CURRICULUM VITAE

Ravindra P. Joshi

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EDUCATION

Ph.D.	Electrical Engineering, Arizona State University, (1988).
M. Tech.	Electrical Engineering, Indian Institute of Technology, India, (1985).
B. Tech.	Electrical Engineering, Indian Institute of Technology, India, (1983).

EXPERIENCE

1/15– Present Professor, Electrical & Computer Engineering, Texas Tech University

05/01– 12/14 Professor, Electrical & Computer Engineering, Old Dominion University.

05/95–05/01 Associate Professor, Electrical & Comp. Engineering, Old Dominion University.

05/99 - 07/99 Visiting Scientist, Motorola Incorporated.

05/97 - 07/97 ASEE Summer Faculty Fellow, NASA Goddard Space Flight Center.

08/96 - 12/96 Visiting Scientist, Oak Ridge National Laboratory.

06/95 - 07/95 Air Force Summer Faculty Fellow, Philips Laboratory/AFRL.

08/89-05/95 Asst. Prof., Electrical & Computer Engineering, Old Dominion University.

05/88 - 07/89 Post Doctoral Research Fellow, Center for Solid State Electronics Research, Arizona State University.

08/85 - 05/88 Research Associate, Arizona State University.

07/83 - 07/85 Teaching Assistant, Indian Institute of Technology.

PROFESSIONAL ENGINEER

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NATIONALITY: US citizen

CONSULTING ACTIVITIES

08/2009 – 2009	Air Force Research Laboratory, Albuquerque, NM.
08/2003 - 12/2007	Air Force Research Laboratory, San Antonio, TX.
05/1999 - 12/1999	Motorola Incorporated, AZ.
07/1999 – 07/2005	Sandia National Laboratories, NM.
08/1996 - 08/1997	Oak Ridge National Laboratory, TN.
07/1992 - 12/1992	Tetra Corp., NM.

PUBLICATIONS SUMMARY

- Journal Articles Published to Date: **201**
- Citations: **9,372** (http://scholar.google.com/citations?user=5m5bnQUAAAAJ&hl=en)
- **1** Book – *Ultrashort Electric Pulse Effects in Biology and Medicine* (Springer, New York, 2021), ISBN: 978-981-10-5113-5
- **8** Book Chapters
- (Conference Presentations and Proceedings Publications Ignored for Brevity)
- **1** Patent ("Modulation of Neuromuscular Functions with Ultrashort Electrical Pulses," US Patent Pub. No.: US2008/0228244 A1, 8139339)

AWARDS AND RECOGNITIONS SUMMARY (CHRONOLOGICAL)

- IEEE William Dunbar Award (2022) – 1 international Award given once every 2 years
- Fulbright award (2019)
- Stanford University's list of 100,000 most-cited authors worldwide (2017 - present)
- NPSS Merit Award (2017) for ″significant and sustained contributions to bioelectrics and physics-based understanding of high field phenomena in pulsed power applications″
- Elected Fellow of the Institute of Engineering and Technology (IET, UK) – 2014
- Elected Fellow of the Institute of Physics (IOP) – 2014
- Elected Fellow of the Institution of Electronics & Telecommunication Engineers – 2014
- Elected Fellow of the Institute of Electrical and Electronics Engineers (IEEE) -- 2008

REFEREED, INTERNATIONAL JOURNAL PUBLICATIONS (at TTU, 2015-onwards)

(Average Annual Rate of Journal Publications Per Year At TTU = 48/7.4 = 6.48)

1. M. Brown, M. Sanati, and **R. P. Joshi**, "Combined First Principles-Monte Carlo Analyses to Evaluate the Effect of Surface Hydrogen on the Secondary Electron Yield of Nickel," Journ. Appl. Physics **131**, 103301 (2022).

2. S. N. Sami, R. Islam, S. Portillo, E. Schamiloglu, and **R. P. Joshi**, "Numerical Evaluations of Hydrogen Outgassing from Cesium Coated Carbon Fiber Electrodes," Vacuum **198**, 110869 (2022).

3. A.T. Hewitt, B. Esser, **R. P. Joshi**, J. Mankowski, J. Dickens, A. Neuber, R. Lee, J. Stephens, "Optically Activated, In-waveguide, Semiconductor Attenuators for the Controllable Isolation of Ka-band Microwaves," IEEE Trans. Microwave Theory and Techniques **70**, 2217 (2022).

4. L. Silvestre, J. Stephens, J. J. Mankowski, J. Dickens, A. A. Neuber, and **R. P. Joshi**, "A Continuum Approach for Multipactor Using the Vlasov-Poisson Analysis," *J. Phys D: Applied Physics* **55**, 045202 (2022).

5. S. N. Sami, R. Islam, and **R. P. Joshi**, "Atomistic Calculations of Thermal Conductivity in Films Made From Graphene Sheets for Electron Emitter Applications," *AIP Advances* **11**, 105310 (2021).

6. D. Guo, S. N. Sami, L. Diaz, S. Sanati, and **R. P. Joshi**, "Evaluation of Electron Currents from Cesium Coated Tungsten Emitter Arrays with Inclusion of Space Charge Effects, Workfunction Changes and Screening," *Journ. Of Vacuum Science and Technology B* **39**, 054201 (2021).

7. S. N. Sami, R. Islam, R. Khare, and **R. P. Joshi**, "Simulations of Hydrogen Outgassing from Carbon Fibers," *Journ. Applied Phys*. **129**, 213303 (2021).

8. S. J. Beebe, **R. P. Joshi**, K. H. Schoenbach, and S. Xiao, in *Ultrashort Electric Pulse Effects in Biology and Medicine* (Springer, New York, 2021), ISBN: 978-981-10-5113-5.

9. W. Milestone, D. Guo, M. Sanati, K. M. Dowling, S. Hue-Riege, L. F. Voss, A. Conway, and **R. P. Joshi**, "Monte Carlo Transport Analysis to Assess Intensity Dependent Response of a Carbon-Doped GaN Photoconductor," *Journ. Applied Phys*. **129**, 195703 (2021).

10. D. Guo, W. Milestone, and **R. P. Joshi**, "Many-Particle Based Evaluations for Maximum Current Output from Bimodal Electron Emitter Arrays," *Journ. Applied Phys*. **129**, 173301 (2021).

11. S. N. Sami, M. Sanati, and **R. P. Joshi**, "Simulations of Hydrogen Outgassing and Sticking Coefficients at a Copper Electrode Surface: Dependencies on Temperature, Incident Angle and Energy," *Physical Review Research* **3**, 013203 (2021).

12. X. Qiu, M. Saed, J. J. Mankowski, J. Dickens, A. Neuber, and **R. P. Joshi**, "Model Evaluations of Multipactor Suppression in Rectangular Waveguides Through Grooved Surfaces and a Static Magnetic Field," *AIP Advances* **11**, 025039 (2021).

13. Q. Hu and **R. P. Joshi**, "Continuum Analysis to Assess Field Enhancements for Tailoring Electroporation Driven by Monopolar or Bipolar Pulsing Based on Nonuniformly Distributed Nanoparticles," *Physical Review E* **103**, 022402 (2021).

14. S. N. Sami, L. Diaz, M. Sanati, and **R. P. Joshi**, "Simulations of Field Emission from Copper Electrodes with Inclusion of Oxygen Surface Layer and Work Function Changes Based on First-Principles Calculations," *Journ. Applied Physics* **128**, 223302 (2020).

15. X. Qiu, L. Diaz, M. Sanati, J. Mankowski, J. Dickens, A. Neuber, and **R. P. Joshi**, "Coupled Analysis to Probe the Effect of Angular Assignments on the Secondary Electron Yield (SEY) from Copper Electrodes," *Physics of Plasmas* **27**, 093511 (2020).

16. Q. Hu, **R. P. Joshi**, and D. Miklavcic, "Calculations of Cell Transmembrane Voltage Induced by Time Varying Magnetic Fields," *IEEE Trans. Plasma Sci.* **48**, 1088 (2020).

17. D. Guo, S. N. Sami, and **R. P. Joshi**, "Electron Emission from Metal Emitters Subject to a High Intensity Laser in the Presence of DC Electric Fields," *AIP Advances* **9**, 105302 (2019).

18. H. Nguyen, M. Sanati, and **R. P. Joshi**, "Probing Changes in Secondary Electron Yield from Copper Electrodes Due to Surface Defects and Changes in Crystal Orientation," *Journ. Appl. Phys.* **126**, 123301 (2019).

19. J. Acharjee and **R. P. Joshi**, "Numerical Evaluation of Hydrogen Outgassing from Copper Electrodes With Mitigation Based on a Tungsten Capping Layer," *Physics of Plasmas* **26**, 093504 (2019).

20. H. Qiu, X. Wang, **R. P. Joshi**, and W. Zhao, "Numerical Study to Probe Effects of Strain Energy on Pore Formation and Their Density Distribution," *IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology* **3**, 276 (2019).

21. M. Abide, J. Dickens, **R. P. Joshi**, A. Neuber, and J. Mankowski, "Simulation of an S-Band MILO with Adjustable Beam Dump," *Plasma* **2**, 138 (2019).

22. Q. Hu, L. Zhang, and **R. P. Joshi**, "Simulation of Poration by Shockwave Induced Multiple Nanobubble Collapse in Cell Membranes," *AIP Advances* **9**, 045006 (2019).

23. A. R. Chowdhury, S. Nikishin, J. Dickens, A, Neuber, **R. P. Joshi**, and R. Ness, "Numerical Studies into the Parameter Space Conducive to ″Lock-On″ in a GaN Photoconductive Switch for High Power Applications," *IEEE Trans. Dielectr. and Electrical Insulation* **26**, 469 (2019).

24. H. K. A. Nguyen, J. Mankowski, J. Dickens, A. Neuber, and **R. P. Joshi**, "Calculations of Multipactor Growth in Rectangular Waveguide," *IEEE Trans. Plasma Sci.* **47**, 1364 (2019).

25. X. Qiu, J. Mankowski, J. C. Dickens, A. A. Neuber, and **R. P. Joshi**, "Model Evaluations of Surface Modification by Energetic Incident Carbon Atoms on Graphene Coated Copper Electrodes," *Physics of Plasmas* **26**, 013501 (2019).

26. A. R. Chowdhury, R. Ness, and **R. P. Joshi**, "Assessing Lock-On Physics in Semi-Insulating GaAs and InP Photoconductive Switches Triggered by Sub-Bandgap Excitation," *IEEE Trans. Electr. Devices* **65**, 3922 (2018).

27. Q. Hu and **R. P. Joshi**, "Analysis of a Dual Shock-Wave and Ultrashort Electric Pulsing Strategy for Electro-Manipulation of Membrane Nanopores," *J. Phys. D* **51**, 285403 (2018).

28. A. R. Chowdhury, J. Dickens, A. Neuber, R. Ness, and **R. P. Joshi**, "Lock-On Physics in Semi-Insulating GaAs: Combination of Trap-to-Band Impact Ionization, Moving Electric Fields and Photon Recycling," *Journ. Appl. Phys.* **123**, 085703 (2018).

29. X. Qiu and **R. P. Joshi**, "Dynamic Analysis of Material Ejection from Cathodic Metal Nano-Tips Due to Local Heating and Field Generated Stress," *Physics of Plasmas* **25**, 022109 (2018).

30. H. Nguyen, J. Mankowski, J. C. Dickens, A. A. Neuber, and **R. P. Joshi**, "Calculations of Secondary Electron Yield of Graphene Coated Copper for Vacuum Electronic Applications," *AIP Advances* **8**, 015325 (2018).

31. H. Nguyen, J. Mankowski, J. C. Dickens, A. A. Neuber, and **R. P. Joshi**, "Monte Carlo Analysis of Field-Dependent Electron Avalanche Coefficients in Nitrogen at Atmospheric Pressure," *Physics of Plasmas* **24**, 124501 (2017).

32. Q. Hu and **R. P. Joshi**, "Comparative evaluation of transmembrane ion transport due to monopolar and bipolar nanosecond, high-intensity electroporation pulses based on full three-dimensional analyses," *Journ. Appl. Phys*. 122, 034701 (2017).

33. H. Nguyen, J. Mankowski, J. C. Dickens, A. A. Neuber, and **R. P. Joshi**, "Model Predictions for Atmospheric Air Breakdown by Radio-Frequency Excitation in Large Gaps," *Physics of Plasmas* **24**, 073505 (2017).

