

Curriculum Vitae

Richard Wilkins

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DATE OF BIRTH: December 25, 1960 PLACE OF BIRTH: Johnstown, Pennsylvania

RESEARCH INTEREST:

Space radiation effects on electronic materials and devices, nano-scale materials and devices and shielding/structural materials, radiation dosimetry instrumentation and measurements.

EDUCATION:

9/84 – 12/90: Received Ph.D. in Experimental Condensed Matter Physics, University of Michigan, Ann Arbor, Michigan, May 1991.

9/79 – 5/84: Received B.S. degree in Physics (Magna Cum Laude), University of Pittsburgh, Pittsburgh, Pennsylvania.

CONTINUING EDUCATION:

IEEE Nuclear & Space Radiation Conference Short Course: 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006 & 2007 (earned continuing education credits each year).

U. S. Department of Energy Radiation Worker 2 Training, Brookhaven National Laboratory; NASA Space Radiation Laboratory training, 2005.

U. S. Department of Energy Radiation Worker 2 Training, Los Alamos National Laboratory, 2001.

U. S. Department of Energy Radiation Worker 1 and Site Specific Training, Los Alamos National Laboratory, 1998, 2000, 2003, 2005, 2006 & 2008.

MOS Fabrication Short Course, Rochester Institute of Technology, 1997.

Completed training from Texas A&M University Electron Microscopy Center on:

- Nanoscope III Atomic and Lateral Force Microscope, 1994.
- JEOL JMS-T330A Scanning Electron Microscope, 1991.

RESEARCH & ACADEMIC EXPERIENCE:

10/08-present: Director: NASA Center for Radiation Engineering and Science for Space Exploration (CRESSE). CRESSE is focused on the development of materials, models, testbeds and prototype instruments for radiation studies for space exploration. The center has 6 faculty investigators, one faculty associate, and one senior research scientist. CRESSE will also support post-doctoral researchers and graduate and undergraduate students.

1/00-present: Director: Center for Applied Radiation Research (CARR), Prairie View A&M University.

CARR is a component of CRESSE that focuses on contracts and leveraged funding related to the radiation research. In the past two years, CARR projects have totaled more than \$500K.

9/03-present: Associate Professor (with tenure): Department of Electrical Engineering, Prairie View A&M University.

9/97-8/03: Assistant Professor: Department of Electrical Engineering, Prairie View A&M University.

5/99-1/00: Deputy Director: Center for Applied Radiation Research, Prairie View A&M University.

9/97-5/99: Technical Director: Center for Applied Radiation Research; Center for Materials, Microdesign, and Microfabrication (9/97-present), Prairie View A&M University.

7/93-9/97: Senior Research Scientist: Laboratory for Radiation Studies (7/93-6/95) Center for Applied Radiation Research (7/95-9/97); Center for Materials, Microdesign and Microfabrication (7/93-9/97), Prairie View A&M University.

1/91-7/93: Post-Doctoral Research Scientist, Department of Physics, Texas A&M University. Established ultra-high vacuum scanning tunneling microscope (UHVSTM) system for studies of III-V semiconductor surfaces. Characterized point defects on GaAs(110).

5/85-12/90: Research Assistant in Condensed Matter Physics, University of Michigan, Department of Physics:

Visiting Graduate Student at Ford Motor Co., Scientific Laboratory, 5/87-12/90. Designed, built, and used cryogenic scanning tunneling microscope (CSTM) for experiments on single electron tunneling nano-scale metal droplets and high- T_c superconductors.

Graduate Researcher: Mesoscopic Physics Group, 9/86-12/90.

Graduate Researcher: Non-Equilibrium Phenomena Group, 1/86-8/86.

Graduate Researcher: High-Energy Physics Group, 5/85-9/85

3/83-8/84: Undergraduate Research Assistant, High Energy Physics Group, University of Pittsburgh. Worked on a detector system for a Fermilab experiment.

TEACHING EXPERIENCE

Prairie View A&M University:

Physical Electronics (ELEG 3033): Spring 2008, Fall 3033, Spring 2006, Fall 2005, Spring 2005, Fall 2004, Spring 2004, Fall 2003, Spring 2003, Fall 2002, Spring 2002, Fall 2001, Spring 2001, Fall 2000, Spring 2000, Spring 1999, Fall 1997, Fall 1996 (2 classes), Spring 1994.

Electronic and Photonic Materials and Devices (ELEG 4223): Fall 2006, Fall 2005, Spring 2002, Fall 1999, Fall 1998. (Developed this course.)

Electromagnetic Field Theory (ELEG 4033): Spring 2008, Spring 2006, Spring 1999, Spring 1998.

Graduate Engineering Solid-State Theory (ELEG 5153,; Fall 2002, Spring 1997, Spring 1996, Spring 1995).

Advanced Semiconductor Devices (ELEG 5063): Spring 2003

Advanced Quantum Devices (ELEG 6513): Spring 2007 (Developed this course.)

Advanced Photonic Devices and Materials (ELEG 6503): Fall 2007, Fall 2006

Special Topics: Space and Terrestrial Radiation Effects on Materials and Devices (GNEG 5193-038): Spring 2007, Spring 2008 (Developed this course.)

Graduate Independent Study (ELEG 5993, GNEG 5993): Fall 2000, Spring 1998, Spring 1997, Summer 1996.

Introduction to Space Science and Engineering (COMP 4073): Spring 1998. (Developed this course.)

Electronic Properties of Materials (ELEG 3153): Fall 1997.

Texas A&M University:

1/91-7/93: Worked closely with several graduate students (Physics and EE) on numerous research projects.

University of Michigan:

9/87-12/87: Recitation Instructor, Department of Physics. Taught problem solving for an introductory physics course.

9/85-5/86: Astronomy Recitation and Laboratory Teaching Assistant, Department of Astronomy. Helped students with written work for an introductory astronomy class. Lab work included celestial observations with various telescopes.

9/84 - 5/85: Laboratory Teaching Assistant, Department of Physics. Assisted students with simple experiments for an introductory physics course.

Service:

International Level:

Referee, Journal of Nanotechnology, June 2009.

Reviewer, 57th International Astronautical Congress, Valencia, Spain, October 2006.

Book chapter review, Oxford University Press, July 2005.

