation, IBM Inc., IEEE, Lightwave Logic, Litton Data Systems, Lumera Inc., Martin Marietta, National Institute of Standards and Technology (NIST), National Collegiate Innovators and Inventors Association, National Science Foundation (NSF), Office of Naval Research (ONR) and Venture Well.

**Extracurricular Activities** : Hiking, swimming, Nordic skiing, tour orienteering, bicycling, music, travel, foreign languages, reading.

## Publications

The publications include two sole authored books, an edited book, 10 chapters in books, 87 journal articles, 1 edited conference proceeding, 105 papers in peer reviewed conference proceedings, 107 talks in conferences and symposia and 12 technical reports.

### Sole Authored Books (2 total) :

- A. R. Mickelson, Guided Wave Optics (Van Nostrand Reinhold, 1993). ISBN-13: 9780442007157 and ISBN-10: 0442007159
- A. R. Mickelson, Physical Optics (Van Nostrand Reinhold, 1992). ISBN-13: 978-1461365662 and ISBN-10: 146136566X.

### Books Edited (1 total) :

- A. R. Mickelson, N. R. Basavanahally, and Y.-C. Lee, Eds., Optoelectronic Packaging (Wiley Interscience, 1997). ISBN-13: 978-0471111887 and ISBN-10: 0471111880.

### Chapters in Books (10 total) :

- Maithem Salih and Alan Mickelson, “Silicon Photonic Modulation for High Performance Computing”, chapter in *Silicon Photonics for High-Performance Computing and Beyond*, Eds. Mahdi Nikdast, Sudeep Pasricha, Gabriela Nicolescu, Ashkan Seyedi and Di Liang, First Edition ebook Published November 17, 2021, CRC Press and Print version Taylor Francis Group 2022, ISBN: 978-0-367-26214-3 (hbk), ISBN: 978-1-032-12244-1 (pbk), ISBN: 978-0-429-29293-3 (ebk), DOI: 10.1201/9780429292033 (book), DOI:10.1201/97804292033-1 (article)

- A. R. Mickelson, “Guided Wave Optics“ (DOI: 10.1016/b978-0-12-803581-8.09452-2), a chapter in the *Encyclopedia of Modern Optics*, second edition, Eds. Robert D. Guenther, Duncan G. Steel and Leopold Bayvel, Elsevier, Oxford, (March 1, 2018). ISBN: 9780128092835.
- This article is a revision of an article of the same title that appeared in the *Encyclopedia of Modern Optics* Eds. Robert D. Guenther, Duncan G. Steel and Leopold Bayvel, Elsevier, Oxford (2004). ISBN: 9780080917962.
- Alan Mickelson and Daniel Tsvankin, “Information Systems for Real-Time Water Quality Monitoring“, in *Encyclopedia of Sustainable Technology*, Ed. M. A. Abraham, Elsevier (2017) ISBN 10: 0128046775 ISBN 13: 9780128046777, Volume 4, pages 105-114.
- Keyon Janani, Sakshi Singh, Moustafa Mohamed and Alan Mickelson, “Interconnects and Data System Throughput”, Chapter 4 in *Photonics Interconnects for Computing Systems: Understanding and Pushing Design Challenges*, pages 107-136, Eds. G. Nicolescu, S. Le Beux, M. Nikdast and J. Xu, The River Publisher’s Series in Optics and Photonics, River Publishers (2017). ISBN 978-87-93519-80-0.
- J. H. Lee, J. Xue, W. Park and A. Mickelson, “Surface Plasmon Polariton Waveguides in Nonlinear Optical Polymer”, in *Organic Thin Films for Photonics Applications* Eds. Warren Herman, Steven Flom and Stephen Foulger, , American Chemical Society, Washington DC, (2010), pages 51–66. Chapter DOI: 10.1021/bk-2010-1039.ch005.
- A. R. Mickelson, “Active Antennas”, a chapter in the *Wiley Encyclopedia of Electrical and Electronics Engineering*, Ed. John Webster, New York: John Wiley & Sons, Inc., (2007). This article is a revision of an article of the same title that appeared in the *Encyclopedia of RF and Microwave Engineering*, Ed. Kai Chang (New York: John Wiley & Sons, Inc., 2005) Print ISBN: 9780471270539— Online ISBN: 9780471654506— DOI: 10.1002/0471654507, that is a revision of an article of the same title that appeared in the *Encyclopedia of Telecommunications*, Ed. John Proakis (New York: John Wiley and Sons, 2002) ISBN-13: 978-0471369721 ISBN-10: 0471369721, that is a revision of an article of the same title that appeared in the *Encyclopedia of Electrical and Electronics Engineering*, Ed. John G. Webster, John Wiley & Sons, Inc., New York (1999), Volume 1, pp. 190–209. ISBN: 978-0-471-13946-1
- Venkata N. P. Sivashankar, Edward M. McKenna and Alan R. Mickelson, “Photobleached Gratings in Electrooptic Waveguide Polymers” in *Guided Wave Optical Components and Devices* Ed. Bishnu Pal, Elsevier (2005), ISBN 0-12-088481-X.
- A. R. Mickelson, “Modeling Of Optically Assisted Phased Array Radars,” Proceedings of the National Academy of Sciences: Large-Scale Structures in Acoustics and Electromagnetics, National Academy Press, (1996), pp 143- 161. ISBN: 0-309-05337-4
- A. R. Mickelson, “Coherence Effects in Guided Wave Optical Systems,” in Recent Advances in Electromagnetic Theory, Eds. H. N. Kritikos, D.L. Jaggard and Charles Herach Papas, Springer-Verlag, (1990), pp. 299-318. ISBN: 0387971432, 9780387971438, 3540971432, 9783540971436, OCLC Number: 20318498
- A. R. Mickelson, “Backscattering in Optical Fibers,” (DOI: <https://doi.org/10.1007/978-94-009-6875-2.29>) in *Optical Waveguide Sciences*, Eds. H. Hung-chia and A. W. Snyder, Springer, Dodrecht, (1983). DoI: <https://doi.org/10.1007/978-94-009-6875-2.29>, Hard-

cover ISBN 978-90-247-2848-0, Softcover ISBN 978-94-009-6877-6, eBook ISBN 978-94-009-6875-2