34. Z. Zhang, M. Giesselmann, J. Mankowski, J. Dickens, A. Neuber, and **R. P. Joshi**, "Evaluation of High Field and/or Local Heating Based Material Degradation of Nanoscale Metal Emitter Tips: A Molecular Dynamics Analysis," *Journ. Phys. D* **50**, 185202 (2017).

35. M. Janda, **R. P. Joshi**, L. Krasnoperov, Z. Machala, and S. M. Thagard, "Electrical Discharges", in the *Encyclopedia of Physical Organic Chemistry*, vol. 5 (John Wiley, N. York, 2017), pp. 2957-3010.

36. V. Meyers, A. R. Chowdhury, D. Mauch, J. C. Dickens, **R. P. Joshi**, and A. A. Neuber, "Studies of Intensity Dependent Near-Bandedge Absorption in Semi-Insulating SiC for Photoconductive Switch Applications," *Journ. Phys. D* **50**, 135104 (2017).

37. J. Song, A. L. Garner, and **R. P. Joshi**, "Effects of Thermal Gradients Created by Electromagnetic Fields on Cell Membrane Electroporation Probed by Molecular Dynamics Simulations," *Physical Review Applied* **7,** 024003 (2017).

38. A. R. Chowdhury, J. C. Dickens, A. A. Neuber, and **R. P. Joshi**, "Assessing the Role of Trap-to-Band Impact Ionization and Hole Transport on the Dark Currents of 4H-SiC Photoconductive Switches Containing Deep Defects," *Journ. Appl. Phys*. **120**, 245705 (2016).

39. Q. Hu and **R. P. Joshi**, "Cell Electroporation Modeled Using Voronoi Networks," in *Handbook of Electroporation*, edited by D. Miklavcic (Springer International Publishing AG, Cham, Switzerland, 2016), pp. 1-16, ISBN: 978-3-319-26779-1.

40. A. Majzoobi, **R. P. Joshi**, A. A. Neuber, and J. C. Dickens, "Numerical Assessment of the Role of Secondary Electron Emission on the Output Performance of Rising Sun Magnetrons with Axial Output," *IEEE Trans. Plasma Science* **10**, 2272 (2016).

41. A. Chowdhury, D. Mauch, **R. P. Joshi**, A. A. Neuber, and J. C. Dickens, "Contact Extensions Over a High-*k* Dielectric Layer for Surface Electric Field Mitigation in High Power 4H-SiC Photoconductive Switches," *IEEE Trans. Electron Devices* **63**, 3171 (2016).

42. J. Stephens, A. Fierro, S. Beeson, G. Laity, D. Trienekens, **R. P. Joshi**, J. C. Dickens, and A. A. Neuber, "Photoionization Capable, Extreme and Vacuum Ultraviolet Emission in Developing Low Temperature Plasmas in Air," *Plasma Sources Science and Technology* **25**, 025024 (2016).

43. A. Majzoobi, **R. P. Joshi**, A. A. Neuber, and J. C. Dickens, "Heating Based Model Analysis for Explosive Emission Initiation at Metal Cathodes," *AIP Advances* **5**, 127237 (2015).

44. A. Majzoobi, **R. P. Joshi**, A. Neuber, and J. Dickens, "Particle-in-Cell Based Parameter Study of 12-Cavity, 12-Cathode Rising-Sun Relativistic Magnetrons for Improved Performance," *AIP Advances* **5**, 107102 (2015).

45. H. Qiu, **R. P. Joshi**, A. Neuber, and J. Dickens, "A Model Study of the Role of Workfunction Variations in Cold Field Emission From Microstructures With Inclusion of Field Enhancements," *Semicond. Sci. Technol*. **30**, 105038 (2015).

46. R. Tiskumara, **R. P. Joshi**, D. Mauch, J. C. Dickens, and A. A. Neuber, "Analysis of High Field Effects on the Steady-State Current-Voltage Response of Semi-Insulating 4H-SiC for Photoconductive Switch Applications," *Journal of Applied Physics* **118**, 095701 (2015).

47. **R. P. Joshi** and H. Qiu, "Asymmetric Conduction in Biological Nanopores Created by High-Intensity, Nanosecond Pulsing: Inference on Internal Charge Lining the Membrane Based on a Model Study," *Journal of Applied Physics* **118**, 094701 (2015).

48. D. Nagulapally, **R. P. Joshi**, and A. K. Pradhan, "Simulation Study of HEMT Structures with HfO_2 Cap Layer for Mitigating Inverse Piezoelectric Effect Related Device Failures," *AIP Advances* **5**, 017103 (2015).

REFEREED, INTERNATIONAL JOURNAL PUBLICATIONS (Pre-2015)

49. H. Qiu, **R. P. Joshi**, and A. K. Pradhan, "Simulation of Nanoparticle Based Enhancement of Cellular Electroporation for Biomedical Applications," *J. Appl. Phys*. **116**, 184701 (2014).

50. H. Qiu, S. Xiao, and **R. P. Joshi**, "Simulations of Voltage Transients Across Intracellular Mitochondrial Membranes Due to Nanosecond Electrical Pulsing," *IEEE Trans. Plasma Science*, **42**, 3113 (2014).

51. H. Qiu, S. Prasad, L. Ludeking, **R. P. Joshi**, and E. Schamiloglu, "Assessing the Role of Secondary Electron Emission on the Characteristics of 6-Cavity Magnetrons With Transparent Cathode Through Particle-in-Cell Simulations," *J. Appl. Phys.* **115**, 193303 (2014).

52. V. Sridhara and **R. P. Joshi**, "Evaluations of a Mechanistic Hypothesis for the Influence of Medium Ion Density on Electroporation Due to High-Intensity, Nanosecond Pulsing," *Biochimica et Biophysica Acta – Biomembranes* **1838**, 1793 (2014).

53. V. Sridhara and **R. P. Joshi**, "Numerical Study of Lipid Translocation Driven By Nanoporation Due to Multiple High-Intensity, Ultrashort Electrical Pulses," *Biochimica et Biophysica Acta – Biomembranes* **1838**, 902 (2014).

54. J. Song, **R. P. Joshi**, L. Fung, and R. K. Tripathi, "Evaluation of Current Coil Positioning for An Enhanced Hybrid Active Space-Radiation Bio-Shielding Concept," *Journal of Astrobiology and Outreach* **1**, 1000103/1-5, (2013) (http://dx.doi.org/10.4172/jao.1000103)

55. P. Maleeswaran, D. Nagulapally, **R. P. Joshi**, and A. Pradhan, "Leakage Current in High Dielectric Oxides: Role of Defect-Induced Energies," *Journ. Appl. Phys*. **113**, 184504 (2013).

56. **R. P. Joshi**, H. Qiu, and R. K. Tripathi, "Configuration Studies for Active Electrostatic Space Radiation Shielding," *Acta Astronautica* **88**, 138 (2013).

57. **R. P. Joshi**, H. Qiu, and R. K. Tripathi, "Evaluation of a Combined Electrostatic and Magnetostatic Configuration for Active Space-Radiation Shielding," *Advances in Space Research* **51**, 1784 (2013).

58. Q. Hu, Z. Zhang, H. Qiu, M. Kong, and **R. P. Joshi**, "Physics of Nanoporation and Water Entry Driven by a High-Intensity, Ultrashort Electrical Pulse in the Presence of Cellular Hydrophobic Interactions," *Physical Review E* 87, 032704/1-9 (2013).

59. **R. P. Joshi** and S. M. Thagard, "Streamer-like Electrical Discharges in Water: Part 1. Fundamental Mechanisms," *Plasma Chemistry and Plasma Processing* **33**, 1 (2013) **– *review article***.

60. **R. P. Joshi** and S. M. Thagard, "Streamer-like electrical discharges in water: Part II. Environmental applications," *Plasma Chemistry and Plasma Processing*, **33**, 17 (2013) **– *review article***.

61. M. A. Stelzer and **R. P. Joshi**, "Evaluation of Wave Energy Generation From Buoy Heave Response Based on Linear Generator Concepts," *Journal of Renewable and Sustainable Energy* **4**, 063137 (2012).

62. **R. P. Joshi** and Q. Hu, "Evolution Dynamics of Pore Sizes, Cell Volumes, Ionic Concentrations Following High-Voltage Pulsing," *IEEE Trans. Plasma Sci*. **40**, 2355 (2012).

63. J. T. Camp, Y. Jing, J. Zhuang, S. J. Beebe, J. Song, **R. P. Joshi** and K. H. Schoenbach, "Cell Death Induced by Subnanosecond Pulsed Electric Fields at Elevated Temperatures," *IEEE Trans. Plasma Sci*. **40**, 2334 (2012).

64. **R. P. Joshi** and Q. Hu, "Energy Based Model Analysis for Membrane Blebbing in Response to a Nanosecond, High-Intensity, Electrical Pulse," *Journ. Appl. Phys*. **112**, 064703 (2012).

65. J. A. White, U. Pliquett, P. F. Blackmore, **R. P. Joshi**, K. H. Schoenbach, and J. F. Kolb, "Plasma Membrane Charging of Jurkat Cells by Nanosecond Pulsed Electric Fields," *European Biophysics Journal* **40**, 947 (2011).

66. **R. P. Joshi** and Q. Hu, "Case for Subnanosecond High-Intensity, Electrical Pulses to Biological Cells," *IEEE Trans. Biomedical Engineering* **58**, 2860 (2011).

67. **R. P. Joshi** and K. H. Schoenbach, "Electric Fields in Biological Cell and Membranes," ***invited*** Chapter in Book titled "Electromagnetic Fields in Biological Systems," *CRC Press*, Boca Raton, 2011, pp. 71.-114 [ISBN: 9781439859995].

68. J. Song, **R. P. Joshi**, and K. H. Schoenbach, "Synergistic Effects of Local Temperature Enhancements on Cellular Responses in the Context of High-Intensity, Ultrashort Electric Pulses," *Med. Biol. Eng. Comput.* **49**, 713 (2011).

69. Q. Hu and **R. P. Joshi**, "Model Evaluation of Changes in Electrorotation Spectra of Biological Cells After nsPEF Electroporation," *IEEE Trans. Dielectr. Electr. Insulation* **17**, 1888 (2010).

70. **R. P. Joshi** and K. H. Schoenbach, "Bioelectric Effects of Intense, Ultrashort Electric Pulses," *Critical Reviews in Bio-Medical Engineering* **38**, 255 (2010) **– *review article***.

71. **R. P. Joshi** and J. Song "Model Analysis of Electric Fields Induced by High-Voltage Pulsing in Cylindrical Nerves," *IEEE Trans. Plasma Science* **38**, 2894 (2010).

72. **R. P. Joshi** and Q. Hu, "Analysis of Cell Membrane Permeabilization Mechanics and Pore Shape Due to Ultrashort Electrical Pulsing," *Medical and Biological Engineering and Computing*, **48**, 837 (2010).

73. J. Song, **R. P. Joshi**, and S. J. Beebe, "Cellular Apoptosis by Nanosecond, High-Intensity Electric Pulses: Model Evaluation into the Extrinsic Pathway and Pulsing Threshold," *Bioelectrochemistry* **79**, 179 (2010).

74. **R. P. Joshi**, A. Mishra, S. Xiao, and A. Pakhomov, "Model Study of Time-Dependent Muscle Response to Pulsed Electrical Stimulation," *Bioelectromagnetics* **31**, 361 (2010).

75. **R. P. Joshi**, J. Kolb, S. Xiao, and K. H. Schoenbach, "Aspects of Plasma in Water: Streamer Physics and Applications" *Plasma Processes and Polymers* **6**, 763 (2009) -- ***Invited paper***.

76. **R. P. Joshi**, J. Song, and V. Sridhara, "Aspects of Lipid Membrane Bio-Responses to Subnanosecond, Ultrahigh Voltage Pulsing," *IEEE Trans. Dielectr. and Electr. Insula.* **16**, 1243 (2009).

77. K. H. Schoenbach, **R. P. Joshi**, S. J. Beebe, and Carl Baum, "A Scaling Law for Bioelectric Effects of Nanosecond Pulses," *IEEE Trans. Dielectr. and Electr. Insula.* **16**, 1224 (2009).

78. S. Xiao, **R. P. Joshi**, J. Kolb, and K. H. Schoenbach, "Nanosecond, Electrical Triggering of Water Switches," *IEEE Trans. Plasma Science* **26**, 1066 (2009).

79. Q. Hu, **R. P. Joshi**, and A. Beskok, "Model Study of Electroporation Effects on the Dielectrophoretic Response of Spheroidal Cells" *Journal of Applied Physics* **106**, 024701 (2009).