Session Chair (Session NN3 “Dosimetry and Nano-Dosimetry”), Materials Research Society Fall 2004 Meeting, Boston, MA, in Symposium NN “Materials for Space Applications.”

Participant and Exhibitor at the Second World Space Congress, Houston, Texas, October 2002.

Referee for the Proceedings of the 6th European Conference on Radiation Effects on Components and Systems (RADECS 2001), Grenoble, France, September 2001.

Co-Chair, “Radiation Tolerance of Electronic Components” session of the Space Technology & Applications International Forum (STAIIF-2001), February 11-15, 2001.

Represented the PVAMU as a participant in the 1999 Paris Air Show.

National Level:

Member, NASA Radiation and Micrometeoroid Mitigation Technology Focus Group, July 2005.

NASA Space Radiation Peer Review Panel for Shielding, Washington DC, April 2005.

NASA Space Radiation Peer Review Panel for Shielding, Washington DC, March 2004.

Steering Committee Member, NASA Research Summit, July, 16-19, 2003, Orlando, Florida.

Co-Chair, “Physics and Radiation Dosimetry” session at the 14th Annual Space Radiation Health Investigator’s Workshop, April 30, 2003, League City, Texas.

NASA Minority University Research and Education Program Technical Assistance and Grants Management Workshop, March 27-28, 2002

Organizing Committee, Space Radiation Shielding Workshop, Langley Flight Research Center, April 2002.
Invited participant in “Space: Critical Issues Workshop” at the James Baker Institute, Rice University, May 6 & 7, 2002.
Referee for the IEEE Transaction on Nuclear Science, 2001, 2003
Referee for IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2006, 2007, 2008.
Referee for Applied Physics Letters, 2000
Referee for the Journal of Vacuum Science and Technology A&B, 1994, 200, 2004 and 2005.
Advisory Board for National Science Foundation Center for Electronic Materials, Devices and Systems (1995-1999)
NASA & NSF Peer Review Panels (see Honor and Awards).

State Level

Member of the Scientific Review Board that selected the two Outstanding Nanotechnology Graduate Students in Texas for the Texas Nanotechnology Foundation. 2003, 2004 & 2005.
External Reviewer, Department of Physics, San Angelo State University, San Angelo, Texas, February 2002.

University Level:

Coordinated a joint proposal with Texas Southern University to NASA on developing an academic curriculum in Radiation Science and Engineering, February – May 2005.
Supervised six student posters contributed to the Texas A&M University System’s 1st Annual Pathways to Success Symposium, Galveston, Texas, November 2003.
Faculty Tenure Appeal Committee, June 2003-2006.
Represented the President’s Office, NASA/Minority University President “Share the Opportunities” Conference, Orlando, Florida, November 2001.
Faculty Senate: Sat on the Travel Regulations and Research Committees; 10/01 to 12/03.
Faculty Search Committee, Department of Physics; 2002-2005.

College Level:

Tenure and Promotion Handbook Committee, 2008.
Tenure Review Committee, 2007 – 2008.
Coordinated a joint proposal between the College of Engineering and the Department of Chemical Engineering at PVAMU and the Department of Nuclear Engineering at Texas A&M University and the Department of Physics at Texas A&M University – Kingsville to the Department of Energy. This program has been funded by DOE for \$60,000./year for 3 years starting 9/01.
ABET Advisory Committee; 8/01 to present.
Curriculum Committee (1998-present)
Technical Committee for the PVAMU Engineering and Architecture Symposia (1996 & 1997)

Department Level

Search Committee for Electrical Engineering Faculty 2004 –present.

Ph.D. Students Admission Committee, 2004 -2005.

Gave a graduate student seminar to Electrical Engineering Ph.D. students, November 2004.

Helped prepare documents for the Ph.D/M.S. in Electrical Engineering degree program application to the Texas Higher Education Co-coordinating Board, especially in the area of microelectronics and electronic materials. 2000-2002.

Overseeing the Materials Fabrication Laboratory specifications and design for the New Electrical Engineering Building (2000-2004).

Serving or have served on 18 master's thesis committees and advisor for 3 master's projects (1995-present).

Supervising or have supervised over 85 undergraduate research projects, mostly electrical engineering majors (1994-present).

Search Committee for new Electrical Engineering Faculty Members, 1/31/2002-present.

Have supervised 32 undergraduate summer research interns during 2001-2005.

Helped develop laboratory plan for ELEG 3041 (Microelectronic Processing and Materials Characterization Lab) 10/01.

Graduate Engineering Seminar, 9/01

Academic Advising “Bridging The Gap” Workshop, Prairie View A&M University, 9/25 & 26/1997.

Contributed to the 1997-2002 Strategic Plan.

Have supervised student participation in off-campus outreach and research activities from Los Alamos, New Mexico to Paris, France (1997-present).

Representative to the 1997 Industrial Affiliates Meeting of the Electrical and Computer Engineering Department at Rice University.

Annual Book and Homepage Committee 1997/98.

Taught courses in the department at no charge from Spring 1994 – Spring 1997.

Community Service:

Numerous visits to local pre-school, elementary and secondary classes to give talks and demonstrations on science, engineering and technology, (1994-present).

Career Day Presentation, Waller High School, 2005 & 2006.

Career Day Presentations, Barbra Jordan High School for Careers, Houston, Texas, (2001, 2002 & 2003).

Habitat for Humanity, 41 hours service work on six houses, Bryan/College Station Texas, 2002-present.

Arrowmoon Cub Scout Day Camp Leader (Sam Houston Regional Boy Scout Council) in Science and Engineering, June 2002, 2003, 2004.

Assistant Cub Scout Den Leader, Pack 1074, Sam Houston Regional Boy Scout Council, College Station, Texas, September 2002 – February 2005.

Sunday School Teacher, 5th Grade, Christ United Methodist Church, College Station, Texas, September 2002 – present.

Assistant Scout Master, Troop 60, Sam Houston Regional Boy Scout Council, College Station, Texas, February 2005 – present.

Merit Badge Counselor, Boy Scouts of America, in Astronomy, Engineering, Electricity and Space Exploration 2006 – present.

Consulting:

GHG Corporation, Houston, Texas, 2000.

