

# 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 :

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 Jos)(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), National Radio Science Meeting 2002 (Boulder).  
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.

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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

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 Letters, IEEE Journal of Quantum Electronics, IEEE Microwave and Guided Wave Letters, IEEE Microwave and Wireless Components Letters, 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 the Optical Society of America A and B, Liquid Crystals (Taylor Francis), Optics Express, Optics Letters, Photonics Technology Letters, 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., Litton Data Systems, Lumera Inc., Martin Marietta, National Institute of Standards and Technology (NIST), National Science Foundation (NSF), and Office of Naval Research (ONR).

**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, 6 chapters in books, 71 journal articles, 1 edited conference proceeding, 62 papers in peer reviewed conference proceedings, 75 talks in conferences and symposia and 12 technical reports.

### **Sole Authored Books (2 total) :**

- A. R. Mickelson, Guided Wave Optics (Van Nostrand Reinhold, 1993).
- A. R. Mickelson, Physical Optics (Van Nostrand Reinhold, 1992).

### **Books Edited (1 total) :**

- A. R. Mickelson, N. R. Basavanahally, and Y.-C. Lee, Eds., Optoelectronic Packaging (Wiley Interscience, 1997).

### Chapters in Books (6 total) :

- 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)
- 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 (in press)). 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) 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) 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, Volume 1, 190–209 (New York: John Wiley & Sons, Inc., 1999).
- A. R. Mickelson, “Guided Wave Optics”, a chapter in the *Encyclopedia of Modern Optics* Eds. Robert D. Guenther Duncan G. Steel and Leopold Bayvel (Elsevier, Oxford, 2004).
- A. R. Mickelson, “Modeling Of Optically Assisted Phased Array Radars,” Proceedings of the National Academy of Sciences: Large-Scale Structures in Acoustics and Electromagnetics, 143-161 (National Academy Press, 1996).
- A. R. Mickelson, “Coherence Effects in Guided Wave Optical Systems,” in Recent Advances in Electromagnetic Theory, H. N. Kritikos and D.L. Jaggard, Eds. (Springer-Verlag, 1990), pp. 299-318.
- A. R. Mickelson, “Backscattering in Optical Fibers,” in *Optical Waveguide Sciences*, H. Hung-chia and A. W. Snyder, Eds. (Martinus Nijhoff Publishers, 1983).

### Journal Publications (71 total) :

- 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).
- D. Gurkan, A. Mickelson and D. Benhaddou, “Remote Laboratories for Optical Circuits,” *IEEE Transactions on Education* 51(1), 54-60 (February, 2008).
- 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).
- Edward McKenna and Alan Mickelson, “Slow Light Structures in Dye-Doped Polymers”, *Applied Optics* 46, 20, 4407–4412 (July, 2007).
- Prarie Neeley Robinson and Alan R. Mickelson, “Early Diagnosis of Oral Cavity Cancers”, *Otolaryngologic Clinics of North America* 39, 2, 295–306 (April, 2006).
- 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).

- Ed McKenna, Juizhi Xue, Angelo Verdoni, Mike Yetzbacher, Regis Fan, and Alan Mickelson, "Kinetic Model of Irreversible Photobleaching of Dye-Doped Polymer Waveguide Materials", *Journ. Optical Soc. Am. B21*, 7, 1294–1301 (July, 2004).
- D. Tomić and A. R. Mickelson, "Photobleaching for Optical Waveguide Formation in a Guest-Host Polyimide," *Applied Optics* 38, 3893 - 3903 (June, 1999).
- 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).
- 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).
- 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). See also *Guided Wave Optics Laboratory (GWOL) Report #59* (April, 1994).
- 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). See also *Guided Wave Optics Laboratory (GWOL) Report #69* (January 1996).
- 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). See also *Guided Wave Optics (GWOL) Report #70* (August, 1995).
- 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). See also *Guided Wave Optics Laboratory (GWOL) Report #65*, February, 1995).
- 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). See also *Guided Wave Optics Laboratory (GWOL) Report #63* (October, 1994).
- 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).
- 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).
- A. R. Mickelson, "Polymers Make the OEIC Connection," *IEEE Circuits and Devices* 10:6, 8-13 (November 1994).
- 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).

- 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).
- 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).
- 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).
- 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).
- 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).
- 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).
- 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).
- 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).
- 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).
- 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).
- 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).
- S. Yang and A. R. Mickelson, "Coupling Mechanisms and Transfer Functions of Optical Fiber Devices" *Applied Optics* 31:36, 7587-7596 (December 20, 1992).
- 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).
- 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).