**Journal Publications (87 total) :**

1. Suzanna Brown and Alan Mickelson, Why Some Well-planned and Community-based ICTD Interventions Fail, *Information Technologies and International Development* 15, 49-61, (2019)
2. Vishnu Priye, Nishit Malviya and Alan Mickelson, Analytical Predictions for Nonlinear Processes in Silicon Slot Waveguides, *Journal of Computational Electronics* 12-03-2018, Issue 2/2018. DOI: <https://doi.org/10.1007/s10825-018-1150-8>
3. Suzana Brown and Alan Mickelson, A Decision Framework for Choosing Telecommunication Technologies in Limited-Resource Settings, *Future Internet* 10,8 (2018) 14 pages. DOI: 10.3390/fi10010008
4. Alan Mickelson and Daniel Tsvankin, Water Quality Monitoring for Coupled Systems, *Environmental Progress & Sustainable Energy*, article ID12789 (2017). DOI: 10.1002/ep.12789
5. Suzana Brown and Alan Mickelson, Smart Phones as a Viable Data Collection Tool in Low-Resource Settings: Case Study of Rwandan Community Health Workers, *Neuroscience and Biomedical Engineering* 4(2), 132 - 139 (2016). DOI: 10.2174/221338520466616071115
6. Maithem Salih, Keyon Janani, Xi Chen, Eric Jacobson, Sarita Gautam and Alan Mickelson, Losses of Slot Mode Devices, *Journal of Lightwave Technology* 34(16), 3901 - 3907 (2016), DOI: 10.1109/JLT.2016.2554467
7. Ziqian Dong, Fang Li, Babak Beheshti, Alan Mickelson, Marta Panera and Nada Anid, Autonomous real-time water quality sensing as an alternative to conventional monitoring to improve the detection of food, energy, and water indicators, *Journal of Environmental Studies and Sciences* 6(1), 200 - 207 (March, 2016). DOI: [doi.org/10.1007/s13412-016-0383-8](https://doi.org/10.1007/s13412-016-0383-8)
8. Moustafa Mohamed, Zheng Li, Xi Chen, Li Shang and Alan R. Mickelson, Reliability-Aware Design Flow for Silicon Photonics On-Chip Interconnect, *IEEE Transactions on Very Large Scale Integration* 22(8), 1763-1776 (August, 2014). DOI: 10.1109/TVLSI.2013.2278383
9. Xi Chen, Zheng Li, Moustafa Mohamed, Li Shang and Alan R. Mickelson, Parameter Extraction from Fabricated Silicon Photonic Devices, *Applied Optics* 53(7), 1396-1405 (March 1, 2014). DOI: [dx.doi.org/10.1364/AO.53.001396](https://dx.doi.org/10.1364/AO.53.001396)
10. Xi Chen, Moustafa Mohamed, Zheng Li, Li Shang and Alan R. Mickelson, Process Variation in Silicon Photonic Devices, *Applied Optics* 52(31), 7638-7647 (November 2013). DOI: 10.1364/AO.52.007638
11. Zheng Li, Moustafa Mohamed, Xi Chen, Eric Dudley, Ke Meng, Li Shang, Alan Mickelson, Russel Joseph, Manish Vachharajani, Brian Schwartz and Yihe Sun, Reliability Modeling and Management of Nanophotonic On-chip Networks, *IEEE transactions on Very Large Scale Integration (VLSI) Systems* 20(1), 98-111 (January, 2012). DOI: 10.1109/TVLSI.2010.2089072

12. Hongyu Zhou, Xi Chen, David Espinoza, Alan Mickelson and Dejan Filipović, Nanoscale Optical Dielectric Rod Antenna for On-chip Interconnecting Networks, *IEEE Transactions on Microwave Theory and Techniques* 59(10), 2624 - 2632 (October, 2011). DOI: 10.1109/TMTT.2011.2156423
13. Zheng Li, Moustafa Mohamed, Xi Chen, Hongyu Zhou, Li Shang, Alan Mickelson and Manish Vachharajani, Iris: A Hybrid Nanophotonic Network Design for High Performance and Low-Power On-chip Communication, *ACM Journal of Emerging Technologies in Computing Systems* 7(2) Article 8 (June 2011), 22 pages. DOI: doi.org/10.1145/1970406.1970410
14. David Espinoza, Xi Chen, Moustafa Mohamed, Hongyu Zhou, Eric Dudley, Wounjhang Park, Dejan Filipovic, Alan Mickelson, “Nanometric Polymer Coatings for Silicon Insulator Circuits”, *SPIE Select Proceedings from PHOTONICS 2010 Conference (SPIE11)*, Proc. SPIE 8173, 81730H (2010). DOI: 10.1117/12.898181
15. Hongyu Zhou, Zheng Li, Li Shang, Alan Mickelson and Dejan S. Filipović, “On-Chip Wireless Optical Broadcast Interconnection Network”, *Journal of Lightwave Technology* 28 (24), 3569-3577 (December, 2010).DOI: 10.1109/JLT.2010.2091105
16. Zheng Li, Moustafa Mohamed, Hongyu Zhou, Li Shang, Alan Mickelson, Dejan Filipović, Manish Vachharajani, Xi Chen, Won Park and Yihe Sun, “Global On-Chip Coordination at Light speed”, *IEEE Design & Test of Computers* 27 (4), 54-67 (July/Aug, 2010). DOI: 10.1109/MDT.2010.75
17. Richard Franzl, Deniz Gurkan, Driss Benhaddou and Alan Mickelson, “E-Learning Laboratories for Optical Circuits: Separation of Imperfections in Technology and Teaching Methodologies,” *The International Journal of Modern Engineering*, 8(2), 11-18 (Spring/Summer, 2008).
18. D. Gurkan, A. Mickelson and D. Benhaddou, “Remote Laboratories for Optical Circuits,” *IEEE Transactions on Education* 51(1), 54-60 (February, 2008). DOI: 10.1109/TE.2007.900018
19. Edward M. McKenna, Andy S. Lin, Alan R. Mickelson, Raluca Dinu and Dan Jin, “Comparison of  $r_{33}$  values for AJ404 Films Prepared with Parallel Plate and Corona Poling,” *JOSA B*24(11), 2888-2892 (November, 2007). DOI: https://doi.org/10.1364/JOSAB.24.002888
20. Edward McKenna and Alan Mickelson, “Slow Light Structures in Dye-Doped Polymers”, *Applied Optics* 46, 20, 4407–4412 (July, 2007). DOI: https://doi.org/10.1364/AO.46.004407
21. Prarie Neeley Robinson and Alan R. Mickelson, “Early Diagnosis of Oral Cavity Cancers”, *Otolaryngologic Clinics of North America* 39, 2, 295–306 (April, 2006). DOI: doi:10.1016/j.otc.2005.12.001
22. Ed McKenna, Juizhi Xue, Regis Fan, Lou Bintz, Raluca Dinu and Alan Mickelson, “Wavelength Dependence of Irreversible Photobleaching of Dye-Doped Polymer Waveguide Materials”, *Applied Optics* 44 (15), 3063–3068 (May, 2005). DOI: https://doi.org/10.1364/AO.44.003063
23. Ed McKenna, Juizhi Xue, Angelo Verdoni, Mike Yetzbacher, Regis Fan, and Alan Mickelson, “Kinetic Model of Irreversible Photobleaching of Dye-Doped Polymer Wave-