Patents:

U. S. Patents: Functionalized Carbon Nanotube-Polymer Composites and Interactions with Radiation, Application # 12/163,752 & 12/163,768, allowed and pending, April 2008; Real Time Radiation Monitoring Using Nanotechnology, submitted Fall 2007.

International Patent: Functionalized Carbon Nanotube-Polymer Composites and Interactions with Radiation, #PCT/US2003/038141, application completed May 2005, pending.

HONORS AND AWARDS:

2009: Researcher of the Year 2008, College of Engineering, Prairie View A&M University.

Invited Speaker: Spring 2006 Materials Research Society Meeting, Symposium II: Materials in Extreme Environments, San Francisco, CA, April, 2006.

Invited Speaker: Fall 2005 Materials Research Society Meeting, Symposium Q: Degradation Processes in Nanostructured Materials, Boston, MA, November 2005.

Invited Speaker: Fall 2004 Materials Research Society Meeting, Session NN “Materials for Space Applications”, December 2, 2004, Boston, MA.

2004 & 2005: Peer Review Panel, National Aeronautic and Space Administration, Ground Based Research in Space Radiation Biology and Space Radiation Shielding.

2003: Steering Committee: NASA Research Summit, Orlando, Florida, July 2003.

2002: Organizing Committee, Space Radiation Shielding Workshop, Langley Flight Research Center, April 2002.

2001: Excellence in Teaching, College of Engineering, December 2001.

2001: Group Achievement Award, Micro & Nano Technologies Team, NASA Johnson Space Center, January 2001.

2000: Co-Chair, “Radiation Tolerance of Electronic Components” session of the Space Technology & Applications International Forum (STAIF-2001), February 11-15, 2001.

2000: Elected to the Prairie View A&M University Faculty Senate (5/00-4/04).

2000: Peer Review Panel, National Aeronautic and Space Administration, Advanced Cross-Enterprise Technology Development Program, Atmospheric and In-Space Systems.

1998: Peer Review Panel, National Science Foundation Enabling Technologies Program.

1997: NASA Faculty Awards for Research

1995: Dean's Award for Outstanding Research Associate, College of Engineering and Architecture, Prairie View A&M University.

1984: Halliday Award for Outstanding Undergraduate Research in Physics, University of Pittsburgh.

1982: Sigma Pi Sigma—Physics Honor Society, University of Pittsburgh.

CURRENT AFFILIATIONS:

2000: Institute of Electrical and Electronic Engineers

FUNDED PROJECTS (Chronological Order):

Co-Investigator: "Preparation and Surface Analysis of a Fluorinated Amorphous Silicon for Photovoltaic Device Applications", Office of Naval Research, Duration: 6/94-6/96.

Amount: \$186K/2years

Principal Investigator: "Design and Fabrication of a Crystal Growth System For Onboard Space Shuttle Demonstration", NASA, TRW Inc. subcontract.

Amount: \$82K/2years

Co-Principal Investigator: "Instrumentation for the Interdisciplinary Materials Research Program at Prairie View A&M University", Office of Naval Research/ARPA, awarded March 1995, Duration: 9/95-9/96. Amount: \$274K/1 year.

Co-Author and Senior Research Scientist: "Laboratory for Radiation Studies, Renewal for Period January - December 1995", NASA/Johnson Space Center, awarded April 1995 (Contract ended June 1995 with the following award).

Amount: \$900K/1year

Co- Author and Senior Research Scientist: "Center for Applied Radiation Research", NASA Minority University Research Centers, awarded June 1995, Duration: 7/95-7/00.

Amount: \$6.4M/5years

Co-Principal Investigator: "Intelligent Processing of a Novel Wide Bandgap Semiconductor for Device Applications", Texas Advanced Technology Program, awarded October 1995, Duration: 1/96-1/98. Amount: \$55K of \$200K/2years Industrial Partners: Texas Instruments and MEMC Southwest, Duration: 1/96-1/98.

Co-Principal Investigator: "Radiation Effects on Quantum Devices", Air Force Office of Scientific Research, awarded June 1996, Duration: 6/96-6/99. Amount: \$200K of \$400K/3years.

Co-Principal Investigator: "Orbital Debris Research Center", NASA Johnson Space Center, Duration: 10/96-10/97, Amount: \$360K/1year.

Principal Investigator: "Study of Radiation Effects on Electronic Devices at High Atmospheric Altitudes" (NASA Student Launch Program), NASA Headquarters, Duration 7/97 – 6/2000 Amount: \$32K/2years.

Principal Investigator: "Radiation Effects on Electronic Materials and Devices at High Atmospheric and Low Earth Orbital Altitudes" (NASA Faculty Awards for Research) NASA Dryden Flight Research Center, Duration 1/98-8/02, Amount: \$300K/3 years.

Principal Investigator: "Study of Radiation Effects on Infrared Detectors and Materials for Space-based Astronomy Applications", 9/98-8/00, NASA Ames Research Center, Duration Amount: \$129K/2years.

Principal Investigator: "Center for Applied Radiation Research (CARR)" (Renewal), NASA Johnson Space Center, Duration: 9/00-8/05, Amount: \$5 Million/5years.

Principal Investigator: "CARR Partnership Program" NASA Headquarters/NASA Goddard, Duration 9/01-8/05, Amount: \$800,000/4 years.

Principal Investigator: Radiation effects on Zylon Cord materials for the X-38 Parafoil", NASA Johnson, Duration: 3/01-6/01, Amount: \$12,237.

Principal Investigator: "Radiation Exposure Effects and Shielding Analysis of Carbon Nanotube Materials", NASA Johnson, Duration: 7/01-12/01, Amount: \$37,000.

Co- Principal Investigator: "Lightweight Shielding Materials with Carbon Nanotube Reinforcement –Phase I", NASA Langley to Advanced Ceramics Inc., PVAMU sub contract, Duration 11/01-10/02, Amount: \$16,000.

Co-Principal Investigator: "Texas Institute for Intelligent Bio-Nano Materials and Structures for Aerospace Vehicles", NASA Langley, Duration 9/02-8/07, Amount \$500,000/5years of \$15 Million/5 years. The institute is made of six Texas universities (PVAMU, Rice, Texas A&M, Houston, UT-Arlington and Texas Southern) and has over 30 participating investigators. My work will focus on the radiation characteristics of the new technologies developed by the institute.

