

**BIOGRAPHICAL DATA**  
**James Eliot Morris**



Professor Emeritus of Electrical & Computer Engineering  
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IEEE Life Fellow (Fellow 2000):  
"For Leadership in the Development of Electronics Packaging."

Registered Professional Engineer, New York (1985- )

Doctor Honoris Causa (2015), POLITEHNICA University of Bucharest

**PERSONAL**

Date of Birth:      October 27, 1944  
Place of Birth:     Christchurch, New Zealand  
Citizenship:       U.S.A.  
Family:             Married; 3 daughters, 4 grandchildren

**EDUCATION**

B.Sc - 1965                      Physics, University of Auckland, New Zealand  
M.Sc - 1967                      Radiophysics (1st class honors), University of Auckland, New Zealand  
Ph.D. - 1971                      Electrical Engineering, University of Saskatchewan, Saskatoon, Canada

**CAREER SUMMARY**

Department of Electrical & Computer Engineering, Portland State University, Portland, Oregon  
Professor 2001-2015; Chair 2001-2004; Professor Emeritus 2016- ; Adjunct Professor 2016-2018  
Department of Electrical Engineering, State University of New York at Binghamton, New York  
Associate Professor 1984-1988; Professor 1988-2001; Chair 1989-1995; Emeritus 2001-  
Director, Institute for Research in Electronics Packaging 1988-1989  
Department of Electrical Engineering, South Dakota School of Mines and Technology, Rapid City, S.D.  
Associate Professor 1981-1984  
Department of Physics, Victoria University of Wellington, New Zealand  
Lecturer 1972-1973, Senior Lecturer 1974-1981  
Department of Electrical Engineering, University of Saskatchewan, Saskatoon, Canada  
Senior Technician (digital systems) 1967, Ph.D. Research (thin films) 1967-1971  
Lecturer 1969-1971, Post-doctoral Fellow 1971  
Department of Physics, University of Auckland, Auckland, New Zealand  
Laboratory demonstrator 1964-1966, M.Sc Research (tunnel diodes) 1965-1967

Visiting Positions

2016-2017      Chungchun University of Technology, Chungchun University of Science & Technology  
2011 (Aug-Sept) Loughborough University, UK (Royal Academy of Engineering Distinguished Visiting Fellow)  
2008-2009      University of Greenwich, London (June-Sept); Chalmers University, Gothenburg (Oct-Dec);  
Dresden U. of Technology (Jan-Feb); University of Canterbury, Christchurch, NZ  
(Erskine Fellow, Feb-Apr); Helsinki U. of Technology (Nokia-Fulbright Fellow, April-Sept.)  
2005-2008      Adjunct Professor, Shanghai University  
2003-2006      Guest Professor, Shanghai Jiao Tong University  
2000 (July)      Visiting Professor, IXL, University of Bordeaux, France.  
1997 (Jan-Aug)      Visiting Professor, University of Maryland, (CALCE Electronic Packaging Research Center)  
1996 (June-Dec)      Guest Professor, Chemnitz University of Technology, Germany (Microtechnology Center)  
1978 (June-Dec)      Sabbatical, Physics Dept, Loughborough University of Technology, U.K.

Industrial Experience

1981 (July-Aug)      Delphi Engineering, Auckland, NZ  
1984 (July-Aug)      IBM, Endicott NY  
1985 (July-Aug)      IBM, Endicott NY  
Consulting (see below)

## TEACHING

General Physics (recitations, laboratories)	100	UofA, VUW
General Engineering	100	SUNY
Microprocessors	100	SDSMT
Thermodynamics (recitation)	200	UofS
Circuits	200	VUW; SUNY; PSU
Digital Systems (incl. microprocessors)	300	VUW, SUNY
Electronics	200 300 400	SDSMT VUW, SUNY, PSU SUNY
Semiconductor Devices	300 400 500	VUW, SUNY VUW, SDSMT, SUNY SDSMT, SUNY, PSU
Technical Communications, Seminar, Professional Development	300, 400	SUNY
Electronics Laboratory	200, 300 400	SUNY, PSU, VUW VUW, UofS
Electromagnetic Fields and Waves	300, 500	SDSMT
Transmission Lines	300	SDSMT
Comprehensive EE survey courses incl. lab	200/300/400	UofS, PSU
Grad Communications, Controls, Electronics, Devices	400	VUW
Engineering Design	400	UofS, SDSMT, SUNY
Electronics Packaging	300/400 Grad 500/Internet	SUNY TU-Chem, U.Md SUNY, PSU
Electrical Engineering Materials	500, 600	SDSMT
Semiconductor Device Processing	400/500/ Internet	SUNY, PSU
Engineering Mathematics	500	SUNY
Thin Films	500	SUNY
Thin/Thick Film Labs	500	SUNY
Research Seminar	500	SUNY, PSU
Nanoelectronics	400/500	PSU
Nanotechnology (NSF-funded Gen Ed writing intensive lecture/lab course)	300	PSU
Nanotechnology Lab (NSF-funded lab course)	400/500	PSU

Victoria University of Wellington: curricular responsibility for the Department's electronics courses; developed post-graduate Co-op Diploma of Applied Science; responsible for 300 level lab administration.

## CONTINUING EDUCATION, ETC

VUW: Organized a one-day seminar (largest ever at VUW) and technical exhibition in 1980 for lay audience on Microprocessors. An article based on the seminar was reproduced in 3 newspapers and widely quoted in others. 3 national radio interviews followed. Seminar was repeated by invitation in 2 other cities

SUNY Continuing Education Short Courses: Sensors & Sensing Systems; MOS Devices; Thin Films; Electronics (Raymond Corporation); Controls Symposium 1988, 1989.

Annual SUNY Symposia in Electronics Packaging: 1989, 1990, 1991, 1993.

SUNY programs for high school students: Saturday Seminars for Gifted Students: 1986 (inaugural presentation), 1987;

SUNY STEP II Program: Summer 1988, 1989; NSF Summer Research: 1995.

Research Workshops, Electrical Engineering Dept., National Cheng Kung University, Tainan, Taiwan:

(Thin Film/Packaging Workshop, 1991; Resonant Tunnel Diode Workshop, 1993)

Electronics Packaging Short Courses:

General (2-day): Stockholm '96; Singapore '96; Taiwan '97; Hong Kong '97.

Electrical Modeling: Athens '96, Gothenburg '00, '01.

Elec. Cond. Adhes: Munich '96; San Jose (ECTC) '97, Norrkoping '97, Binghamton '98, Paris '99, Taiwan '99, Gothenburg '99, '00, Hong Kong '99, '02, Tokyo '00, Bordeaux '01, Berlin '01, Shanghai '02, '04, '05, '07, Dresden '06, Reno (ECTC) '07; Berlin '07, Vestfold '08, London (ESTC) '08, Tampere '09, Wuhan '10.

Nanopackaging: Dresden '09, Helsinki '09 & '14 (ESTC), Genoa (NANO) '09, Tampere '09, Vestfold (IMAPS-Nordic) '09, Las Vegas (ECTC) '10, Wuhan '10, Raleigh (IMAPS) '10, Brighton (EMPC) '11, Xiamen (APM) '11, Grenoble '14, Wuxi '16, Singapore (EPTC) '16, IEEE NTC Summer Schools on Nanotechnology, Montreal & Toulouse, '17 & Nanoelectronics: Shanghai '06.

