YUNG-CHENG LEE
(September 30, 2009)

Professor, Department of Mechanical Engineering and
Director of DARPA Center on Nanoscale Science and Technology for Integrated Micro/Nano-Electromechanical Transducers (*i*MINT)
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Born February 5, 1956

I. Education

Ph.D., Mechanical Engineering, University of Minnesota, 1984
M.S., Mechanical Engineering, University of Minnesota, 1982
B.S., Mechanical Engineering, National Taiwan University, 1978

II. Experience

University of Colorado, Boulder, Colorado, USA, 1989 - present
Director, DARPA Focus Center on Nanoscale Science and Technology for Integrated Micro-/Nano-Electromechanical Transducers (MINT), September 2006 – present
Administrative Director of Nanomaterials Characterization Facility, September 2006 - present
Professor, Mechanical Engineering, August 1999 – present
Acting Director, Center for Advanced Manufacturing and Packaging of Microwave, Optical and Digital Electronics (CAMPmode), August 2001 to July 2002, August 2006 – July 2007
Associate Professor, Mechanical Engineering, August 1993 - August 1999
Associate Director, Center for Adv. Mfg. and Pkg. (CAMPmode), March 1993 –October 2002
Assistant Professor, Mechanical Engineering, August 1989 - August 1993

Research:
System integration for microcryocooler, thermal ground plane, chip-scale atomic clocks, nanowire-based light emitting diodes, and solider state supercapacitors.
Packaging and interconnect of microelectronics, microwave, optoelectronics, microelectromechanical systems (MEMS), and nanoelectromechanical systems (NEMS).
Solder self-alignment for precision assembly of optoelectronics and MEMS.
Thermosonic bonding for one-step assembly of low-cost modules.
Fuzzy logic to enhance statistical modeling to control complex processes.
Curriculum development:
Molecular Biology and Micro/Nano-Scale Engineering, MEMS CAD; Electronic and optoelectronic packaging; Mechatronics; Micro-machine design and analysis; Computer Aided Drawing; Integrated Manufacturing Systems.

Member of Technical Staff, AT&T Bell Laboratories - Murray Hill, USA, 1984-1989
* Silicon-Based Advanced Packaging for VLSIs and Optoelectronics
* 3-D Packaging for Portable Supercomputers
* Thermal Management for Multichip Modules and 3-D Packaging

III. List of Publications

Theses Advised

1. Sandip Chandra, "System Analysis of a Desktop Prototyping Center for Application-Specific Portable Supercomputers," **M.S. Thesis**, University of Colorado, Boulder, CO, 1990.
2. Khalil Zouari, "Pressure Distribution of the Vertical Interconnect in 3-D Packaging," **M.S. Thesis**, University of Colorado, Boulder, CO, 1991.
3. S. K. Patra, "Study of Self-Aligning Soldering for Electronic and Optoelectronic Packaging," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 1992.
4. Hong Xie, "Fuzzy-Logic Models for Manufacturing Process Control and Design Optimization," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 1993.
5. M. Gershovich, "Micron-Level Measurement of a Soldering Process for Optoelectronic Assembly," **M.S. Thesis,** University of Colorado, Boulder, CO
6. Sa Yoon Kang, "Experimental and modeling studies for thermosonic flip-chip bonding," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 1995.
7. Wei Lin, "Study of soldering technology for liquid-crystal-on-silicon (LCOS) modules," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 1995.
8. Brian R. Schaible, "Modeling nonlinear processes using fuzzy logic," **M.S. Thesis**, University of Colorado, Boulder, CO, 1995.
9. Yiu-Wai Andy Chan, "An integrated model for ball grid array/flip-chip solder joints reliability," **M. S. Thesis**, University of Colorado, Boulder, CO, 1995.
10. Qing Tan, " Longitudinal Thermosonic Bonding for Flip Chip Assembly," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 1997.
11. Saeed Hareb, "Mechanical Behavior of Solder- and Epoxy-Attached Optoelectronic Assemblies," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 1998.
12. Timothy McLaren, "Technology and Compression Modeling for Thermosonic Flip Chip Bonding," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 1998
13. Susan C. Tower, "Prediction of Yield for Flip-chip Solder Assemblies," **M.S. Thesis**, University of Colorado, Boulder, CO, 1998
14. Ronda S. Irwin, "Quick Flip-Chip Assembly of Microelectromechanical Systems," **M.S. Thesis**, University of Colorado, Boulder, CO, 1998
15. Kevin Harsh, "Solder for MEMS Self-Assembly," **M. S. Thesis**, University of Colorado, Boulder, CO, 1998
16. Brian R. Schaible, "Fuzzy Logic Based Regression Models of Flip-Chip Bonding Processes," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 1999.
17. Bingzhi Su, "GaAs Die Crack Initiation in Area Array Electronic Packages," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 2000.
18. Chunjun Wang, "Flexible Circuits Based Microelectromechanical Switches," **M.S. Thesis,** University of Colorado, Boulder, CO, 2001.
19. Kevin Harsh, "Design Optimization for MEMS Solder Self-Assembly", **Ph.D. Thesis**, University of Colorado, Boulder, CO, 2001.
20. Jianglong Zhang, "Angle Digitizing and Fixing for Optical Micro-mirrors," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 2002.
21. Zhichun Ma, "Design and Optimization for Shape Tuning of Large MEMS Flaps for Fluid Mixing," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 2003.
22. Faheem F. Faheem, "Packaging of Two-Dimensional Microelectromechanical Systems (MEMS) Variable Capacitors with Liquid Crystal Polymer," **Ph.D. Thesis**, University of

Colorado, Boulder, CO, 2004.
23. Simone Szeman Lee, "MEMS-based Devices for RF Applications: Switches and Field Probes," **Ph.D. Thesis**, University of Colorado, Boulder, CO, 2005.
24. Alexander D. Laws, "Thermal Management of Chip Scale Atomic Clocks.**" Ph.D. Thesis**, University of Colorado, Boulder, CO, 2007.
25. Muhong Lin, "Fabrication, Assembly and Characterization of a Hollow-Core Fiber-Based Micro Cryogenic Cooler," **PhD. Thesis**, University of Colorado, Boulder, CO 2009.

Books or Symposium Proceedings

1. Manufacturing Aspects in Electronic Packaging, symposium proceeding edited by Y. C. Lee and T. J. Bennett, ASME Book G00756, 1992.
2. Manufacturing Aspects in Electronic Packaging, symposium proceeding edited by Y. C. Lee, W. T. Chen, and Y. Yih, ASME Book H00864, 1993.
3. Optoelectronic Packaging, M. R. Feldman and Y. C. Lee, SPIE Proceedings, Volume 2691, February, 1996.
4. Advanced in Electronic Packaging, E. Suhir, M. Shiratori, Y. C. Lee and G. Subbarayan, Conference Proceedings, EEP-Vol. 1 and 2, ASME, New York, 1997.
5. Optoelectronic packaging, John Wiley and Sons, editors: Alan R. Mickelson, N. Bassavahally, and Y. C. Lee, 1997.
6. Manufacturing Challenges in Electronic Packaging, editors: Y. C. Lee and W. T. Chen, Chapman and Hall Pub., 1998.
7. Micro-Optics Integration and Assemblies, M. R. Feldman and Y. C. Lee, SPIE Processings, Volume 3289, January, 1998.
8. Advanced in Electronic Packaging, D. Agonafer, M. Saka and Y. C. Lee, Conference Proceedings, EEP-Vol. 26-2, ASME, New York, 1999.
9. Micro-Electro-MechanicalSystems (MEMS) - 1999, MEMS-Vol. 1, Liwei. Lin, Y. C. Lee and 20 other co-editors, ASME, New York, 1999.
10. Micro-Electro-MechanicalSystems (MEMS) - 2000, MEMS-Vol. 2, Abe Lee, Y. C. Lee and 20 other co-editors, ASME, New York, 2000.
11. InterPACK'01, The Pacific Rim/International, Intersociety, Electronic Packaging Technical/Business Conference & Exhibition, Kauai, Hawaii, July 8-13, 2001, ASME Conference CD-ROM.
12. Micro- and Opto-Electronic Materials and Structures: Physics, Mechanics, Design, Reliability, Packaging, Two-Volume Book, ed. by E. Suhir, Y. C. Lee and C. P. Wong, Springer, 2007.

Patents

"Article Comprising A Stacked Array of Electronic Subassemblies," Y. C. Lee and John Segelken, AT&T Bell Labs., U.S. Patent 5,049,982, September 17, 1991.

"Low-cost FLC/VLSI Spatial Light Modulator Packaging Using Solders," Teh-hua Ju, Y. C. Lee and Wei Lin, University of Colorado, U.S. Patent, 5,497,258, March 5, 1996.

"Atomic Layer Deposition on Micro-Mechanical Devices," Victor M. Bright, Jeffrey Elam, Francois Fabreguette, Steven M. George, Nils Hoivik, Yung-Cheng Lee, Ryan Linderman, and Marie Tripp, US Patent No. 7,426,067, September 16, 2008.