Co-Investigator: "Lightweight Shielding Materials with Carbon Nanotube Reinforcement – Phase II", NASA Langley to Advanced Ceramics Inc., (Awarded) PVAMU sub contract, Duration 9/02-8/05, Amount: \$ 225,000/three years.

Co-Investigator: "Multi-Functional Carbon Nanotube/Polymer Complex Composites for Space Radiation Shielding", NASA Marshall Small Business Innovative Research (SBIR) Grant to Zyvex Inc., (Awarded) PVAMU sub-contract, Duration 1/05-6/05, Amount: \$20,700.

Co-Investigator: "Radiation Shielding and Hydrogen Storage with Multifunctional Carbon", NASA Langley SBIR Grant awarded to Advanced Fuel Research, Inc., (Awarded) PVAMU sub-contract, duration 6/05-8/05, Amount: \$13,000; Phase II funded for \$30,000, 9/05-1/09.

Co-Investigator: “Radiation Assessment of the Proposed EVA Suit Swatches: Proton Threshold Measurements for MER Material Samples”, NASA SBIR Grant awarded to MERCorp., (Awarded) PVAMU sub-contract, duration 6/05-8/05, Amount: \$15,000.

Principal Investigator: Radiation Studies for Shielding Evaluation of Multi-functional Materials and Radiation Tolerance of Novel Electronics for Human Space Exploration at NASA/Ames, duration 6/05-3/06, Amount: \$20,000.

Co-Principal Investigator: “ADVANCED STRUCTURAL NANOMATERIALS FOR ASTRONAUT RADIATION PROTECTION”, NASA SBIR Phase II Grant with Zyvec Corp. (Awarded pending contract negotiations with NASA), duration 1/06-12/07, Amount: \$240,000.

Principal Investigator: “Radiation dosimetry with nanotechnology”, NASA Johnson Space Center, 8/07-7/08, \$35,000.

Principal Investigator: “Radiation Shielding and Electronic Testing for Boeing Space Exploration, The Boeing Company, 10/08-12/08, \$54,000.

Principal Investigator: “Center for Radiation Engineering and Science for Space Exploration”, NASA, 10/08 – 9/13, \$5,000,000.

Principal Investigator: Los Alamos Neutron Science Center, over 15 peer reviewed beam time requests from 1998 to 2008 worth over \$375,000. at \$1500. per 8 hour shift.

Principal Investigator: NASA Space Radiation Laboratory, peer reviewed beam time request granted worth over \$50,000, 2005.

PUBLICATIONS:

Refereed:

1. “Biological effects of high-energy neutrons measured in vivo using a vertebrate (*Oryzias latipes*) model”, W. Kuhne, B. Gersey, R. Wilkins, H. Wu, S. Wender, and W. Dynon, accepted for publication in *Radiation Research*, May 2009.
2. “Real-time nanotube-based proton radiation sensors”, P. Boul, K. Turner, J. Li, M. X. Pulikkathara, R. Dwivedi, E. Sosa, Y. Lu, O. Kuznetsov, P. Moloney, R. Wilkins, M. O’Rourke, V. Khabasheshu, S. Arepalli, L. Yowell, accepted for publication in *Journal of Physical Chemistry C*, June 2009.
3. “ESR investigations on polyethylene-single walled carbon nanotube composites”, M. Chipara, K. Lozano, R. Wilkins, E. V. Barrera, M. X. Pulikkathara, L. Penia-Para, and Magdalena Chipara, *J. of Mat. Sci.*, Vol. 43, 1128-1233 (2008).
4. “Effects of proton irradiation on the magnetic properties of GaGdN and GaCrN”, J. K. Hite, K. K. Allums, G. Thaler, C. R. Abernathy, S. Pearton, R. Frazier, R. Dwivedi, R. Wilkins and J. Zavada, *New J. Phys.*, Vol. 10, 055005 (2008), online: doi:10.1088/1367-2630/10/5/055005.
5. “Novel magnetic-semiconductors in modified iron titanates for radhard electronics”, R. K. Pandey, P. Padmini, R. Chad, J. Dou, H. Stern, R. Wilkins, R. Dwivedi, W. J.