PSU Professional Engineering Review (Electronics): 2005- 2008, 2010, 2012

## **SELECTED GUEST RESEARCH LECTURES, SEMINARS PRESENTED**

### International

Chalmers University of Technology, Sweden (6-hour series 1977; nanopackaging (2008, 2017)  
Universite d'Aix-Marseille/CNRS, France (6-hour seminar series in French, published internally.) 1977  
EE, Imperial College, London  
Microelec. Institute, Fudan University, Shanghai, PRC;  
Physics & EE, Loughborough University, UK  
IVF Research Report Meeting, Philips, Eindhoven.  
TU-Wroclaw, Poland;  
Institut Zeitschrift Mikrotechnologien-Berlin; Germany  
Physics, University of Auckland, New Zealand  
...Shanghai JiaoTong University, Shanghai  
CPMT, Tsinghua University, Beijing  
TU-Dresden (6-lecture nanopackaging 2009)  
Loughborough University, UK  
University of Oulu, Finland  
Vestfold University College, Norway  
Victoria UW (MacDiarmid Institute/IEEE) NZ  
Maritime University of Constanta, Romania  
TU-Cluj-Napoca, Cluj, Romania  
Norwegian National U of Technology, Trondheim

### Industry

David Sarnoff Research Center, Princeton, NJ  
General Motors Institute, Flint, MI  
Rockwell International Labs, Thousand Oaks, CA  
Solar Energy Research Institute, Golden, CO  
Japanese industrial reps (at U. of Tokyo RCAST)  
CPMT Chapters: SCV, Oregon, Sweden, Finland, etc  
CEA-LETI, Grenoble, France

### Universities

Physics, University of Texas, El Paso, TX  
EE, University of Alberta, Canada  
Physics & Engineering, Mankato State University  
EE, University of New Mexico, Albuquerque, NM  
EET, Broome Community College, Binghamton, NY  
EECS, Oregon State University, Corvallis, OR

E&EE, Salford University, U.K.  
Shantou University, PRChina  
Technische Universitat Dresden, Germany,  
Technische Universitat Chemnitz, Germany,  
Polymer Physics, Charles University, Prague;  
EE, City University of Hong Kong.  
Helsinki University of Technology  
Shanghai University, Shanghai  
Vestland Forsking, Sogndal, Norway  
University of Birmingham, UK  
University of Greenwich, UK  
Tampere University of Technology, Finland  
Hong Kong University of Science & Technology  
University of Canterbury, NZ  
Politehnica University of Bucharest  
Engineering, University of Auckland  
Corning Research Labs, Corning, NY  
Dupont Research, Wilmington, DE  
Sandia Lab, Albuquerque, NM  
Xerox Research Labs, Webster, NY  
AMD, Dresden  
Henkel Corporation, Yangtai, China  
National Center for Advanced Packaging, Wuxi, China  
Metallurgy, Ohio State Univ, Columbus, OH  
EE, University of British Columbia, Canada  
EE, Montana State University, Bozeman, MN  
EE, University of California, Davis, CA  
Physics: SUNY-Cortland; SUNY-Albany, NY  
CSU-San Diego, Lawrence U MI, Wayne State MI

## THESES

- "Inductive effects in tunnel diode switching circuits and a study of some tunnel diode monostable pulse generators," M.Sc. thesis, University of Auckland, 1967.
- "A study of discontinuous thin gold films and Au-SiO cermets," Ph.D. dissertation, University of Saskatchewan, 1971.

## EDITED BOOKS

- "Electronics Packaging Forum: Volume 1" (Van Nostrand Reinhold) June 1990.
- "Electronics Packaging Forum: Volume 2" (Van Nostrand Reinhold) December 1990.  
(Vols 1 & 2 now available in one volume from Springer)
- "Electronics Packaging Forum: Multichip Module Technology Issues" (IEEE Press) January 1994.  
(Out of print)
- "Nanopackaging: Nanotechnologies in Electronics Packaging" (Springer) October 2008. [Chinese translation (2013)] Second edition (2018) in press.
- "Graphene, Carbon Nanotubes, and Nanostructures," (CRC Press) with K. Iniewski, 2013
- "Nanoelectronic Device Applications Handbook," (CRC Press) with K. Iniewski, 2013

## AUTHORED BOOKS

- Johan Liu, Jussi Sarkka, Per-Erik Tegehall, Olli Salmela, J.E. Morris, & Christina Andersson, "Reliability of Microtechnology: Interconnects, Devices and Systems," (Springer) 2011 [Chinese translation (2013)]
- J. E. Morris, "Electrically Conductive Adhesives" (Springer) in preparation; under contract.

## BOOK CHAPTERS

1. J. E. Morris, H. Anderson and R. Smith, "Retrofit Feedback Control of A/F Ratio and Ignition Timing for Fuel Economy," SAE Paper 820389 in Publication P-104 "Electronic Engine Management and Driveline Controls,"
2. J. E. Morris and Thomas Chih-Chien Chen "PLL Sensing for Engine Diagnostics and Control," SAE Paper 850494 in Publication SP-618, "Sensors and Actuators 1985," (SAE, Warrendale, PA.)
3. J. E. Morris and Li-Chi "Improved Intra-cylinder Pressure Sensor," SAE Paper 850374 in Publication SP-618, "Sensors and Actuators 1985," (SAE, Warrendale, PA)
4. J. E. Morris, "Light Emitting Diodes," in "Electrical Engineering Handbook," R. Dorf (editor)  
Chapter 77.1 in Section 77 (Digital Displays), 1<sup>st</sup> edition, 1993, pp. 1763-1772 (CRC Press) Chapter 83.1 in Section 83 (Digital Displays), 2<sup>nd</sup> edition, 1997, pp. 1915-1924 (CRC Press & IEEE Press)
5. J. E. Morris, "Liquid Crystal Displays," in "Electrical Engineering Handbook," R. Dorf (editor)  
Chapter 77.2 in Section 77 (Digital Displays), 1<sup>st</sup> edition, 1993, pp. 1772-1778 (CRC Press) Chapter 83.2 in Section 83 (Digital Displays), 2<sup>nd</sup> edition, 1997, pp. 1924-1930 (CRC Press & IEEE Press)
6. J. H. Das and J. E. Morris, "Diffusion and Gettering Simulations of Ion Implanted Copper in Polyimide," in "Metallized Plastics 2," K. L. Mittal (editor) Plenum, New York (1991) pp114-161.
7. J. E. Morris & J. H. Das "Diffusion and Aggregation of Copper in Polymers," in "Electronics Packaging Forum, Vol. 3," J. E. Morris (editor) IEEE Press (1994) pp. 41-71.
8. J. E. Morris, A. Mello & C. J. Adkins, "Electrical Conduction in Granular Metal Thin Films," in "Physical Phenomena in Granular Materials," G. D. Cody, T. H. Geballe & Ping Sheng (editors) Materials Research Society (1990) pp 181-186.
9. J. E. Morris, A. Kiesow, M. Hong, and F. Wu, "The effect of hydrogen absorption on the electrical conduction of discontinuous palladium thin films," in "Metal/Non-Metal Microsystems: Physics, Technology & Applications" B.Licznanski & A.Dziedzic (editors,) pp 245-248, SPIE International Society for Optical Engineering Vol. 2780.