Articles Published and Accepted for Publications in Journals

1. “Fluorescent Tags to Visualize Defects in Al2O3 Thin Films Grown Using Atomic Layer Deposition,” Yadong Zhang, Yu-Zhong Zhang, David C. Miller, Jacob A. Bertrand, Ronggui Yang, Martin L. Dunn, Steven M. George and Y. C. Lee, Thin Solid Films, accepted for publication.
2. "Thermomechanical Properties of Aluminum Alkoxide (alucone) Films Created Using Molecular Layer Deposition", David C. Miller, Ross R. Foster, Shih-Hui Jen, Jacob A. Bertrand, Dragos Seghete, Byunghoon Yoon, Yung-Cheng Lee, Steven M. George, and Martin L. Dunn, Acta Materialia, 57(17), 2009, pp. 5083-5092.
3. “The Mechanical Robustness of Atomic-Layer and Molecular-Layer Deposited Coatings on Polymer Substrates, David C. Miller, Ross R. Foster, Yadong Zhang, Shih-Hui Jen, Jacob A. Bertrand, Zhixing Lu, Dragos Seghete, Jennifer L. O’Patchen, Ronggui Yang, Yung-Cheng Lee, Steven M. George, and Martin L. Dunn, Journal of Applied Physics, 105, 093527-1 to -12, 2009..
4. “Electroplating to visualize defects in Al2O3 thin films grown using atomic layer deposition,” Yadong Zhang, Jacob A. Bertrand, Ronggui Yang, Y. C. Lee, and Steven M. George, Thin Solid Films, Vol. 517, pp. 3269-3272, 2009.
5. “Thermo-mechanical Behavior of a Micromirror for Laser-to-Fiber Active Alignment Using Bimprphs with Breakable Tethers,” Hajime Kitagawa, David J. Boteler and Y. C. Lee, Int. J. Materials and Product Technology, Vol. 34, Nos. 1/2, 2009.
6. “Liquid Crystal Polymer for RF MEMS Packaging,” Faheem F. Faheem and Y. C. Lee, Int. J. Materials and Product Technology, Vol. 34, Nos. 1/2, 2009.
7. “Microelectromechanical Systems and Packaging, “ Y. C. Lee, Chapter 17 in Materials for Advanced Packaging, ed. By Daniel Lu and C. P. Wong, Springer, December 2008, pp.601-627.
8. “Thermal Conduction Switch for Thermal Management of Chip Scale Atomic Clocks,” A. D. Laws, Y. J. Chang, Victor M. Bright and Y. C. Lee, ASME Journal of Electronic Packaging. June 2008, Vol. 130, pp. 021011-1 to -6.
9. "Dielectric Asymmetric Trilayer Cantilever Probe for Calorimetric High Frequency Field Imaging", S. Lee, T. M. Wallis, J. Moreland, P. Kabos, and Y. C. Lee, ASME/IEEE Journal of Microelectromechanical Systems, Vol. 16, No. 1, pp.78-85, 2007.
10. "MEMS capacitive series switch fabricated using PCB technology**,**" R. Ramadoss, S. Lee, Y.C. Lee, V.M. Bright, and K.C. Gupta, International Journal of RF and Microwave Computer-Aided Engineering, 2007, pp. 387-397
11. “MEMS Packaging and Reliability, “ Y. C. Lee, Chapter 11 in Volume II in *Micro- and Opto-Electronic Materials and Structures: Physics, Mechanics, Design, Reliability, Packaging*, Ed. by Ephraim Suhir, Y. C. Lee, and C. P. Wong, Springer, 2007, pp. 299-320.
12. "RF MEMS Capacitive Switches Fabricated Using Printed Circuit Processing Techniques," R. Ramadoss, S. Lee, Y.C. Lee, V.M. Bright, and K.C. Gupta, IEEE/ASME Journal of Microelectromechanical Systems, 2006, pp. 1595 – 1604.
13. "Near Field Imaging of High Frequency Electromagnetic Fields with Calorimetric Cantilever Probes," S. Lee, T. M. Wallis, J. Moreland, P. Kabos, and Y. C. Lee, J. Appl. Phys. 99, 08H306, 2006.
14. “Soldering Technology for Optoelectronic Packaging,” Qing Tan, Y. C. Lee and Masataka Itoh, Chapter 5 in Passive Micro-Optical Alignment Methods, ed. R. and S. Boudreau, CRC Press, 2005.
15. “Forcing a Planar Jet Flow Using MEMS,” T. Peacock, E. Bradley, J. Hertzberg and Y. C. Lee, Experiments in Fluids, Vol 37, pp. 22-28, 2004.

16. “Tether- and Post- Enabled Flip-Chip Assembly for Manufacturable RF-MEMS," F. F. Faheem, and Y.C. Lee , Sensors and Actuators, vol. A-114, no. 2-3, pp.486-495, 2004.
17. "Reliability testing of flexible circuit-based RF MEMS capacitive switches," S. Lee, R. Ramadoss, K. C. Gupta, Y. C. Lee, and V. M. Bright, Microelectronics Reliability, 44 (2004) 245-250.
18. “Solder-assembled Large MEMS Flap for Fluid Mixing,” Z. Ma, Y. C. Lee, T. Peacock, E. Bradeley, J. Hertzberg, IEEE Transaction on Advanced Packaging, August 2003, pp. 268-276.
19. “Packaging for Microelectromechanical and Nanoelectromechanical Systems,” Y. C. Lee, B. A. Parviz, A. Chiou and S. Chen, IEEE Transaction on Advanced Packaging, August 2003, pp. 217-226.
20. “Flip-Chip Assembly and Liquid Crystal Polymer Encapsulation for Variable MEMS Capacitors,” F. F. Faheem, K.C. Gupta and Y.C. Lee, IEEE Transactions on Microwave Theory and Techniques, 2003, pp.2562-2567.
21. “MEMS Variable-Capacitor Phase Shifters: Part I – Loaded-Line Phase Shifter,” H. Zhang, A. Laws, K.C. Gupta, Y.C. Lee, and V.M. Bright, International Journal of RF and Microwave Computer-Aided Engineering, Issue 13(4), pp. 321-337, July 2003.
22. “MEMS Variable-Capacitor Phase Shifters: Part II – Reflection-Type Phase Shifter,” H. Zhang, A. Laws, K.C. Gupta, Y.C. Lee, and V.M. Bright, International Journal of RF and Microwave Computer-Aided Engineering, Issue 13(5), pp.415-425, September 2003.
23. "Fabrication, assembly, and Testing of RF MEMS capacitive switches using Flexible Printed circuit Technology," R. Ramadoss, S. Lee, K. C. Gupta, Y. C. Lee, and V. M. Bright, IEEE Transactions on Advanced Packaging, vol. 26, no. 3, August 2003, pp. 248-254.
24. "Prediction of the Crack Initiation of GaAs in a Soldered Assembly," Bing Su, Martin L. Dunn and Y. C. Lee, ASME J. of Electronic Packaging, 2003, pp.369-377.
25. “Computer-Aided Design for Microelectromechanical Systems (MEMS),” Y. C. Lee, B. McCarthy, Jiankuai Diao and Zhongxia Zhang, and K. F. Harsh. International J. of Nano Technology, Vol. 18 No. 4/5/6 ,2003.
26. “Thermal investigation of micromirrors for high energy applications,” Jianglong Zhang, Adisorn Tuantranont, Y.C. Lee and Victor M. Bright, IEEE Transactions on Advanced Packaging, 2003, pp.310-317.
27. “Design and investigation of multi-level digitally positioned micromirror for open-loop controlled applications,” J. Zhang, Z. Zhang, Y. C. Lee, V.M. Bright and J. Neff, Sensors and Actuators, Vol. A-103, pp. 271-283, 2003.
28. “Atomic layer deposited protective coatings for micro-electromechanical systems,” N.D. Hoivik, J.W. Elam, R.J. Linderman, V.M. Bright, S.M. George and Y.C. Lee, Sensors and Actuators, Vol. A-103, pp. 100-108, 2003.
29. “An integrated micro-optical system for VCSEL-to-fiber active alignment,” K. Ishikawa, J. Zhang, A. Tuantranont, V.M. Bright and Y.C. Lee, Sensors and Actuators, Vol. A-103, pp. 109-115, 2003.
30. “Reliability Modeling for Ball Grid Array Assembly with a Large Number of Warpage Affected Solder Joints,” Y. W. Chan, T. H. Ju, Saeed A. Hareb, Y. C. Lee, J. S. Wu and M. J. Lii, ASME J. of Electronic Packaging, pp. 246-253, 2002
31. "Electrostatic MEMS Planar Fan for Enhancement of Fluid Mixing," Zhinchun Ma, Xuyuan Chen and Y. C. Lee, International Journal of Nonlinear Sciences and Numerical Simulations, 3, 277-281, 2002.
32. "Reliability of Electrostatic MEMS: Charge Accumulation in Dielectric Layer," Xuyuan Chen, Zhichun Ma and Y. C. Lee, International Journal of Nonlinear and Numerical Simulation, 3, 665-670, 2002.

33. "Optoelectronic Packaging," G. Nakagawa, M. Yano and Y. C. Lee, Chapter 26, in Encyclopedia of Materials: Science and Technology, editors: S. Mahajan et al., Elsevier Science LTD, September 2001, pp. 6485-6493.
34. "Thermal and Mechanical Issues in Electronic Packaging," Hong Xie, Q. Tan and Y. C. Lee, Chapter 3, in Encyclopedia of Materials: Science and Technology, editors: S. Mahajan et al, Elsevier Science LTD, September 2001, pp. 2715-2725.
35. "Optical Beam Steering Using MEMS-Controllable Microlens Array," A. Tuantranont, V.M. Bright, J. Zhang, W. Zhang, J.A. Neff, and Y.C. Lee, Sensors and Actuators A, Vol. 91, pp. 363-372, 2001.
36. "MEMS-Based Variable Capacitor for Millimeter-wave Applications," Zhiping Feng, Huantong Zhang, Wenge Zhang, Bingzhi Su, K. C. Gupta, Victor M. Bright, and Y. C. Lee, Sensors and Actuators A, Vol. 91, pp. 256-265, 2001.
37. "NSF 2000 Workshop on Manufacturing of Micro-Electro-Mechanical Systems," A. A. Tseng, W. C. Tang, Y. C. Lee and J. Allen, Journal of Materials Processing & Manufacturing Science, Vol. 8, No. 4, April 2001, pp.292-360.
38. "Phase-only Micromirror Array Fabricated by Standard CMOS Process," Adisorn Tuantranont, Li-Anne Liew, Victor M. Bright, Wenge Zhang and Y. C. Lee, Sensors and Actuators A, Vol. 89, pp. 124-134, 2001.
39. "Modeling and Evaluation Criterion for Thermocompression Bonding," T. S. McLaren and Y. C. Lee, IEEE Transactions on Advanced Packaging, Vol. 23, No. 4, November 2000, pp. 652-660.
40. "The Realization and Design Considerations of a Flip-Chip Integrated MEMS Tunable Capacitor," K. Harsh, B. Su, Wenge Zhang, Victor M. Bright and Y. C. Lee, *Sensors and Actuators A*, Vol. 80, pp. 108-118, 2000.
41. "Study of Fluxless Soldering Using Formic Acid Vapor," W. Lin and Y. C. Lee, IEEE Transactions on Advanced Packaging, Vol. 22, No. 4, pp. 592-601, November, 1999.
42. “Solder Self-Assembly for Three-Dimensional Microelectromechanical Systems,” K. F. Harsh, V. M. Bright, and Y. C. Lee, *Sensors and Actuators A*, Vol. 77, pp. 237-244, 1999.
43. "Thermosonic Flip Chip Bonding System with a Self-Planarization Feature Using Polymer," Q. Tan, B. Schiable, L. Bond and Y. C. Lee, IEEE Transactions on Advanced Packaging, Vol. 22, No. 3, August 1999, pp. 468-475.
44. "Yield Prediction for Flip-Chip Solder Assemblies Based on Solder Shape Modeling," S. C. Tower, B. Su and Y. C. Lee, IEEE Trans. Electronics Packaging Manufacturing, pp.29-37, Jan. 1999.
45. "Packaging RF Devices and Modules," Y. C. Lee, Wenge Zhang, Bingzhi Su, Zhiping Feng, K. C. Gupta and Chong-Il Park, Wiley Encyclopedia of Electrical and Electronics Engineering, Ed. John G. Webster, John Wiley & Sons, Inc., New York, 1999, pp. 549-572.
46. "RF and Mechanical Characterization of Flip-Chip Interconnects in CPW Circuits with Underfill," Zhiping Feng, Wenge Zhang, Bingzhi Su, K. C. Gupta and Y. C. Lee, IEEE Trans. on Microwave Theory and Techniques, Dec. 1998, pp. 2269-75.
47. "Cost, Performance, and Reliability Simulation for Optical Transcriver Modules," C. W. Stirk, N. Delen, A. Fedor, M. Ball, R. B. Hooker, J. S. Wu, S. Hareb, T. H. Ju and Y. C. Lee, Applied Optics, vol. 37, no. 26, pp. 6151-6160,1998.
48. "Random Change of Vibration Modes in Thermosonic Bonding," Sa-Yoon Kang, Kai Chuang, and Y. C. Lee, ASME J. of Electronic Packaging, September, 1998, pp.253-258.
49. "The Effect of Underfill Epoxy on Warpage in Flip-Chip Assemblies," W. Zhang, D. Wu, B. Su, S. A. Hareb, Y. C. Lee and B. P. Masterson, IEEE Transactions on Components, Packaging, and Manufacturing Technology, Part A, Vol. 21, No. 2, June 1998, pp. 323-329.