- Geerts and C. O'Brien, *Journal of Electroceramics*, (2008) available online: DOI 10.1007/s10832-007-9390-1.
6. "Comparison of a tissue equivalent and silicon equivalent proportional counter microdosimeters to high-energy proton and neutron fields", B. Gersey, S. Aghara, R. Wilkins, J. Wedeking and R. Dwivedi, *IEEE Trans on Nucl. Sci.*, Vol. 54, 2276-2281 (2007).
 7. "Micronuclei induction in human fibroblasts exposed in vitro to Los Alamos high-energy neutrons", B. Gersey, J. Sodolak, M. Hada, P. Saganti, R. Wilkins, F. Cucinotta, H. Wu, *Advances in Space Res.*, Vol. 40, 1754-1757 (2007).
 8. "Effect of Proton Irradiation on Interface State Density in $\text{Sc}_2\text{O}_3/\text{GaN}$ and $\text{Sc}_2\text{O}_3/\text{MgO}/\text{GaN}$ Diodes", K. K. Allums, M. Hlad, A. Gerger, P. Gila, C. R. Abernathy, S. Pearton, F. Ren, R. Dwivedi, T. N. Fogarty, and R. Wilkins, *J. of Electronic Materials*, Vol. 36, 519-523 (2007).
 9. "Radiation Hardness of Single Nanowire Transistors Using Robust Organic Gate Nanodielectrics", S. Ju, K. Lee, D. B. Janes, R. C. Dwivedi, H. Baffour-Awuah, R. Wilkins, M-H. Yoon, A. Facchetti and T. J. Marks, *Applied Physics Letters*, Vol 89, 073510 (2006) & Erratum: Vol. 89, 139902 (2006).
 10. "Relative Contribution to SEU Production in SRAM by Neutrons with Energies from 1-475 MeV Using a Genetic Algorithm Optimization Technique", B. Gersey, R. Wilkins, J. Wedeking, R. C. Dwivedi, B. Takala, J. O'Donnell, S. A. Wender, in preparation for submission, August 2006.
 11. "Ground Based Space Radiation Effects Studies on Single-Walled Carbon Nanotube Materials", R. Wilkins, M. X. Pulikkathara, V. Khabashesku, E. Barrera, R. Vaidyanathan and S. A. Thibeault, *Materials Research Society Symposium Proceedings*, Vol. 851, 267-278 (2005).
 12. "Proton Beam Induced Modifications in Multi-Functional Polyethylene-Based Carbon Nanotube Composites", M. X. Pulikkathara, L. Pena-Paras, D. McIntosh, M. Chipara, R. Wilkins. E. V. Barrera, D. Dye and J. M. Zaleski, *Materials Research Society Symposium Proceedings*, Vol. 851, 261-266 (2005).
 13. "Influence of Proton Irradiation on the Non-Linear Current-Voltage Characteristics of PLD Grown Ilmenite-Hematite Thin Films", P. Padmini, F. Thompson, S. Shojah-Ardalan, P. Kale, R. Wilkins and R. K. Pandey, *Journal of Electronic Materials* Vol. 34, 1095 (2005).
 14. "Chemical Ordering in Ilmenite-Hematite Ceramics Through Proton Irradiation", D. M. Allen, L Navarrete, J. Dou, R. Schad, P. Periaswami, P. Kale, R. K. Pandey, S. Shojah-Ardalan and R. Wilkins, *Applied Physics Letters*, Vol. 85 (2004).
 15. "Proton Irradiation of ZnO Schottky Diodes", R. Khanna, K. Ip, K. K. Allums, K. Baik, C. R. Abernathy, S. J. Pearton, Y. W. Heo, D. P. Norton, F. Ren, S. Shojah-Ardalan and R. Wilkins, *Journal of Electronic Materials*, Vol. 34, 395 (2005).
 16. "Effects of 40 MeV Proton Irradiation on the Electroluminescent and Electrical Performance of InGaN Light-Emitting Diodes", R. Khanna, K. K. Allums, C. R. Abernathy, S. J. Pearton, J. Kim, F. Ren, R. Dwivedi, T. N. Fogarty and R. Wilkins, *Applied Physics Letters*, Vol. 85, 3131 (2004).
 17. "Correlation of Neutron Dosimetry Using a Silicon Equivalent Proportional Counter Microdosimeter and SRAM SEU Cross Sections for Eight Energy Spectra", B. Gersey, R. Wilkins, H. Huff, R.C. Dwivedi, B. Takala, J. O'Donnell, S. A. Wender,

- Robert C. Singleterry, Jr., presented at the 2003 Nuclear and Space Radiation Effects Conference, IEEE Transaction on Nuclear Science, Vol. 50, 2363 (2003).
18. "Susceptibility of 'Ultracapacitors' to Proton and Gamma Irradiation", S. Shojah-Ardalan, R. Wilkins, H. Machado, B. Syed, S. McClure, B. Rax, L. Scheick, M. Wedeman, C. Yui, M. Reed and Z. Ahmed, presented at the 2003 Nuclear and Space Radiation Effects Conference Data Workshop, published in the Workshop Record of the 2003 IEEE Radiation Effects Data Workshop, July 2003, Monterey, CA, IEEE Catalog Number 02TH8709, ISBN 0-7803-8127-0.
 19. "The Energy Dependence of Proton-Induced Degradation in AlGaN/GaN High Electron Mobility Transistors", X. Hu, B. K. Choi, H. J. Barnaby, D. M. Fleetwood, R. D. Schrimpf, S. C. Lee, S. Shojah-Ardalan, R. Wilkins, U. K. Mishra and R. Dettmer IEEE Transactions on Nuclear Science, Vol. 51, 293 (2004).
 20. "Fluorinated Single Wall Nanotube/Polyethylene Composites for Multifunctional Radiation Protection", M. X. Pulikkathara, M. Shofner, R. Wilkins, J. Vera, E. Barrera, F. Rodriguez-Macias, R. Vaidyanathan, C. Green and C. Condon, Material Research Society Symposium Proceedings, Vol. 740, 365 (2003).
 21. "Ionization and Displacement Radiation Effects on the Electrical Resistivity of Single Walled Carbon Nanotube Papers", M. X. Pulikkathara, R. Wilkins, M. Shofner and E. V. Barrera, in preparation for submission.
 22. "Neutron Radiation Effects on the Nonlinear Current-Voltage Characteristics of Ilmenite-Hematite Ceramics", P. Padmini, R. K. Pandey, M. X. Pulikkathara and R. Wilkins, Applied Physics Letters, Vol 82, 586 (2003).
 23. "Electrical Characteristics of Proton-Irradiated Sc₂O₃ Passivated AlGaN/GaN High Electron Mobility Transistors", B. Lou, et. al., Applied Physics Letters, Vol. 82, 1428 (2003).
 24. "Proton Irradiation of MgO- or Sc₂O₃ Passivated AlGaN/GaN High Electron Mobility Transistors", B. Lou, et. al., Solid-State Electronics, Vol. 47, 1015 (2003).
 25. "Effect of High-Energy Proton Irradiation on DC Characteristics and Current Collapse in MgO and Sc₂O₃ Passivated AlGaN/GaN HEMTs", B. Lou, J. Kim, F. Ren, A. Baca, R. Briggs, P. Gila, A. Onstine, K. K. Allums, C. R. Abernathy, S. Pearton, R. Dwivedi, T. N. Fogarty, and R. Wilkins, Electrochem. Solid-State Lett., Vol. 6, G31-G33 (2003).
 26. "Comparison of Graphite, Aluminum and TransHab Shielding Material Characteristics in a High-Energy Neutron Field", G. D. Badhwar, H. Huff, R. Wilkins and S. Thibeault, Radiation Measurements, Vol. 35, 545 (2002).
 27. "High Energy Proton Irradiation Effects on AlGaN/GaN High-Electron Mobility Transistors", B. Lou, J. W. Johnson, R. Ren, K. K. Allums, C. R. Abernathy, S. J. Pearton, R. Dwivedi, T. N. Fogarty, R. Wilkins, A. M. Dabiran, A. M. Wowchack, C. J. Polley, P. P. Chow and A. G. Baca, Journal of Electronic Materials, Vol. 31, 437 (2002).
 28. "High Energy Proton Effects on SiC Schottky Rectifiers", S. Nigham, J. Kim, F. Ren, G. Chung, M. MacMillan, R. Dwivedi, T. Fogarty, R. Wilkins, K. Allums, C. Abernathy, S. Pearton, and J. Williams, Applied Physics Letters, Vol. 81, 2385 (2002).
 29. "dc and rf Performance of Proton-Irradiated AlGaN/GaN High Electron Mobility Transistors", B. Lou, J. W. Johnson, R. Ren, K. K. Allums, C. R. Abernathy, S. J.