10. J.E. Morris, "Electrical conduction in discontinuous thin metal films," in "Metal/Non-Metal Microsystems: Physics, Technology & Applications" B.Licznerski & A.Dziedzic (editors) pp 64-714, SPIE International Society for Optical Engineering Vol. 2780).
11. J. E. Morris, "Chapter 3: Electrical Conduction in Electrically Conductive Adhesives" in "Electrically Conductive Adhesives: A Comprehensive Review" J. Liu editor, Electrochemical Press, UK, (1999) pp. 37-77.
12. Li Li & J. E. Morris, "Chapter 5: Modeling Cure Schedules for Electrically Conductive Adhesives" in "Electrically Conductive Adhesives: A Comprehensive Review" J. Liu editor, Electrochemical Press, UK, (1999) pp. 99-116.
13. J. E. Morris & R. R. Tummala, "Chapter 2: The Role of Packaging in Microelectronics," in "Fundamentals of Microsystems Packaging," R. R. Tummala (editor), McGraw-Hill, 2001.
14. J. E. Morris, "Single Electron Transistors", in "Electrical Engineering Handbook," R. Dorf (editor) (3rd edition: "Electronics, Power Electronics, Optoelectronics, Microwaves, Electromagnetics, and Radar,") (CRC/Taylor & Francis.) 2006, pp. 3.53 - 3.64.
15. J. E. Morris, C. Radehaus, M. Hietschold, A. Kiesow, & F. Wu, "Single Electron Transistors & Discontinuous Thin Films" in "The World of Electronic Packaging and System Integration," B. Michel & R. Aschenbrenner (editors,) dpp goldenbogen, 2004, pp. 84-93.
16. J. E. Morris & J. Liu, "Chapter 20: Electrically Conductive Adhesives: A Research Status Review" in Micro-and Opto-Electronic Materials and Structures: Physics, Mechanics, Design, Reliability, Packaging," E. Suhir, Y. C. Lee, & C-P. Wong (editors) Springer US, 2007, pp. 527-570.
17. J.E. Morris, "Chapter 1: Nanopackaging: Nanotechnologies and Electronics Packaging," in "Nanopackaging: Nanotechnologies and Electronics Packaging," J.E. Morris (editor) Springer US, 2008.
18. J.E. Morris, "Chapter 5: Nanoparticle Properties" in "Nanopackaging: Nanotechnologies in Electronics Packaging" J.E. Morris (editor), Springer US, 2008.
19. F. Wu & J.E. Morris, "Chapter 8: Nanoscale Resistor Technology" in "Nanopackaging: Nanotechnologies and Electronics Packaging," J.E. Morris (editor) Springer US, 2008.
20. Xudong Wang, Z.L. Wang, Hongjin Jiang, Linbo Zhu, C.P. Wong, & James E. Morris, "Nanomaterials and Nanopackaging," in "Materials for Advanced Packaging" Daniel Lu & C.P. Wong (editors), Springer, 2009.
21. J.E. Morris & J. Lee, "Drop Test Performance of Isotropic Electrically Conductive Adhesives," in "Electrically Conductive Adhesives," R. Gomatam & K.L. Mittal (editors), VSP (2008), pp.185-202.
22. J.E. Morris, "Nanopackaging – Nanotechnologies for Microelectronics Packaging Reliability, in "Smart System Integration and Reliability," Bernd Michel & Klaus-Dieter Lang (editors), Goldenbogen Verlag, Dresden, (2010), pp. 164-178.
23. J.E. Morris, "Isotropic Conductive Adhesives" in "Advanced Adhesives in Electronics: Materials, properties, and applications," M.O. Alam & C. Bailey (editors) Woodhead, 2011, pp. 105-136.
24. J.E. Morris, "Nanopackaging," in "Nanoelectronics: Fabrication, Interconnects, and Device Structures," Kris Iniewski (editor), 2011, pp. 509-524.
25. James E. Morris & Liang Wang, "Isotropic Conductive Adhesive Interconnect Technology for Electronics Packaging Applications," in "Adhesion in Microelectronics," T. Ahsan & K. Mittal (editors) Scrivener, (2014) pp. 173-210.
26. J.E. Morris, "Chapter 1: Nanopackaging: Nanotechnologies and Electronics Packaging," in "Nanopackaging: Nanotechnologies and Electronics Packaging, 2<sup>nd</sup> edition," J.E. Morris (editor) Springer US, 2018.

27. J.E. Morris, "Chapter 6: Nanoparticle Properties" in "Nanopackaging: Nanotechnologies in Electronics Packaging, 2<sup>nd</sup> edition," J.E. Morris (editor) Springer US, 2018.
28. Andrzej Dzedzic, Damian Nowak, F. Wu & J.E. Morris, "Chapter 9: Nanostructured Materials for Embedded Resistors" in "Nanopackaging: Nanotechnologies and Electronics Packaging, 2<sup>nd</sup> edition," J.E. Morris (editor) Springer US, 2018.
29. Daoqiang Daniel Lu, Yi Grace Li, C.-P. Wong & James E. Morris, "Chapter 11: Nanoparticles in Isotropic Conductive Adhesives," " in "Nanopackaging: Nanotechnologies and Electronics Packaging, 2<sup>nd</sup> edition," J.E. Morris (editor) Springer US, 2018
30. James E. Morris, "Nanosensors for Electronics Package Reliability," in "Nanopackaging: Nanotechnologies in Electronics Packaging, 2<sup>nd</sup> edition," J.E. Morris (editor) Springer US, 2018

## REFEREED JOURNAL PUBLICATIONS

1. \_\_\_\_, Z.C. Tan & J.B. Earnshaw, "Inductive effects on capacitive loading of a tunnel diode," *Nuclear Instruments & Methods* 66, p. 246-252 (1968).
2. \_\_\_\_, "Calculation of activation energy in discontinuous thin metal films" *J. Appl. Phys.* 39, p. 6107-6109 (1968)
3. \_\_\_\_, "Resistance changes of discontinuous thin gold films in air," *Thin Solid Films* 5, p. 339-353 (1970).
4. \_\_\_\_, and A.D. Booth, "Rate control for vacuum co-deposition of thin film cermets," *Radio & Electronic Engineering*, 41, pp. 163-171, (1971).
5. \_\_\_\_, "Charge activation theory of conduction in discontinuous thin metal films," *J. Vac. Sci. & Tech.* 9, p. 437-441 (1972)
6. \_\_\_\_, "The influence of soda-lime substrate ion drift on the resistance of discontinuous thin gold films," *J. Vac. Sci. & Tech.* 9, p. 1039-1040 (1972).
7. \_\_\_\_, "Post-deposition resistance changes in cermet and discontinuous thin films," *Vacuum* 22, p. 153-155 (1972).
8. \_\_\_\_, "Effects of charge on the structure of discontinuous thin gold films," *Metallography* 5, p. 41-58 (1972).
9. \_\_\_\_, and M. O'Kranczy, "Resistance increase of discontinuous gold films by substrate absorption of oxygen," *Thin Solid Films* 10, p. 319-320 (1972).
10. \_\_\_\_, "Non-ohmic properties of discontinuous thin metal films," *Thin Solid Films* 11, p. 81-89 (1972).
11. \_\_\_\_, "The effect of strain on the electrical properties of discontinuous thin metal films," *Thin Solid Films* 11 p.259-272 (1972).
12. \_\_\_\_, "Structure and electrical properties of Au-SiO thin film cermets," *Thin Solid Films* 11, p. 299-311 (1972)
13. \_\_\_\_, and V. H. Meyer, "Stress effects in carbon coated copper grids for support of thin film specimens during electron microscopy," *Metallographic Rev.* 1, p. 38 (1972).
14. \_\_\_\_, and V. H. Meyer, "Electrostatic drift with transmission electron microscopy of cermet thin films," *Metallography* 8, p. 293-296 (1975).
15. \_\_\_\_, and T.G.L. Shirtcliffe, "Diploma of Applied Physics," *N.Z. Sci. Rev.* 32, p. 79-83 (1975)
16. \_\_\_\_, "The post-deposition resistance increase in discontinuous metal films," *Thin Solid Films* 28, p. L21-L23 (1975).
17. \_\_\_\_, "Contact angle contribution to the negative TCR of discontinuous metal films," *Thin Solid Films* 29, p. L9-L12 (1975).
18. \_\_\_\_, "Self-Heating effects in discontinuous metal films," *Thin Solid Films* 35, p. 165-168 (1975).
19. \_\_\_\_, "A.C. properties of discontinuous metal thin films," *Thin Solid Films* 36, p. 29-32 (1976)
20. \_\_\_\_, A. Mitchell and J. Robins, "A thick film hybrid power amplifier," *N.Z. Electron* 3, p. N2 10-12 (1976).
21. \_\_\_\_, and T. J. Coutts, "Electrical conduction in discontinuous metal films; a discussion," *Thin Solid Films* 47, p. 3-65 (1977). [invited review].
22. \_\_\_\_, "Active filter using Norton op amp gyrators," *Electronic Engineering*, p. 17-19 (June 1978).