80. Q. Hu and **R. P. Joshi**, "Analysis of Intense, Subnanosecond Electrical Pulse-Induced Transmembrane Voltage in Spheroidal Cells With Arbitrary Orientation," *IEEE Trans. Biomedical Engineering* **56**, 1617 (2009).

81. Q. Hu and **R. P. Joshi**, "Transmembrane Voltage Analyses in Spheroidal Cells In Response to An Intense Subnanosecond Electrical Pulse," *Physical Review E* **79**, 011901 (2009).

82. J. F. Kolb, **R. P. Joshi**, S. Xiao, and K. H. Schoenbach, "Streamers in Water and Other Dielectric Liquids," *Journ. Phys. D: Applied Physics* **41**, 234007 (2008) – ***invited paper***.

83. G. Zhao, **R. P. Joshi**, S. Rogers, E. Schamiloglu, and H. P. Hjalmarson, "Simulation Studies for Non-Linear Transmission Line Based Ultra-Fast Rise Times and Waveform Shaping for Pulsed Power Applications," *IEEE Trans. Plasma Sci.* **36**, 2618 (2008).

84. **R. P. Joshi,** A. Mishra, and K. H. Schoenbach, "Model Assessment of Cell Membrane Breakdown in Clusters and Tissues Under High-Intensity Electric Pulsing," *IEEE Trans. Plasma Science* **36**, 1680 (2008).

85. H. L. Gerber, **R. P. Joshi**, and C. C. Tseng, "Using Bode Plots to Access Intracellular Coupling," *IEEE Trans. Plasma Sci.* **36**, 1659 (2008).

86. **R. P. Joshi** and A. Mishra, "Simulations of Distributed Voltages in Full-Body Bio-Models Using Symmetric Factorization with Massively Parallel Solvers in Response to External Pulsing," *IEEE Trans. Plasma Science* **36**, 1673 (2008).

87. K. H. Schoenbach, J. F. Kolb, S. Xiao, S. Katsuki, J. Minamitani, and **R. P. Joshi**, "Electrical Breakdown of Water in Microgaps," *Plasma Sources Science and Technology* **17**, 024010 (2008) **–** ***invited paper***.

88. K. H. Schoenbach, S. Xiao, **R. P. Joshi**, J. T. Camp, T. Heeren, J. F. Kolb, and S. J. Beebe, "The Effect of Intense Subnanosecond Electrical Pulses on Biological Cells," *IEEE Trans. Plasma Sci.* **36**, 414 (2008) **– *invited paper***.

89. G. Zhao, **R. P. Joshi**, and H. P. Hjalmarson, "Electrothermal Model Evaluation of Grain Size and Disorder Effects on Pulsed Voltage Response of Microstructured ZnO Varistors," *Journ. Amer. Ceramic Soc.* **91**, 1188-1193 (2008).

90. **R. P. Joshi**, F. Mbaye, P. Basappa, J. Sang-Dong, J. Kim, and J. C. Hall, "Simulation Studies of Internal Mechanisms In The Deflection of a Cantilever Cellulose Electroactive Polymer (EAP) Structure," *Journ. Appl. Phys.* **103**, 064912 (2008).

91. **R. P. Joshi**, A. Mishra, J. Song, A. Pakhomov, and K. H. Schoenbach, "Simulation Studies of Ultra-Short, High-Intensity Electric Pulse Induced Action Potential Block in Whole-Animal Nerves," *IEEE Trans. Biomedical Engineering* **55**, 1391 (2008).

92. A. G. Pakhomov, J. F. Kolb, J. A. White, **R. P. Joshi**, S. Xiao, and K. H. Schoenbach, "Long-Lasting Plasma Membrane Permeabilization in Mammalian Cells by Nanosecond Pulsed Electric Field (nsPEF)," *Bio-Electromagnetics Journal* **28**, 655 (2007).

93. N. Chen, A. L. Garner, G. Chen; Y. Jing, Y. Deng, R. J. Swanson, J. F. Kolb, R. J. Swanson, S. J Beebe, **R. P. Joshi**, and K. H Schoenbach, "Nanosecond Electric Pulses Penetrate the Nucleus and Enhance Speckle Formation," *Biochemical and Biophysical Research Communications* 364, 220 (2007).

94. K. H. Schoenbach, B. Hargrave, **R. P. Joshi**, J. F. Kolb, C. Osgood, R. Nuccitelli, A. Pakhomov, J. Swanson, M. Stacey, J. A. White, S. Xiao, J. Zhang, S. J. Beebe, P. Blackmore, and E. S. Buescher, "Bioelectric Effects of Intense Nanosecond Pulses," *IEEE Transactions on Dielectrics and Electrical Insulation* **14**, 1088 (2007) **– *invited paper*.**

95. A. L. Garner, G. Chen, N. Chen; V. Sridhara, J. F. Kolb, R. J. Swanson, S. J Beebe, **R. P. Joshi**, and K. H Schoenbach, "Ultrashort Electric Pulse Induced Changes in Cellular Dielectric Properties," *Biochemical and Biophysical Research Communications* **362**, 139 (2007).

96. G. Zhao, **R. P. Joshi**, V. K. Lakdawala, and H. Hjalmarson, "Electro-Thermal Simulation Studies for Pulse Induced Energy Absorption in Nano-Crystalline ZnO Varistors," *IEEE Trans. Dielectr. and Electr. Insulation* **14**, 1007 (2007).

97. **R. P. Joshi**, A. Mishra, J. Song, Q. Hu, K. H. Schoenbach, and A. Pakhomov, "Self-Consistent Analyses for Potential Conduction Block in Nerves by an Ultra-Short, High-Intensity Electric Pulse," *Phys. Rev. E* **75**, 061906/1-11 (2007).

98. A. G. Pakhomov, R. Shevin, J. A. White, J. F. Kolb, O. N. Pakhomova, **R. P. Joshi**, and K. H. Schoenbach, "Membrane Permeabilization and Cell Damage by Ultrashort Electric Field Shocks," *Archives of Biochemistry and Biophysics* **465**, 109 (2007).

99. **R. P. Joshi**, A. Nguyen, V. Sridhara, Q. Hu, R. Nuccitelli, and K. H. Schoenbach, "Simulations of Intra-Cellular Calcium Release Dynamics in Response to a High-Intensity, Ultra-Short Electric Pulse," *Phys. Rev. E* **75**, 041920/1-10 (2007).

100. U. Pliquett, **R. P. Joshi**, V. Sridhara, and K. H. Schoenbach, "High Electrical Field Effects on Cell Membranes," *Bioelectrochemistry* **70**, 275 (2007).

101. G. Zhao, **R. P. Joshi**, V. K. Lakdawala, E. Schamiloglu, and H. Hjalmarson, "Studies of TiO_2 Breakdown Under Pulsed Conditions," *J. Appl. Phys.* **101**, 026110 (2007).

102. J. Qian, **R. P. Joshi**, K. H. Schoenbach, J. R. Woodworth and G. Sarkisov, "Model Analysis of Self- and Laser-Triggered Electrical Breakdown of Liquid Water for Pulsed Power Applications," *IEEE Trans. Plasma Science* **34**, 1680 (2006) **– *invited paper***.

103. S. Xiao, J. Kolb, M. A. Malik, X. Lu, M. Laroussi, **R. P. Joshi**, K. H. Schoenbach, "Electrical Breakdown and Dielectric Recovery of Polar Liquids," *IEEE Trans. Plasma Science* **34**, 1653 (2006).

104. Q. Hu, S. Viswanadham, **R. P. Joshi**, J. Kolb, and K. H. Schoenbach, "Molecular Dynamics Analysis of High Electric Pulse Effects on Bilayer Membranes Containing DPPC and DPPS," *IEEE Trans. Plasma Science* **34**, 1405(2006).

105. A. Mishra, **R. P. Joshi**, K. H. Schoenbach, and C. D. Clarke III, "A Fast, Parallelized Computational Approach Based on Sparse LU Factorization for Predictions of Spatial and Time-Dependent Currents and Voltages in Full-Body Bio-Models," *IEEE Trans. Plasma Science* **34**, 1431 (2006) **– *invited paper***.

106. V. Sridhara, **R. P. Joshi**, and K. H. Schoenbach, "Microscopic Calculations of Local Lipid Membrane Permittivities and Diffusion Coefficients for Application to Electroporation Analyses," *Biochemical and Biophysical Research Comm*. **348**, 643 (2006).

107. W. Frey, J. A. White, R. O. Price, P. F. Blackmore, **R. P. Joshi**, R. Nuccitelli, S. J. Beebe, K. H. Schoenbach, and J. Kolb, "Plasma Membrane Voltage Changes During Nanosecond Pulsed Electric Field Exposure," *Biophysical Journal* **90**, 3608 (2006).

108. J. Qian, **R. P. Joshi**, E. Schamiloglu, J. Gaudet, J. R. Woodworth, and J. Lehr, "Analysis of the Polarity Effects in the Electrical Breakdown of Liquids," *J. Phys. D* **39**, 359 (2006).

109. Q. Hu, **R. P. Joshi**, and K. H. Schoenbach, "Simulations of Nanopore Formation and Phosphatidylserine Externalization in Lipid Membranes Subjected to a High-Intensity, Ultra-Short Electric Pulse," *Phys. Rev. E* **72**, 031902 (2005).

110. J. Qian, **R. P. Joshi**, J. Kolb, K. H. Schoenbach, J. Dickens, A. Neuber, H. Krompholz, E. Schamiloglu, and J. Gaudet, "Micro-Bubble Based Model Analysis of Liquid Breakdown Initiation By a Sub-Microsecond Pulse," *J. Appl. Phys.* **97**, 113304 (2005).

111. Q. Hu, S. Viswanadham, **R. P. Joshi**, K. H. Schoenbach, S. J. Beebe and P. F. Blackmore, "Simulations of Transient Membrane Behavior in Cells Subjected to a High-Intensity, Ultra-Short Electric Pulse," *Phys. Rev. E* **71**, 031914 (2005).

112. A. L. Garner, N. Chen, J. Yang, J. Kolb, R. J. Swanson, S. J. Beebe, **R. P. Joshi**, and K. H. Schoenbach, "Time Domain Dielectric Spectroscopy Measurements of HL-60 Cells Suspensions after Microsecond and Nanosecond Electrical Pulses", *IEEE Trans. Plasma Science* **32**, 2073 (2004).

113. **R. P. Joshi**, Q. Hu and K. H. Schoenbach, "Modeling Studies of Cell Response to Ultrashort, High-Intensity Electric Fields – Implications for Intracellular Manipulation", *IEEE Trans. Plasma Science* **32**, 1677 (2004).

114. **R. P. Joshi**, F. Chen and W. R. Rogers, "Modeling Electrode-Based Stimulation of Muscle and Nerve by Ultra-Short Electric Pulses", *IEEE Trans. Plasma Science* **32**, 1687 (2004).

115. **R. P. Joshi**, J. Qian, G. Zhao, J. Kolb, K. H. Schoenbach, J. Gaudet and E. Schamiloglu, "Are Micro-Bubbles Necessary for the Breakdown of Liquid Water Subjected to a Sub-Microsecond Pulse ?," *J. Appl. Phys.* **96**, 5129 (2004).

116. **R. P. Joshi**, J. Qian, K. H. Schoenbach, and E. Schamiloglu, "A Microscopic Analysis for Water Stressed by High Electric Fields in the Pre-Breakdown Regime," *J. Appl. Phys.* **96**, 3617 (2004).

117. S. Xiao, J. Kolb, S. Kono, S. Katsuki, **R. P. Joshi**, M. Laroussi, and K. H. Schoenbach, "High Power Water Switches: Postbreakdown Phenomena and Electrical Recovery", *IEEE Trans. Dielectrics and Electrical Insulation* **11**, 604 (2004).

118. S. J. Beebe, P. F. Blackmore, J. White, **R. P. Joshi**, and K. H. Schoenbach, "Nanosecond Pulsed Electric Fields Modulate Cell Function Through Intracellular Signal Transduction Mechanisms", *Physiological Measurement* **25**, 1077 (2004).

119. J. Gaudet, R. J. Barker, M. Gundersen, A. Kuthi, A. Neuber, J. Dickens, W. Nunnally, E. Schamiloglu, C. Christodoulou, S. Tyo, K. H. Schoenbach, **R. P. Joshi**, M. Laroussi, J. Kolb, and R. Vidmar, "Research Issues in Developing Compact Pulsed Power for High Peak Power Applications on Mobile Platforms", *Proc. IEEE* **92**, 1144 (2004) **– *invited paper***.