- Pearnton, R. Dwivedi, T. N. Fogarty, R. Wilkins, A. M. Dabiran, A. M. Wowchack, C. J. Polley, P. P. Chow and A. G. Baca, *Applied Physics Letters*, Vol. 79, 2196 (2001).
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 31. "Irradiation Effects in InGaAs/InAlAs High Electron Mobility Transistors", E. M. Jackson, B. D. Weaver, S. Shojah-Ardalan, R. Wilkins, A. C. Seabaugh and B. Brar, *Applied Physics Letters*, Vol. 79, 2279 (2001).
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 33. "Direct Experimental Evidence for Atomic Scale Structural Changes in the Interface-Trap Transformation Process", P. M. Lenahan, T. D. Mishima, J. Jumper, T. N. Fogarty and R. Wilkins, *IEEE Transactions in Nuclear Science* Vol. 48, 2131 (2001).
 34. "Defects Produced by Medium Energy Proton Bombardment of MOS Devices", P. M. Lenahan, T. D. Mishima, J. B. Jumper, T. N. Fogarty, M. Marrero, L. Cruz, S. Shojah-Ardalan, R. Dwivedi, R. Wilkins, L. P. Trombetta and C. Singh, *Proceedings of the 6th European Conference on Radiation Effects on Components and Systems*, IEEE Catalog # 01TH8605C, ISBN 0-7803-7314-6 (2001).
 35. "Alterations in Dose and Lineal Energy Spectra Under Different Shieldings in the Los Alamos High-Energy Neutron Field", G. D. Badhwar, H. Huff and R. Wilkins, *Radiation Research*, Vol. 154, 697 (2000).
 36. "High-Pressure Self-Propagating High-Temperature Synthesis (SHS) of Cd-In-Ga-O Powder for Novel Substrate Used for Gallium Nitride Based Thin Film Growth", S-C. Lin and Richard Wilkins, *Ceramic Transactions* Vol. 108, 23 (2000).
 37. "High-Pressure Self-Propagating High-Temperature Synthesis (SHS) of Silicon Carbide Nitride Composites", S-C. Lin, R. Wilkins and Z. Henry, *Ceramic Transactions* Vol. 103, 51 (2000).
 38. "Ionization and Displacement Damage Irradiation Studies of Quantum Devices: Resonant Tunneling Diodes and Two-Dimensional Electron Gas Transistors", R. Wilkins, et. al., *IEEE Trans., Nucl. Sci.* Vol. 46, 1702 (1999).
 39. "Application of Radiation Sources to Simulate the Radiation Environment in Low Earth Orbit: Results on Optoelectronic Devices for International Space Station", R. Wilkins, S. Shojah Ardalan and T. N. Fogarty, *Nuclear Instruments and Methods in Physics Research, A* Vol. 422, 591 (1999).
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 42. "Employment Issues: Engineering Physics", R. Wilkins, *Physics and Society* Vol. 25, April 6, 1996.

43. "Characterization of the Gallium Vacancy on GaAs(110)", G. Lengel, R. Wilkins, M. Weimer, J. Gryko, and R. E. Allen, *Physics of Semiconductors*, D. J. Lockwood, ed, Vol. 1 (World Scientific, Singapore, 1995).
44. "Crystal Defect Characterization with Scanning Tunneling Microscopy: Vacancies and Steps on GaAs(110)", R. Wilkins, G. Lengel, J. Harper and M. Weimer, *Ceramic Transactions* Vol. 60, 287 (1995).
45. "Geometry and Electronic Structure of the Arsenic Vacancy on GaAs(110)", G. Lengel, R. Wilkins, G. Brown, M. Weimer, J. Gryko, and R. E. Allen, *Phys. Rev. Lett* Vol. 72, 836 (1994).
46. "Analytic Solution for the Current-Voltage Characteristic of Two Mesoscopic Tunnel Junctions Coupled in Series", M. Amman, R. Wilkins, E. Ben-Jacob, P. Maker, and R. C. Jaklevic, *Phys. Rev. B* Vol. 43, 1146 (1991).
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48. "Surface Oxide Effects on Tunneling Spectra Measured With a Cryogenic Scanning Tunneling Microscope", R. Wilkins, M. Amman, E. Ben-Jacob, and R. C. Jaklevic, *J. Vac. Sci. Technol. B* Vol. 9, 996 (1991).
49. "Tunneling Spectroscopy Study of YBa₂Cu₃O₇ Thin Films Using a Cryogenic Scanning Tunneling Microscope", R. Wilkins, M. Amman, R. E. Soltis, E. Ben-Jacob, and R. C. Jaklevic, *Phys. Rev. B* Vol. 41, 8904 (1990).
50. "Scanning Tunneling-Microscope Observation of Coulomb Blockade and Oxide Polarization in Small Metal Droplets", R. Wilkins, E. Ben-Jacob, and R. C. Jaklevic, *Phys. Rev. Lett.* Vol. 63, 801(1989).
51. "A Silicon Strip Detector System for Fermilab E706", E. Engels, Jr., S. Mani, D. Plants, P. F. Shephard and R. Wilkins, *Nuc. Instr. and Meth. in Phys. Res.* Vol. 226, 59 (1984).