23. \_\_\_\_, C. Bishop, M. Ridge and R. Howson, "Structural investigation of indium oxide thin films on PET," *Thin Solid Films* 62, p. 19-23 (1979).
24. \_\_\_\_, M. Ridge, C. Bishop & R. Howson, "Temperature dependence of Hall mobility in indium/tin oxide thin films," *J. Appl. Phys.* 51, p. 1847-1849 (1980).
25. \_\_\_\_, H. Anderson & R. Smith, "Retrofit Feedback Control of A/F Ratio and Ignition Timing for Fuel Economy," SAE Paper 820389 in SAE Transactions 91 (1982).
26. D. Evans, B. Hall, & \_\_\_\_, "Microcomputer Control of Thin Film Deposition Rate," *J. Phys. E: Sci. Instrum.*, 16 (1983) 544-548.
27. R. Smith, H. Anderson, & \_\_\_\_, "Data Acquisition and Analysis in a Vehicle with a Commodore PET," *J. Phys. E: Sci. Instrum.* 15 (1982) 1114-1118.
28. G. O. Svarstad, L. D. Feisel, & \_\_\_\_, "Discontinuous film Resistance at Saturation Thickness ts," *Thin Solid Films* 99 (1982) 379-384.
29. \_\_\_\_, & Thomas Chih-Chien Chen "PLL Sensing for Engine Diagnostics and Control," SAE Paper 850494 in SAE Transactions 94 (3) (1985) pp. 666-679.
30. \_\_\_\_, & Li-Chi "Improved Intra-cylinder Pressure Sensor," SAE Paper 850374 in SAE Transactions 94(3) (1985) pp. 137-146.
31. \_\_\_\_, "Intra-Cylinder Combustion Pressure Sensing," SAE Paper 870816 in SAE Transactions 96 (1987) pp.
32. \_\_\_\_, "GRE Policies in Electrical Engineering," *Engineering Education* 78 (1987) pp 125-129.
33. J. H. Das and \_\_\_\_, "Diffusion and Self-Gettering of Ion-Implanted Copper in Polyimide," *J. Appl. Phys* 66 (12) (1989) pp 5816 - 5820.
34. \_\_\_\_, "AC Effects in Asymmetric Discontinuous Metal Films," *Thin Solid Films* 193/194 (1990) 110-116.
35. W. Moussa and \_\_\_\_, "Effects of Non-Ideal Switches in PWM Switching Converters" *International J. Electronics* 38 (4) Jan 1992 pp 485-512.
36. \_\_\_\_ and J. Das "Metal Diffusion in Polymers," *IEEE Trans. CPMT-B:Adv. Pkg.* 17 (1994) pp 620-625.
37. \_\_\_\_ and F. Wu, "The Effects of Hydrogen Absorption on the Resistance of Discontinuous Palladium Films" *Thin Solid Films* 246 (1994) pp 17-23.
38. Li Li, H. Kim, C. Lizzul, I. Sacolick, and \_\_\_\_, "Electrical, Mechanical, Structural and Processing Properties of Electrically Conductive Adhesives" *IEEE Trans. CPMT - 16* (1993) pp 843-851.
39. C-Y Huang, \_\_\_\_, Y-K Su and T.H. Kuo, "New Method of Modeling a Multipeak Resonant Tunnelling Diode," *Electronics Letters* 30 (1994) pp 1012-1013.
40. C-Y Huang \_\_\_\_, and Y-K Su, "An improved multi-peak resonant tunneling diode model for 9-state RTD memory simulation," *IEEE Trans. Electron Devices*, 42(9) Sept 1995, pp. 1705-1707.
41. Li Li, and \_\_\_\_, "Structure and selection models for anisotropic conductive adhesive films," *J. Electronics Manufacturing*, 5(1) March 1995, pp. 9-17.
42. \_\_\_\_, A. Kiesow, M. Hong, and F. Wu, "The effect of hydrogen absorption on the electrical conduction of discontinuous palladium thin films," *Int. J. Electronics* 81(4) Oct., 1996 pp.441-447.



43. Li Li and \_\_\_\_\_, "Electrical Conduction Models for Isotropically Conductive Adhesives," J. Electronics Manufacturing 5(4) Jan 1996, pp.289-298.
44. D. Klosterman, L. Li, and \_\_\_\_\_, "Materials Characterization, Conduction Development, and Curing Effects on Reliability of Isotropically Conductive Adhesives," IEEE Trans. CPMT Part A, 21(1) March 1998, pp. 23-31.
45. Li Li and \_\_\_\_\_, "Electrical Conduction Models for Isotropic Electrically Conductive Adhesives." IEEE Transactions on Components, Packaging & Manuf. Technol. CPMT:A-20(1). March 1997, pp. 3-8.
46. \_\_\_\_\_, S. Youssof, and X. Feng, "Electrically Conductive Adhesives for Pin-Through-Hole Applications." J. Electronics Manuf. 6(3) Sept 1996, pp.219-230.
47. \_\_\_\_\_, "Recent progress in discontinuous thin metal film devices", Vacuum 50(1-2) May/June 1998, pp. 107-113.
48. C. Y. Huang, \_\_\_\_\_, and Y. K. Su, "Generalized formula for the stability and instability criteria of current-voltage characteristics measurements in the negative differential conductance region of a resonant tunneling diode", J. Appl. Phys., 82(5), 1 Sept 1997, pp 2690-2696.
49. F. Wu and \_\_\_\_\_, "Modeling conduction in asymmetrical discontinuous thin metal films" Thin Solid Films 317 April, 1998, pp. 178-182.
50. Li Li and \_\_\_\_\_, "An Introduction to Electrically Conductive Adhesives," Int. J. Microelectronic Packaging, 1(3) 1998, pp. 159-175.
51. A. Kiesow, \_\_\_\_\_, C. Radehaus, & A. Heilmann "Switching behavior of plasma polymer films containing silver nanoparticles," J. Appl. Phys. 94 (2003) pp. 6988-6990.
52. Dou G.B., Chan Y.C., \_\_\_\_\_, & Whalley D.C., "RLC Effects in Fine Pitch Anisotropic Conductive Film Connections", Soldering & Surface Mount Technology, 18(1), 2006, pp. 12-15.
53. \_\_\_\_\_, "Isotropic conductive adhesives: Future trends, possibilities, and risks," Microelectronics Reliability, 47(2/3) (2007) pp. 328-330.
54. Xia Zhang, Johan Liu, Peng Cai, Camilla Kärfelt, Xu Wang, \_\_\_\_\_ & Herbert Zirath, "Millimeter-wave Ultra-wideband Bandpass Filter Based on Liquid Crystal Polymer Substrates for Automotive Radar Systems", J. Microwave & Optical Technology Letters, 50(9) (2008) pp. 2276-2280.
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7. "Electrical conduction in thick film resistors" [with A. Mitchell].  
Proc. 5th N.Z. Science of Materials Conference, Wellington NZ, 1977, pp 173 - 177.
8. "Retrofit Feedback Control of A/F Ratio and Ignition Timing for Fuel Economy," [with H. Anderson and R. Smith] Presented at SAE Congress, (February 1982).
9. "Pseudo-inductive Effects and Electron-hopping in Discontinuous Metal Thin Films," [with W-K Chiu] Presented at 1984 AVS Congress, Reno, December, 1984.
10. "PLL Sensing for Engine Diagnostics and Control," [with Thomas Chih-Chien Chen] Presented at SAE Congress (February 1985).
11. "Improved Intra-cylinder Pressure Sensor," [with Li-Chi] Presented at SAE Congress (March 1985).
12. "Microelectronics at SUNY-Binghamton" Proc. 41st Annual Meeting ASEE (St. Lawrence) Buffalo 1986.
13. "Automotive Electronics," 100-104
14. "Electrical Engineering at SUNY-Binghamton" [with M. J. Batchelder] 39-44  
Proc. 1985 IEEE Southern Tier Technical Conference, Binghamton, 1985.
15. "Intra-Cylinder Combustion Pressure Sensing," Invited Presentation to the Earth-Moving Industry Conference (April 1987).
16. "A Comparison between State Space Averaging and PWM Switch for Switch Mode Power Supply Analysis [with W. Moussa] 15 - 21.
17. "Steady State Analysis for an Off-Line Series Resonant Converter," [with W. Moussa]. 23 - 29.
18. "Diffusion Simulations of Copper in Polyimide," [with J. H. Das] 259 - 265.  
Proc. 1990 IEEE Southern Tier Technical Conference, Binghamton, New York (1990).
19. "Electrical Conduction in Granular Metal Thin Films," [with A. Mello and C. J. Adkins,] presented at Materials Research Soc. Spring Meeting, San Francisco, April 1990.
20. "DC Model for Zero Voltage Switching Buck Converter," 42.1-42.8.
21. "Characterization of Transition Times in Voltage Switching PWM Converters" [with W. Moussa].
22. "Characterization of BJT Switching Times in PWM Converters" [with W. Moussa]. 35-42 Proc.  
1991 IEEE Southern Tier Technical Conference, Binghamton, New York (1991).
23. "The Effects of Hydrogen Absorption on the Resistance of Discontinuous Palladium Films" [with F. Wu] Presented at the 9th International Conference on Thin Films, Vienna, Sept 1993.
24. "The Use of GRE Scores in Graduate Admissions and Performance,"
25. "Industry Based Senior Design Projects," [with C. Bergman] Presented at the St. Lawrence Section ASEE Conference, Binghamton, 1994.
26. "Structure and selection models for anisotropic conductive adhesive films," [with Li Li] Proc. 1st International Conference Adhesive Joining Technology in Electronics Manufacturing, Berlin, Nov, 1994 (VDI/VDE-IT)
27. "Packaging in Electronics" Proc. Kolloquium des Sonderforschungsbereiches 379 "Mikromechanische Sensor- und Aktoarrays" Technische Universitat Chemnitz-Zwickau, 4-5 Nov 1996, pp.17-20.
28. "A Decade of Electronics Packaging Courses at Binghamton University" Presented at the GA Tech Packaging Research Center Academic Conference, March 18-20, 1998, Atlanta.