50. "Efficient Design Using Fuzzy Logic Based Regression Models," Brian Schaible, Y. C. Lee, and Hong Xie, IEEE Transactions on Components, Packacging, and Manufacturing Technology, Part A, Vol. 21, No. 1, March 1998, pp. 132-141.
51. "Thermosonic Flip-Chip Bonding Using Longitudinal Ultrasonic Vibration," Qing Tan, Wenge Zhang, Brian Schaible, Leonard J. Bond, T. H. Ju, and Y. C. Lee, IEEE Trans. on Components, Pacakging, and Manufacturing Technology, Part B, Vol. 21, No. 1, February 1998, pp 53-58.
52. "Flip-chip Assembly for Smart Pixel Arrays," Y. C. Lee, Wei Lin, and T. McLaren, Chapter 12 in Optoelectronic Packaging, edited by Alan Mickelson, N. Bassavahally, and Y. C. Lee, John Wiley and Sons Book Pub. Co., 1997, pp. 209-224.
53. "Development of a Thermosonic Bonding Process for an 8 x 8 VCSEL Array Based Optical Transceiver," T. McLaren, S. Y. Kang, W. Zhang, T. H. Ju, and Y. C. Lee, IEEE Transactions on Components, Parts and Manufacturing Technology Part B: Advanced Packaging, vol. 20, no. 2, May 1997, pp 152 - 160.
54. Gas Flow Effects on Precision Solder Self-Alignment," Bingzhi Su, M. Gershovich and Y. C. Lee, IEEE Transactions on Components, Packaging and Manufacturing Technology, Part C, Vol. 20, No. 4, October 1997, pp. 1-7.
55. "Fuzzy Logic Models for Ranking Process Effects," Brian Schaible, Hong Xie, and Y. C. Lee, IEEE Transactions on Fuzzy Systems, Vol. 5, No. 4, November 1997, pp. 545 - 556
56. "Fuzzy Logic Models with Imrpoved Accuracy and Continuous Differentiability," Brian Schaible and Y. C. Lee, IEEE Trans. on Components, Packaging and Manufacturing Technology, Part C: Manufacturing, January, 1996, pp. 37-47.
57. "Thermal Management of VCSEL-based Optoelectronic Modules," Y. C. Lee, S. E. Swirhun, W. S. Fu, T. A. Keyser, J. L. Jewell and W. E. Quinn, IEEE Trans. on Components, Packaging and Manufacturing Technology, Part B: Advanced Packaging, August, 1996, pp. 540-547.
58. "Tolerance Analysis for Three-Dimensional Optoelectronic Systems Packaging," V. N. Morozov, Y. C. Lee, J. A. Neff, D. O'Brien, T. S. McLaren, H. Zhou, Optical Engineering, Vol. 35, No. 7, July 1996, pp. 2034-2043.
59. "Modeling and Experimental Studies on Thermosonic Flip-Chip bonding,: Sa Yoon Kang, P. M. Williams, and Y. C. Lee, IEEE Trans. on Components, Packaging and Manufacturing Technology, Part B, November, 1995, pp. 728-733.
60. "Studies of Thermosonic Bonding for Flip-Chip Assembly," Sa Yoon Kang, P. M. Williams, T. McLaren, and Y. C. Lee, Materials Chemistry & Physics, vol. 42, No. 1, pp. 31 - 37, 1995.
61. "Packaging of a 128 by 128 Liquid-crystal-on-silicon Spatial Light Modulator Using Self-pulling Soldering," T. H. Ju, Wei Lin, Y. C. Lee, D. McKnight, and K. M. Johnson, IEEE Photonics Technology Letter, Vol. 7, No. 9, September, 1995.
62. Design of Solder Joints for Self-aligned Optoelectronic Assemblies," Wei Lin, S. K. Patra, and Y. C. Lee, IEEE Trans. on Components, Packaging and Manufacturing Technology, Part A, August, 1995, pp. 543-551.
63. "Fuzzy Logic Models for Thermally Based Microelectronic Manufacturing Processes, Xie, R. L. Mahajan, and Y. C. Lee, IEEE Trans. on Semiconductor Manufacturing, August, 1995, pp. 219 -227.
64. "Minimum-Energy Surface Profile of Solder Joints for Non-circular Pads," S. K. Patra, S. S. Sritharan, and Y. C. Lee, ASME J. of Applied Mechanics, June 1995, 390-397.
65. "Efficient Establishment of a Fuzzy Logic Model for Process Modeling and Control," Jian Tan, H. Xie, and Y. C. Lee, IEEE Trans. on Semiconductor Manufacturing, Feb., 1995, pp. 50-61.
66. "Effects of Ceramic Ball-Grid-Array Package's Manufacturing Variations on Solder Joint Reliability," Teh-hua Ju, Wei Lin, Y. C. Lee, and Jay Liu, ASME J. of Electronic Packaging, pp. 242-248, Dec., 1994.

67. "Thermal and Electrical Management of Ceramic Ball Grid Array Assembly," Y. C. Lee, Jay J. Liu, Robert Tsai, and J. A. Zitz, a chapter of "Ball-Grid-Array Handbook, edited by John Lau, McGraw-Hill Book Co., New York, pp. 193-221.
68. "Thermosonic Bonding for Flip-Chip Assembly," T. McLaren, Sa Yoon Kang, Wenge Zhang, and Y. C. Lee, ISHM's Advancing Microelectronics, July/August, pp. 14-16.
69. "Process Optimization Using a Fuzzy Logic Response Surface Method," Xie, Y. C. Lee, R. L. Mahajan, and R. Su, IEEE Trans. on Components, Packaging, and Manufacturing Technology - Part A, June, 1994, pp. 202-211.
70. "Solder Engineering for Optoelectronic Packaging," Y. C. Lee and Nagesh Basavanhally, Journal of Metals, June, 1994, pp. 46-50.
71. "Study of an Air Cooling Scheme for 3-D Packaging," Hong Xie and Y. C. Lee, ASME J. of Electronic Packaging, March, 1994, pp. 30-36.
72. "Modeling of Flip-Chip Thermocompression Bondings," Sa-Yoon Kang, Hong Xie, and Y.C. Lee, ASME J. of Electronic Packaging, March, 1993, pp.63- (Outstanding Paper Award)
73. "Quasi-Static Modeling of the Self-Alignment Mechanism in Flip-Chip Soldering Process," S. Patra and Y. C. Lee, ASME J. of Electronic Packaging, December, 1991, pp. 337-342.
74. "Stress Analysis of Vertical Interconnects for 3-D Packaging," K. Zouari and Y. C. Lee, ASME Journal of Electronic Packaging, September, pp. 233-239.
75. "Mechanical/Thermal/Environmental Methodology," E. Suhir and Y. C. Lee, A Chapter in Electronic Materials Handbook, Vol. 1: Packaging, ed. M. L. Minges, ASM International, 1989.
76. "Internal Thermal Resistance of a Multi-Chip Packaging Design for VLSI Based Systems," Y. C. Lee, H. T. Ghaffari and J. M. Segelken, IEEE T. Comp., Hybrids, Manuf. Tech., Vol. 12, pp. 163-169, 1989.
77. "Natural Convective Immersion Cooling with Near-Critical Fluids," Y. C. Lee and Y. Y. Hsu, in *Cooling Technology for Electronic Equipment* , ed. by Win Aung, Hemisphere Pub. Co., 1988.
78. "Particle Dynamics and Particle Heat and Mass Transfer in Thermal Plasmas. Part III : Thermal Plasma Jet Reactors and Multiparticle Injection," Y. C. Lee and E. Pfender, Plasma Chemistry and Plasma Processing , Vol. 7, No. 1, pp. 1-27, 1987.
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80. "Particle Dynamics and Particle Heat and Mass Transfer in Thermal Plasmas. Part I : The Motion of a Single Particle without Thermal Effects," E. Pfender and Y. C. Lee, Plasma Chemistry and Plasma Processing , Vol. 5, No. 3, pp. 211-237, 1985.
81. "Heat Transfer to a Particle under Plasma Conditions with Vapor Contamination from the Particle," X. Chen, Y. P. Chyou, Y. C. Lee and E. Pfender, Plasma Chemistry and Plasma Processing , Vol. 5, No. 2, 119-141, 1985.

Papers and/or Presentations at Professional Meetings

1. "Packaging and Interconnect Technologies for GaN Nanowire-Based Light Emitting Diodes," Myongjai Lee, Jen-Hau Cheng, Y. C. Lee, Dragos Seghete and Steven M. George, Electronic Components and Technology Conference, San Diego, CA, May 26 -29, 2009.
2. "Fabrication and Testing of a Flat Polymer Micro Heat Pipe," C.J. Oshman, B. Shi, C. Li, R.G. Yang, Y.C. Lee, and V.M. Bright, The 15th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducer), Denver, CO, June 21 - 25, 2009.