- uide Materials”, *Journ. Optical Soc. Am. B*21, 7, 1294–1301 (July, 2004). DOI: <https://doi.org/10.1364/JOSAB.21.001294>
24. D. Tomić and A. R. Mickelson, “Photobleaching for Optical Waveguide Formation in a Guest-Host Polyimide,” *Applied Optics* 38, 3893 - 3903 (June, 1999). DOI: <https://doi.org/10.1364/AO.38.003893>
  25. K. Y. Chen, P. D. Biernacki, A. Lahrichi, and A. Mickelson, “Analysis of an Experimental Technique for Determining Van der Pol Parameters of a Transistor Oscillator,” *IEEE Transactions on Microwave Theory and Techniques* MTT-46:7, 914-922 (July, 1998). DOI: 10.1109/22.701443
  26. S. Lin, W. Feng, J. C. Powelson, R. J. Feuerstein, L. J. Bintz, D. Tomić, and A. R. Mickelson, “Scattering-Induced Crosstalk in Active Directional Couplers,” *IEEE Journal of Lightwave Technology* 14:9, 2012-2025 (September 1996). See also *Guided Wave Optics Laboratory (GWOL) Report #71* (February, 1996). DOI: 10.1109/50.536969
  27. K. Y. Chen, P. D. Biernacki, S. Buchheit, and A. R. Mickelson, “Noninvasive Experimental Determination of Charge and Voltage Distributions on an Active Surface,” *IEEE Journal of Microwave Theory and Techniques* MTT-44: 7, 1000-1009 (July 1996). DOI: 10.1109/22.508631. See also *Guided Wave Optics Laboratory (GWOL) Report #59* (April, 1994).
  28. R. J. Feuerstein, W. Feng, J. C. Powelson, S. Lin, L. Bintz, and A. R. Mickelson, “Equivalence of Voltage Bias and Geometric Waveguide Design in Directional Couplers,” *Applied Physics Letters* 68:20, 2775-2777 (May 13, 1996). DOI: 10.1063/1.116603. See also *Guided Wave Optics Laboratory (GWOL) Report #69* (January 1996).
  29. S. Lin, R. J. Feuerstein, and A. R. Mickelson, “A Study of Neodymium-Chelate-Doped Optical Polymer Waveguides,” *Journal of Applied Physics* 79:6, 2868-2874 (March 15, 1996). DOI: <https://doi.org/10.1063/1.361282>. See also *Guided Wave Optics (GWOL) Report #70* (August, 1995).
  30. P. D. Biernacki, H. Lee, and A. R. Mickelson, “Evaluation of Defect-Related Diffusion in Semiconductors by Electrooptical Sampling,” *Special Issue on Applied Diagnostics of Semiconductors of the IEEE Journal of Selected Topics in Quantum Electronics* QE-1: 4, 1037-1046 (December, 1995). DOI: 10.1109/2944.488680. See also *Guided Wave Optics Laboratory (GWOL) Report #65*, February, 1995).
  31. W. Feng, S. Lin, R. B. Hooker, and A. R. Mickelson, “Study of UV-Bleached Channel-Waveguide Performance in Nonlinear Optical Polymer Films,” *Applied Optics* 34:30, 6885-6891 (October 20, 1995). DOI: <https://doi.org/10.1364/AO.34.006885>. See also *Guided Wave Optics Laboratory (GWOL) Report #63* (October, 1994).
  32. J. Ma, S. Lin, W. Feng, R. J. Feuerstein, B. Hooker, and A. R. Mickelson, “Modeling Photobleached Optical Polymer Waveguides,” *Applied Optics* 34:24, 5352-5360 (August 20, 1995).
  33. S. L. Kwiatkowski and A. R. Mickelson, “Nearly Cut-off Modes Caused by Diffusion in Lithium Niobate,” *Journal of Applied Physics* 76:10, 5877-5885 (November 15, 1994). See also *Guided Wave Optics Laboratory (GWOL) Report #57* (March, 1994).
  34. A. R. Mickelson, “Polymers Make the OEIC Connection,” *IEEE Circuits and Devices* 10:6, 8-13 (November 1994).



35. J. C. Chon and A. R. Mickelson, "Fabrication and Characterization of a Third-Order Nonlinear Organic-Polymer Composite Glass Waveguide: A Self-Phase Modulator," *Applied Optics* 33:30, 6935-6941 (October 20, 1994).
36. P. S. Weitzman, J. M. Dunn, and A. R. Mickelson, "Approximate Calculation of Transmission Line Parameters and Field Distributions of Coplanar Electrodes in the Presence of a Buffer Layer", *Electromagnetics* 14, 119-135 (March, 1994).
37. J. C. Chon, W. Feng, and A. R. Mickelson, "Photorefractive Damage Thresholds in Ti:LiNbO<sub>3</sub> Channel Waveguides," *Applied Optics* 32:36, 7572-7580 (December 20, 1993).
38. I. Januar and A. R. Mickelson, "Characteristics of S-Shaped Waveguide Structures by the Annealed Proton Exchange Process in LiNbO<sub>3</sub>," *IEEE Journal of Lightwave Technology* LT-11, 2044-2051 (December, 1993).
39. M. J. Yadlowsky and A. R. Mickelson, "Distributed Loss and Mode Coupling and Their Effect on Time-Dependent Propagation in Multimode Fibers," *Applied Optics* 32:33, 6664-6677 (November 20, 1993).
40. S. Yang, M. J. Yadlowsky, D. R. Hjelme, and A. R. Mickelson, "Interlaboratory Comparison of Mode Transition Matrices," *Applied Optics* 32:30, 5997-6005 (October 20, 1993).
41. M. R. Surette, D. R. Hjelme, and A. R. Mickelson, "An Optically Driven Phased Array Antenna Utilizing Heterodyne Techniques," *IEEE Journal of Lightwave Technology* JLT-11: 9, 1500-1509 (September, 1993).
42. V. Radišić, D. Hjelme, A. Horrigan, Z. Popović, and A. Mickelson, "Experimentally Verifiable Modeling of Coplanar Waveguide Discontinuities," *Special Issue on Modeling and Design of Coplanar Monolithic Microwave and Millimeter-Wave Integrated Circuits*, *IEEE Transactions on Microwave Theory and Techniques* MTT-41, 1524-1533 (September, 1993).
43. D. R. Hjelme, M. J. Yadlowsky, and A. R. Mickelson, "Two-Dimensional Mapping of Microwave Potential on MMICs Using Electrooptic Sampling," *IEEE Transactions on Microwave Theory and Techniques* MTT-41: 6/7, 1149-1158 (June/July, 1993).
44. M. R. Surette, D. R. Hjelme, R. Ellingsen, and A. R. Mickelson, "Effects of Noise on Transients of Injection Locked Semiconductor Lasers," *IEEE Journal of Quantum Electronics* QE-29: 4, 1046-1063 (April, 1993).
45. I. Januar and A. R. Mickelson, "Dual Wavelength ( $\lambda = 1300 - 1650$  nm) Directional Coupler Multiplexer-Demultiplexer by the Annealed-Proton-Exchange Process in LiNbO<sub>3</sub>," *Optics Letters* 18:6, 417-419 (March 15, 1993).
46. W. Charczenko, I. P. Januar, and A. R. Mickelson, "Modelling of Proton-Exchanged and Annealed Channel Waveguides and Directional Couplers," *Journal of Applied Physics* 73, 3139-3148 (1993).
47. S. Yang and A. R. Mickelson, "Coupling Mechanisms and Transfer Functions of Optical Fiber Devices" *Applied Optics* 31:36, 7587-7596 (December 20, 1992).
48. D. R. Hjelme and A. R. Mickelson, "Voltage Calibration of the Direct Electrooptic Sampling Technique," *IEEE Transactions on Microwave Theory and Techniques* MTT-40, 1941-1950 (October, 1992).