29. "The Internationalization of Engineering Education" Presented at the ASEE St Lawrence Section Spring Meeting, Binghamton, April 3-4, 1998.
30. "Simultaneous Internet, videotape, and classroom delivery of a graduate electronics packaging course," presented at the 3<sup>rd</sup> Academic Electronics Packaging Workshop, GA Tech., March 17-19, 1999.
31. "Discontinuous Metal Thin Films and the Single Electron Transistor," [with C. Radehaus, M. Hietschold, A. Henning, K. Hofmann, A. Kiesow, & F. Wu] Conference on Novel Materials for Electronics Miniaturization (The Knowledge Foundation), Nov. 2-3, 2000, San Francisco, CA.
32. "The Dresden-Binghamton Student Exchange Program" (invited), presented at the Electronics Technology Institute 10<sup>th</sup> Anniversary Seminar, Dresden University of Technology, 6<sup>th</sup> Oct, 2000.
33. "Research Perspectives of Electrically Conductive Adhesives" (Keynote Presentation), TMS Spring Meeting, St Louis MO, 8-12, Oct., 2000.
34. "Electrically Conductive Adhesives" (Invited) MRS Spring Meeting, San Francisco, 16-20 April 2000.
35. "Conductive Adhesive Applications to Imprint Circuitry," [with Liye Fang,] presented at the 34<sup>th</sup> International Symposium on Microelectronics, (IMAPS) Baltimore, Oct., 9-11, 2001.
36. "Remote course and degree delivery in China," (revised), [with F. Li, & X. Zong,] CPMT Academic Conference on Packaging, Shanghai, 28-29<sup>th</sup> June, 2004.
37. "Nominal PbSe nano-islands on PbTe: grown by MBE, analyzed by AFM and TEM" (poster) [with P. Moeck, M. Kapilashramu, J. Lee, N. D. Browning, & P. J. McCann,] Nano-Breakthrough Conference, Portland, 28-29<sup>th</sup> July 2004.
38. "Nanoparticles for Nanoelectronics," (poster) [with J. Lee,] Nano-Breakthrough Conference, Portland, 28-29<sup>th</sup> July 2004.
39. "Discontinuous Metal Thin Films & Single Electron Transistor Sensors," NASA Workshop on Nanotechnology Initiative Grand Challenges: Nanotechnology in Space Exploration, Palo Alto, 24-26 August 2004. (Appendix to workshop report.)
40. "The BS/MS degrees vs. Dipl.-Ing. & the European Bologna Process: A US Perspective," 8<sup>th</sup> International Academic Conference on Electronic Packaging Education & Training, Vienna, May 2005.
41. "Chromium nanodot deposition and mechanism," [with Hui She & Jeahuck Lee,] 3<sup>rd</sup> Annual Micro Nano Breakthrough Conference, Vancouver, WA, July 24-26, 2006.
42. "Fabrication and Characterization of Nano-materials," [with N.P. Rudraraju, J. Carruthers, C. Lee, A. LaRosa, P. Moeck, J. Morris, S. Prasad, R. Solanki, S. Rananavare, E. Sanchez, C. Wamser, & M. Yan,] American Vacuum Society Annual North-west Workshop, Forest Grove OR, Sept., 2006.
43. "Chromium Nanodot-array Deposition using Atomic Force Microscopy," [with Hui She & Jeahuck Lee,] American Vacuum Society Annual North-west Workshop, Forest Grove OR, Sept., 2006.
44. "Nanopackaging: Nanotechnologies and Electronics Packaging," IMAPS Emerging Technology Workshop on Nanotechnologies for Microelectronics, Las Vegas, December 2006.
45. "Nanosensors for Electronics Packaging," IMAPS Emerging Technology Workshop on Nanotechnologies for Microelectronics, Las Vegas, December 2006.
46. "Delivery of Education in Microelectronics in China," Sino-European Workshop on Green Electronics Technology, Shanghai, June 26, 2007.

47. "IEEE-HKN: the New International ECE Honor Society," 11<sup>th</sup> International Academic Conference on Electronic Packaging Education & Training, Budapest, May 2008
48. "Nanotechnology Materials for Electronics Packaging Reliability," (Invited Keynote) International Conference on Electronic Packaging Technology & High Density Packaging (ICEPT/HDP), Shanghai, July, 2008.
49. "Polymer Cure Modeling for Microelectronics," (Invited) IEEE CPMT Scandinavian Chapter Workshop, Goteborg, October, 2008.
50. "Nanopackaging: Nanotechnologies and Electronics Packaging", (Invited) IEEE CPMT Phoenix Chapter Workshop, November, 2008.
51. "Nanopackaging: Nanotechnologies and Electronics Packaging", (Invited) IEEE CPMT Helsinki Chapter Workshop, April 21st, 2009.
52. "Trends in Green Electronics - Are the environmentally friendly alternatives good enough? Ag Nanoparticles and the Environment," (Invited), IEEE CPMT Nordic Chapter Workshop on "Green Electronics & Life Cycle Assessment," Sogndal, June 15<sup>th</sup>, 2009.
53. "Electronics nanopackaging – Source of environmental impact and health risks? CNT Health Risks and Nanotechnology Regulation," (Invited), IEEE CPMT Nordic Chapter Workshop on "Life cycle health risks and environmental impacts of nanomaterials," Sogndal, June 16<sup>th</sup>, 2009.
54. "Nanopackaging: Nanotechnologies and Electronics Packaging," keynote presentation, 6<sup>th</sup> Annual IeMRC (Innovative Electronics Manufacturing Centre) Conference, September 21<sup>st</sup>, 2011, Loughborough, UK.
55. "Nanopackaging: Nanotechnologies and Electronics Packaging," keynote presentation, 17<sup>th</sup> IEEE International Symposium for Design Technology in Electronic Packaging, October 20-23, 2011, Timisoara, Romania
56. "Nanopackaging: Nanotechnologies and Electronics Packaging," plenary presentation, International Forum on Advanced Materials and Commercialization, November 8-12<sup>th</sup>, 2011, Ningbo, China.
57. "Battery Recharging and Testing Swap Stations" OregonBEST BestFest, September 12-13<sup>th</sup>, Portland, (oral presentation by Russell Ellis & Charlie Kawasaki, [with Caitlin Fackrell, Thatcher Gordon & Phil Lamb.]
58. "Construction of a Multi-Source Thermal Evaporation Tool for Educational Purposes," [with Nicholas Sayre & Erik Sánchez]. Oregon Academy of Science annual meeting, February 22, 2014, Eugene, OR (poster).
59. "Nanopackaging: Nanotechnologies and Electronics Packaging," (invited) 14<sup>th</sup> IEEE International Conference on Nanotechnology (NANO 2014), Toronto, Canada, August 2014.
60. "Polymer Composites for Electronics Packaging Applications," keynote presentation, 20<sup>th</sup> Anniversary IEEE International Symposium for Design Technology in Electronic Packaging (SIITME), October 23-26, 2014, Bucharest, Romania.
61. "'Nanomanufacturing R&D for Electronics Packaging.," 38<sup>th</sup> International Spring Seminar on Electronics Technology (ISSE), Egerszalok, Hungary, May 2015. (Plenary)
62. "Nanotechnology: Laboratory Course," 55<sup>th</sup> Oregon Science Teachers Association, Bend OR, 15-17 October, 2015.
63. "Nanotechnology: Modelling and Simulation," 55<sup>th</sup> Oregon Science Teachers Association, Bend OR, 15-17 October, 2015.
64. "Nanopackaging for a Smarter Life," 2nd IEEE Internal Forum on Research and Technologies for Society and Industry, Bologna, Italy, 7-9 September 2016.
65. "Nanoparticle Thin Films: Fabrication, Structure and Properties, IEEE Nano-Materials & Devices Conference (NMDC), Toulouse, France, 9-12 October, 2016.
66. "A Research Retrospective: Some Lessons Learned," 40<sup>th</sup> International Spring Seminar on Electronics Technology (ISSE), Sofia, Bulgaria, May 2017. (Plenary)
67. "Nanopackaging & EHS," 12<sup>th</sup> IEEE Nano Materials & Devices Conference (NMDC), Singapore, Oct, 2017.