3. “Atomic Layer Deposition Enabled Interconnect Technology for Vertical Nanowire Array Devices,” Myongjai Lee, Jen-Hau Cheng, Kris Bertness, Norman Sanford, Dragos Seghete, Steven George, and Y.C. Lee, The 15th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducer), Denver, CO, June 21 - 25, 2009.
4. “ Design, Fabrication, and Assembly of a Hollow-Core Fiber-Based Micro Cryogenic Cooler,” M.-H. Lin, P.E. Bradley, H.-J. Wu, J.C. Booth, R. Radebaugh, and Y.C. Lee, The 15th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducer), Denver, CO, June 21 - 25, 2009.
5. “Defect Inspection of ALD/MLD-Based Barrier Coatings,” Yadong Zhang, Yu-Zhong Zhang, David C. Miller, Jacob A. Bertrand, Shih-Hui Jen, Ronggui Yang, Martin L. Dunn, Steven M. George, Y. C. Lee, Ceramic Interconnect and Ceramic Microsystems Technologies (CICMT 2009), Denver, Colorado – USA, April 20 - 23, 2009
6. Mechanical Robustness of ALD/MLD-Based Barrier Coatings David C. Miller, Ross R. Foster, Yadong Zhang, Shih-Hui Jen, Jacob A. Bertrand, Zhixing Lu, Dragos Seghete, Jennifer L. O’Patchen, Ronggui Yang, Yung-Cheng Lee, Steven M. George, Martin L. Dunn, Ceramic Interconnect and Ceramic Microsystems Technologies (CICMT 2009), Denver, Colorado – USA, April 20 - 23, 2009
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8. “Development of a Mixed-Refrigerant Joule-Thomson Microcryocooler,” P.E. Bradley, R. Radebaugh, M. Huber, M.-H.Lin, and Y.C. Lee, 15TH International Cryocooler Conference, June 9-12, 2008, Long Beach, CA.
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10. “Mechanical Robustness of Atomic Layer Deposited and Molecular Layer Deposited Coatings for Microsystems and Flexible Electronics Applications,” David C. Miller, Ross R. Foster, Yadong Zhang, Shih-Hui Jen, Jacob A. Bertrand, Zhixing Lu, Dragos Seghete, Jennifer L. O’Patchen, Ronggui Yang, Yung-Cheng Lee, Steven M. George, and Martin L. Dunn, Symposium I: Reliability and Properties of Electronic Devices on Flexible Substrates, Material Research Society (MRS) Symposium, Fall 2008, Boston, MA
11. “Fluorescent Tag-Based Inspection of Barrier Coatings for OLEDs and Polymer Packages,” Yadong Zhang, Yu-Zhong Zhang, David C. Miller, Jacob A. Bertrand, Ronggui Yang, Martin L. Dunn, Steven M. George and Y. C. Lee, NSTI Nanotech 2008, Boston, MA, June 1-5, 2008.
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13. “Thermal and Structural Analysis of a Suspended Physics Package for a Chip-Scale Atomic Clock,” A. D. Laws and Y. C. Lee, ASME InterPACK’07, Vancouver, July 8-13, 2007.
14. “Fundamental Studies for Integrated Micro/Nano-Electromechanical Transducers,” (Presentation Only), Y. C. Lee, ASME InterPACK’07, Vancouver, Canada, July 8-13, 2007.
15. “Packaging and Microelectromechanical Systems (MEMS),” Y. C. Lee, Keynote speech, International Conference on Electronic Packaging Technology, Shanghai, China, August 14-17, 2007.

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26. "Flexible Polyimide Film Based High Isolation RF MEMS Switches Fabricated Using Printed Circuit Processing Techniques," R. Ramadoss, S. Lee, Y. C. Lee, V. M. Bright, and K. C. Gupta, 2005 IEEE International Conference on MEMS, Miami, Florida, January 2005.
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106. “Fuzzy logic based regression modeling of nonlinear processes,” Brian Schaible and Y. C. Lee, Electrochemical Society Fall Meeting, Vol. 96-2, San Antonio, TX, October 6 - 11, 1996.
107. Berseth, W., Neff, J., Chen, C., Fedor, A., Lee, Y.C., Mao, C.C., McLaren, T., Morovov, V., O'Brien, D., 1996, "A 3-D Parallel Free-Space Optical Crosspoint Switch", Technical Digest 1, International Topical Meeting on Optical Computing, Sendai, Japan, August.
108. “Thermosonic Bonding for Flip-Chip Assembly,” Qing Tan, Wenge Zhang, Tim McLaren, Zhiping Feng, Brian Schaible, L. J. Bond, T. H. Ju, K. C. Gupta, Y. C. Lee, and T. A. Siewert, Wireless Communication Conference, Boulder, CO, August 19-21, 1996.
109. "Assembly of VCSEL Based Smart Pixel Arrays," McLaren, T., Zhang, W., Irwin, R., Morozova, N., Chen, C., Neff, J., Lee, Y.C., IEEE/LEOS Summer Topical Meetings (Smart Pixels), Keystone, Colorado, August 5-9, 1996
110. “Laser-array to Single-Mode-Fiber Coupling Module with Increased Tolerance budget Using Polymer Waveguide Tapers,” D. J. Goodwill, R. S. Fan, N. D. Morozova, R. B. Hooker, A. R. Mickelson and Y. C. Lee, SPIE Proceedings, Vol. 2844, SPIE Annual Meeting, Denver, CO, August 1996.
111. “Studies on Flip-Chip Assembly for Optoelectronic Packaging,” Y. C. Lee, (invited talk), SPIE Annual Meeting, Denver, CO, August, 1996.
112. “Packaging of Ferroelectric Liquid Crystal on Silicon Spatial Light Modulators,” N. D. Morozova, W. Zhang, Wei Lin, T. H. Ju, Y. C. Lee, K. M. Johnson and D. J. McKnight, SPIE Proceedings Vol. 2848, SPIE Annual Meeting, Denver, CO, August, 1996.
113. “Soldering for Optoelectronic Packaging,” Y. C. Lee and Qing Tan, IEEE Electronic Components and Technology Conference, Orlando, FL, May 28 - 30, 1996, pp.26-26. (invited paper).
114. “Thermal Management for Optoelectronic Packaging,” Y. C. Lee, invited panelist on Thermal challenges in 21st Century, InterSociety Conference on Thermal Phenomena in Electronic Sytems, Orlando, FL, May 29 - June 1, 996.
115. “Modeling VCSEL Characteristics Using Device and Package Models,” N. D. Morozova and Y. C. Lee, SPIE Conference on Optoelectronic Packaging, San Jose, California, February 1- 2, 1996.
116. “Studies for flip-chip/BGA Soldering,” Y. C. Lee, (invited talk), Semi-Korea, January 25, 1996,
117. "An Integrated Model for Ball Grid Array Solder Joint Reliability," T. H. Ju, Y. W. Chan, S. A. Hareb, and Y. C. Lee, ASME International Mechanical Engineering Congress and Exposition, San Francisco, November 12-17, 1995, pp. 83-89.
118. "Random Change of Vibration Modes in Thermosonic Bonding," Sa-Yoon Kang, Kai Chuang, and Y. C. Lee, ASME International Mechanical Engineering Congress and Exposition, San Francisco, November 12-17, 1995, pp. 49-58.
119. “Cost-effective R&D for Emerging Solder Technologies," Keynote speech, Eighth Annual Solder Technology for Electronics Packaging Symposium, Binghamton, New York, October 30 - 31, 1995.
120. "Fuzzy Logic Modeling for Process Optimization and Control," Brian Schaible and Y. C. Lee, International Symposium on Plasma Chemistry, Minneapolis, Minnesota, August 21-25, 1995.
121. "Thermal Management of VCSEL-based Optoelectronic Modules," Y. C. Lee, W. S. Fu, S. W. Swirhun, T. Keyser, J. L. Jewell, and W. E. Qinn, IEEE Electronic Components and Technology Conference, Las Vegas, May 21 to 24, 1995.

122. "Thermosonic Flip-Chip Assembly of 8x8 VCSEL Array," Tim McLaren, Sa Yoon Kang, Wenge Zhang, Diana Hellman, and Y. C. Lee, IEEE Electronic Components and Technology Conference, Las Vegas, May 21 to 24, 1995.
123. "An Integrated Model for Ball Grid Array Solder Joint Reliability," T. H. Ju, Y. C. Lee, S. M. Hareb, and Y. W. Chan, 1995 International Conference on Multichip Modules, Denver, April 19 to 21.
124. "Introduction to Optoelectronic Packaging and Interconnects," ASME International, Intersociety Electronic Packaging Conference, Maui, Hawaii, March 26-30, 1995.
125. "Thermosonic Bonding for Flip-Chip Assembly," Sa Yoon Kang, T. McLaren, Wenge Zhang, and Y. C. Lee, 1995 IEEE Multichip Module Conference, Santa Cruz, Jan. 31 to Feb. 2., pp. 75-80.
126. "Thermal and Mechanical Behavior of BGA/Flip-Chip Assembly," Y. C. Lee, ISHM/SMTA Workshop on BGA Technology, Denver, Jan. 19, 1995.
127. "Studies of Thermosonic Bonding for Flip-Chip Assembly," Sa Yoon Kang, P. M. Williams, and Y. C. Lee, International Conference on Electronic Materials, Hsinchu, Taiwan, Dec. 19-21, 1994. (invited)
128. “Thermal and Mechanical Analysis for Ceramic Ball Grid Array Assembly," T. H. Ju and Y. C. Lee, International Conference on Electronic Materials, Hsinchu, Taiwan, Dec. 19-21, 1994.
129. "Optoelectronic Packaging," Y. C. Lee, Workshop on Concurrent Engineering for Advanced Interconnect Technology, Amelia Island, FL, Nov. 13-16, 1994. (invited)
130. "Studies on Solder Self-alignment," Y. C. Lee, IEEE LEOS Annual Meeting, Boston, MA, Oct. 31-Nov. 2, 1994. (invited)
131. "Thermal Management of Ceramic Ball Grid Array Assembly," Y. C. Lee and J. A. Zitz, IEEE BGA/Flip-Chip Technology Workshop, Binghamton, NY, Oct. 19-21, 1994.
132. "Solder Engineering for Reliable Connections," Tutorial, Seventh Annual Solder Technology for Electronics Packaging Sympos, SUNY at Binghamton, NY, Oct. 17-18, 1994.
133. "Analysis of Variance Using Fuzzy Logic Models," H. Xie and Y. C. Lee, IEEE World Congress on Fuzzy Logic, Orlando, FL, June 30-July 2, 1994.
134. "Solder Modeling for Electronic/Optoelectronic Packaging," Y. C. Lee, Teh-Hua Ju, and Wei Lin, NIST/NSF Interconnect Workshop, Minneapolis, MN, May 31-June2, 1994.
135. "Assembly Models for Flip-Chip Soldering and Bonding," Y. C. Lee, 8th International Microelectronic Conference, Omiya, Japan, April 20, 1994.
136. "Gas Flow Effects on Self-Aligning Soldering for Optoelectronics," M. Gershovich and Y. C. Lee, 8th International Microelectronic Conference, Omiya, Japan, April 20, 1994.
137. "Research on Self-Alignment for Optoelectronic Applications," Y. C. Lee, Teh-Hua Ju, Wei Lin, A. Chan, and M. Gershovich, ISHM Advanced Technology Workshop on Optoelectronics, April 15-17, 1994, Aspen, Colorado.
138. "Packaging for 128x128 Ferroelectric Liquid Crystal-on-VLSI Modules," Wei Lin, Teh-Hua Ju, Y. C. Lee, D. J. McKnight, and K. M. Johnson, ISHM Advanced Technology Workshop on Optoelectronics, April 15-17, 1994, Aspen, Colorado.
139. "Effects of Ceramic Ball-Grid-Array Package's Manufacturing Variations on Solder Joint Reliability," T. H. Ju and Y. C. Lee, ISHM MCM Conference, Denver, April 12-15, 1994.
140. "Effects of Ceramic Ball-Grid-Array Package's Manufacturing Variations on Solder Joint Reliability," Teh-hua Ju, Wei Lin, Y. C. Lee, and Jay Liu, ASME Winter Annual Meeting, New Orleans, Nov. 30, 1993.
141. "Modeling and Experiment on Thermosonic Flip-Chip Bonding," S. Y. Kang, P. M. Williams, T. A. Keyser, and Y. C. Lee, ASME Winter Annual Meeting, New Orleans, Nov.