49. P. J. Matthews, A. R. Mickelson, and S. W. Novak, "Properties of Proton Exchange Waveguides in Lithium Tantalate," *Journal of Applied Physics* 72:7, 2562-2574 (October 1, 1992).
50. I. Januar, R. J. Feuerstein, A. R. Mickelson, and J. R. Sauer, "Wavelength Sensitivity in Directional Couplers," *Journal of Lightwave Technology* LT-10:9, 1202-1209 (September, 1992).
51. M. J. Yadlowsky, D. R. Hjelme, and A. R. Mickelson, "Power Coupling and Time-Dependent Radiative Transfer in Guided-Wave Systems," *Journal of the Optical Society of America* A9: 8, 1306-1312 (August, 1992).
52. D. R. Hjelme and A. R. Mickelson, "Theory of Timing Jitter in Actively Mode-Locked Lasers," *IEEE Journal of Quantum Electronics* QE-28: 6 1594-1606 (June, 1992).
53. P. J. Matthews and A. R. Mickelson, "Instabilities in Annealed Proton Exchange Waveguides in Lithium Tantalate," *Journal of Applied Physics* 71:11, 5310-5317 (June 1, 1992).
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87. M. Surette and A. R. Mickelson, "Coherent Guided Wave Implementations for Photonic Control of Phased Array Radar," OSA Annual Meeting, Boston, Mass., (Nov. 1990).
88. W. Charczenko, P. S. Weitzman, J. M. Dunn and A. R. Mickelson, "Characterization and Simulation of Proton Exchanged Integrated Optical Modulators with Various Dielectric Buffer Layers," OSA Annual Meeting, Boston, Mass., (November 1990).
89. P. Matthews, M. Surette and A. R. Mickelson, "Characteristics of Proton-Exchanged Lithium Tantalate Waveguides," OSA Annual Meeting, Boston, Mass (Nov. 1990).
90. M. Yadlowsky and A. R. Mickelson, "A Single Launch Technique to Determine Loss and Dispersion in Multimode Fiber Systems," Symposium on Optical Fiber Measurements, Boulder, CO (Sept. 1990).
91. S. Yang and A. R. Mickelson, "The MTF for Coupling Components," Symposium on Optical Fiber Measurements, Boulder, CO (Sept. 1990).
92. W. Charczenko, D. R. Hjelme and A. R. Mickelson, "Comparison of Time and Frequency Domain Measurement Methods for High Speed Optical Modulators," Symposium on Optical Fiber Measurements, Boulder, CO (Sept. 1990).
93. D. R. Hjelme, A. R. Mickelson, R. G. Beausoleil, J. A. McGarvey, and R. L. Haggman, "Semiconductor Laser Stabilization by External Optical Feedback," Proceedings of Conference on Lasers and Electro-Optics (CLEO), Baltimore (April 1989).
94. D. R. Hjelme and A. R. Mickelson, "Gain Nonlinearities due to Carrier Dependent Dispersion in Semiconductor Lasers," Proceedings of Conference on Lasers and Electro-Optics (CLEO), Baltimore (April 1989).
95. P. R. Barbier, S. T. Vohra, G. Moddel, and A. R. Mickelson, "An Integrated Optically-Switched Directional Coupler," Proceedings of Advanced Materials Institute Conference, Denver (March 1989).

96. S. Yang, D. R. Hjelme, I. P. Januar, I. P. Vayshenker, and A. R. Mickelson, "A Single Launch Technique for Determination of Mode Transfer Matrices," Technical Digest of Symposium on Optical Fiber Measurements, National Bureau of Standards, Boulder, Colorado (September 1988).
97. S. T. Vohra and A. R. Mickelson, "Diffusion of Protons in  $H^+ : LiNbO_3$  Waveguides from a Melt of Limited Volume," Topical Meeting on Integrated and Guided Wave Optics, Santa Fe, New Mexico (March 1988).
98. A. R. Mickelson, "Stabilized Semiconductor Lasers for Fiber Optic Network Applications," Proceedings of Pacific Bell Conference on Applied Research in Network Technology, San Ramon, California (November 1987).
99. D. R. Hjelme, A. R. Mickelson, L. Hollberg and B. Dahmoni, "Novel Optical Frequency Stabilization of Semiconductor Lasers," Proceedings of Southwest Laser Conference, Albuquerque, New Mexico (February 1987).
100. I. P. Vayshenker, D. R. Hjelme and A. R. Mickelson, "Multimode Fiber Systems Characterization," Symposium on Optical Fiber Measurements, Boulder, Colorado (September 1986).
101. S. T. Vohra, W. Charczenko and A. R. Mickelson, "Measurement of Guide Parameters in Proton Exchanged  $LiNbO_3$  Optical Waveguides," Proceedings of CBRAVAC Conference, Campinas S.P., Brazil (July 1986).
102. D. R. Hjelme and A. R. Mickelson, "Microbending and Modal Noise," Proceedings of Conference on Integrated Optics and Optical Fiber Communication (IOOC '83), Tokyo, Japan (June 1983).
103. M. Eriksrud and A. R. Mickelson, "The Effect of Differential Mode Attenuation on Backscattering Signatures in Multimode Graded Index Fibers," Symposium on Optical Fiber Measurements, Boulder, Colorado (October 1982).
104. A. Weierholt, A. R. Mickelson, and G. Nakken, "Fracture Characteristics of Fusion Spliced Optical Fibers," Proceedings of the Eighth European Conference on Optical Communication, Cannes, France, 354-357 (September 1982).
105. A. Weierholt, A. R. Mickelson, D. Thingbø, and A. Berg, "Modal Noise Induced Signal to Noise Ratios in Multimode Graded Index Fibers," Topical Meeting on Optical Fiber Communications (OFC '82), Phoenix, Arizona (April 1982).