68. "Nanoparticle Film Sensors for Electronics Packaging Reliability," 1<sup>st</sup> IEEE International Workshop on Nanotechnology for Robotics & Intelligent Systems (NRIS), Qinhuangdao, China, September 2017.
69. "Nanopackaging & EHS," 6<sup>th</sup> Summer Academic Forum, Changchun University of Science and Technology, October 2017.

#### **TECHNICAL ARTICLES, ETC.**

"Simple laboratory noise generator," *Wireless World*, p. 62 (April 1977).

"More on VCT," *Electronics Today International*, p. 40-45 (August 1977).

"VCT: how to build one," *Electronics Today International*, p. 34-39 (October 1978).

Article on effects of microprocessors in New Zealand - Dominion 19 May 1980;  
also in *Christchurch Press*, *N.Z. Herald*, and *NewsVUW*.

"The Proof is in the Nanopackaging" *IEEE Nanotechnology magazine*, Dec 2008, pp. 25-27.

## IEEE TRANSACTIONS: SPECIAL SECTIONS

Transactions Guest Editor, Special Sections on Electrically Conductive Adhesives, etc:

IEEE Trans. CPMT-B: Advanced Packaging, May 1995, pp. 282-333;

IEEE Trans CPMT-C: Manufacturing, October, 1996, pp. 230-269;

IEEE Trans CPMT-A, 20(1) March 1997, pp. 1-37;

IEEE Trans CPMT-A, 21(2) June 1998 (with J. Liu), pp. 206-309.

IEEE Trans. Components & Packaging Technology, 22(2) June 1999, pp. 139-228.

IEEE Trans. Electronics Packaging Manufacturing, 22(4) October 1999, (with CP Wong.)

IEEE Trans. Electronics Packaging Manufacturing, 28(4) October 2005, pp. 289-343.

IEEE Trans. Components & Packaging Technology, 28(4) December 2005, pp. 741-780

## PUBLISHED RESEARCH CONTRACT REPORTS

\_\_\_\_, "Automotive engine management systems," N.Z. Energy Research & Development Committee Report, P. 19, (August 1979).

\_\_\_\_, "Instrumentation of Cars for Fuel Economy: NZERDC Contract 3119 Final Report," N.Z. Energy Research and Development Committee Report 70, April 1982.

\_\_\_\_, "Instrumentation of Cars for Fuel Economy: Appendices to Report 70," N.Z. Energy Research and Development Committee Publication P51, (April 1982).

## TECHNICAL DISCLOSURES, ETC.

\_\_\_\_, "Combustion Engine Control System," N.Z. Provisional Patent Specifications 194/827 (1981) and 1/200/071 (1982).

\_\_\_\_, "Calibration of I.C. Engine Crankshaft Reference Marker ---" SDSMT (1983).

\_\_\_\_, "Combustion Pressure Sensor," RC Disclosure 156-D191-84, Research Corporation (1984).

\_\_\_\_, "Sensing System for Engine Diagnostics & Control," SUNY Invention R-291 (1985).

\_\_\_\_, "Fiber-Optic Combustion Pressure Sensor," SUNY (1986).

\_\_\_\_ & L. Kunz, "Fiber-Optic Combustion Pressure Sensor," SUNY (1993).

"Sintered Nanoparticles for Electrical Interconnections" 3005-93577-01 08/19/14 MORJ-01 (Filed August 19, 2014)

## EXTERNAL RESEARCH CONTRACTS

### U of Saskatchewan

National Research Council of Canada, (1971) discontinuous thin films: c.\$25K

### VUW

NZ University Grants Committee, (1972) vacuum equipment: c.\$15K

NZ Energy R&D Committee, (1978-81) automotive engine control electronics.

(The engine control project was one of the two largest research contracts ever at VUW.)

### SUNY

\_\_\_\_, "Ion Implantation into Thin Film Substrates," IBM Corporation, \$5,374 11/1/84 - 2/1/85.

\_\_\_\_, "A Systems Study of Switched-Mode Power Supplies for Audio Applications," NYS Science & Technology Foundation, \$24,000, McIntosh Laboratories, \$15,000 1/1/86 - 12/31/86.

\_\_\_\_, "Metal Ion Implantation and Diffusion in Polymers," IBM Corporation, \$15,002 1/1/88 - 8/31/88.

M. Chatterjee & \_\_\_\_ , "Optical Signal Distribution" GE, \$9,994 6/15/89 - 8/31/89.

\_\_\_\_, "Diffusion & Aggregation of Metal from Sputtered Thin Films into Polymer Substrates, IBM Corporation, \$24,998 2/22/90 - 8/31/91.

\_\_\_\_\_. "Basic and Applied Studies of Conducting Adhesives," IEEC (NYS/NSF/Industry Consortium):  
\$51,767 1/1/92-12/31/92, \$33,585 1/1/93-12/31/93.

\_\_\_\_\_. "An Internet Course on Conductive Adhesives for Electronics Packaging" NSF/IEEE (with Johan Liu, Chalmers University of Technology, Sweden) \$30,000 1/1/01-12/31/01

Also responsible for negotiating the DAAD SUNY-Binghamton/TU-Chemnitz student support program, funded at \$13.5K/year to BU plus student expenses and stipend (1998-2001).

#### PSU

Chemnitz exchange program (DAAD) \$11,160/year (2003-06), \$20,841/year (2006-09)

Intel \$25K course development (2004); Bonneville Power Authority c. \$10K (2004)

NSF Nanotechnology Undergraduate Education: A STE Minor with General Education, \$199,095 (2013-2014)

### **CURRENT RESEARCH INTERESTS**

Study of structure, growth and electrical properties of discontinuous metal thin films and cermets; AFM fabrication of single-electron transistors; metal/polymer interface; isotropic electrically conductive adhesives; automotive engine control sensors; switched-mode power supplies, device modeling; tunnel diodes; resonant tunnel diodes; electrical modeling in electronics packaging; nanotechnology & electronics packaging education, nanoparticle interconnects, SPICE modeling of nanoelectronics.