30, 1993.

142. "Solderless Connection Technologies," Y. C. Lee and P. M. Williams, ASME Winter Annual Meeting, New Orleans, Nov. 30, 1993.
143. "Compact Optical Processors Using Multi-Chip Modulates", (invited), Optical Society of America Technical Digest, K. M. Johnson and Y. C. Lee, October 5, 1993, Toronto, Canada.
144. "Process Optimization Using Fuzzy Logic Models," H. Xie, Y. C. Lee, R. L. Mahajan, and Ren Su, SRC TECHCON, Atlanta, Sept. 28-30, 1993.
145. "Experimental Verification of a General Purpose Solder Profile Model," T. H. Ju, Y. W. Chan, W. Lin, and Y. C. Lee, S. K. Patra, and S. H. Lee, ASME Int'l Electronics Packaging Conference, Binghamton, New York, Sept. 29, 1993.
146. "Cooling of A FCHIP Package with a 100 Watt, 1 sq. cm Chip," Y. C. Lee, Wenge Zhang, Hong Xie, and Roop L. Mahajan, ASME Int'l Electronics Packaging Conference, Binghamton, New York, Sept. 29, 1993.
147. "Packaging of Liquid Crystal on Silicon Modulators Using Solder," T. H. Ju, W. Lin, Y. C. Lee, and K. M. Johnson, IEEE-LEOS Summer Topical Meeting, Santa Barbara, CA, July 26-28, 1993.
148. "CAD of Solder Joints for Self-Aligned Assemblies," S. K. Patra, W. Lin, and Y. C. Lee, IEEE-LEOS Summer Topical Meeting, Santa Barbara, CA, July 26- 28, 1993.
149. "Thermosonic Bonding: An Alternative to Area-Array Solder Connections," Sa Yoon Kang, Teh-hua Ju, and Y. C. Lee, Electronic Components and Technology Conference, Florida, June 2-4, 1993.
150. "Study of Soldering for VLSI/FLC Spatial Light Modulators," Wei Lin, Y. C. Lee and K. M. Johnson, Electronic Components and Technology Conference, Florida, June 2-4, 1993.
151. "Thermal Modeling Using Fuzzy Logic for 1-100 Watt/sq. cm Chips," H. Xie and Y. C. Lee, Int'l Conf. on MCMs, Denver, April 14-16, 1993.
152. "Modeling of Flip-Chip Thermocompression Bondings: Part I - A Physical Yield Model," Sa-Yoon Kang and Y.C. Lee, ASME Winter Annual Meeting, Anaheim, Nov., 1992.
153. "Modeling of Flip-Chip Thermocompression Bondings: Part II - Uncertainties and Self-Learning Physico-Fuzzy Models," H. Xie, S.Y. Kang and Y.C. Lee, ASME Winter Annual Meeting, Anaheim, Nov., 1992.
154. "Minimum-Energy Surface Profile of Solder Joints for Non-circular Pads," S. K. Patra, S. S. Sritharan, and Y. C. Lee, ASME Winter Annual Meeting, Anaheim, Nov., 1992.
155. "Neural Network and Fuzzy Logic Models for a Horizontal CVD Reactor," R. L. Mahajan, X. A. Wang, H. Xie, and Y. C. Lee, SPIE Conference on Artificial Intelligence and Neural Networks, April 1992, Orlando.
156. "Yield Modeling of MCM Assembly with Flip-Chip Thermocompression Bondings," Sa-Yoon Kang, H. Xie and Y.C. Lee, IEEE MCM Conference, Santa Cruz, March 18 - 20, 1992.
157. "High-Density Assembly," Y. C. Lee, ISHM Multichip Module-C Workshop, Florida, December, 1991.
158. "Experiment and Modeling of the Self-Alignment Mechanism in Flip-Chip Soldering," M. Landry, S. K. Patra and Y. C. Lee, ASME Winter Annual Meeting, Atlanta, 1991.
159. "Self-Aligned Soldering for Fast Image Correlator," Y. C. Lee and K. Johnson, International Electronic Packaging Society Conference, San Diego, CA, September 15 - 19, 1991.
160. "MCM Assembly Using Low-Cost Robots," Y. C. Lee and D. Orthman, Multichip Module Workshop, Santa Cruz, March 28-29, 1991.
161. "Modeling of the Self-Alignment Mechanism in Flip-Chip Soldering; Part II: Multiple Solder Joints," S. K. Patra and Y. C. Lee, 41st Electronic Components and Technology Conference,

Atlanta, May, 1991. (Outstanding Paper Award).

162. "Quasi-Static Modeling of Self-Alignment Mechanism in Flip-Chip Soldering Process," S. Patra and Y. C. Lee, ASME Winter Annual Meeting, Dallas, TX, Nov.25-30, 1990.
163. "Stress Analysis of Vertical Interconnects for 3-D Packaging," K. Zouari and Y. C. Lee, ASME Winter Annual Meeting, Dallas, TX, Nov. 25-30, 1990.
164. "Quick Prototyping Center for HWSI Multichip Modules," S. Chandra and Y. C. Lee, SPIE Intern'l Symposium on Advances in Interconnects and Packaging, Boston, Nov. 4-9, 1990.
165. "Design of HWSI Multichip Modules for Quick Prototyping and Manufacturing," Y. C. Lee, 40th Electronic Components and Technology Conference, Las Vegas, NV, May 21-23, 1990.
166. "Desktop Prototyping and Manufacturing for HWSI-Based Supercompact Systems," Y. C. Lee, J. P. Avery and R. Su, Government Microcircuit Applications Conference, Orlando, Fl., Nov. 7 - 9, 1989.
167. "Hermetic Sealing for an Advanced VHSIC/VLSI Packaging Technology," J. M. Segelken, Y. C. Lee and B. Poborets, Government Microcircuit Applications Conf., Las Vegas, Nov. 8-10, 1988.
168. "Experimental and Numerical Studies of Particle Velocities in Thermal Plasma Jets," E. Fleck, Y. C. Lee and E. Pfender, 8th Int'l Symposium on Plasma Chemistry, Tokyo, Japan, 1987.
169. "A Gas-Shrouded Plasma Spray Torch," with E. Fleck and E. Pfender, 7th Int'l Symposium on Plasma Chemistry, Eindhoven, Netherlands, July, 1113(1985).
170. "Heat Transfer Analysis of the Plasma Sintering Process," Y. C. Lee and E. Pfender, Materials Research Society Symposia Proceedings, Vol. 30, Plasma Processing and Synthesis of Materials, Elsevier Science Publishing Co., Inc., New York, November, 1983.
171. "The Importance of Knudsen and Evaporation Effect," with Y. C. Lee, X. Chen and E. Pfender, 6th Int'l Symposium on Plasma Chemistry, Montreal, Canada, 1983.
172. "Modeling of Particles Injected into a D.C. Plasma Jet," Y. C. Lee, K. C. Hsu, and E. Pfender, 5th Int'l Symposium on Plasma Chemistry, Edinburg, Scotland, 1981.