**Popular Press (total) :**

Ruth Simon, "Universities Push Harder into Realm of Startups, Wall Street Journal, December 17, 2015 <http://www.wsj.com/articles/universities-push-harder-into-realm-of-startups-1418842795>. I am featured both in image and quotation in this article.

Alan Mickelson, "Green Haiti: Renewable Development Tools", EnergyBiz Magazine, September/October 2012, <http://www.energybiz.com/magazine/article/281621/green-haiti>.

**Conference and Symposia Talks (107 total) :**

1. Alan Mickelson, "Simulating Micro-Grids with the IEEE Smart Village Testbed", in the session of Strategies and Principles for Smart Living (July 15, 2021) at the IEEE World Forum on Internet of Things 2021 (New Orleans 6/14/2021 - 7/31/2021).

2. Paula Perez, Kellen Kennedy and Alan Mickelson, "Design of Solar Energy Infrastructure in Rural Argentina", National Conference on Undergraduate Research (NCUR), California State University of Long Beach, April (2021).
3. Alan Mickelson, "Photonic Integration with CMOS", Invited talk at the Indian Institute of Information Technology Program on Photonics Technology (Ranchi, India, November 3, 2020).
4. Alan Mickelson, "ITCD in IEEE Smart Village", in "Connect the Unconnected by Broadband Technologies" Panel Discussion at IEEE International Microwave Symposium (IMS2020), San Diego (August 6, 2020).
5. Alan Mickelson, "Social Return on Investment Pilot", Joint Meeting of IEEE Humanitarian Activities Committee and IEEE Smart Village, Colocated at IEEE Power Electronics Society General Meeting, Atlanta (August 4th, 2019).
6. Alan Mickelson, "Silicon Photonic Modulation for High Performance Computing (HPC)", Workshop on Silicon Photonics for High Performance Computing, Fort Collins, Colorado, May 16 - 17, 2018.
7. Alan Mickelson, "Crosstalk in Petabyte/s Interconnection", Fourth International Workshop on Optical/Photonic Interconnects for Computing Systems held in Conjunction with Design, Automation & Test in Europe (DATE'18) Conference, Dresden, Germany, March 23, 2018 (Invited).
8. Alan Mickelson, "Silicon Photonics and Data Communication", Invited talk at Indian Institute of Technology, Mandi India (February 15th 2018).
9. Alan Mickelson, "Optics and Disaggregation", Invited Lecture at the Universidad Mayor de San Andrés (UMSA), August , 2017 (Invited).
10. Alan Mickelson, "Sustainable Development", Invited Talk for the Chancellor of the University of Technology of Papua New Guinea, Lae, Papua New Guinea (May 9, 2017).
11. Alan Mickelson, "Optics and Disaggregation", Invited Lecture at the Hong Kong University of Science and Technology (HKUST), April 25, 2017 (Invited).
12. Alan Mickelson, "Sustainable Development", Invited Talk at the Stony Brook Campus of the State University of New York in Incheon, Korea (April 19, 2017).
13. Alan Mickelson, "Optics and Disaggregation", Third International Workshop on Optical/Photonic Interconnects for Computing Systems held in Conjunction with Design, Automation & Test in Europe (DATE'17) Conference, Lausanne, Switzerland, March 31, 2017 (Invited).
14. Alan Mickelson, "Experiences at IIT Mandi to Relate on the Fifth Founder's Day of IIT Mandi", Keynote Address at Founder's Day, IIT Mandi, February 24th, 2017.
15. Alan Mickelson, "Interconnects and Data System Throughput", Second International Workshop on Optical/Photonic Interconnects for Computing Systems held in Conjunction with Design, Automation & Test in Europe (DATE'16) Conference, Dresden, Germany, March 18, 2016 (Invited).
16. Alan Mickelson, "Sustainable Development", Invited Lecture at IIT Mandi, Mandi, India (February 23, 2017).

17. Alan Mickelson, “Wireless Sensor Networks for the Coupled Food, Energy and Water (FEW) Systems of Smart Cities”, US/Morocco Workshop on Sensors and Wireless Networks for Smart Cities, Rabat, Morocco, January 5 - 7, 2016 (Invited)
18. Alan Mickelson, “Autonomous Water Sensors for FEW Systems”, Few Workshop: Food, Energy and Water Nexus in Sustainable Cities, Peking Universities Global Center, as a part of the Sustainable Megacities: Food, Energy and Water (FEW) and the Built Environment, Beijing, China, October 20-21 2015 (Invited)
19. Alan Mickelson, “Delay Tolerant Monitoring of Water Quality”, Workshop: *Clean Quality Matters*: Challenges and Research Perspectives Workshop, Peking University’s Global Center, Beijing, China, April 18, 2014 (Invited).
20. Alan Mickelson, Research Experiments on the Napo River 2009 - 2014, Carnegie Mellon University Rwanda, March 26, 2014.
21. Alan Mickelson, “Combating Process Variation in Silicon Photonics”, Workshop on Recent Advances in Photonics, WRAP 2013, December 17-18, 2013, IIT Delhi, Delhi India (Invited).
22. Joanna Gordon, Nathan Canney, Daria Kotys-Schartz, Mike Hannigan, Alan Mickelson and Yoleine Gateau, “Hands-on Learning in a Haitian Sustainable Energy Course: Improved Attitudes”, Fifth Annual Symposium on Stem Education, Boulder, Colorado, September 23, 2013.
23. Keyon Janani, Eric J. Jacobsen, Xi Chen, Moustafa Mohammed and Alan Mickelson, “Characterization of Polymer Coating in Nano-Scale Slot Waveguide”, Material Research Day Poster Session, Boulder, Colorado, May 2, 2013.
24. Alan Mickelson, ”Active Plasmonic Metamaterials”, Triservice 6.1 Metamaterials Review, Virginia Beach VA (May 24-26, 2010).
25. Alan Mickelson, ”Active Plasmonic Metamaterials”, ONR 2010 Electromagnetic Signatures D&I Review, Applied Physics Laboratory University of Washington (April 14, 2010).
26. Alan Mickelson, “Green Engineering for a Global Society”, Think Green Student Symposium, Nanjing University of Posts and Telecommunications (NUPT), Nanjing, China (April 9, 2010).
27. Alan Mickelson, “Green IT: A Perspective from One Who Works in Target Communities”, Think Green: Energy, Education and Environmental Initiatives Forum 2010, Nanjing, China (April 7 - 9, 2010).
28. Alan Mickelson, “Silicon Nanophotonics”, Optics Faculty, Tsinghua University, (April 6, 2010).
29. Alan Mickelson, “Active Plasmonic Devices ”, Optics Faculty, Tsinghua University, (April 6, 2010).
30. H. Zhou, A. Mickelson and D. Filipović, “Electromagnetic Modeling of Optical Antennas”, 2009 IEEE International Symposium on Antennas and Propagation and the 2009 USNC/URSI National Radio Science Meeting, Charleston, South Carolina on 1-5 June 2009, paper 122-3.