120. K. H. Schoenbach, **R. P. Joshi**, J. Kolb, N. Chen, M. Stacey, P. Blackmore, E. S. Buescher, and S. J. Beebe, "Ultrashort Electrical Pulses Open A New Gateway Into Biological Cells", *Proc. IEEE* **92**, 1122 (2004) **– *invited paper***.

121. N. Chen, K. H Schoenbach, J. F. Kolb, R. J. Swanson, A. L. Garner, J. Yang, **R. P. Joshi**, and S. J. Beebe, "Leukemia Cell Intracellular Responses to Nanosecond Electric Fields," *Biochemical and Biophysical Research Communications* **317**, 421 (2004).

122. **R. P. Joshi**, Q. Hu, K. H. Schoenbach, and S. J. Beebe, "An Energy-Landscape Model Analysis for Irreversibility and It's Pulse Width Dependence in Cells Subjected to a High-Intensity, Ultrashort Electric Pulse", *Phys. Rev. E* **69**, 051901 (2004).

123. **R. P. Joshi**, Q. Hu, and K. H. Schoenbach, "Dynamical Modeling of Cellular Response to Short-Duration, High-Intensity Electric Fields", *IEEE Trans. Dielectr. Electr. Insul.* **10**, 778 (2003) **– *invited paper***.

124. **R. P. Joshi**, S. Viswanadha, B. Jogai, P. Shah, and R. del Rosario, "Analysis of Dislocation Scattering on Electron Mobility in GaN High Electron Mobility Transistors (HEMTs)", *J. Appl. Phys.* **93**, 10046 (2003).

125. **R. P. Joshi**, S. Viswanadham, P. Shah, and R. del Rosario, "Monte Carlo Analysis of GaN-Based Gunn Oscillators for Microwave Power", *J. Appl. Phys.* **93**, 4836 (2003).

126. **R. P. Joshi**, J. Qian, S. Katsuki and K. H. Schoenbach, and E. Schamiloglu, "Electrical Conduction in Water Revisited: Roles of Field-Enhanced Dissociation and A Reaction-Based Boundary Condition", *IEEE Trans. Dielectrics & Electrical Insulation* **10**, 225 (2003).

127. J. Qian, **R. P. Joshi**, K. H. Schoenbach, E. Schamiloglu, and C. Christodoulou, "Percolative Model Of Electric Breakdown In Liquid Dielectrics", *IEEE Trans. Plasma Science* **30**, 1931 (2002).

128. **R. P. Joshi**, Q. Hu, K. H. Schoenbach, and S. J. Beebe, "Simulations of Electroporation Dynamics and Shape Deformations in Biological Cells Subjected to High Voltage Pulses", *IEEE Trans. Plasma Sci.* **30**, 1536 (2002).

129. **R. P. Joshi** and K. H. Schoenbach, "A Mechanism for Membrane Electroporation Irreversibility Under High-Intensity, Ultrashort Electrical Pulse Conditions", *Physical Review E* **66**, 052901 (2002).

130. **R. P. Joshi**, J. Qian and K. H. Schoenbach, "An Electrical Network Based Time-Dependent Model of Electrical Breakdown In Water", *J. Appl. Phys.* **92**, 6245 (2002).

131. T. Li, **R. P. Joshi**, and R. del Rosario, "Requirements for Low Intermodulation Distortion in GaN-AlGaN High Electron Mobility Transistors: A Model Assessment", *IEEE Trans. Electr. Dev.* **ED-49**, 1511 (2002).

132. G. Satyanadh, **R. P. Joshi** and N. Abedin, "Monte Carlo Calculations of the Impulse Response in Bulk InAs for Low Intensity Photon Avalanche Detection at 2 Micron Wavelengths", *Jap. Journ. Appl. Phys.* **41**, 5559 (2002).

133. **R. P. Joshi**, Q. Hu, K. H. Schoenbach, and H. P. Hjalmarson, "Improved Energy Model for Membrane Electroporation in Biological Cells Subjected to Electrical Pulses", *Phys. Rev. E* **65**, 041920 (2002).

134. **R. P. Joshi**, Q. Hu, K. H. Schoenbach, and H. P. Hjalmarson, "Theoretical Predictions of Electro-Mechanical Deformation of Cells Subjected to High Voltages For Membrane

Electroporation", *Virtual Journal of Biological Physics Research - Membrane Biophysics* **3**, (2002).

135. N. Islam, E. Schamiloglu, A. Mar, F. Zutavern, G. Loubriel, and R. P. Joshi, "Characteristics of Trap-Filled GaAs Photoconductive Switches Used High Gain Pulsed Power Applications," in *Ultra-Wideband, Short-Pulse Electromagnetics 5*, edited by P. D. Smith and S. R. Cloude (Kluwer Academic Publishers, New York, 2002).

136. **R. P. Joshi**, Q. Hu, K. H. Schoenbach, and H. P. Hjalmarson, "Theoretical Predictions of Electro-Mechanical Deformation of Cells Subjected to High Voltages For Membrane Electroporation", *Phys. Rev. E* **65**, 021913 (2002).

137. **R. P. Joshi**, G. Satyanadh, N. Abedin, and U. Singh, "Monte Carlo Calculation of Electron Drift Characteristics and Avalanche Noise in Bulk InAs", *J. Appl. Phys.* **91**, 1331 (2002).

138. T. Li, **R. P. Joshi**, R. D. del Rosario, and C. Fazi, "Monte Carlo Based Analysis of Inter-Modulation Distortion Behavior in GaN-AlGaN HEMTs for Microwave Applications", *J. Appl. Phys.* **90**, 3030 (2001).

139. **R. P. Joshi**, Q. Hu, R. Aly, K. H. Schoenbach, and H. P. Hjalmarson, "Self-Consistent Simulations of Electroporation Dynamics in Biological Cells Subjected to Ultrafast Electrical Pulses", *Phys. Review E* **64**, 11913/01 (2001).

140. P. Kayasit, **R. P. Joshi**, N. Islam, E. Schamiloglu, and J. Schoenberg, "Transient and Steady State Simulations of Internal Temperature Profiles In High-Power Semi-Insulating GaAs Photoconductive Switches", *J. Appl. Phys.* **89**, 1411 (2001).

141. N. Islam, E. Schamiloglu, J. H. Schoenberg, and **R. P. Joshi**, "Switching - Compensation Mechanisms and the Response of High Resistivity GaAs Photoconductive Switches During High-Power Applications", *IEEE Trans. Plasma Science* **28**, 1512 (2000).

142. K. H. Schoenbach, **R. P. Joshi**, R. H. Stark, F. Dobbs, and S. J. Beebe, "Bacterial Decontamination of Liquids with Pulsed Electric Fields", *IEEE Trans. On Dielectrics and Electrical Insulation* **7**, 637 (2000).

143. **R. P. Joshi** and K. H. Schoenbach, "Electroporation Dynamics in Biological Cells Subjected to Ultrafast Electrical Pulses: A Numerical Simulation Study", *Phys. Rev. E* **62**, 1025 (2000).

144. P. Damayanthi, **R. P. Joshi** and J. McAdoo, "Calculations of Hole Transport Characteristics in Bulk GaSb", *J. Appl. Phys.* **88**, 817 (2000).

145. T. Li, **R. P. Joshi**, and C. Fazi, "Monte Carlo Evaluations of Degeneracy and Interface Roughness Effects on Electron Transport in AlGaN-GaN Hetero-Structures", *J. Appl. Phys.* **88**, 829 (2000).

146. **R. P. Joshi**, P. Neudeck, and C. Fazi, "Analysis of the Temperature Dependent SiC Thermal Conductivity for High Temperature Applications", *J. Appl. Phys.* **88**, 265 (2000).

147. P. Damayanthi, **R. P. Joshi**, and J. A. McAdoo, "Electron Mobility and Drift Velocity Calculations for Bulk GaSb Material", *J. Appl. Phys.* **86**, 5060 (1999).

148. **R. P. Joshi**, P. Kayasit, N. Islam, E. Schamiloglu, C. B. Fleddermann and J. Schoenberg, "Simulation Studies of Persistent Photoconductivity and Filamentary Conduction in Opposed Contact Semi-Insulating GaAs High Power Switches", *J. Appl. Phys.*, **86**, 3833 (1999).

149. N. Islam, E. Schamiloglu, C. B. Fleddermann, J. Schoenberg, and **R. P. Joshi**, "Analysis of High Voltage Operation of Gallium Arsenide Photoconductive Switches Used in High Power Applications", *J. Appl. Phys.* **86**, 1754 (1999).

150. L. Zheng, **R. P. Joshi**, and C. Fazi, "Dislocation Based Model Analysis for the Prebreakdown Reverse Characteristics of 4H-SiC p^+ n Diodes", *J. Appl. Phys.* **85**, 7935 (1999).

151. L. Zheng, **R. P. Joshi**, and C. Fazi, "Effects of Barrier Height Fluctuations and Electron Tunneling on the Reverse Characteristics of 6H-SiC Schottky Contacts", *J. Appl. Phys.* **85**, 3701 (1999).

152. **R. P. Joshi** and R. F. Wood, "Molecular Dynamics-Monte Carlo Simulations of Grain Boundary Electron Transport in n-Silicon", *J. Appl. Physics* **84**, 3197 (1998).

153. **R. P. Joshi**, H. Jalali, and J. Gaudet, "Effects of Transverse Doping Variations on the Transient Response of High Power Silicon Avalanche Shaper Devices", *IEEE Trans. Elec. Dev.* **ED-45**, 1761 (1998).

154. **R. P. Joshi** and R. F. Wood, "Simulations of Electron Transport Across a Charged Grain Boundary in n-Silicon Bicrystals", *J. Appl. Phys.* **83**, 5543 (1998).

155. **R. P. Joshi**, "Simulations of Quantized Inversion Layer Electron Transport In 6H-SiC MOS Structures", *Appl. Phys. Lett.* **72**, 2156 (1998).

156. **R. P. Joshi** and C. Fazi, "Simulations of Deep Level Related Conductivity in SiC Diodes Subject to Ultrafast, High Voltage Reverse Biasing Pulses", *Electronics Letters* **33**, 2162 (1997).

157. K. T. Tsen, **R. P. Joshi**, and D. K. Ferry, "Subpicosecond Time-Resolved Raman Studies of Non-Equilibrium Excitations in Wide Bandgap GaN", *Physica Status Solidi B* **204**, 106 (1997).

158. K. T. Tsen, **R. P. Joshi**, A. Salvador, A. Botchkarev, and H. Morkoc, "Quantitative Assessment of the Effects of Carrier Screening on the Average Electric Field in a GaAs-Based p-i-n Nanostructure Under Subpicosecond Laser Excitation", *J. Appl. Phys.* **81**, 406 (1997).

159. **R. P. Joshi** and A. Srivastava, "Effects of Grain Boundary Scattering on the Electron Drift Velocity Behavior in Diamond Films: A Monte Carlo Analysis", *Appl. Phys. Lett.* **69**, 1786 (1996).

160. K. T. Tsen, **R. P. Joshi**, D. K. Ferry, A. Botchkarev, B. Sverdlov, A. Salvador, and H. Morkoc, "Non-Equilibrium Electron Distributions and Phonon Dynamics in Wurtzite GaN", *Appl. Phys. Lett.* **68**, 2990 (1996).

161. **R. P. Joshi** and J. Mcadoo, "Picosecond Dynamic Response of Nanoscale LT-GaAs Metal-Semiconductor-Metal (MSM) Photodetectors", *Appl. Phys. Lett.* **68**, 1972 (1996).

162. **R. P. Joshi**, "Monte Carlo Calculations of the Temperature and Field Dependent Electron Transport Parameters for 4H-SiC", *J. Appl. Phys.* **78**, 5518 (1995).

163. **R. P. Joshi** and D. K. Ferry, "Calculations of the Temperature and Field Dependent Electronic Mobility in β-SiC", *Solid State Electronics* **38**, 1911 (1995).

164. **R. P. Joshi**, S. Pathak, and J. Mcadoo, "Evaluation of Hot Electron and Thermal Effects on the Dynamic Characteristics of Single-Transit SiC IMPATT Diodes", *J. Appl. Phys.* **78**, 3492 (1995).

165. K. H. Schoenbach, **R. P. Joshi**, F. Peterkin, and R. L. Druce, "Supralinear Photoconductivity of Copper Doped Semi-Insulating Gallium Arsanide", *J. Appl. Phys.* **77**, 5208 (1995).

166. **R. P. Joshi**, "Theoretical Analysis for the Transient Response of Graded $Al_xGa_{1-x}N$ Sub-Micron Photodetectors", *J. Appl. Phys.* **74**, 4434 (1994).