- 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).
- 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).
- 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).
- 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).
- P. J. Matthews and A. R. Mickelson, "Analysis of an Integrated Optical Coherent Receiver with Optical State of Polarization Control," *Fiber and Integrated Optics* 10, 137-165 (December, 1991).
- M. J. Yadlowsky and A. R. Mickelson, "Time-Dependent Radiative Transfer in Inhomogeneous and Dispersive Media: Application to Multimode Fibers," *Journal of the Optical Society of America* A8: 6, 967-975 (June, 1991).
- D. R. Hjelme, A. R. Mickelson, and R. G. Beausoleil, "Semiconductor Laser Stabilization by External Optical Feedback," *IEEE Journal of Quantum Electronics* QE-27: 3, 352-372 (March, 1991).
- W. Charczenko, P. S. Weitzman, H. Klotz, M. Surette, J. M. Dunn, and A. R. Mickelson, "Characterization and Simulation of Proton Exchanged Integrated Optical Modulators with Various Dielectric Buffer Layers," *Journal of Lightwave Technology* LT-9, 92-100 (January, 1991).
- S. Yang, D. R. Hjelme, I. P. Januar, I. P. Vayshenker, and A. R. Mickelson, "A Transfer Function Approach to the Experimental Determination of Mode Transfer Matrices," *Applied Optics* 29, 3166-3175 (July 20, 1990).
- S. T. Vohra, A. R. Mickelson, and S. E. Asher, "Diffusion Characteristics and Waveguiding Properties of Proton Exchanged and Annealed LiNbO<sub>3</sub> Channel Waveguides," *Journal of Applied Physics* 66, 5161-5174 (December, 1989).
- S. Yang, I. P. Vayshenker, D. R. Hjelme, and A. R. Mickelson, "Transfer Function Analysis of Measured Transfer Matrices," *Applied Optics* 28:15, 3148-3175 (August 1, 1989).
- D. R. Hjelme and A. R. Mickelson, "Gain Nonlinearities due to Carrier Density Dependent Dispersion in Semiconductor Lasers," *IEEE Journal of Quantum Electronics* QE-25, 1625-1631 (July, 1989).
- W. Charczenko and A. R. Mickelson, "Symmetric and Asymmetric Perturbations of the Index of Refraction in Three-Waveguide Optical Planar Couplers," *Journal of the Optical Society of America* 6, 202-212 (February, 1989).
- A. J. Weierholt, S. Neegard, and A. R. Mickelson, "Eigenmode Analysis of Optical Switches in LiNbO<sub>3</sub> Theory and Experiments," *IEEE Journal of Quantum Electronics* QE-24: 12, 2477-2490 (December 1988). See also ELAB report STF44 A88070 (May, 1988).
- S. T. Vohra and A. R. Mickelson, "The Effects of Finite Melt Volume on Proton Exchanged Lithium Niobate," *Journal of Lightwave Technology* LT-6, 1848-1853 (December, 1988).