### **INDUSTRIAL & CONSULTING**

Sun Microsystems (2004) Electronics packaging

Skyworks (2004) Electronics packaging

Levene, Gouldin & Thompson (1991) Industrial accident

IBM (Summers 1984, 1985; 1986-7) Thin films, ion-beam etching, plasma process modeling

Universal Instruments (1986) Electrostatic discharge (ESD) control

Control Data Corp (Summer 1983) Low temperature CMOS

Olson Engineering (1983) Engine control

Rapid City Computer Mapping Project (Summer 1982) Computer graphics

Honeywell SSED (1982) Thin films

Delphi Industries N.Z. (Aug-Oct 1981) Microprocessor applications

### **AWARDS**

BP Energy Award Special Commendation (1980) for VUW car project.

ASEE Centennial Certificate for Service to St. Lawrence Section 1993.

IEEE CPMT Society Board of Governors Awards for Service as Treasurer, 1992, 1995.

IEEE Region I Award (1999):

"For commitment to, dedication to, and mentorship of  
Electrical Engineering students at Binghamton University"

IEEE Millennium Medal, 2000

Elected IEEE Fellow (2000): "For Leadership in the Development of Electronics Packaging."

IEEE CPMT David Feldman Outstanding Contributions Award (2005):

"For his exceptional service to the IEEE and CPMT Society in various leadership roles,  
and for his pioneering work in electrically conductive adhesives"

Doctor Honoris Causa (2015), POLITEHNICA University of Bucharest

### **PATENT**

C.Y. Huang, J.E. Morris & Y-K. Su, "Method for producing a semiconductor device using a logic simulation approach to simulate a multi-peak resonant tunneling diode-based electronic circuit and a large signal multi-peak resonant tunneling diode SPICE model employed in the logic simulation approach," U.S. Patent Number 5,535,146, July, 9, 1996.

## UNIVERSITY SERVICE

### Portland State University

Faculty Senate (2002-2005, 2007-2010)  
International Action Council (2004-2005)  
University Studies Council (2003-2005, 2012- 2014)  
Faculty Senate Committee on Strategic Planning 2011-12  
Continuing Education Assessment Cttee, etc  
Graduate Council 2010-2012

### ECE Department Committees:

Curriculum: 2013-2014 (chair)  
Microelectronics Area: 2004- (chair 04-10)  
Undergraduate:  
2005-06(chair), 2006-07, 2013-14 (chair)  
Library 2004-06/2010-12(chair05-06/11-12)  
Awards: 2006-07 (chair)  
Promotion/Tenure:2005-07/09-10/12-13  
Ad hoc Shanghai: 2006- (chair)  
Graduate: 2007-2011 (Chair 2010-11)  
Eta Kappa Nu adviser 2004-2008, 2011-  
Graduate Seminar Coordinator (2010, 2012- )

### SUNY-Binghamton (highlights only):

Faculty Senate (Spring 2001)  
SUNY Freshman Mentor Program (1995-98)  
Newing College Fellow (SUNY residence hall) c.1988-98  
Off-Campus College Seminar (2000-01)  
Graduate Council (1986-8):  
Vice-chairman (1987-8) (Chairman Executive/Procedures, Committee on Committees)  
Nomination Committee (1987)  
Committee on Organized & Sponsored Research (1986-88) Chairman  
Ad-Hoc Governance Committee (1987-88) Chairman  
Materials Research Center Ad-hoc Committee (1987)  
Budget Sub-committee (1985)  
Faculty Senate Library Committee (1987-89) Chairman, Serials Task Force (1988-89)  
University Bookstore Advisory Committee (1985-91, 1992-96)  
President's Advisory Strategic Planning Committee (1993-96)  
Advisory Committee on International Programs (1994-96, 1998-2001), (Chair 1995-96)  
Frontiers in Education 1989 Organizing Committee (ASEE/IEEE Conference)  
Electrical Engineering Department:  
Graduate Adviser (1984-1987)  
Undergraduate Advising (1984-1996, 1998)  
Deputy Department Chairman (1986-1989)  
Watson School Committees:  
Graduate Studies (1985-87) Research (1986-87)  
General Electric ABC Course Advisory (1984-1995)  
Library (Chair and EE Library representative) (1984-87, 1997-2001)  
Lab Management Committee (1989-1995)  
Personnel Committees: EE (1988-2001), ME (1987-88, 1995), CS (1988-89).

Student recruiting: Community college presentations, industry, partner universities, etc., phone banks.

Program Evaluation Visits: Physics Dept, SUNY-Plattsburgh, Feb. 26-27, 1987

NY State Electricity & Gas Partners in Innovation Peer Review Committee, 1993

### South Dakota School of Mines & Technology:

Campus committees: Research (Secretary 1982, Chairman 1983-84)  
Computer Aided Design (Chairman) 1982-83  
Materials Eng. & Sc. Ph.D. Program Advisory Council 1983-84  
Committee on Graduate Studies 1983-84  
Computer Hardware Advisory Committee 1983-84

Electrical Engineering Department committees:

Graduate Program (Chairman 1982-83) 1982-84 Curriculum 1982-83  
Library (Chairman 1983-84) 1982-84 Equipment 1983-84

SDSM&T EE Academic Adviser: 1981-82 Sophomore, 1982-83 Junior, 1983-84 Senior

SDSM&T Faculty Adviser: KTEQ-FM student radio 1983-84 (Hold broadcaster's license)

## PROFESSIONAL SERVICE

### Conferences

#### International Conference Program/Advisory Committees:

International Conference on Adhesive Joining Technology in Electronics Manufacturing:  
Berlin, 1994; Stockholm, 1996; Binghamton, 1998 (Conference Chair), Helsinki, 2000.  
IEEE Conference on Polymeric Electronic Packaging (PEP): Norrkoping, 1997, Goteborg, 1999.  
High Density Pkg'ng & Compon. Failure Analysis in Elec. Manuf. Sympos., (HDP) Shanghai, 1998-2007 .  
(Short Course Program Chair 2006)  
International Conference on Electronic Packaging Technology & High Density Packaging (ICEPT/HDP),  
Shanghai (2008- )  
3<sup>rd</sup> Internat'l Confer. on Emerging Microelec. & Interconnect. Technologies, Bangalore, January, 2000.  
IEEE Symposium & Exhibition on Advanced Packaging Materials, Braselton,  
1999; (Conference Technical Co-Chair), 2000 (Conference Chair), 2001, 2003 (IMAPS)  
2004 Atlanta, 2005 Irvine  
7th Internat'l Workshop Electronic Properties Metal/Non-Metal Systems, Smolenice, Slovakia, 1999.  
International Workshop on Reliability of Polymeric and Plastic Packaging,  
2<sup>nd</sup>, Paris, Dec 1999 (Organizing Session Chair); 3<sup>rd</sup>, London, Nov 2000 (Confer Co-chair)  
International Conference & Exhibition on Microelectronics Materials (Micro Mat), Berlin, April 2000.  
International IEEE Spring Seminar on Electronics Technology (ISSE), annually 1999- .  
Interpack'01 (the Inter-society Electronic Packaging Conference), Hawaii, July, 2001.  
IEEE Conference on Polymers in Electronics & Photonics (Polytronic)  
Potsdam 2001; Hungary 2002; Montreux 2003; Portland 2004 (Confer Chair); Wroclaw 2005;  
Tokyo 2007; San Jose 2008  
IEEE Electronic Component Technology Conference (ECTC) Program Cttees:  
Materials & Processing, Education, Emerging Technologies (Chair 2006). Interconnections  
IEEE Electronic Systems Integration Technology Conference (ESTC): 2006 -  
Materials & Processing Program Committee (2006, 2010), Emerging Technologies (2008-)  
Electronic Packaging Technology Conference (EPTC), Singapore 2006 -  
1st World Congress on MicroNanoReliability, Berlin, September 2007  
International Conference Solid-State & Integrated-Circuit Technol (ICSICT), Beijing 2008, Shanghai 2010  
IEEE Nanotechnology Conference (NANO), Genoa (2009), Portland (General Chair, 2011),  
Birmingham (2012), Beijing (2013), Toronto (2014), Rome (2015), Sendai (2016), Pittsburgh (2017)  
Electronic Materials & Processing Conference (2010)  
IEEE Conference on Technologies for Sustainability, Portland (Program Chair 2013, 2014)  
IEEE Nano Materials & Devices Conference (NMDC) 2015, 2018 (General Chair)