167. **R. P. Joshi**, A. N. Dharamsi and J. Mcadoo, "Simulations for the High-Speed Response of GaN Metal-Semiconductor-Metal Photodetectors", *Appl. Phy. Lett.* **64**, 3611 (1994).

168. **R. P. Joshi**, K. H. Schoenbach, and P. K. Raha, "Impact of Field-Dependent Electronic Trapping Across Coulomb Repulsive Potentials on Low Frequency Charge Oscillations", *J. Appl. Phys.* **75**, 4016 (1994).

169. **R. P. Joshi**, "Temperature Dependent Electron Mobility in GaN: Effects of Space Charge and Interface Roughness Scattering", *Appl. Phys. Lett.* **64**, 223 (1994).

170. A. N. Dharamsi and **R. P. Joshi**, "Characteristics of Photostrictively Produced Optoacoustic Pulses", *J. Acoustic Soc. Am.* **95**, 234 (1994).

171. **R. P. Joshi** and A. N. Dharamsi, "Simulation of Ultrafast Electromagnetic Radiation Transients from Laser Excited Semiconductors", *J. Appl. Phys.* **74**, 3215 (1993).

172. **R. P. Joshi**, "Microscopic Calculations of Density and Field-Dependent Electronic Trapping via Attractive Coulomb Centers", *J. Appl. Phys.* **74**, 1810 (1993).

173. **R. P. Joshi**, K. H. Schoenbach, C. Molina, and W. Hofer, "Studies of Electron-Beam Penetration and Free Carrier Generation in Diamond Films", *J. Appl. Phys.* **74**, 1568 (1993).

174. K. T. Tsen, **R. P. Joshi** and H. Morkoc, "Direct Measurements of Electron-Optical Phonon Scattering Rates in Ultrathin GaAs-AlGaAs Multiple Quantum Well Structures", *Applied Physics Letters* **62**, 2075 (1993).

175. **R. P. Joshi**, M. K. Kennedy, K. H. Schoenbach, and W. W. Hofer, "Studies of High Field Conduction in Diamond for E-Beam Controlled Switching", *J. Appl. Phys.* **72**, 4781 (1992).

176. **R. P. Joshi**, R. O. Grondin, and S. El-Ghazaly, "Ultrafast Field-Dependent Response of Bandedge Photogenerated Electrons in Quantum Wells", *IEEE J. Quantum Electronics* **28**, 2456 (1992).

177. **R. P. Joshi**, "Intersubband Relaxation Dynamics in Ternary/Binary Quantum Wells: Role of the Electron-Phonon Interaction", *J. Appl. Phys.* **71**, 3827 (1992).

178. **R. P. Joshi**, "Quantum Corrections to Ultrafast Thermalization in Binary/Ternary Double Heterostructures", *Appl. Phys. Lett.* **59**, 1572 (1991).

179. **R. P. Joshi** and D. K. Ferry, "Effects of Multi-Ion Scattering on Electron Velocities in Bulk GaAs", *Semiconductor Science and Technology* **7**, B319-B321 (1992) – ***invited paper***.

180. A. M. Kriman, **R. P. Joshi**, M. J. Kann, and D. K. Ferry, "Exchange Effects in Hot Plasmas in Quantum Wells and Bulk Semiconductors", *Semiconductor Science and Technology* **7**, B243-B247 (1992).

181. K. M. Connolly, S. M. El-Ghazaly, R. O. Grondin, and **R. P. Joshi**, "Dynamic Simulation of a Photoconductive Switching Experiment", *Semiconductor Science and Technology* **7**, B199-B201 (1992).

182. **R. P. Joshi**, A. M. Kriman, M. J. Kann, and D. K. Ferry, "Quantum Molecular Dynamics Treatment of Electronic Relaxation of High Density Plasmas in Two-Dimensional Structures", *Appl. Phys. Lett.* **58**, 2369 (1991).

183. R. Vaidyanathan and **R. P. Joshi**, "Simulations for an Improved Heterostructure Gunn Oscillator Based on Transit Region Doping Variations", *IEE Electr. Lett.* **27**, 1555 (1991).

184. A. N. Dharamsi and **R. P. Joshi**, "An Approximate Rate Equation Analysis for Bleaching and Excitation of Thermoluminescence", *J. Phys. D* **24**, 982 (1991).

185. **R. P. Joshi** and D. K. Ferry, "Effect of Multi-Ion Screening on the Electronic Transport in Doped Semiconductors: A Molecular Dynamics Study", *Phys. Rev. B* **43**, 9734 (1991).

186. A. M. Kriman, D. K. Ferry, M. J. Kann, and **R. P. Joshi**, "Molecular Dynamics Extensions of Monte Carlo Simulation in Semiconductor Device Modeling", *Computer Phys. Communications* **67**, 119 (1991) – ***invited paper***.

187. A. M. Kriman, M. J. Kann, D. K. Ferry, and **R. P. Joshi**, "The Role of Exchange Interaction in the Short-Time Relaxation of a High Density Electron Plasma", *Phys. Rev. Lett.* **65**, 1619 (1990).

188. **R. P. Joshi**, R. O. Grondin, and D. K. Ferry, "Monte Carlo Simulation of Electron-Hole Thermalization in Photoexcited Bulk Semiconductors", *Phys. Rev. B* **42**, 5685 (1990).

189. **R. P. Joshi**, A. M. Kriman, and D. K. Ferry, "Monte Carlo Study of Minority Electronic Transport in InGaAs: Phonon Mode Splitting and Dynamically Screened Electron-Hole Interactions", *J. Appl. Physics* **68**, 4322 (1990).

190. **R. P. Joshi**, S. El-Ghazaly, and R. O. Grondin, "Anisotropy Effects on the Electronic Transport in Photoexcited Bulk GaAs", *Journal of Applied Physics* **67**, 7388 (1990).

191. **R. P. Joshi**, K. T. Tsen, and D. K. Ferry, "Monte Carlo Study of the Transient Expansion of Photo-Generated Plasma in Semiconductors - Nonequilibrium Phonon Effects", *Phys. Rev. B* **41**, 9899 (1990).

192. S. El-Ghazaly, **R. P. Joshi**, and R. O. Grondin, "Electromagnetic and Transport Considerations in Subpicosecond Photoconductive Switch Modelling", *IEEE Trans. Mic. Theory Tech.* **38**, 629 (1990) – ***invited paper***.

193. **R. P. Joshi** and R. O. Grondin, "Hot Phonon and Electron-Hole Scattering Effects on the Transient Transport of Photogenerated Electrons in GaAs," *J. Appl. Phys.* **66**, 4288 (1989).

194. **R. P. Joshi** and R.O. Grondin, "A Self-Consistent Monte Carlo Method for the Transient Response of Laser Excited Photoconductive Circuits," *Solid State Electr.* **32**, 1813 (1989).

195. A. M. Kriman, **R. P. Joshi**, B.S. Haukness, and D. K. Ferry, "Geometric Effects of Scattering in Microstructures," *Solid State Electronics* **32**, 1597 (1989).

196. Y. Lu, **R. P. Joshi**, S. El-Ghazaly and R. O. Grondin, "Time Domain Finite Difference Study of Hot Carrier Transport in GaAs on a Subpicosecond Scale", *Solid State Electronics* **32**, 1297 (1989).

197. **R. P. Joshi** and R. O. Grondin, "Monte Carlo Analysis of the High Field Hole Diffusion Coefficients in GaAs," *Applied Physics Letters* **54**, 2438, 1989.

198. K. T. Tsen, **R. P. Joshi**, D. K. Ferry, and H. Morkoc, "Time Resolved Raman Scattering of Non Equilibrium LO Phonons in GaAs Quantum Wells," *Phys. Rev. B* **39**, 1446 (1989).

199. S. Chamoun, **R. P. Joshi**, R. O. Grondin, K. Meyer, and G. Mourou, "Theoretical & Experimental Investigations of Subpicosecond Photoconductivity," *Journal of Applied Physics* **66**, 236 (1989).

200. **R. P. Joshi** and D. K. Ferry, "Hot Phonon Effects and Intersubband Relaxation Processes in Photoexcited GaAs Quantum Wells," *Phys. Rev B* **39**, 1180 (1989).

201. D. K. Ferry, M. A. Osman and **R. P. Joshi**, "Ultrafast Relaxation of Hot Photoexcited Carriers in GaAs", *Solid State Electronics* **31**, 401, 1988 **– *invited paper***.

BOOKS AND BOOK CHAPTERS

(1) S. J. Beebe, **R. P. Joshi**, K. H. Schoenbach, and S. Xiao, in Ultrashort Electric Pulse Effects in Biology and Medicine (Springer, New York, 2021), ISBN: 978-981-10-5113-5.

(2) **R. P. Joshi** and K. H. Schoenbach, "Electric Fields in Biological Cell and Membranes," ***invited*** Chapter in Book titled "Electromagnetic Fields in Biological Systems," *CRC Press*, Boca Raton, 2011, pp. 71.-114 [ISBN: 9781439859995]

(3) **R. P. Joshi** and D. C. Stoudt, "Photoconductive Switches", in the IEEE / Wiley Encyclopedia Of Electrical and Electronics Engineering (John Wiley, N. York, March 1999), Vol. 16, pp. 239-257.

(4) **R. P. Joshi** and C. Fazi, "Computer Model Simulation of SiC Diode Reverse-Bias Instabilities Due to Deep Energy Impurity Levels", Materials Science Forum, edited by G. Pensl, H. Morkoc, B. Monemar, and E. Janzen, (Trans. Tech. Publishers, Switzerland, 1998).

(5) **R. P. Joshi** and P. K. Raha, "Monte Carlo Simulations of Temperature Dependent Mobility in GaN," Silicon Carbide and Related Materials, edited by M. Spencer, R. Devaty, J. Edmond, M. Asif Khan, R. Kaplan, and M. Rahman (IOP Publishers, Bristol, 1994).

(6) K. H. Schoenbach, T. Tessnow, and **R. P. Joshi**, "Spatially Resolved E-Beam Induced Transient Spectroscopy for Deep Centers in Wide Band Semiconductors," Silicon Carbide and Related Materials, edited by M. Spencer, R. Devaty, J. Edmond, M. Khan, and R. Kaplan (IOP Publishers, Bristol, 1994).

(7) **R. P. Joshi**, K. M. Connolly, S. El-Ghazaly, and R. O. Grondin, "Photoconductive Switch Simulation with Absorbing Boundary Conditions", in Computational Electronics: Semiconductor Transport and Device Simulation, edited by K. Hess, J. P. Leburton, and U. Ravaioli, Kluwer Academic Pub., Boston 1991.

(8) D. K. Ferry, A. M. Kriman, M. J. Kann, and **R. P. Joshi**, "Extensions of the Monte Carlo Simulation in Semiconductors to Fast Processes", in Monte Carlo Simulations of Semiconductors and Semiconductor Devices, edited by K. Hess, Kluwer Academic Publishers, Boston, July 1991.

JOURNAL MANUSCRIPTS (ACCEPTED OR UNDER REVIEW)

1. W. Milestone, Q. Hu, A, Loveless, A. Garner, and **R. P. Joshi**, "Modeling Coupled Single Cell Electroporation and Thermal Effects From Nanosecond Electric Pulse Trains," submitted for publication (Physical Review E), March 2022.

2. S. N. Sami, R. Islam, and **R. P. Joshi**, "Molecular Dynamics Simulation of Outgassing from Carbon Nanotubes," submitted for publication (Journal of Applied Physics), April 2022.

3. M. Brown, W. Milestone, and **R. P. Joshi**, "Monte Carlo Analysis of Electron Trapping in Nested Groove Structures for Mitigation of Secondary Electron Emission for Potential Multipactor Control in Waveguides," submitted for publication (Journal of Phys. D), May 2022.

4. M. Brown, L. Diaz, A. Aslan, M. Sanati, S. Portillo, E. Schamiloglu, and **R. P. Joshi**, " Carbon-Oxygen Surface Formation Enhances Secondary Electron Yield in Cu, Ag and Au: A coupled first-principles, Monte Carlo Analysis," submitted for publication (Phys. Rev. Research), April 2022.

5. T. Buntin, M. Abide, A. Neuber, J. Dickens, **R. P. Joshi**, and J. Mankowski, "Evaluation of Explosive Emission Carbon Fiber Cathodes for High-Power Microwave Devices," submitted for publication (IEEE Trans. Plasma Science), March 2022.

6. W. Milestone, Q. Hu, A. Garner, and **R. P. Joshi**, "Effective Electroporation with RF Electric Fields Coupled with Cellular Heating," submitted for publication (Journ. Phys. D), April 2022.