Invited Presentations, Seminars or Short Courses (Speaker: Y. C. Lee)

1. February 15, 1990; Intel Corporation, Chandler, AZ, "Quick Prototyping for HWSI-Based Supercompact Systems."
2. February 16, 1990; Motorola Inc., Phoenix, AZ, "Quick Prototyping for HWSI-Based Supercompact Systems."
3. April 23, 1990; United Technologies Research Center, CT, "Modeling Work in Thermal Plasma Processing."
4. July 31, 1990; ASIC Tutorial, Microelectronic System Education Conference & Exposition, Santa Clara, CA, "Quick Prototyping for HWSI-Based Supercompact Systems."
5. November 20, 1990; Seminar Series of the Center for Optoelectronic Computing Systems, University of Colorado, Boulder, CO, "Advanced Packaging for Electronics and Optoelectronics."
6. February 27, 1991; Seminar Series of the Center for Optoelectronic Computing Systems, Colorado State University, CO, "Advanced Packaging for Electronics and Optoelectronics."
7. October 24, 1991; Seminar Series of Department of Mechanical Engineering, Colorado State University, Fort Collins, CO, "Self-Aligned Soldering for Advanced Electronic Packaging."
8. October 28, 1991; AT&T Bell Labs., Princeton, NJ, "Self-Aligned Soldering for Advanced Electronic Packaging."
9. November 5, 1992; Tutorial, Center for Advanced Packaging of Microwave, Optical, and

Digital Electronics, University of Colorado, Boulder, CO, "Introduction to Multichip Modules."
10. November 16, 1992; Seminar, Digital Equipment Corporation, Hudson, MA, "Studies on Soldering, Thermocompression Bonding, and Thermal Management Related to Flip-Chip Connected Packages."
11. May 18, 1993; SME Chapter 354 Monthly Seminar, Lafayette, CO, "Multichip Modules"
12. August 31, 1993; Special One-Day Seminar; Allied Signal, Kansas City, MO, "Advanced Packaging Research for Flip-Chip Assemblies"
13. November 16, 1993; Short Course; OPTCON, San Jose, CA, "Introduction to Optoelectronic Packaging"
14. April 5, 1994; Intel, Chandler, AZ, "Thermosonic Flip-Chip Bonding"
15. April 11 - 13, 1994; Two-day Short Course; Taipei, Taiwan, "Electronic/Optoelectronic Packaging"
16. April 21, 1994; NTT, Japan, Seminar, "Optoelectronic Research at the University of Colorado"
17. August 11, 1994; Short Course; Univ. of Colorado, Boulder, CO, "Thermal and Mechanical Design of BGA Assemblies"
18. Oct. 17-18, 1994, "Solder Engineering for Reliable Connections," Tutorial, Seventh Annual Solder Technology for Electronics Packaging Sympos, SUNY at Binghamton, NY,.
19. July 18, 1995; Intel, Chandler, AZ, “Reliability Modeling of BGA Assembly”
20. August 24-25, 1995; VCSEL Short Course, University of Colorado, Boulder, "VCSEL Packaging"
21. October 9 - 11, 1995, "Thermal Management for Optoelectronic Components and Systems," Review talk in NSF Workshop on Thermal Management Technology in 21st Century, Minneapolis, Minnesota.
22. October 30 - 31, 1995., “Cost-effective R&D for Emerging Solder Technologies," Keynote speech, Eighth Annual Solder Technology for Electronics Packaging Symposium, Binghamton, New York.
23. January 24, 1996, Samsung Electroics, Korea, “Studies for Flip-chip/BGA Soldering and Thermosonic Flip-chip Bonding”
24. January 26, 1996, Seminar, Packaging Consortium, Korea, “ Thermal and Mechanical Modeling for BGA Assembly”
25. June 13, 1996, Short Course, National Chung Cheng University, Taiwan, “Introduction to Electronic Packaging” and “Studies for Flip-Chip/BGA Soldering and Flip-Chip Bonding”
26. September 18, 1996, Seminar, Department of Mechanical Engineering, University of Colorado, Boulder, “Packaging for Microelectronic, Optoelectronic, Millimeter-Wave and Mcroelectromechanical Systems”
27. November 5, 1997, "Engineering solder for microelectronics, optoelectronics, MEMS and X," Distinguished Lecture Series, Packaging Research Center, Georgia Institute of Technology, Georgia, USA.
28. February 19, 1998, "Engineering solder for optoelectronics packaging and MEMS," Seminar, Rock Mountain OSA/IEEE LEOS chapter.
29. June 8, 1998, "Flip-chip Assembly for Optoelectronics Packaging," Seminar, Industrial Technology Research Institute, Taiwan.
30. June 9, 1998, "Packaging for RF and Optoelectronic MEMS," Seminar, National Chia-Tung University, Taiwan.
31. June 16, 1998, "Area-Array Assembly for Microelectronics, Optoelectronics, Microwave and MEMS," Seminar, Japan Society of Mechanical Engineers.
32. June 19, 1998, "Flip-chip Assembly for Optoelectronics Packaging," Seminar sponsored by Visiting Researcher Scholarship Program, Fujutsu Labs. LTD.

33. June 22, 1998, "Packaging for RF and Optoelectronic MEMS," Seminar, Tsing-Hua University, China.
34. July 27, 1998, "MEMS Designed and Packaged for RF Applications," Seminar, Bell Laboratories, Lucent Technologies, Murray Hill, NJ.
35. October 18, 1999, "MEMS for Beam Steering," Seminar, HRL Labs., Malibu, CA.
36. October 29, 1999, "Flip-chip Assembly for Optoelectronics Packaging," Seminar, Ortel Corporation, Los Angeles, CA.
37. December 9, 1999, "MEMS-based Tunable Capacitors and Multiway Switches for Millimeter-wave Applications," Seminar, NIST, Boulder, CO.
38. December 15, 1999, "MEMS-based Tunable Capacitors and Multiway Switches for Millimeter-wave Applications," Seminar, Motorola, Tempe, AZ.
39. December 14, 1999, "Application-Specific MEMS for Optical and RF Applications," Seminar, LASP, Boulder, CO.
40. July 3, 2000, "Packaging as an Enabling Technology for Novel MEMS," Institute Seminar, Microelectronics Institute, Technical University of Denmark, Denmark.
41. November 29, 2000, "Packaging as an Enabling Technology for Novel MEMS," Y. C. Lee, Seminar, Dept. of Mechanical Engineering, University of Minnesota.
42. August 20, 2001, Opelectronic and MEMS packaging, Microsoft, Seattle,
43. October 4, 2001, Center Seminar, MEMS design and packaging, University of Michigan.
44. October 5, 2001, Solder and Solderless Connections for Microwave, Optical, Digital Electronics and MEMS, Rose-Hulmann, Terre Haute.
45. October 18, 2001, Seminar, MEMS design and packaging, University of Washington, Seattle.
46. May 28, 2001, Seminar, MEMS design and packaging, Tsing Hua University, Taiwan.
47. May 23, 2001, Seminar, MEMS design and packaging, Kyushu University, Japan.
48. May 25, 2001, Optical MEMS, short course, Industrial Technology Research Institute, Taiwan.
49. July 31, 2001, Optoelectronic and MEMS Packaging, short course, SPIE conference, San Diego.
50. August 22, 2001, Optoelectronic and MEMS Packaging, short course, SPIE ITcom Conference, Denver.
51. Jan. 22, 2002, Optoelectronic and MEMS Packaging, short course, SPIE Photonic West, San Jose, CA.
52. July 14, 2002, Optoelectronic and MEMS Packaging, sort course, IEEE PhoPack, Palo Alto, CA.
53. March 21, 2002, Nano-Scale Engineering for Reliable Microsystems, Seminar, ME Department, University of Colorado – Boulder.
54. Jan. 29, 2003, Optoelectronic and MEMS Packaging, short course, SPIE Photonic West, San Jose, CA.
55. January 18, 2003, “Design and Packaging of Micro/Nano Systems,” Y. C. Lee invited talk given at the Colloquium on Micro/Nano Thermal Engineering, Seoul National University, Korea.
56. January 24, 2003, "CAMPmode Research and MEMS Design, Packaging and Reliability," Y. C. Lee invited seminar given at Ricoh Inc., Japan.
57. April 24, 2003, "Design and Packaging of Micro/Nano Systems," Y. C. Lee seminar given at the University of Alaska at Fairbanks.
58. April 30, 2003, "Design and Packaging of Micro/nano Systems," Y. C. Lee seminar given at the University of Denver.
59. July 30, 2003, “Packaging and Reliability for Foundry-fabricated MEMS,’ Workshop on Microsystems Packaging Technology, Ciudad Juárez, Mexico.
60. October 9, 2003, "Bio-Molecular Motors and Micro-Motors," Y. C. Lee seminar given at the CU Mechanical Engineering Department seminar.

61. October 1, 2004, “Packaging for Microsystems” seminar and “Molecular Biology for Packaging Engineers,” tutorial given by Y. C. Lee at Intel Corporation, Chandler, AZ.
62. October 19-20, 2004, “MEMS Design and Packaging,” Invited talk at Electronic Packaging Symposium at GE Global Research Center, Niskayuna, New York.
63. October 6, 2005, “Packaging for Microsystems,” Y. C. Lee, ASM Rocky Mountain Chapter, Monthly Seminar.
64. October 23-24, 2006, “DARPA Focus Center on Integrated MEMS/NEMS,” Y. C. Lee, invited talk at Electronic Packaging Symposium at GE Global Research Center, Niskayuna, New York.
65. January 8, 2008, Atomic layer deposition and molecular layer deposition, DARPA Workshop on Advanced Materials, Miami, FL.
66. April 23, 2008, “Overview of DARPA Center on Nanoscale S&T for Integrated Micro/Nano-Electromechanical Transducers (iMINT),” Teledyne Scientific Company, Thousand Oaks, CA.
67. October 14, 2008, “Micro Cryocooler,” BAE Systems, Boston, MA.
68. July 27, 2008, “Overview of DARPA Center on Nanoscale S&T for Integrated Micro/Nano-Electromechanical Transducers (iMINT),” IBM, Yorktown Heights, NY.
69. July 28-30, 2008, “Micro/Nanotechnology for Barrier Coatings and Flexible Thermal Ground Planes,” Electronics Packaging Symposium at GE Global Research Center, Niskayuna, New York.
70. April 9, 2009, “Nanowire/Nanotube/Graphene-Enabled Microsystems” Department seminar, Department of Mechanical Engineering, University of Colorado, Boulder, CO.