#### Session Chair (in addition to those listed above):

AUTNZ Universities into the Future Conference, Waikato, May 1981. (Research Session).  
ASEE Annual Conference, Toronto, 1990. (Electronics Packaging Session).  
ASEE St. Lawrence Conference, Binghamton: 1994. (Recruitment/Retention Economic Development)  
1998 (International Engineering Education).  
Int. Seminar: Latest Achievements in Conductive Adhesive Joining for Elec. Pkg., Eindhoven, 1995.  
IEEE Conference on Polymeric Electronics Packaging: Norrkoping, 1997; Goteborg, 1999  
Internat. Workshop on Electronic Properties of Metal/Non-Metal Systems: Polanica, 1995; Prague, 1997  
2<sup>nd</sup> Internat. Confer. Emerging Microelec. & Interconnect. Technol., Bangalore, 1998. (IMAPS-India)  
3rd IEMT/IMC Symposium, Japan, April 21-23, 1999.  
Interpack'99 (the Inter-society Electronic Packaging Conference), Hawaii, June, 1999.  
5<sup>th</sup> Int'l Sympos Design & Technol Elec Modules (SIITME), Bucharest 1999, Timisoara 2011), Bucharest 2014

..... and more



## **Professional Societies:**

### Institute of Electrical and Electronics Engineers (IEEE):

TAB Ad-hoc Committee on Globalization: Technical Meetings Sub-Committee (1998)

TAB Ad-hoc Committee on Branding (1999)

IEEE-USA Research & Development Policy Committee (1999- ); (Education Sub-Committee)

### Components, Packaging & Manufacturing Technology (CPMT) Society:

Chair, Education Liaison Committee (1989-1990)

Treasurer, (1990-1997)

(In 1990 the Society had \$100K in assets, and was losing \$50K/year;

in 1997 Society reserves exceeded \$1.6M; \$2M in March 1998.)

Elected member Board of Governors 1996-1998, 2011-2013, 2014-2016

Vice-President for Conferences (1998-2003)

Chair, Nanotechnology Technical Committee (2012- 2014)

IEEE Nanotechnology Council representative (2002-2005, 2007-2012))

Associate-Editor, IEEE Trans. on Components, Packaging, & Manufacturing Technologies

(and previously IEEE Trans. on Component & Packaging Technologies, 1998- ;

and IEEE Trans. On Electronics Packaging Manufacturing)

Distinguished Lecturer (2000- )

Co-founder Oregon Chapter, Chapter Executive (2002- )

Served as General Chair for 4 IEEE/CPMT conferences, and as Technical Chair for 2 more

Organizer & co-chair CPMT Panel Session, ECTC 2015 (Nanopackaging: Hype, Hope, or Happening)

### Nanotechnology Council (CPMT Society representative 2002-05, 2007-12):

Awards Committee Chair (2010-2012)

Nanopackaging Technical Committee, founding chair 2008-2014

IEEE Nanotechnology magazine editorial board (nanopackaging column) 2008-

Vice-President of Conferences (2013-2014), Vice-President for Finance (2015- )

Distinguished Lecturer (2016, 2017 )

### Education Society:

Co-founder Oregon Chapter, President (2005-06), Interim Secretary/Treasurer 2007-

Region I: Student Activities Coordinator (1986-1989) (Student Paper Contest support 1986-1988)

Region 10: Interim Student Branch Counselor, VUW (1980-81)

### Other

Member (AVS) [Inactive] American Vacuum Society

Member (SAE) [Inactive] Society of Automotive Engineers (SUNY club founder, Adviser 1988-96)

Member (ASEE) [Inactive] American Society for Engineering Education

Member Sigma Xi\* (Tri-Cities Club Vice President 1989-92, Nominating Committee 1988) [Inactive]

Member (IEPS) International Electronic Packaging Society

(Upstate NY Regional Coordinator, 1987-1989).(Society combined with ISHM as IMAPS)

Member (IMAPS) International Microelectronics and Packaging Society [formed from IEPS & ISHM]

Member Tau Beta Pi & Tau Beta Pi Alumni

Member Eta Kappa Nu (Faculty Adviser PSU 2004-2008, 2011- )

Member Fulbright Alumni (2009- )

National Electrical Engineering Department Heads Association (NEEDHA); Newsletter editor 1994-1995

Association of University Teachers of N.Z

VUW Committee 1974-76, 1978-81 Vice Chairman 1975;

National Executive 1978-81, Assistant to President 1978-79, Executive-Vice-President 1979-81

N.Z. National Electronics Development Association, Executive Committee (1981)

United University Professions: Binghamton Executive, 1994-99

Calling of the Engineer (Canada); Order of the Engineer (Watson School coordinator 1989-95)

**Reviewing:**

NSF & other research sponsors (Canada, Hong Kong), City U of HK (faculty, research); etc.

Faculty appointment and promotion reviews: Sweden, Norway, Finland, Hong Kong, Malaysia, France, USA, etc  
Ph.D. external examiner:

U. Auckland (2), TU-Helsinki (2), Tampere University, U-Bordeaux (2 & habilitation), Nanyang U. (Singapore), University of Oslo, Norwegian National University of Technology (NTNU).

Professional Book reviews (pre-publication text development):

Prentice-Hall

"Introduction to Electronics," Horenstein, 1986-87 Second edition 1993-94

"A Practical Approach to Engineering Electronics," Mauro, 1986.

"Introduction to Integrated Circuits," Rutledge, 1987

"SPICE Tutorial Manual," Tuinenga, 1987

"Simulation with SPICE," Kinsner, 1987

"Computer-Aided Circuit Analysis Using SPICE," Banzhaf, 1988.

"Introduction to SPICE," Hines, 1988

"Analog Integrated Circuits: Design, Analysis & Applications," Socloff, 1988

"PSPICE for Electronics & Circuits,," Rashid, 1988

"Designing Electronic Circuits Using Analog IC's," Wierzba, 1989

"Integrated Electronic Devices & Circuits," Sodini & Howe, 1991

Van Nostrand Reinhold:

Electronics packaging text, Palusinski, Prince, et al, 1991

MCM book proposal -- Franzon & Doane (eds), 1991

Addison Wesley:

"Electronic Circuit Design" Savant, et al, 2e & 3e proposal 1993

IEEE Press:

"Advanced Electronic Packaging with Emphasis on Multichip Modules," Brown, 1997,

"Advanced Electronic Packaging with Emphasis on Multichip Modules," Brown, 2e, 2004.

Wiley:

"Fundamentals of Electronics," Razawi, (2006)

"Introduction to Microsystem Technology" Gerlach & Doetzel (2006)

"Electric Circuits & Circuit Components" Mazarov, Ludwig, & Bitar (2010)

Also research monograph proposals from CRC Press, etc.

Miscellaneous research journals:

IEEE Trans. Advanced Packaging., IEEE Trans. Electronics Package Manufacturing, IEEE Trans.-CPMT, IEEE Trans. Reliability of Devices & Materials, IEEE/ASM J. Electronic Materials, Electronics Letters, Applied Physics Letters, J. Polymer Science, Thin Solid Films, Adhesion & Adhesives, Solid State Electronics, Materials Transactions (Japan), etc.

Elsevier: Applied Surface Science, CARBON, Composites Science and Technology, Journal of Alloys and Compounds, Materials Chemistry and Physics, Materials Characterization, Microelectronics Reliability, Nuclear Inst. and Methods in Physics Research – B, Organic Electronics, Sensors & Actuators: B. Chemical, etc

**Editorial Boards:**

Recent Patents on Electrical Engineering (Bentham Science Publishing) 2007-

International Review of Electrical Engineering (Praiseworthyprize) 2005-

Electronics (CGBI, Basel) 2011-

**Editorial Advisory Boards:**

Journal of Microelectronic Systems Integration, (Plenum)

International Journal of Microelectronics Packaging (Gordon & Breach) (Assembled ECA Issue v1(3).)

(Both journals no longer published)

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