7. L. Silvestre, J. Stephens, J. Dickens, J. Mankowski, A. Neuber, and **R. P. Joshi**, "Vlasov-Poisson multipactor analysis from onset to the saturation regime," submitted for publication (IEEE Trans. Plasma Science), April 2022.

RESEARCH PAPERS PRESENTED AT PROFESSIONAL MEETINGS

(Over 225; details not given here for brevity, but available on request)

SCIENCE CITATIONS

Over 9,372 citations (http://scholar.google.com/citations?user=5m5bnQUAAAAJ&hl=en).

[Google Scholar h-index: 49 // Google Scholar i10-index: 142]

GRANTs AWARDED (TTU)

R. P. Joshi (PI), A. Neuber (Co-PI), J. Dickens (Co-PI), J. Mankowski (Co-PI), "Study of Nanopulse Electric Stimulation (NPES)-induced Mechanisms as Probes into Diverse

Cellular Functions," National Institutes of Health (NIH), $325,172.00 (Personal share $130,068.80), July 2022 – June 2025 (Proposal submitted).

R. P. Joshi (PI), M. Sanati (Co-PI), A. Neuber (Co-PI), J. Dickens (Co-PI), J. Mankowski (Co-PI), "Characterizing Electron Emission for Nanoemitter Arrays Using Theory and Molecular Level Simulations," Air Force Office of Scientific Research, $358,061 (Personal share $107,418.30), January 2022 – December 2024 (Proposal submitted).

R. P. Joshi (PI), M. Sanati (Co-PI), A. Neuber (Co-PI), J. Dickens (Co-PI), J. Mankowski (Co-PI), "New Anode Materials for High Lethality HPM Sources," Office of Naval Research, $273,522 (Personal share $82,056.60), September 2021 – August 2024.

R. P. Joshi (PI), D. Le (Co-PI), and A. Idesman (Co-PI), "Numerical Simulations of Electromagnetic Bio-Effects," ICWERX (US Government), $100,000 (Personal share $75,000), February 2022 – October 2022.

R. P. Joshi (PI), "Multiscale, Multiphysics Study of Thermal and Nonthermal Directed Energy Biological Effects," Office of Naval Research (ONR), $345,133 (Personal share $86,283.25), January 2021 – December 2023.

J. Dickens (PI), A. Neuber (Co-PI), J. Mankowski (Co-PI), and R. P. Joshi (Co-PI), "Dynamics of Pulsed Surface Heating," Sandia National Laboratories, $200,000 (Personal share $40,000), January 2019 – December 2021.

R. P. Joshi (PI), "Modeling of Carrier Transport in GaN Following Excitation by a Nanosecond Laser Pulse for Photoconductive Switches," Lawrence Livermore Research Laboratory (LLNL), $90,000 (Personal share $90,000), June 2019 – March 2021.

R. P. Joshi (PI), M. Sanati (Co-PI), A. Neuber (Co-PI), J. Dickens (Co-PI), and J. Mankowski (Co-PI), "Studies of Electrode-Plasma Effects on Breakdown at RF Frequencies," US Air Force of Scientific Research, $366,340 (Personal share $73,2680), January 2019 – December 2021.

J. Mankowski (PI), J. Dickens (Co-PI), A. Neuber (Co-PI), and R. P. Joshi (Co-PI), A. Neuber (Co-PI), J. Dickens (Co-PI), "High Rep Rate Long Lifetime Magnetically Insulated Line Oscillator," Office of Naval Research, $ 545,384.45 (Personal share $ 119,984.58), April 15, 2018 – April 14, 2021.

A. Neuber (PI), R. P. Joshi (Co-PI), J. Dickens (Co-PI), and J. Mankowski (Co-PI), "Lighting and ESD Properties/Hazards," DoE - PANTEX, $ 579,742 (Personal share $ 139,138.08), March 20, 2018 – September 30, 2019.

R. P. Joshi (PI), A. Neuber (Co-PI), J. Dickens (Co-PI), and J. Mankowski (Co-PI), ″Fundamental Studies For Nanoscale Vacuum Electronic Emission Devices″, Office of Naval Research (ONR), $ 299,406, (Personal share: $74,851.5), July 1, 2018 – June 30, 2021.

A. Neuber (PI), R. P. Joshi (Co-PI), J. Dickens (Co-PI), and J. Mankowski (Co-PI), "Ignition Mechanisms of Explosives during Drilling and Skidding,"DoE - PANTEX, $ 807,197 (Personal share $ 242,159.10), Feb. 15, 2018 – Sept. 30, 2019.

A. Neuber (PI), R. P. Joshi (Co-PI), J. C. Dickens (Co-PI), and J. Manlowski (Co-PI), "Accelerator, Electrodynamics, and Pulsed Power Science and Technology Graduate and Undergraduate Research Program," US Department of Energy/Los Alamos National Laboratory, $450,000 (Personal share $112,500), June 28, 2017 – September 30, 2019.

A. Neuber (PI), R. P. Joshi (Co-PI), J. C. Dickens (Co-PI), and J. Manlowski (Co-PI), "RF Power Capacity of SF6 Gas Mixtures, Southwest Research Institute, $ 301,988 (Personal share $60,397.60), September 21, 2017 – March 21, 2019.

A. Neuber (PI), R. P. Joshi (Co-PI), J. C. Dickens (Co-PI), and J. Manlowski (Co-PI), "Hazards of Lightning and ESD," Consolidated Nuclear Security, PANTEX, Dept. Of Energy, $50,000 (Personal share $ 12,500), August 28, 2017 – September 30, 2017.

A. Neuber (PI), J. C. Dickens (Co-PI), J. Manlowski (Co-PI), and R. P. Joshi (Co-PI), "Multipactor and Breakdown Susceptibility in Microwave Frequency High Field Devices," US Department of Defense Multi-University Research Initiative (MURI), $959,945 (Personal share $ 220,787.35), December 2017 – December 2020.

J. C. Dickens (PI), J. Mankowski (Co-PI), A. Neuber (Co-PI) and R. P. Joshi (Co-PI), "Modeling and Experiments in High Magnetic Field Environments," Raytheon, $ 150,000 (Personal share $ 37,500), December 4, 2015 – December 23, 2016.

A. Neuber (PI), J, Yang (Co-PI), J. C. Dickens (Co-PI), J. Mankowski (Co-PI), R. P. Joshi (Co-PI), "HE Machining Limits," PANTEX-Dept. of Energy, $ 704,059 (Personal share $ 161,933.57), January 20, 2016 – December 31, 2017.

R. P. Joshi (PI), "Theoretical Studies and Basic Research on SiC Photoconductive Solid-State Switches (PCSS) for High Power Microwave Generation," Office of Naval Research (ONR), $ 176,928, June 1, 2015 – December 31, 2016.

GRANTS AWARDED (ODU)

(over $9M total, with $3.5 M personal share)

HONORS AND AWARDS

- IEEE William Dunbar Award (2022) – 1 international Award given once every 2 years ("For contributions to the science of electrical breakdown of liquids and biological applications of pulsed high voltage")
- President's Excellence in Research Professorship (TTU, 2019)
- Fulbright Research Scholar Award (2019)
- TTU Barnie Rushing Jr. Faculty Distinguished Research Award (2019)

. Stanford University's list of 100,000 most-cited authors worldwide (2017 - present)

. NPSS Merit Award (2017) for ″significant and sustained contributions to bioelectrics and physics-based understanding of high field phenomena in pulsed power applications″

. Accreditation Board for Engineering and Technology (ABET) Evaluator (since 2014)

. Elected Fellow of the Institute of Engineering and Technology (IET, UK) – 2014

. Elected Fellow of the Institute of Physics (IOP) – 2014

. Elected Fellow of the Institute of Electrical and Electronics Engineers (IEEE) -- 2008

. Elected Fellow of the Institution of Electronics & Telecommunication Engineers – 2014

. Most Influential Paper Citation Award. Bioelectromagnetics Journal (2013)

. Model Partnership Award (ODU-Ocean Lakes High School, Virginia Beach, 2013)

. IEEE Distinguished Lecturer (2012)

. Winner – Shining Star Award, Student Affairs, Old Dominion University (2010, 2011)

. Designated Eminent Scholar, Old Dominion University (2010)

. ODU Doctoral Mentor Award (2008)

. ODU University Professor (2007)

. ODU Nominee for Virginia SCHEV Outstanding Faculty Award (2006)

. Outstanding Teaching Award, Batten College of Engr. & Tech., ODU (2006)

. Martin Black Prize -- Institute of Physics & Engineering in Medicine (2005)

. Rufus Tonelson Award for Research, Teaching & Service, ODU (2004)

. Outstanding Teaching Award, Dept. of Electrical & Computer Engr., ODU, 2003

. Certificate of Appreciation, Air Force Research Laboratory, San Antonio, TX (2003)

. 18th Annual Research Award, Old Dominion University (2002)

. Who's Who in American Education (since 2007)

. United Who's Who Among Professionals (UWW – 2002)

. Research Excellence Award, Dept. of Electrical & Computer Engr., ODU (2002)

. Who's Who in Engineering Education (WWEE – 2002)

. Research Excellence Award, College of Engineering, ODU (2001)

. Listed in Marquis Who's Who in America (Science & Engineering, since 1996)

. Listed in Who's Who Among America's Teachers (since Oct. 1996)

. Listed in American Men and Women of Science (since 1995)

. Most Inspiring Faculty Award (College of Engineering), ODU, 1990.

. National Talent Scholarship, India, (1977).

. National Merit Award, India, (1977).

PATENTS

A. Pakhomov, K. Schoenbach, J, Kolb and R. P. Joshi, "Modulation of Neuromuscular Functions with Ultrashort Electrical Pulses," US Patent Pub. No.: US2008/0228244 A1, 8139339.

PROFESSIONAL RECOGNITION AND SERVICE

. Graduate Programs Reviewer in Electrical Engineering (US Universities 2018-2019)
. Senior Editor, IEEE Transactions on Plasma Science 2018-Present
. Editorial Board – Plasma (http://www.mdpi.com/journal/plasma/editors) 2017-Present
. Advisory Panel of Journal of Physics D: Applied Physics (2017-2018)
. Adhoc Committee to improve IEEE Transactions on Plasma Science (2016-2017)
. Accreditation Board for Engineering and Technology (ABET) Evaluator (since 2014)
. Professional Engineer (PE) -- Registered in Texas, No. 119803.
. Professional Engineer (PE) -- Registered in Virginia, No. 0402048456

. Elected Fellow of the Institute of Physics (IOP) in 2014.
. Elected Fellow of the Institute of Engineering and Technology (IET, UK) – 2014
. Elected Fellow of the Institution of Electronics &Telecommunication Engineers – 2014
. Elected Fellow of the Institute of Electrical and Electronics Engineers (IEEE) in 2008 for: "Contributions to bio-electrics and simulation of cellular responses to pulsed power excitation."
. IEEE Distinguished Lecturer (2012).
. Guest Editor, Editor, IEEE Trans. Plasma Science (2014; 2012; 2011; 2008; 2004).
. Board Member -- IEEE Committee on Pulsed Power Technology (2010-2016).
. Organizing Committee -- 2010 IEEE International Conference on Plasma Science.
. Session Chair – Compact Pulse Power and Applications, for 2010 IEEE International Conference on Plasma Science (ICOPS).
. Elected Board Member (IEEE Society on Dielectrics and Electrical Insulation, 2009-2011 term)
. Organizing Committee -- SPIE Conference on Nano-, Bio-, Info-Tech Sensors (2010)
. Executive Committee -- Chair, Publications and Publicity Committee for IEEE Conference on Electrical Insulation and Dielectric Phenomena (Oct. 2009)
. Executive Committee -- Chair, Publications and Publicity Committee for IEEE Conference on Electrical Insulation and Dielectric Phenomena (Quebec City, Canada, Oct. 26-29, 2008)
. Session Organizer: "Medical, Environmental, and Biological Applications" for the Intl. Conf. on Plasma Science (Albuquerque, NM, 2006) and "Medical, Environmental, and Biological Applications" for the Intl. Conf. on Pulsed Power (Chicago, IL, 2011).
. Judge-- IEEE Best Student Paper Contest, IEEE International Conference on Pulsed Power and Plasma Science (Albuquerque, NM, 2007 and Norfolk, VA, 2010).
. Organizing Committee -- 2007 IEEE International Conference on Pulsed Power and Plasma Science (PPPS).
. Elected Board Member (IEEE Society on Dielectrics and Electrical Insulation, 2006-2008 term)
. Session Organizer ("Medical, Environmental, and Biological Applications") for the 2006 Intl. Conf. On Plasma Science (Michigan).
. Organizing Committee (SPIE Conf. on Ultrafast Electronics, San Jose, 2000)
. Session chair (IEEE Southeast Conference, 1991).