IV. Grants and Contracts

Y. C. Lee as the Principal Investigator

1. University of Colorado Start-Up Funds, $75,000, 1989 - 1992.
2. National Science Foundation, Presidential Young Investigator Award, $350,500 (maximum), 1990 - 1996.
3. Ozo Diversified Automation, Inc., "Matching Support to PYI," $37,500, 1990-1994.
4. National Science Foundation, "Quick Prototyping of Multichip Modules," $50,000 plus $24,000 matching support from the University of Colorado, 1990 - 1991.
5. Sandia National Laboratory, "Electronic Packaging," $5,000, 1990-91.
6. Sandia National Laboratory, "Electronic Packaging," $5,000, 1991.
7. National Science Foundation, "Quick Prototyping System for Multichip Modules," $61,365, 1991-1993.
8. Ozo Diversified Automation, Inc., "Matching Support to the Development of a Quick Prototyping System for Multichip Modules," $37,500, 1991-1993.
9. AT&T Bell Laboratories, "Optoelectronic Packaging," $10,000, 1991-92.
10. National Science Foundation, "Packaging of Compact Image Correlator," $35,000, 1992-93 (funded through Engineering Center for Optoelectronic Computing Systems).
11. National Science Foundation, "Technology and Curriculum Development for Packaging Optoelectronic Parallel Computing Systems Based on Free-Space Optical Interconnects," $121,000, 1992-95 (funded through University of California at San Diego).
12. Digital Equipment Corporation, "Equipment Matching Support to PYI," $47,500, 1992-1993.
13. National Science Foundation, "Packaging of Very Compact Image Correlator," $100,000, 1993-94 (funded through Engineering Center for Optoelectronic Computing Systems).
14. National Science Foundation, "Packaging for 3-D Computers," $25,000, 1993-94 (funded through Engineering Center for Optoelectronic Computing Systems).
15. National Science Foundation, “Packaging of Liquid Crystal on Silicon,” $97,812, 1994-96, (funded through Engineering Center for Optoelectronic Computing Systems).
16. National Science Foundation, “Thermal and Mechanical Behavior of VCSEL-on-VLSI Smart Pixels,” $116,622, 1994-96, (funded through Engineering Center for Optoelectronic Computing Systems).
17. National Science Foundation, “Packaging of Liquid Crystal on Silicon,” $38,610, 1996-97, (funded through Engineering Center for Optoelectronic Computing Systems).
18. National Science Foundation, “Thermal and Mechanical Behavior of VCSEL-on-VLSI Smart Pixels,” $46,035, 1996-97, (funded through Engineering Center for Optoelectronic Computing Systems).
19. National Science Foundation, “Thermosonic Bonding for Flip-Chip and BGA Connections,” $349,853 (University matching support $20,000), 1995-1997.
20. Vixel Corporation, “Fine-Pitch Flip-Chip Bonding for VCSELs,” $75,000, 1995-1997.
21. University of Colorado Undergraduate Excellence Fund, “An Educational Module on Microelectromechanical Systems (MEMS),” $25,000, 1995- 1996.
22. Center for Advanced Manufacturing and Packaging of Microwave, Optical and Digital Electronics, University of Colorado, “Flip-Chip Assembly for Mixed Signal Technology,” $225,000, 1996 - 1998.
23. Intel Corporation, “Reliability Modeling of BGA/Flip-Chip Solder Joints,” $42,624, 1995-1996.
24. Melles Griot Inc. and Colorado Advanced Technology Institute, “Reliability of Laser Packages,” $50,000, 1996-1997.

25. National Science Foundation, “Manufacturing Study of Liquid Crystal on Silicon,” $8,000, 1996-1997 (funded through Engineering Center for Optoelectronic Computing Systems).
26. National Science Foundation, “Technology and Knowledge Based to support LCOS Packaging and Manufacturing,” $49,725, 1997-1998 (funded through Engineering Center for Optoelectronic Computing Systems)
27. Lightwave Microsystem, “Assembly for Polymer Waveguide and Switches,” $199,815, 1996-1999.
28. Department of Defense, “MEMS for Low-Cost Millimeter-Wave Modules,” 175,000, (University matching support of $100,000) 1997-1998.
29. Lockheed Martine Corporation (through CAMPmode), “Reliability of Surface Mounted Spatial Light Modulator for Space Applications,” $180,000, 1997-2001.
30. Kyocera America, Inc. (through CAMPmode), "Determination of stress-free temperatures in brazing processes," $40,000, 1998-99.
31. Department of Defense (DARPA program), “High-Q Tunable Capacitors and Multi-way Switches Using MEMS for Millimeter-Wave Applications,” $946,708, 1998-2002.
32. College Engineering Excellence Fund, "Experimental Modules for Microelectromechanical Systems (MEMS)," $25,000, 1999-2000.
33. College Engineering Excellence Funds, Finite-Element Discovery Learning to Enhance Mechanical Engineering Curriculum, $23,000, 2000-2001.
34. NASA, Microelectromechanical Linear Actuators, $150,000, 2000-2001.
35. Coventor, RF MEMS Models, $90,000, 2001-2002.
36. NASA Glenn Research Center, Beam steering for antennas using MEMS-based variable capacitors, $75,000, 2002-2003.
37. Coventor, RF MEMS packaging, $60,000, 2002-2003.
38. Lockheed Martin Corporation (through CAMPmode), “Highest Q RF Microelectromechanical Devices,” $70,000, 2001-2002
39. Network Photonics (through CAMPmode), “Study on Charge Accumulation for Reliable Optical MEMS,” $45,000, 2002-2003.
40. Space and Naval Warfare Systems Center/DARPA, “MEMS and Packaging for Chip-Scale Integration for Atomic Clocks,” $ 699,419, 2002-6.
41. NIST-Boulder Professional Research Experience Program (PREP), Nanoprobes for RF Field Measurements, Y. C. Lee, 2004-2005, $50,000.
42. Health Sciences Center, Univ. of Colorado, Lab-on-a-chip for oral cancer detection, Y. C. Lee, A. R, Mickelson and M. H. B. Stowell, $25,000, 2004.
43. VCI, Inc., Reliability of Airplane Structures, $25,536, 2004.
44. DARPA through Rockwell Scientific, MEMS, Thermal Management and RF for Chip-Scale Atomic Clocks, Y. C. Lee, V. M. Bright and Z. Popovic, $ 450,000, 2005-06.
45. DARPA, Photonic Crystal Fiber-Enabled Micro Cryogenic Coolers for THz Imaging Source of Support, Y. C. Lee, Victor M. Bright, Ray Radebaugh, Eyal Gerecht and James C. Booth, $1,770,000, 2006-2008.
46. NSF SBIR Subcontract from ALD NanoSolutions, Inc., "ALD-Enabled Polymer Packaging for Integrating MEMS and Electronics," Y. C. Lee, Victor M. Bright and Steven M. George, $37,500, 2005-2006.
47. Boulder MEMS, Atomic Layer Deposition for Protecting Microelectronic Packages, Y. C. Lee, $10,000, 2005-6.
48. DARPA Focus Center on Nanoscale Science and Technology for Integrated Micro-/Nano-Electromechanical Transducers (*i*MINT), Y. C. Lee, Victor M. Bright, Martin L. Dunn,

Steven M. George, Rodney S. Ruoff, Dmitry Dikin, James Hone, Pavel Kabos, and Norman Sanford, $2,440,000 (DARPA matching fund, 2006-2009) and other funds from University of Colorado, NIST and industrial sponsors. $1,530,000 for 2006-2007, $1,245,000 for 2007-2008 and $1,630,000 for 2008-2009.

49. Ibiden through DARPA *i*MINT, Nano-Scale ALD Coating to Protect Polymer Dielectric, $120,000, 2007-2009.
50. DARPA, Feasibility Studies on Four Novel Nanotube/Nanowire-Enabled Microsystems, Y. C. Lee, Victor M. Bright, Martin L. Dunn, Steven M. George, Wei Tan, $75,000, 2007-2008.
51. DARPA, Flexible Thermal Ground Plane with Micro/Nano-Scaled Wicking Structure, Y.C. Lee, Victor M. Bright, Ronggui Yang, Steven M. George, Chen Li, and G.P. "Bud" Peterson, and Suraj P. Rawal, $3,950,000, 2007-2011.
52. Intel, Development of a manufacturable edge coupling scheme for optoelectronic packaging, Y. C. Lee, 2007-2010, $300,000.
53. VallyLab, Thermal and Electrical Microprobes Will Provide Essential Information About Tissues for Development of Optimized Cancer Ablation Products, Roop L. Mahajan and Y. C. Lee, 2006-2008, $110,000.
54. DARPA, Enabling System Integration Technologies for NW-Enabled LED Microsystems, Y. C. Lee, Norman Sanford, Kris Bertness and Steven M. George, $300,000, 2008-2009.
55. Block MEMS, Micro Cryogenically Cooled IR Detector, Y. C. Lee, $45,000, 2008-2009.
56. Army AMRDEC, Flexible Thermal Ground Plane for Composite Frames, Y. C. Lee, $75,000, 2009-2010.

Y. C. Lee as a Co-Principal Investigator:

1. Semiconductor Research Corporation, "Real-Time Process Control Using Fuzzy Logic and Neural Networks for Semiconductor Mfg. Processes," $150,000, 1992-93 (PI: R. L. Mahajan).
2. National Science Foundation, Symposium on Optoelectronic Packaging Science, $3,000, 1992 (PI: A. R. Mickelson).
3. National Science Foundation, "Equipment Dedicated to Research in the Engineering of Hybrid Optoelectronic Devices and Components," $75,000, 1992-1994, (PI: K. M. Johnson).
4. Semiconductor Research Corporation, "Real-Time Process Control Using Fuzzy Logic and Neural Networks for Semiconductor Mfg. Processes," $175,000, 1993-94, (PI: R. L. Mahajan).
5. National Science Foundation, Workshop on Optoelectronic Packaging, $3,000, 1993, (PI: A. R. Mickelson).
6. Center for Advanced Manufacturing and Packaging, U. of Colorado, "Thermal Management," $110,000, 1992-94, (PI: R. L. Mahajan).
7. Semiconductor Research Corporation, "Use of Fibrous Heat Sink for High-Power Packages," $47,000, 1992-93, (PI: R. L. Mahajan).
8. Photonic Research Ins., "Packaging of VCSEL-on-Si for Optical Computing Systems," $140,250, 1993-1996, (PI: John Neff).
9. Semiconductor Research Corporation, "Real-Time Process Control Using Fuzzy Logic and Neural Networks for Semiconductor Mfg. Processes," $175,000,1994-95, (PI: R. L. Mahajan).
10. Science Applications International Corporation (SAIC), "Free Space Optical Interconnects for a 3-D Computer," $946,530, 1994-1996, (PI: John Neff).
11. AMP, Inc, "Mechanical, Thermal, Optical and Cost CAD/CAM," $310,480, 1994-1996, (PI: R. B. Hooker).
12. Rome Air Force, "Photonic Waveguide Interface Module," $400,000, 1995-1996, (PI: R. B. Hooker).