- A. J. Weierholt, A. R. Mickelson, and S. Neegard, "Eigenmode Analysis of Symmetric Parallel Waveguide Couplers," *IEEE Journal of Quantum Electronics* QE-23: 10, 1689-1700 (October, 1987). See also ELAB report STF44 A86114 (August, 1986).
- D. R. Hjelm and A. R. Mickelson, "On the Theory of External Cavity Operated Single-Mode Semiconductor Lasers," *IEEE Journal of Quantum Electronics* QE-23: 6, 1000-1004 (June, 1987).
- A. R. Mickelson, O. Klevhus, and M. Eriksrud, "Backscatter Readout from Serial Microbending Sensors," *Journal of Lightwave Technology* LT-2: 5, 700-709 (October, 1984).
- A. R. Mickelson, M. Eriksrud, S. Aamlid, and N. Ryen, "Role of the Fusion Splice in the Concatenation Problem," *Journal of Lightwave Technology* LT-2: 2, 126-138 (April, 1984). See also ELAB report STF44 A83172 (September, 1983).
- M. Eriksrud, A. R. Mickelson, and S. Lauritzen, "Backscattering Signatures from Optical Fibers with Differential Mode Attenuation," *Journal of Lightwave Technology* LT-2: 2, 139-145 (April, 1984). See also ELAB report STF44 A83167 (August, 1983).
- D. R. Hjelm and A. R. Mickelson, "Microbending and Modal Noise," *Applied Optics* 22, 3874-3879 (December, 1983).
- M. Eriksrud, A. R. Mickelson, and N. Ryen, "Length Dependence of Optical Fibre Bandwidth," *Electronic Letters* 19:23, 994-996 (November 10, 1983). See also ELAB report STF44 A83185 (November, 1983).
- A. R. Mickelson and A. Weierholt, "Modal Noise-Limited Signal-to-Noise Ratios in Multimode Optical Fibers," *Applied Optics* 22:19, 3084-3089 (October 1, 1983). See also ELAB report STF44 82211 (October 1982).
- A. R. Mickelson and M. Eriksrud, "Mode-Dependent Attenuation in Optical Fibers," *Journal of the Optical Society of America* 73:10, 1282-1290 (October, 1983). See also ELAB report STF44 A83143 (May 1983).
- M. Eriksrud, A. R. Mickelson, S. Aamlid, and B. Espe, "Mode Dependence of Splice Loss in Graded-Index Optical Fibers," *IEEE Journal of Quantum Electronics* QE-19: 5, 788-791 (May, 1983).
- N. Engheta and A. R. Mickelson, "Transition Radiation Caused by a Chiral Plate," *IEEE Transactions on Antennas and Propagation* AP-30:6, 1213-1216 (November, 1982).
- A. R. Mickelson and M. Eriksrud, "Mode Continuum Approximation in Optical Fibers," *Optics Letters* 7:11, 572-574 (November, 1982).
- M. Eriksrud and A. Mickelson, "Application of the Backscattering Technique to the Determination of Parameter Fluctuations in Multimode Optical Fibers," *IEEE Journal of Quantum Electronics* QE-18: 10, 1478-1483 (October, 1982), and *IEEE Transactions on Microwave Theory and Techniques* MTT-30:10, 1466-1471 (October, 1982). See also ELAB report STF44 A82180 (July, 1982).
- A. R. Mickelson and M. Eriksrud, "Theory of the Backscattering Process in Multimode Optical Fibers," *Applied Optics* 21:11, 1898-1909 (June 1, 1982). See also ELAB reports STF44 A81206 (October 1981) and STF44 A82180 (July, 1982).
- M. Eriksrud and A. R. Mickelson, "Experimental Investigation of Variation of Backscattered Power Level with Numerical Aperture in Multimode Optical Fibers," *Electronics Letters* 18:3, 130-132 (February 4, 1982). See also ELAB report STF44 A82180 (July, 1982).

- A. R. Mickelson and M. Eriksrud, "Role of Modal Distribution in Determining Power Backscattered from Fibers with Diameter Perturbations," *Electronics Letters* 17:18, 658-659 (September 3, 1981). See also ELAB report STF44 A82180 (July, 1982).
- M. Eriksrud, A. R. Mickelson, and T. Andersen-Gott, "Backscattering Signatures from Graded-Index Fibres with Diameter Variations," *Electronics Letters* 17:5, 200-201 (March 5, 1981). See also ELAB report STF44 A81171 (August, 1981).
- N. Engheta, A. R. Mickelson, and C. H. Papas, "On the Near-Zone Inverse Doppler Effect," *IEEE Transactions on Antennas and Propagation* AP-28: 4, 519-522 (July, 1980). See also Caltech Ant. Lab. Rept. #99 (May 1979).
- D. L. Jaggard and A. R. Mickelson, "The Reflection of Electromagnetic Waves from Almost Periodic Structures," *Applied Physics* 19:4, 405-412 (August, 1979). See also Caltech Ant. Lab. Rept. #94 (September, 1978).
- D. L. Jaggard, A. R. Mickelson, and C. H. Papas, "On Electromagnetic Waves in Chiral Media," *Applied Physics* 18:2, 211-216 (February 1979). See also Caltech Ant. Lab. Rept. #93 (July, 1978).
- A. R. Mickelson and D. L. Jaggard, "Electromagnetic Wave Propagation in Almost Periodic Media," *IEEE Transactions on Antennas and Propagation* AP-27: 1, 34-40 (January, 1979). See also Caltech Ant. Lab. Rept. #92 (May, 1978).
- W. K. deLogi and A. R. Mickelson, "Charged-Particle Beams as Gravitoelectric Antennas," *Il Nuovo Cimento* 47B: 2, 192-200 (October 11, 1978). See also Caltech Ant. Lab. Rept. #91 (April, 1978).
- W. K. de Logi and A. R. Mickelson, "Electrogravitational Conversion Cross Sections in Static Electromagnetic Fields," *Physical Review D* 16: 10, 2915-2927 (November 15, 1977). See also Caltech Ant. Lab. Rept. #84 (June, 1977).