Selected Conference Publications:

(* indicates samples of student participation)

1. K. Rojdev, W. Atwell, R. Wilkins, B. Gersey, and F. Badavi, Evaluation of Multi-Functional Materials for Deep Space Radiation Shielding, accepted for presentation at National Space & Missile Materials Symposium, Henderson, NV, 22-26 June 2009
2. W. Kuhne, B. Gersey, R. Wilkins, H. Wu, S. Wender, W. Dynan, Medaka as a whole-organism model for understanding the risks of secondary neutron exposure to air and space travelers: Measurement of a relative biological effectiveness value. The Fourth Aquatic Animal Models of Human Disease Conference. January 31-February 3, 2008. Durham, North Carolina.
3. W. Kuhne, B. Gersey, R. Wilkins, H. Wu, S. Wender, W. Dynan, Biological effects of low dose irradiation of a vertebrate embryo, Japanese medaka (*Oryzias latipes*), with a high-energy secondary neutron spectrum. US Department of Energy Low Dose Radiation Research Investigators' Workshop VII. January 21-23, 2008. Washington, D.C.
4. M. Hada, B. Gersey, P. Saganti, R. Wilkins, F. Cucinotta, H. Wu, M-Band Analysis of Chromosome Aberrations in Human Epithelial Cells Induced by Low and High-

- LET Radiations, NASA Human Research Program Investigators' Workshop, February 12-14, 2007, League City, TX.
5. "Spectral Characterization of Secondary Radiation from Regolith Materials," S. K. Aghara, E. Wright*, R. Wilkins, J. Zhou, B. Gersey, AIAA, Space 2007 Conference and Expo Long Beach Convention Center, CA, September 18-20 2007.
 6. "Effects of extreme radiation environment on composite materials", Jianren Zhou, Jerrel Moore*, Vernon Calvin*, Richard Wilkins, Sofia Martinez Vilarino*, Yang Zhong, Brad Gersey, and Sheila Thibeault, Materials Research Society, 2006 Spring Meeting, Symposium II: Materials in Extreme Environments, San Francisco, CA, April 17 – 21, 2006.
 7. "Development of *in-situ* composites for lunar/martian missions", Ebony Hawkins*, Michael Benard*, Tumeia Ford*, Randy Wilkins*, Sofia Martinez Vilarino*, and Jianren Zhou, 14th International Conference on Composites/Nano Engineering (ICCE14), Boulder, Colorado, July 2 – 7 2006.
 8. "TGA and Raman analyses of irradiated carbon nanotubes", Tielin Song*, Sofia Martinez Vilarino*, Jianren Zhou and Richard Wilkins, 14th International Conference on Composites/Nano Engineering (ICCE14), Boulder, Colorado, July 2 – 7 2006.
 9. "Characterizations of carbon nanotubes upon radiation exposures", Jianren Zhou, Tielin Song*, Sofía Martínez Vilariño*, and Richard Wilkins, Society for the Advancement of Material and Process Engineering (SAMPE) Technical Conference, Dallas, TX, November 6 – 9, 2006.
 10. "Fabrication and Testing of Regolith Composites", Ebony. Hawkins*, Jianren. Zhou, Tumeia. Ford*, Randy Wilkins*, Michael Benard*, Richard Wilkins, and Kevin Lee, 14th International Conference on Composites/Nano Engineering (ICCE14), Boulder, Colorado, July 2 – 7 2006.
 11. "Structural Regolith Composites for Space Radiation Environment Applications", Jianren Zhou, Michael Benard*, Jerrel Moore*, Richard Wilkins, and Sukesh Aghara, 14th International Conference on Composites/Nano Engineering (ICCE14), Boulder, Colorado, July 2 – 7 2006.
 12. "Analysis of carbon nanotubes in radiation environment", Sofía Martínez Vilariño*, Tielin Song*, Jianren Zhou, Richard Wilkins, Donald Mullins, and Randy Wilkins, 14th International Conference on Composites/Nano Engineering (ICCE14), Boulder, Colorado, July 2 – 7 2006.
 13. "Radiation Shielding and Mechanical Strength Evaluations of Non-parasitic, Multi-functional Microporous Carbon for Aerospace Applications", E. P. Rubenstein, M. A. Wojtowicz, E. Florczak, E. Kroo, L. W. Townsend, R. Wilkins, B. Gersey, W. Atwell, International Conference On Environmental Systems, July 2006, Norfolk, VA, USA, Session: Radiation Issues for Space Flight I, Society of Automotive Engineers, Document # 2006-01-2104.
 14. "Empirical Radiation Shielding Results for AFR's Multifunctional Carbon Sorbent", E.P Rubenstein, M.A. Wójtowicz, E. Kroo, L.W. Townsend, R. Wilkins, B. Gersey, and W. Atwell, Conference On Space Habitation & Technology Development (Habitation 2006), Orlando, FL, Feb. 5-8, 2006, Session 01, Paper #: HLS109, <http://habitation2006.us/>.
 15. "Automated Parametric Tests for Novel Semiconductor Materials and Devices", S. Torres, J. Miller, R. C. Dwivedi, P. Periaswamy, M. Ketkar, R. Wilkins and R. K.