31. Jin H. Lee, Jiuzhi Xue, Qi Wu, Won Park and Alan Mickelson, "Polymer-Based Active Plasmonic Devices", Fall 2008 American Chemical Society National Meeting and Exposition, Philadelphia (August 20, 2008).
32. Jin Lee, Qi Wu, Jiuzhi Xue, Won Park and Alan Mickelson, "Active Plasmonics", 2008 IEEE International Symposium on Antennas and Propagation and the 2008 USNC/URSI National Radio Science Meeting, *Memorial Session for Professor Charles Herach Papas*, San Diego (July 8, 2008).
33. Jin H. Lee, Jiuzhe Xue, Won Park and Alan Mickelson, "Active Polymer-Based Surface Plasmon-Polariton Waveguides," Tenth International Conference on Organic Nonlinear Optics (ICONO10), Santa Fe (May 18, 2008- May 23, 2008).
34. A. R. Mickelson, Traveling Wave Detectors in MORPH Materials, at the Principal Investigator Meeting of Super Molecular Photonics II (MORPH II) meeting of DARPA MTO in Austin, TX (March 19, 2008).
35. Edward McKenna, Andy Lin and Alan Mickelson, "Characterization of Guested PMMA-DR1 (Binaries) as Transceiver Materials," Molecular Photonics Conference, Friday Harbor, WA (August 28-31, 2007).
36. A. R. Mickelson, Traveling Wave Detectors in MORPH Materials, at the Principal Investigator Meeting of Super Molecular Photonics II (MORPH II) meeting of DARPA MTO in Arlington, VA (June 19, 2007).
37. A. R. Mickelson, Traveling Wave Detectors in MORPH Materials, at the Principal Investigator Meeting of Super Molecular Photonics II (MORPH II) meeting of DARPA MTO in Chicago, Illinois (March 27, 2007).
38. A. R. Mickelson, Traveling Wave Detectors in MORPH Materials, at the Principal Investigator Meeting of Super Molecular Photonics II (MORPH II) meeting of DARPA MTO in Boston, MA (November 30, 2006).
39. A. R. Mickelson, Traveling Wave Detectors in MORPH Materials, at the Kick-Off Meeting of Super Molecular Photonics II (MORPH II) meeting of DARPA MTO in Seattle, Washington August 15, 2006.
40. Alan Mickelson, Andy Lin, Edward McKenna, Masoud Asadi-Zeyadabi, Ideen Taeb, Stan Swirhun and Arlen Meyers: "Optical Detection of Superficial Cancers," Fifth International International Conference on Laryngeal Cancer, Philadelphia, PA, March 2-3, 2006.
41. A. R. Mickelson, Enhancing Polymer Nonlinearity for Millimeter Wave Applications, at Super Molecular Photonics (MORPH) meeting of DARPA MTO in Arlington, VA December 12, 2005.
42. A. R. Mickelson, Multi-Spectral Techniques for the Early Detection of Cancer, Optical Detection of Cancer Conference, University of Colorado Denver and Health Sciences Center, October 6, 2006.
43. A. R. Mickelson, "Slow Light in Waveguides : A Brief Tutorial," Seminar on Recent Advances in Optics and Photonics at the Physics Department, Indian Institute of Technology, Delhi, December 21-22, 2004.
44. A. R. Mickelson, "Quantum Communications," Proceedings of the Miniseries on Electromagnetics, Pasadena (March 1998).

45. R. B. Hooker, R. Fan, D. Goodwill, N. Morozova, D. Tomić, A. Mickelson, and Y.-C. Lee, "Fiber Coupling Module Using Tapered Polymer Waveguides," Proceedings of the Society of Photographic and Instrumentation Engineers, San Jose (February 1997).
46. K. K. Wong, N. A. Sanford, B. Steiner, A. R. Mickelson, A. Roshko, C. Geosling, and L. Bintz, "Manufacturing Technology for Navigation Grade IFOGs–MIOC Task," Proc Joint Services Data Exchange Workshop, Orlando (November 1996).
47. D. J. Goodwill, R. S. Fan, D. Tomić, N. D. Morozova, R. B. Hooker, A. R. Mickelson, and Y.-C. Lee, "Laser-Array to Single-Mode-Fiber Coupling Module with Increased Tolerance Budget Using Polymer Waveguide Tapers," SPIE Proceedings 2844, "Photonics and Radio Frequency," B. M. Hendrickson, Ed. (August 1996). DoI: <https://doi.org/10.1117/12.258989>
48. A. R. Mickelson, "Rare Earth Integrated Optics," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
49. A. R. Mickelson, "Rare Earth Doped Polymers," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
50. J. Ma and A. R. Mickelson, "Optical Interconnects in VLSI Systems Using Polymer Waveguides and Switches," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
51. R. Narayan and A. R. Mickelson, "Channel Waveguide Studies in Mg-Doped LiNbO<sub>3</sub>," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
52. P. Biernacki, H. Lee and A. R. Mickelson, "Optical Sampling for Determination of Material Characteristics," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
53. S. Lin and A. R. Mickelson, "Nd-Chelate-Doped Polymer Waveguides for Optical Amplifiers," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
54. D. Tomić, S. Lin, W. Feng, and A. R. Mickelson, "What Limits Passive Directional Coupler Crosstalk," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
55. W. Feng, R. B. Hooker and A. R. Mickelson, "Polymeric Electrooptic Devices," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
56. S. Kwiatkowski and A. R. Mickelson, "Unexpected Characteristics of Lithium Niobate Waveguides," International Workshop on Ferroelectric Integrated Optics, Breckenridge, CO (August 17-19, 1994).
57. R. Narayan and A. R. Mickelson, "Characterization of Mg-doped Lithium Niobate," International Workshop on Ferroelectric Integrated Optics, Breckenridge, CO (August 17-19, 1994).
58. D. Tomić and A. R. Mickelson, "What Limits Passive Directional Coupler Crosstalk," International Workshop on Ferroelectric Integrated Optics, Breckenridge, CO (August 17-19, 1994).
59. J. Ma, and A. R. Mickelson, "Optical Interconnects in Electronic Processing Systems Using Polymer Waveguides and Switches," International Workshop on Optoelectronic Packaging, Breckenridge, CO (August 15-17, 1994).