**Edited Conference Proceedings (1 total) :**

- A. R. Mickelson, Ed., *Defect Recognition and Image Processing in Semiconductors 1995*, Institute of Physics Conference Series #149 (IOP Publishing, 1996).

**Papers in Peer Reviewed Conference Proceedings (63 total) :**

- Long He, Hongyu Zhou, Jyothi Karri, Dejan Filipović, Jiuzhi Xue and Alan Mickelson, "Plasmonic Antennas for Optical Interconnects," *Photonics 2008*, Delhi, India (December 14-17, 2008).
- Edward M. McKenna, Andy Lin, Alex Waskiewicz, and Alan R. Mickelson, "In-situ Monitoring of Slow Light Structures in Dye-Doped Polymer Waveguide Systems," *NanoScience and Engineering Symposium, Nano- and Macro- Photonics for Space Environments*, Society for Photo Instrumental Engineers, San Diego, CA (August 27, 2007).
- Alex Waskiewicz, Ideen Taeb, Driss Benhaddou, Deniz Gurkan, Frank Barnes and Alan Mickelson, "A Two Credit Hour Stand-Alone Remote Optics Laboratory," *Proceedings of the American Society for Engineering Education Annual Conference and Exposition*, Honolulu, Hawaii (June 2007).

- Deniz Gurkan, Alan Mickelson and Driss Benhaddou, "Results of a Collaborative Remote *Optical Circuits* Laboratory," Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Honolulu, Hawaii (June 2007).
- Richard Franzl, Deniz Gurkan, Driss Benhaddou and Alan Mickelson, "E-Learning Laboratories for Optical Circuits: Separation of Imperfections in Technology and Teaching Methodologies," Proceedings of the 2006 IJME-Intertech Conference Session ENT 103-094 (October, 2006).
- Driss Benhaddou, Deniz Gurkan, Harshita Kodali, Edward McKenna, Alan Mickelson, and Frank Barnes, "Online Laboratory for Optical Circuits Courses: Effective concept mapping," Proceedings of the 2006 American Society for Engineering Education Gulf-Southwest Annual Conference, Southern University and A&M College, March 2006.
- Edward McKenna, Randal Direen, Frank Barnes, Deniz Gurkan, Alan Mickelson, and Driss Benhaddou, "E-learning Environmental Design of a Distributed Online Laboratory for Optical Circuits Courses," Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Portland, Oregon, June 2005.
- Venkata N. P. Sivashankar, Edward M. McKenna, and Alan Mickelson, "Gratings in Electrooptic Polymer Devices" Proceedings of Photonics 2004, Cochin, Kerala, South India, December 9-12, 2004.
- A. R. Mickelson, "Optical Component Loss Budgets from Simulation," Proceedings of the Sixth World Conference on Systems, Cybernetics and Informatics, Volume 10, 575-580, Orlando, FL (July 14-18, 2002).
- H. D. Wu, K. F. Harsh, R. S. Irwin, Wenge Zhang, A. R. Mickelson, Y. C. Lee, and J. B. Dobsa, "MEMS Designed for Tunable Capacitors," Microwave Symposium Digest 1998 MTTT International Symposium, Volume 1, 127-129 (June 1998).
- A. R. Mickelson, "Polymers, Packaging, and Optical Waveguides," Proceedings Interpack 97 Conference, Kona, HI (June 1997).
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- 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).
- 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).
- 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).
- 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).
- 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).
- 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.
- 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.
- 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.
- 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.

- 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.
- A. R. Mickelson, "Quantum Communications," Proceedings of the Miniseries on Electromagnetics, Pasadena (March 1998).
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- A. R. Mickelson, "Rare Earth Integrated Optics," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
- A. R. Mickelson, "Rare Earth Doped Polymers," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
- J. Ma and A. R. Mickelson, "Optical Interconnects in VLSI Systems Using Polymer Waveguides and Switches," National Radio Science Meeting, USRI, Boulder (January 3-6, 1995).
- 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).
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- S. Lin and A. R. Mickelson, "Nd-Chelate-Doped Polymer Waveguides for Optical Amplifiers," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
- 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).
- W. Feng, R. B. Hooker and A. R. Mickelson, "Polymeric Electrooptic Devices," National Radio Science Meeting, URSI, Boulder (January 3-6, 1995).
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- K. Y. Chen and A. R. Mickelson, "Transistor Oscillators as Van Der Pol Oscillators," National Radio Science Meeting, URSI, Boulder (January 5-8, 1994).
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- 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).
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- 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).
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