. Member of the American Physical Society and Biomedical Engineering Society

. Technical Reviewer for following journals: IEEE Transactions on Electron Devices; IEEE Transactions on Plasma Science; Journal of Applied Physics and Applied Physics Letters; Physica Status Solidi; Solid State Electronics; Solid State Sciences; Microelectronics Reliability; Journal of Computational Electronics; Physical Review B & E; Physical Review Applied; Journal of Biological Physics; Physical Review Letters, Journal of Physics D, Journal of Bio-Electromagnetics, Biophysical Journal, Critical Reviews in Biomedical Engineering, Bioelectrochemistry Journal, Reviews of Scientific Instruments, Journal of American Ceramic Society, New Journal of Physics, Microwave Review, Journal of Mathematics and Computers in Simulation, IEEE Transactions on Dielectrics and Electrical Insulation; Plasma Sources Science and Technology; Journal of Theoretical and Applied Physics; Biochimica et Biophysica Acta – Biomembranes, IEEE Transactions on Radiation and Plasma Medical Sciences, IEEE Transactions on Radiation and Plasma Medical Sciences; BioMed Research International.

. Technical Reviewer: Air Force Office of Scientific Research (2011, 2013); National Science Foundation (2012, 2013, and NSF IUCRC, 2016, 2018, 2019); National Institutes of Health (NIH); US Civilian Research & Development Foundation for Former Soviet Union; US Department of State; Whittaker Foundation; Virginia Center for Innovative Research; Israel Science Foundation ; Agence Nationale Recherche (ANR -- France's National Research Agency); Czech Science Foundation (GACR).

. Book Reviewer for J. Wiley & Sons, Prentice Hall, Oxford University Press, and Addison-Wesley.

UNIVERSITY-RELATED SERVICE ACTIVITY (Texas Tech University)

College Faculty Research Awards Committee, 2018-Present
Chair, Public Relations Committee, ECE Department, Texas Tech Univ. (2017-2019)
ABET Co-ordinator for Electrical Engineering programs (2014 - Present)
Whitcare College of Engineering Institutional Effectiveness (IE) committee (2018)

UNIVERSITY-RELATED SERVICE ACTIVITY (Old Dominion University)

ECE Departmental Undergraduate Committee (2013-Present)
University Eminent Scholar's Committee (2013-Present)
Committee G of University Faculty Senate - Nominations (2009-2012)
Committee H of the University Faculty Senate – Nominations (1998-1999; 2002-2012)
University Honorary Degrees Committee (2001-Present)
College Promotion & Tenure Committee (2010-2012)
ODU "University Professor" Committee (2009 – 2011)
ODU Research and Scholarship Subcommittee of Strategic Plan Task Force (2009)
ODU Morgan Named Professor Committee (2009)
ODU Provost Search Committee (2007)
University Faculty Senate Committee F-Tenure and Promotion (2007-2011)
Center for Bio-Electrics Research Faculty Search Committee (2007)

Computer Science Department-Chair Search Committee (2006-2007)
ECE Departmental Graduate Committee (2006-2013)
University Faculty Senate Committee D-Scholarly Activities (2005-2010)
University Student Conduct Committee (2001-2006)
University Self-Study Committee (1999-2000)
University Library Committee (1996-2000)
University Students Who's Who Selection Committee (1994-2000)
College Awards and Recognitions Committee (2010-2011)
College Promotion & Tenure Committee (2003-2008)
College Scholarship Committee (1992-2003)
College Task Force on Distance Education (1998)

Departmental Coordinator for Web-site Development & Maintenance (2006-2008)
Departmental Promotion & Tenure Committee (1996-Present)
Departmental ABET Preparation Team (2003)
Departmental Recruiting Committee (2000)
Departmental Graduate Committee (1999-Present)
Departmental Undergraduate Committee (1998-99)
Department Physical Electronics Committee (1990-1998)

STUDENT SUPERVISION AND MENTORING
(#Current students being mentored)

At Texas Tech University

(1) #Madeline Brown, PhD student, currently enrolled, expected completion May 2024.
(2) #Raul Perez, MS student, currently enrolled, expected completion December 2022 – likely will continue on this Ph.D. with support from the US Air Force.
(3) #Luke Silvestre, PhD student, currently enrolled, expected completion August 2023.
(4) #William Milestone, PhD student, currently enrolled, expected completion May 2023.
(5) Sayeed Sami, PhD completed May 2022, ″Studies of Field Emission Current Density and Outgassing in Copper and Carbon Fiber Electrodes Based on Microscopic Material Models″.
(6) Luke Silvestre, MS completed December 2021, "A Continuum Approach for Multipactor Using the Vlasov-Poisson Analysis".
(7) Sayeed Sami, MS completed December 2021, "Molecular Dynamics Simulations of Outgassing from Copper Electrodes".
(8) William Milestone, MS completed May 2021, "Monte Carlo Analysis of Carrier Dynamics in GaN Photoconductive Switches for Pulses in the 100 GHz Range".
(9) Dong Guo, PhD completed August 2021, "Simulations for Electron Emission and Maximum Current Output from Metal Emitter Arrays".
(10) Yi Yi, MS completed May 2021, "Simulations for Bio-Impedance in Cancer Tissues".
(11) Xiaoli Qiu, PhD completed December 2020, "Studies on Secondary Electron Yield and Multipactor Mitigation in Rectangular Waveguides based on Monte Carlo Methods".
(12) Animesh Chowdhury, PhD completed May 2019, "Investigating Possibility of Lock-On in a Photo-Conductive Semiconductor Switch (PCSS) for High Power Applications".
(13) Hieu Nguyen, PhD completed May 2019, "Simulation Studies of Breakdown and Charge Growth in Pulsed Power Systems Driven by Microwave Excitation".

(14) Joy Acharjee, MS completed May 2019, "Numerical Studies of Hydrogen Outgassing from Copper Electrodes".

(15) Ze Zhang, MS completed December 2017, "Studies on Explosive Emission and Material Degradation of Nanoscale Metal Emitter Tips Based on Molecular Dynamics Analysis".

RECENT GRADUATE STUDENT COMMITTEE MEMBER (TTU)

(1) Tyler Buntin -- PhD student
(2) Moran Daniel -- PhD student
(3) Samuel Denard -- PhD student.
(4) Vincent Meyers -- MS student
(5) Daniel Mauch -- MS student
(6) William Sullivan -- MS student
(7) Patrick Kelley -- PhD student

At Old Dominion University

(1) Alireza Majzoobi, PhD completed May 2016, "Studies for Improved Microwave Performance of Relativistic Magnetrons".

(2) Rajintha Tiskumara, PhD completed May 2016, "Evaluation of 4H-SiC Photoconductive Switches for Pulsed Power Applications Based on Numerical Simulations".

(3) Meena Sreekantamurthy, MS completed August 2015, "Classification of Digital Communication Signal Modulation Schemes in Multipath Environments Using Higher Order Statistics".

(4) Vineetha Jujjavarapu, MS completed December 2014, "Numerical Studies of the A6 Relativistic Magnetron Using Particle-in-Cell Simulations".

(5) Satish Kota, MS completed December 2014, "Simulation Studies of Organic Solar Cell Structure and Morphology on the Device Efficiency".

(6) Daniel Sexton, MS completed August 2014, "High Dynamic Range Current Measurements for Electron Beam Diagnostics".

(7) Leroy Fung, MS completed August 2014, "The Study of Electrostatic and Magnetostatic Shielding for Deep Space Missions".

(8) Felicia Farrow, MS completed August 2013, "Optimization of Solar Cell Arrays Using the Fibonacci Search Algorithm".

(9) Trac Nguyen, MS completed December 2012, "Configurational Studies of Electrostatic and Magnetostatic Active Space radiation Shielding".

(10) Ashish P. Bathini, M.E. completed May 2013, "Monte Carlo Algorithm for Secondary Electron Yield".

(11) Hao Qiu, PhD completed August 2014, "Numerical Study of Cell Poration and Ionic Conduction in Nanopores Caused by High-Intensity, Nanosecond Pulses".

(12) Deepthi Nagulapally, PhD completed August 2014, "Evaluation of Degradation in GaN Based High Electron Mobility Transistors due to the Inverse Piezoelectric Effect".

(13) Priyamvada Maleeswaran, MS completed December 2012, "Modeling Leakage Currents in Metal Insulator Metal Structures With High-*k* Materials".

(14) Yue Feng, PhD completed August 2012, dissertation: "Multi-term Approximation to the Boltzmann Transport Equation for Electron Energy Distribution Functions in Nitrogen".

(15) Michael Stelzer, PhD completed May 2012, "Evaluation of Ocean-Energy Conversion Based on Linear Generator Concepts".

(16) Aydin Meric, MS completed May 2011, thesis: "Electronic Warfare by Using Unmanned Aerial Vehicles".

(17) Atila Ozdemir, MS completed May 2011, thesis: "Unmanned Aerial Vehicles Collision Avoidance From Moving Obstacles".

(18) Ertac Olgun, MS completed May 2011, thesis: "Investigation and Comparison of Proportional Navigation Guidance and Beam Rider Guidance".

(19) Jiahui Song, Ph.D. completed May 2010, "Simulation Studies of Pulsed Voltage Effects on Cells".

(20) Deepthi Nagulapally, MS completed August 2010, thesis: "Simulation of Temperature Distributions in Tissue Upon Laser Pulse Irradiation Including Water Mass Transfer".

(21) Pavithra Gudur, MS completed May 2010, thesis: "A Genetic Algorithm Solution for Optimized Routing".

(22) George Annobil, MS completed December 2010, thesis: "Growth of Alkali Antimonide Photosensitive Thin Films".

(23) Rakesh Choula, MS completed December 2009, "Monte Carlo Model of Light Propagation in Tissue and the Effects of Phase Changes on the Light Intensity".

(24) Venkata R Guggilam, MS completed December 2008, "Monte Carlo Simulation for Electron Swarm Parameters in Atmospheric Nitrogen, Oxygen, and Air".

(25) Stuart Rogers, MS completed May 2008, thesis: "Numerical Simulations of a Nonlinear Transmission Line".

(26) Madhuri Ganapathiraju, MS completed May 2008, thesis: "Stochastic Calculations for Computation of Radiation Effects and Cell Survivability Under Voltage Pulsing".

(27) Guogang Zhao, Ph. D. completed December 2007, dissertation: "Modeling and Simulations of Electrical Breakdown and Thermal Failure in Zinc Oxide and Titanium Dioxide for High Voltage Dielectric Applications".

(28) Fatim Mbaye, MS completed December 2007, thesis: "Electroactive Polymers (EAP): Simulation Studies of the Actuation Mechanisms in a Cantilever Cellulose Electroactive Paper Actuator Device".

(29) Deepesh Koppunuru, MS completed December 2007, thesis: "PARMELA Based Simulations on Jefferson Laboratory Free Electron Laser Injector".

(30) Ashutosh Mishra, Ph.D. completed December 2007, dissertation: "Development of Fast, Distributed Computational Schemes For Full-Body Bio-Models and Their Application to Novel, Action Potential Block in Nerves Using Ultra-Short, High-Intensity Electric Pulses".

(31) Anh Nguyen, M.S. completed August 2007, thesis: "Simulations of Intracellular Calcium Release In Response to High-Intensity, Ultrashort Electric Pulses".

(32) Nidhi Nahar, M.S. completed May 2007, thesis: "Simulation Modeling Of Nerve Impulse Propagation And Its Blockage By External Electrical Stimulation".

(33) Sridhara Viswanadham, Ph. D. completed May 2007, dissertation: "Molecular Dynamics Simulations to Probe Effects of Ultra-Short, Very-High Voltage Pulses on Cells".

(34) James Bolitho, M.S. completed August 2005, thesis: "Monte Carlo Simulation Analysis of Electron Bombardment of GaN for Particle Detector Applications".

(35) Jun Qian, Ph. D. completed August 2005, dissertation: "Modeling and Simulation of Sub-Microsecond Electrical Breakdown in Liquids with Application to Water".

(36) Qin Hu, Ph. D. completed August 2004, dissertation: "Dynamical Studies of Model Membrane and Cellular Response to Nanosecond, High-Intensity Pulsed Electric Fields".