13. National Science Foundation, “Academic Infrastructure Award for Design and Fabrication of Smart Pixels,” $497,797 (University of Colorado matching $287,797), 1994-1997, (PI: K. M. Johnson).
14. AMP, Inc., “An Investigation into Mechanical, Thermal, Optical and Cost CAD Tools,” $37,500, 1996-1997, (PI: R. B. Hooker).
15. Colorado Commission on Higher Education, “Delivery of the ITLL to Colorado Institutions via the World Wide Web,” $127,082, 1996-1997, (PI: M. L. Dunn).
16. Northrope-Grumann (DARPA program), “Free Space Optical Interconnect,” $2,000,000, 1997-2000, (PI: John Neff).
17. Colorado Commission on Higher Education, “Delivery of the ITLL to Colorado Institutions via the World Wide Web,” $120,000, 1997-1998, (PI: M. L. Dunn)
18. Air Force Office for Scientific Research (AFOSR), "Micromirror Arrays for High Energy Applications," $565,000, 1998-2000, (PI: Victor M. Bright)
19. Northrope-Grumann (DARPA program), “VLSI Photonics,” $1,500,000, 1998-2001, (PI: John Neff).
20. DARPA, $895,100, 1998-2001, "MEMS and solder self-assembly for 3-D MEMS and MEMS array," (PI: Victor M. Bright)
21. NSF, An Interactive Experimental/Numerical Simulation System with Applications in MEMS Design, $ 499,999, 2000-2002, (PI: L. Bradeley)
22. Watkins Johnson, High-Q Variable Oscillator and Pre-selector Using RF MEMS, $ 40,000, 1999-2000, (PI: Victor M. Bright)
23. Maxwell Technologies, Inc., MEMS High Density Connector Designs, $60,000, 1999-2000, (PI: Victor M. Bright)
24. DARPA, Optical MEMS for Beam Steering (STAB), $700,000, 2000-2002, (PI: John Neff)
25. DARPA, Integrated MEMS for Steering Smart Pixel Array Output Beams, $298,475, 2000-2001, (PI: John Neff)
26. Sandia National Labs, Fabrication and Flip-Chip Integration of MEMS Mirror Arrays with Control Electronics, $50,000, 2000-2001, (PI: Victor M. Bright)
27. DARPA, Programmable Aperture MEMS-Interconnected Antenna Array Using Printed Circuit Technology, $ 909,000 , 1999-2002, (PI: K. C. Gupta)
28. AFOSR, 2001-2003, $657,406, Optically Holographic Interferometric Vapor Sensor Arrays, (PI: V.M. Bright)
29. DARPA, “Atomic Layer Deposited Nano-Scale Films and Processes for Self-encapsulated and Robust Micro- and Nano-Electro-Mechanical Systems,” $199,995, 2004-2005, (PI: Victor M. Bright, Co-PIs: Y. C. Lee and S. M. George)
30. Butcher grant of University of Colorado, Imaging the Onset of Type 1 Diabetes using Molecular Contrast Agents, Conrad Stoldt, Y.C. Lee, Robin Shandas and John Hutton, $71,500, 2005-2006.
31. CU-HSC Cancer Center, Tissue-Based Lab-on-a-Chip for Instant Biopsy, Whitney A. High and Y. C. Lee, $20,000, 2005.

V. Professional Services

- Director, DARPA Center for Integrated Micro/Nano-Electromechanical Transducers (iMINT), September, 2006 - present.
- Administrative Director, Nanomaterials Characterization Facility (NCF), September 2006 – present.
- Chair, Nomination Committee, ASME Electronic and Photonic Packaging Division, 2006-2007.
- Chair, Awards Committee, ASME Electronic and Photonic Packaging Division, 2005-2006.
- Chair, Executive Committee, ASME Electronic and Photonic Packaging Division, 2004-2005.
- Member of Advisory Board, ASME International Intersociety Electronic Packaging Conference, InterPACK'05, San Francisco, July 17-22, 2005 and InterPACK'07, Vancouver, July 8-13, 2007.
- Advisory Board of JSME International Journal, Series A: Solid Mechanics and Material Engineering, 2005, 2006, and 2007.
- Associate Technical Editor, ASME Journal of Electronic Packaging (2001-2004)
- Guest Technical Editor, IEEE Transaction on Advanced Packaging (2003, 2005 and 2007-2009)
- Member of President's MEMS Advisory Board, Rose-Hulman Institute of Technology (February 13, 2004)
- Reviewer of National Science Foundation (proposal reviewer and site visit review), NSF Panel Review of Packaging Research Center at Georgia Institute of Technology, NRC/Ford Fellowships, DOE/NRC Integrated Manufacturing Pre-doctoral Fellowships, ASME J. of Electronic Packaging, ASME J. of Applied Mechanics, IEEE Trans. on Components, Hybrids, and Manufacturing Technology, ASME/IEEE J. of MEMS, Sensors and Actuators, International J. of Heat and Mass Transfer, Plasma Chemistry and Processing, Engineering Economist, IEEE Computer magazine, IEEE Education, and many professional conferences.

- Center for Advanced Manufacturing and Packaging of Microwave, Optical, and Digital Electronics: Associate Director (1993 - 2002)

13. 1991 Multichip Module Workshop (Santa Cruz, March 28-29, 1991, sponsored by the National Science Foundation): program committee member.
14. 41st IEEE Electronic Components and Technology Conference (Atlanta, Georgia, May 13-15, 1991): committee member in the packaging subcommittee.
15. Workshop on Optoelectronic Packaging (sponsored by the National Science Foundation, Boulder, Colorado, August 1-2, 1991): workshop organizer with two other colleagues.
16. 1992 IEEE Multi-Chip Module Conference (Santa Cruz, March 18-20): member of the subcommittee on technology.
17. Symposium on Optoelectronic Packaging Science (sponsored by the National Science Foundation, August 19-21, 1992): steering committee member and session chair.
18. First Joint Workshop on Electronic Packaging Education (Sponsored by the Cornell University, October 5-6, 1992): member of the program board.
19. Symposium on the Manufacturing Aspects in Electronic Packaging, ASME Winter Annual Meeting (Anaheim, CA, December, 1992): symposium organizer.
20. 1993 IEEE Multi-Chip Module Conference (Santa Cruz, March 18-20): program committee member.
21. Workshop on Optoelectronic Packaging (sponsored by the National Science Foundation; Santa

Barbara, CA, August 28-30, 1993): Program Chairman.

22. ASME International Electronic Packaging Conference (Binghamton, NY, Sept. 31 - Oct. 2, 1993): chair of the optoelectronic sessions.
23. Symposium on the Manufacturing Aspects in Electronic Packaging, ASME Winter Annual Meeting (New Orleans, November 31 to December 1, 1993): symposium organizer.
24. 1994 IEEE Multi-Chip Module Conference (Santa Cruz, March 18-20): program committee member.
25. 1994 NSF International Workshop on Optoelectronic Packaging (Breckenridge, CO, August 14 to 17); program chair.
26. 1995 IEEE Multi-Chip Module Conference (Santa Cruz, Feb. 1 to 3); program committee member.
27. International Intersociety Electronic Packaging Conference (sponsored by ASME, JSME, IEEE; Maui, Hawaii, March 26 - 30, 1995): coordinator for international liaisons, chair of optoelectronics session, and moderator of International Forum.
28. ASME International Mechanical Engineering Congress and Exposition (San Francisco, November 12, 1995); session chair.
29. SPIE Symposium on Optoelectronic Packaging (San Jose, Feb. 1, 1996); symposium co-organizer and session chair.
30. IEEE Multi-Chip Module Conference (Santa Cruz, Feb. 1 to 3, 1996); program committee member and session chair.
31. Education Conference for Electronic Packaging (Ithaca, NY, September 30, 1996); program committee member.
32. Colorado ISHM/SMTA Symposium on Flip-chip, BGA and CGA, (Colorado, January 23, 1997); Program Chair.
33. ASME International Intersociety Electronic Packaging Conference (Hawaii, June 15-19, 1997); Technical Program Chair.
34. SPIE Symposium on Micro-Optics Integration and Assemblies (San Jose, Jan. 24-30, 1998); symposium co-organizer and session chair.
35. Conf. on Thermal Phenomena in Elec. Systems, (Seattle, May 27-30, 1998); session chair
36. IEEE MTT-S International Microwave Symposium, organizer of a panel session on MEMS for Microwave and Millimeter-wave Applications, (Baltimore, June 7-12, 1998; 500 participants!)
37. SPIE Symposium on Photonics Packaging and Integration (San Jose, Jan. 23-29, 1999); symposium program committee.
38. ASME International Intersociety Electronic Packaging Conference (Hawaii, June 13-17, 1999); Overall Technical Program Chair.
39. IMAPS Advanced Technology Workshop on MEMS Packaging, Chicago, October 23-24, 1999, Technical Program Co-chair.
40. ASME IMECE, Nashville, TN, November 15-18, 1999, organizer of a panel session.
41. ASME IMECE, Orlando, November 15-21, 2000, Session Chairs.
42. ASME International Intersociety Electronic Packaging Conference (Hawaii, July 9-13, 2001), General Chair.
43. ASME International Intersociety Electronic Packaging Conference (Hawaii, July 6-11, 2003), Advisory Board, Track Chair and Session Chairs.
44. ASME IMECE, Washington DC, November 15-21, 2003, Session Chairs.
45. ASME IMECE, Anaheim, CA, November 13-19, 2004, Session Chairs.
46. ASME International Intersociety Electronic Packaging Conference, InterPACK'05, San Francisco, July 17-22, 2005; Advisory Board, Session Chairs.
47. ASME IMECE, Orlando, November 5-11, 2005, Session Chair.

48. ASME IMECE, Chicago, November 6-10, 2006, Session Chair.
49. ASME International Intersociety Electronic Packaging Conference, InterPACK'07, Vancouver, Canada, July 8-13, 2007; Advisory Board, Panel Session Chair.
50. Member of Committee on Optoelectronic Packaging, IEEE Electronic Components and Technology Conference (ECTC), 2007-2009.
51. Session Chair, Ceramic Interconnect and Ceramic Microsystems Technologies (CICMT 2009), Denver, Colorado – USA, April 20 - 23, 2009

VI. Honors and Awards

- CU-ME Department Outstanding Service Award, 2008.
- ASME Electronic and Photonic Packaging Division's Mechanics Award in 2007.
- Team of the Year Award, Teledyne Scientific Company, 2007.
- CU-ME Woodward Outstanding Mechanical Engineering Faculty Award, 2005-2006.
- GOMACTech-03 Meritorious Paper Award, Govern. Micro. Appli. Conf, 2003.
- IEEE Transactions on Advanced Packaging Honorable Mention Paper Award, 2003
- ASME Fellow, December 2002.
- Visiting Researcher Scholarship Program, Fujitsu Labs. LTD, June 18-25, 1998.
- Outstanding Paper Award, ASME J. of Electronic Packaging, 1993.
- Outstanding Young Manufacturing Engineer Award, SME, 1992.
- Outstanding Paper Award, IEEE Electronic Component & Tech. Conf., 1991.
- Presidential Young Investigator Award, NSF, 1990-94.
- Poster Session Best Paper Award, Govern. Micro. Appli. Conf., 1988.
- Ph.D. Dissertation Fellowship, University of Minnesota, 1983-1984.

VII. Other Professional and Personal Data

Professional Affiliation

Fellow, ASME
Member, IEEE