60. S. Lin, W. Feng, R. B. Hooker and A. R. Mickelson, "Polymeric Optical Devices for Optical Interconnects and Telecommunications," International Workshop on Optoelectronic Packaging, Breckenridge, CO (August 15-17, 1994).
61. S. Lin, W. Feng, R. B. Hooker and A. R. Mickelson, "UV Bleaching of Polymers and Polymeric Directional Couplers for Optical Interconnects" SPIE Conference Proceedings 2285, paper 56, San Diego (July 24-29, 1994).
62. A. R. Mickelson, "Heterodyne Phased Array," Workshop on Optically Controlled Phased Array Antenna Systems for Military Communications-on-the-Move, CECOM, Fort Monmouth, NJ (July 6, 1994).
63. K. Y. Chen, S. Buchheit, and A. R. Mickelson, "Evanescent Current Modes in Active Antenna," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
64. K. Y. Chen and A. R. Mickelson, "Transistor Oscillators as Van Der Pol Oscillators," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
65. S. J. Buchheit and A. R. Mickelson, "Electromagnetic Modeling of Active Circuits," International National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
66. S. M. Genco and A. R. Mickelson, "Optically Induced Effects in Microwave Mesfets: Experiments and Analysis," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
67. M. Popović, S. L. Kwiatkowski, and A. R. Mickelson, "Characterization of X-Cut LiNbO<sub>3</sub> Planar Waveguides," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
68. S. L. Kwiatkowski and A. R. Mickelson, "Effects of the Prism Waveguide Coupling Strength on Effective Index Measurement Accuracy," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
69. P. Biernacki and A. R. Mickelson, "Optical Sampling for Determination of Material Characteristics," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
70. W. Feng, S. Lin, H. B. Hooker, and A. R. Mickelson, "Propagation Loss of Polymeric Thin Film Optical Waveguides," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
71. W. Feng, S. Lin, H. B. Hooker, and A. R. Mickelson, "Characterization of Polymeric Optical Channel Waveguides and Their Applications in High Speed Electro-Optic Devices," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
72. J. Ma, S. Lin, W. Feng, and A. R. Mickelson, "Modeling Photobleached Optical Polymer Waveguides," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
73. S. Lin, J. Ma, W. Feng, H. B. Hooker, and A. R. Mickelson, "UV Bleaching of NLO Polymers for Formation of Channel Waveguide," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
74. L. E. Rohlev and A. R. Mickelson, "Microwave Characterization of Nonlinear Optical Polymers," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
75. R. Narayan and A. R. Mickelson, "Analysis of Traveling Wave Electrodes in Integrated Optical Devices," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).

76. K. Y. Chen, P. Biernacki, Z. B. Popović, and A. R. Mickelson, "Current and Field Distribution Across a 25-HEMT Grid Oscillator," National Radio Science Meeting, URSI, Boulder (January 1993).
77. D. R. Hjelme, V. Radišić, Z. B. Popović, and A. R. Mickelson, "Experimentally Verifiable Modeling of Parasitics in Coplanar Waveguide," National Radio Science Meeting, URSI, Boulder (January 1993).
78. S. L. Kwiatkowski, D. R. Hjelme, and A. R. Mickelson, "Optical Waveguide Lenses for Integrated Optical Components," National Radio Science Meeting, URSI, Boulder (January 1993).
79. L. E. Primas, V. Jevremović, A. R. Mickelson, and Z. Popović, "Microwave Characterization of Polymeric Materials for Electro-Optic Devices," National Radio Science Meeting, URSI, Boulder (January 1993).
80. S. Lin, W. Feng, H. B. Hooker, Z. B. Popović, and A. R. Mickelson, "Polymeric Materials Processing and Optical Properties of High Speed Modulators," National Radio Science Meeting, URSI, Boulder (January 1993).
81. S. M. Genco, J. Buetow, Z. Popović, and A. Mickelson, "Enhanced SNR and Stability of Microwave MESFET Oscillators via Optically Injected Signals," National Radio Science Meeting, URSI, Boulder (January 1993).
82. M. R. Surette, D. R. Hjelme and A. R. Mickelson, "An Optically Driven Phased Array Antenna Utilizing Heterodyne Techniques," National Radio Science Meeting, URSI, Boulder (January 1992).
83. D. R. Hjelme, M. J. Yadlowsky and A. R. Mickelson, "De-embedding Substrate Variations from Electrooptic Sampling Measurements Made on Microwave/Millimeter-Wave Circuits," National Radio Science Meeting, URSI, Boulder (January 1992).
84. D. R. Hjelme, V. Radišić, A. R. Mickelson and Z. B. Popović, "Extraction of Electrical Parameters from Optical Sampling Measurements," National Radio Science Meeting, URSI, Boulder (January 1992).
85. L. E. Primas and A. R. Mickelson, "Characterization of Coplanar Waveguides with Various Dielectric Layers," National Radio Science Meeting, URSI, Boulder (January 1992).
86. M. J. Yadlowsky, D. R. Hjelme and A. R. Mickelson, "Power Coupling and Time Dependent Radiative Transfer in Guided Wave Systems," National Radio Science Meeting, URSI, Boulder (January 1992).
87. S. Yang and A. R. Mickelson, "Coupling Mechanisms and Transfer Functions for Optical Fiber Devices," National Radio Science Meeting, URSI, Boulder (January 1992).
88. R. J. Feuerstein, I. P. Januar, A. R. Mickelson and J. Sauer, "Proton Exchanged LiNbO<sub>3</sub> Integrated Optic Chip for Multi-Gbps Packet Switching Network," SPIE OE Fibers, Boston (September 1991).
89. R. J. Feurestein, I. Januar, A. Mickelson and J. A. Sauer, "Wavelength Dependence of Proton Exchanged LiNbO<sub>3</sub> Integrated Optic Directional Couplers from 1.5 - 1.65  $\mu\text{m}$  Integrated Optical Circuits," SPIE Vol. 1583, 196-201 (1991).