(37) Feng Chen, M.S. completed August 2004, thesis: "Modeling Nerve Electro-Stimulation in the Nanosecond Regime".

(38) Juan A. Gonzalez-Cuevas, M.S. completed December 2003, thesis: "Brownian Dynamics Simulation Studies of Ion Throughput During Cellular Electroporation".

(39) Sridhara Viswanadham, M.S. completed August 2003, thesis: "Monte Carlo Analysis of Millimeter-wave GaN Based Gunn Effect Oscillators ".

(40) Phani Pendyala, MS completed August 2003, thesis: "Analysis Of InGaAsSb/AlGaAsSb Photodetectors For Applications At The 2.0 Micron Wavelengths" .

(41) Satyanadh Gundimada, M.S. completed August 2002, thesis: "Study of Transport Properties of InAs Using the Monte Carlo Method".

(42) Srinivas Chuddapah, M.S. completed August 2002, thesis: "Evaluation of Distributed Effects in Field Effect Transistors for High Frequency Applications".

(43) J. Gringmuth, Thesis Project completed August 2001, (International Masters Program, University of Applied Science, Leipzig, Germany), "Design and Development of Electronic Circuits to Measure Noise and Responsivities of Photodiodes".

(44) Hisham Merhi, M.S. completed August 2001, thesis: "Pulsed Electron Heating of Atmospheric Pressure Air Glow Discharges".

(45) Tao Li, Ph. D. completed July 2001, dissertation: "Ensemble Monte Carlo Based Simulation Analysis of GaN HEMTs for High Power Microwave Device Applications".

(46) Rami Hanbali, M.S. completed August 2001, thesis: "Development of ATLAS Based Simulation Capability for Automated Testing".

(47) Satish Ravichandran, M.S. completed August 2001, thesis: "Simulation Optimization Studies Of Routing And Process Flow Problems ".

(48) Michael Stelzer, M.S. completed May 2001, thesis: "SPICE Based Heat Transport Model for Non-Intrusive Thermal Diagnostic Applications".

(49) Peter Tillberg, Thesis Project completed December 2000, (International Masters Program, Dalarna University), "Spray Evaluation of New Injector Design".

(50) J. E. Stenblom, Thesis Project completed December 2000, (International Masters Program, Dalarna University), "Verification and Evaluation of Hot Fuel Handling Test Procedures ".

(51) Martin Boremyr and T. Gustavsson, Thesis Project completed July 2000, (International Masters Program, Dalarna University), "Hardware and Software Design for an Automated Fuel Injector Test Cell".

(52) Gayathri Barthaki, M.S. completed June 2000, thesis: "Simulations of Electroporation in Single Cells Subject to a Ultrafast High Voltage Pulse".

(53) Madhusudhan Akundi, M.S. completed May 2000, thesis: “Routing Optimization Through Computer-Aided Simulations".

(54) Milind Chokshi, M.S. completed May 2000, thesis: "Process Flow Optimization Studies Through Discrete Event Simulations".

(55) Damayanthi Palaniappan, M.S. completed December 1999, thesis: "Evaluation of the Transport Properties of GaSb for Bipolar Applications Through Monte Carlo Simulations".

(56) Lifeng Zheng, M.S. completed May 1999, thesis: "Theory of SiC Schottky Barrier Conduction and Model Analysis for Diode Breakdown With and Without Screw Dislocations".

(57) Thomas Caldwell, M.S. completed May 1999, thesis: "Development and Testing of an AC Micro Hollow Cathode Simulator".

(58) Prayasit Kayasit, M.S. completed December 1998, thesis: "Two Dimensional, Time Dependent Modeling and Simulation of Semi-Insulating GaAs High-Power Switches".

(59) John Peake, M.S. completed December 1998, thesis: "Computer Simulations of Electromigration Based on a Molecular Dynamics Approach".

(60) Sanjay Pathak, Ph.D. completed December 1998, dissertation: "Modeling and Simulations of High Field, High Temperature SiC Devices".

(61) Jing Li, M.S. completed May 1998, thesis: "Coupled Electrodynamic-Monte Carlo Simulations of Nanoscale GaAs Terahertz Optical Mixers".

(62) Abhishek Srivastava, M.S. completed August 1996, thesis: "Monte Carlo Simulations of the Photoemission Characteristics from GaAs and Diamond".

(63) Hamid Jalali, M.S. completed July 1996, thesis: "Two-Dimensional Drift-Diffusion Simulations of Silicon Avalanche Shaper (SAS) Devices for High Power Applications".

(64) Prasun Kumar Raha, MS completed July 1994, thesis: "Transient Simulations and Modeling of Semi-Insulating GaAs Photoconductive Switches".

(65) Ramani Vaidyanathan, MS completed April 1992, thesis: "Monte Carlo Simulations of Millimeter-Wave Gunn-Effect Oscillators".

POST-DOCTORAL AND VISITING RESEARCHERS

- Aamer Al Ali, Visiting Faculty, January 2009 – December 2009.
- Xiaoqian Hu, Visiting Scholar, September 2007 – August 2008.
- J. Qian, Post Doctoral Researcher, August 2005 – December 2005.
- Q. Hu, Post Doctoral Researcher, August 2004 – May 2007.

SOME STUDENT ACCOMPLISHMENTS

. **47** journal papers by graduate students at TTU

. Over **160** journal papers overall by graduate students

. Ph.D. student (Madeline Brown) – applied Summer Internship at Kirtland Base for 2022.

. Ph.D. student (Luke Silvestre) – Summer Internship at Sandia National Laboratory in 2022.

. MS student (Raul Perez) – Summer Internship at Kirtland Base, Albuquerque, NM in 2021.

. Ph.D. student (Sayeed Sami) won Magne Kristiansen scholarship (TTU) in 2021.

. MS student (William Milestone) – Summer Internship at Lawrence Livermore National Laboratory, 2020 and 2021.

. Ph.D. student (Animesh R. Chowdhury) – Summer Internship at Micron Inc., Boise, ID in 2019.

. Ph.D. student (Hieu Nguyen) – Summer Internship at Kirtland Base, Albuquerque, NM in 2018.

. Ph.D. student (Animesh R. Chowdhury) won the 2018 Ph.D. Graduate Student Award in the Electrical & Computer Engineering Department, Texas Tech University.

. Ph.D. student (Animesh R. Chowdhury) won the 2017 International Graduate Fellowship from the Dielectrics and Electrical Insulation Society of the Institute of Electrical and Electronics Engineers (IEEE). He was 1 of 3 annual recipients internationally.

. B.S. student (Kenan Blackerby) – Summer Internship at Texas Instruments, TX in 2016.

. B.S. student (Jason Green) – Summer Internship at Idaho National Laboratory, ID in 2016.

. Ph.D. student (Hao Qiu) – Asst. Professor at University of Georgia since 2016.
. Ph.D. student (Jiahui Song) –Professor at Wentworth Institute of Technology since 2015.
. M.S. student (George Annobil) won 1st Place at the Virginia Microelectronics Scholars Competition, Richmond, 2009.
. Ph.D. student (Ashwini Jayaprakash) selected for Accelerator Physics Summer School at Univ. of Maryland (instructors from Brookhaven National Laboratory), June 16-27, 2008.
. BS-M.S. student (George Annobil) selected as Virginia Microelectronics Consortium Summer 2008 Intern at Micron Inc., Manassas, VA.
. Ph.D. student (Ashwini Jayaprakash) spent 4 weeks at Cornell University (NY) in connection with JLAB-related project on electron accelerators (2008) – Summer 2008.
. BS-Ph.D. student (Felicia Farrow) received the Virginia Space Grant Consortium Scholarship (2008) and working on NASA project.
. BS-M.S. student (George Annobil) selected as Virginia Microelectronics Consortium Summer 2008 Intern at Qimonda Inc., Richmond, VA.
. M.S. student (Anh Nguyen) recipient of the Virginia Micro-Electronics Consortium (VMEC) internship at Micron, Manassas, VA (2007).
. Ph.D. student (Guogang Zhao) working at Siemens, Atlanta, GA as Research Engineer.
. Ph.D. student (Qin Hu) -- Professor at Central Michigan University.
. Ph.D. student (Viswanadham Sridhara) -- staff scientist at the National Institutes of Health (NIH), MD.
. Ph.D. student (Viswanadham Sridhara) won the best Ph.D. student award in the ECE department (2007).
. Ph.D. student (Ashutosh Mishra) won the best GTA award in the ECE department (2007).
. Ph.D. student (Jiahui Song) won the 2006 International Graduate Fellowship from the Dielectrics and Electrical Insulation Society of the Institute of Electrical and Electronics Engineers (IEEE). She was 1 of 3 annual recipients.
. Ph.D. student (A. Mishra) received a TA award from College of Engineering and Technology in the 2006.
. Ph.D. student (V. Sridhara) placed second in the 2005 Annual ODU Research Day Poster.
. Ph.D. student (Guogang Zhao) won the 2005 International Graduate Fellowship from the Dielectrics and Electrical Insulation Society of the Institute of Electrical and Electronics Engineers (IEEE). He was 1 of 3 annual recipients.
. Ph.D student Qin Hu won 3rd place at 2005 ODU Annual Research Exposition.
. Ph.D. student Jun Qian won 2005 ODU Outstanding Graduate Research Assistant Award.
. Ph.D. student Qin Hu won 2004 ODU Outstanding Graduate Research Assistant Award.
. Ph.D. student A. Mishra won 2003 ECE Outstanding Graduate Teaching Assistant Award.
. MS student (P. Raha) went on for Ph.D. at the University of Illinois Urbana-Champaign (UIUC), and is now a manager at Intel Corporation.
. MS student (M. Akundi) now a design manager at Motorola Inc.

TEACHING ACTIVITY (Texas Tech University)

- Probability, Statistics and Discrete Mathematics (ECE 3308 - *Developed*)
- Nanoelectronics: Material Physics, Devices and Applications (ECE 4332/5332 - *Developed*)
- Linear System Analysis (ECE 3303)
- Electromagnetic Theory I (ECE 3341)
- Solid State Devices (ECE 4314 / ECE 5314)
- Engineering Analysis (ECE 5371)

TEACHING ACTIVITY (Old Dominion University)

(A) COURSES TAUGHT (FROM 1989 – 2014)
Total of 23: New Developed (13) + Existing Courses Taught (10)

- Numerical Methods and Mathematical Model-Based Analyses for Engineering (ECE 795/895 - *Developed*)
- Biostatistics: Fundamentals and Applications (ECE 751/851 - *Developed*)
- Engineering Analysis and Tools (ECE 200 - *Developed*)
- Statistical Analysis and Simulation (ECE 651 - *Developed*)
- Semiconductor Characterization (ECE 774/874 - *Developed*)
- Graduate Seminar Topics (ECE 796/896 - *Developed*)
- Applied Non-Linear Optics (ECE 695/795 - *Developed*)
- Advanced Semiconductor Devices & Modeling (ECE 696/796 - *Developed*)
- Semiconductor Optoelectronic Devices (ECE 696/796 - *Developed*)
- Physical Electronics (ECE 332 - *Team Developed with Prof. Albin*)
- Physical Electronics Laboratory (ECE 387 - *Team Developed*)
- Bioelectrics (ECE 454/554 - *Team Developed*)

- Electromagnetic Field Theory (ECE 625/725 - Graduate)
- Solid State Electronics (ECE 473/573 - Undergraduate/Graduate)
- Gaseous Electronics (ECE 471/571 - Undergraduate/Graduate)
- Quantum Electronics & Lasers (ECE 476/576 - Undergraduate/Graduate)
- Electromagnetics I (ECE 321 - Undergraduate)
- Electromagnetics II (ECE 322 - Undergraduate)
- Probability and Random Processes (ECE 304 - Undergraduate)
- Signals and Systems (ECE 202 - Undergraduate)
- Circuit Theory I (ECE 201 - Undergraduate)
- Circuits Laboratory Recitation (ECE 281 - Undergraduate)

(B) TEACHING RELATED AWARDS (Old Dominion University)

ODU Shining Star Award (Student Affairs -- 2011)
ODU Shining Star Award (Student Affairs -- 2010)
ODU Doctoral Mentor Award (2008)
ODU University Professor (2007)

Outstanding Teaching Award, College of Engineering, ODU (2006)
Tonelson Faculty Award, ODU (2004)
Outstanding Teaching Award, Electrical & Computer Engineering, ODU (2003)
Who's Who in American Education (since– 2007)
Who's Who in Engineering Education (WWEE – 2002)
Listed in Who's Who Among America's Teachers (Oct. 1996)
Most Inspiring Faculty Award, Old Dominion University (1990)