90. S. Bundy, T. Mader, Z. Popović, R. Ellingsen, D. Hjelme, M. Surette, M. Yadlowsky and A. Mickelson, "Quasi-Optical MESFET VCO's," SPIE OE/Aerospace Sensing, Orlando, Florida (April 1991).
91. W. Charczenko, M. Surette, P. Matthews, and A. R. Mickelson, "Integrated Optical Butler Beam-forming Matrix for Phased Array Processing," Proceedings of SPIE, Los Angeles (January 1990).
92. P. Weitzman, J. M. Dunn, and A. R. Mickelson, "Calculation of Transmission Line Parameters and Electric Field Distribution of Coplanar Electrodes on Layered Dielectric Substrates," National Radio Science Meeting, URSI, Boulder, CO (January 1990).
93. A. R. Mickelson, I. P. Januar, P. Rusu, and J. R. Cary, "Observations of Quantum Separatrix Crossing in Optical Waveguides," National Radio Science Meeting, URSI, Boulder, CO (January 1990).
94. D. R. Hjelme, A. R. Mickelson, C. Howard, and J. M. Dunn, "Measurements of Parasitic Coupling in Microstrip Circuits Using Electro-optic Sampling," National Radio Science Meeting, URSI, Boulder, CO (January 1990).
95. P. J. Matthews, M. R. Surette, and A. R. Mickelson, "Optically Implemented Butler Matrices for Microwave Processing," National Radio Science Meeting, URSI, Boulder, CO (January 1990).
96. W. Charczenko, H. R. Klotz, and A. R. Mickelson, "Microwave Integrated Optical Transducer for Optical Readout of Patch Antennas," National Radio Science Meeting, URSI, Boulder, CO (January 1990).
97. A. R. Mickelson, "Why Uniformly Accelerated Charges Don't Radiate," National Radio Science Meeting, URSI, Boulder, CO (January 1990).
98. W. Charczenko, H. Klotz, P. Matthews, and A. R. Mickelson, "Integrated Optics for Micro-wave and Millimeter Wave Detection and Signal Processing," Proceedings of the SPIE, Boston (September 1989).
99. D. R. Hjelme, A. R. Mickelson, R. G. Beausoleil, J. A. McGarvey, and R. L. Hagman, "Semiconductor Laser Stabilization by External Optical Feedback," SPIE Conference Proceedings #1043, Laser Diode Technology and Applications (January 1989).
100. S. T. Vohra and A. R. Mickelson, "Optical Directional Couplers in Proton Exchanged LiNbO<sub>3</sub>," National Radio Science Meeting, URSI, Boulder, Colorado (January 1989).
101. R. Fox, W. Charczenko, and A. R. Mickelson, "A Numerical Method for Determining Index Profiles from Near-Field Intensities of Optical Guided Wave Devices," National Radio Science Meeting, URSI, Boulder, Colorado (January 1989).
102. W. Charczenko, S. T. Vohra, and A. R. Mickelson, "Computer Analysis of Surface Mode Interaction in LiNbO<sub>3</sub> Integrated Optic Devices," National Radio Science Meeting, URSI, Boulder, Colorado (January 1989).
103. D. C. Chang and A. R. Mickelson, "Optically Controlled mmw Phased Arrays," Proceedings of SPIE Conference 789, Orlando, Florida (May 1987).
104. D. R. Hjelme and A. R. Mickelson, "Degradation of Received Signal Quality in Multi-mode Optical Fibers Excited by Coherent Sources," Norwegian Electrooptics Meeting, Vinstra, Norway (March 1983).

105. A. R. Mickelson and D. L. Jaggard, "Electromagnetic Wave Propagation in Almost Periodic Media," National Radio Science Meeting, URSI, Boulder, Colorado (November 1978).
106. D. L. Jaggard and A. R. Mickelson, "The Reflection of Electromagnetic Waves from Almost Periodic Structures," National Radio Science Meeting, URSI, Boulder, Colorado (November 1978).
107. D. L. Jaggard, A. R. Mickelson, and C. H. Papas, "Chirality in Electromagnetics," National Radio Science Meeting, Boulder, URSI, Colorado (November 1978).

**Technical Reports (12 total) :**

1. S. Kwiatkowski and A. R. Mickelson, "Perturbations on Effective Index of Refraction from Prism Coupling," Guided Wave Optics Laboratory (GWOL) Report #66 (February 1995).
2. S. L. Kwiatkowski, A. R. Mickelson, and D. R. Hjelme, "On-Axis Polarization Coupling in y-Cut Titanium In-Diffused Lithium Niobate Slab Waveguides," Guided Wave Optics Laboratory (GWOL) Report #64 (November 1994).
3. K. Y. Chen and A. R. Mickelson, "Analytic and Experimental Analysis of a Transistor Oscillator Under Large Signal Oscillation," Guided Wave Optics Laboratory Report #55 (March 1994).
4. A. R. Mickelson, "Some Comments on Nonlinear Guided Wave Optics," Guided Wave Optics Laboratory Report #54 (September 1993).
5. A. R. Mickelson, "MBE Electro-optics: ELAB's Options," ELAB Report STF44 A88058 (February 1988).
6. A. R. Mickelson, "A Commentary on the Application of Molecular Beam Epitaxy," ELAB Report STF44 A86110 (October 1986).
7. A. R. Mickelson and A. J. Weierholt, "Modeling of Bistable Optical Devices and Circuits," ELAB Report STF44 F85124 (August 1985).
8. A. R. Mickelson, "Information Processing with Optical Fiber/Optical Bistable Device Circuits," ELAB Report STF44 F84208 (October 1984).
9. A. R. Mickelson, D. R. Hjelme and N. Flaarønning, "Optiske Høyhastighets Systemer," ELAB Report STF44 A84127 (February 1984).
10. B. E. Helvik, N. Holte, S. J. Knapskog, A. R. Mickelson, A. Olaussen, and O. A. Seljelid, "Tjenesteintegert Regionalt Fiberoptisk Nett (RISFON) en Forstudie," ELAB Report STF44 A83194 (July 1984).
11. M. Eriksrud, A. R. Mickelson, S. Lauritzen, and N. Ryen, "Eksitasjonsbetingelsenes Innvirkning på Dempningen i Gradert-Indeks Fibre: En Eksperimentell Undersøkelse," ELAB Report STF44 A82188 (July 1982).
12. A. R. Mickelson, "Some Theoretical Remarks on Flare Stars," Caltech Antenna Laboratory Report #101 (May 1980).