- Pandey, American Society of Engineering Education, Gulf Southwest Section, February 2006.
16. "Development of a Nuclear Engineering Program at Prairie View A&M University a Historically Black University (HBCU)", S. Aghara et. al., Proceedings of the 2005 American Society of Engineering Education Annual Conference and Exposition.
 17. "A Multi-Dimensional Nuclear Engineering Partnership", J. Ford, et. al., Proceedings of the 2005 American Society of Engineering Education Annual Conference and Exposition.
 18. "Growth and Characterization of Bulk Crystals and Epitaxial Films of Fe-Ti-Oxide Magnetic-semiconductors for Emerging Technologies", R. K. Pandey, N. Patil, L. Deravi, L. Dou, L. Navarrete, R. Schad, S. Ardalan and R. Wilkins, 16th American Conference on Crystal Growth, Big Sky, MT, July 2005.
 19. "Computational Analysis of Martian Regolith in the Martian Space Environment", S. K. Sukesh, R. Wilkins, and J. Zhou, Proceedings of the Space Nuclear Conference, San Diego, CA, June 2005.
 20. "Development of a Cryogenic Liquid Target for Radiation Shielding Studies", R. Wilkins, E. Bacon, J. Sims, P. Saganti, and B. Gersey, 3rd International Workshop on Space Radiation and 15th Space Radiation Health Investigator's Workshop, May 16-20, 2004, Port Jefferson, NY, pg. 126.
 21. R. K. Pandey, P. Padmini, R. Schad, R. Wilkins and S. Ardalan, " Multifunctional Nature of Ilmenite-Hematite and Potential Applications", Invited Lecture at the Annual Conference of the American Ceramic Society, Indianapolis, IN, April 2004.
 22. "Ilmenite-Hematite: A Magnetic Semiconductor Material for Microelectronics and Spintronics", P. Padmini, S. Ardalan, R. Schad, R. Wilkins and R. K. Pandey, Proceedings of the 204th Meeting of the Electrochemical Society, Orlando, FL, October 2003.
 23. "Carbon Nanotube Reinforced Polymers for Radiation Shielding Applications", R. Vaidyanathan, C. Green, T. Phillips, E. Barrera, M. Shofner, R. Wilkins and S. Thiebault, Proceedings of the 35th International Society for the Advancement of Material and Process Engineering (SAMPE) Conference, Dayton, OH, October 2003.
 24. "Neutron Dosimetry Using Tissue Equivalent and Silicon Equivalent Proportional Counters for Eight High-Energy Neutron Spectra", B. Gersey, R. Wilkins, H. Huff, R. Dwivedi, D. Woods and R. Singleterry, Jr., 14th Space Radiation Health Investigator's Workshop, April 27-30, 2003, League City, Texas, pp 73-75.
 25. "Radiation Study of Fluorinated Single Walled Nanotubes and Non-Fluorinated Single Walled Nanotubes", M. X. Pulikkathara, R. Wilkins, S. Ardalan, M. Shofner, J. Vera, F. Rodriguez-Marcias and E. V. Barrera, The International Conference on the Science and Application of Nanotubes 2003, Seoul, South Korea, July 2003.
 26. "The Effect of Radiation on the Mechanical Properties and Shielding Effectiveness of Composite Material LTM45" V. Calvin, C. Polk, J. Zhou, R. Wilkins, Y. Zhong, Society for the Advancement of Material and Process Engineering (SAMPE) Technical Conference, May 2003.
 27. "Proton and Neutron Irradiation Effects on the Electrical Resistivity of Single-Walled Carbon Nanotubes" M. X. Pulikkathara, J. Vera, M. Shofner, R. Wilkins, E. V. Barrera, J. Read, and T. S. Reese, Proceedings of Nanotube 2002, Boston, Mass., July 2002.

28. "Energy Dependence of Proton Irradiation Effects on the Electrical Resistivity of Carbon Nanotubes." M.X. Pulikkathara, J. Vera, M. Shofner, R. Wilkins, E.V. Barrera. Proceedings of Nanospace 2002 Conference, Galveston, Texas June 2002.
29. "Radiation Effect Risk Analysis and Mitigation of Carbon Nanomaterials and Nanocomposites", M.X. Pulikkathara, R. Wilkins, J. Vera, L. K. Fotedar, E.V. Barrera, T. S. Reece, H. Huff, R. Singleterry, and B. Syed. Radiation Protection and Shielding Division Topical Proceeding of American Nuclear Society Topical Conference, Santa Fe, New Mexico April 2002.
30. "Radiation Effects on the Mechanical Properties of Carbon Nanotube Reinforced Polymer Composites", M. X. Pulikkathara, M. Shofner, R. Barrera, R. Wilkins, R. Vaidyanathan, C. Green and C. Condon, Fall 2002 Meeting of the Materials Research Society, Boston, Mass., December 2002.
31. "The Energy Dependence of Proton-Induced Degradation in AlGa_N/Ga_N High Electron Mobility Transistors", X. Hu, B. K. Choi, H. J. Barnaby, D. M. Fleetwood, R. D. Schrimpf, S. C. Lee, S. Shojah-Ardalan, R. Wilkins, U. K. Mishra and R. Dettmer, presented at RADECS 2002, September 2002.
32. "Charged and Neutral Particle Interactions on Aerospace Materials", R. C. Singleterry, S. A. Thibeault, R. Wilkins and H. Huff, Proceedings of International Congress of Advanced Power Plants Conference of the American Nuclear Society, Hollywood, Florida, June 2002.
33. "Observation of Changes in the Single Event Upset Rate in 4MB SRAM Due to Intervening Materials in a High-Energy Neutron Environment", R. Wilkins, H. Huff, G. D. Badhwar, J. Moore, J. Zhou, R. C. Singleterry, Jr., S. A. Wender and T. N. Fogarty, Proceedings of the 6th European Conference on Radiation Effects on Components and Systems (RADECS 2001), IEEE Catalog # 01TH8605C, ISBN 0-7803-7314-6 (2001).Grenoble, France, September 2001.
34. "Defects Produced by Medium Energy Proton Bombardment of MOS Devices", P. M. Lenahan, T. D. Mishima, J. B. Jumper, T. N. Fogarty, M. Marrero, L. Cruz, S. Shojah-Ardalan, R. Dwivedi, R. Wilkins, L. P. Trombetta and C. Singh, Proceedings of RADECS 2001, Grenoble, France, September 2001, accepted for publication in IEEE Transactions in Nuclear Science.
35. "Radiation Effect in Quantum Devices", W. P. Kirk et. al., Proceedings of the International Conference on Integrated Nano/Microtechnology for Space Applications, The Institute for Advanced Interdisciplinary Research, Houston, TX, (1999).
36. "Proton and Gamma Irradiation of InP-based Resonant Tunneling Diodes", R. Wilkins et. al., Proceedings of the 1999 NASA/JPL Conference on Electronics for Extreme Environments, Pasadena, CA, April 1999.
37. "Radiation Effects on Resonant Tunneling Diodes: Preliminary Results" R. Wilkins, et. al., Proceedings of the 1998 NASA University Research Centers Technical Conference (TSI Press, Albuquerque, NM, 1998) 125.
38. "Commercial Devices in Space –Single Event Effects on Earth", T. N. Fogarty, et. al., presented at the 36th Aerospace Science Meeting & Exhibit of the American Institute of Aeronautics and Astronautics, Paper # AIAA-98-0296 (1998).
39. "Characterizing Surfaces of the Wide Bandgap Semiconductor Ilmenite with Scanning Probe Microscopies", R. Wilkins and K. Powell, Proceeding of the 1997

- NASA University Research Conference, M. Jamshidi et. al., eds. (ACE Center Press, University of New Mexico, 1997) 797.
40. Characterization Facilities for Radiation Tolerant Materials Research at Prairie View A&M University", R. Wilkins, Proceedings of RADSCON'96, Prairie View A&M University, p. 150, April 23, 1996.
 41. New Characterization Facilities for Material Science at Prairie View A&M University", R. Wilkins, Proceedings of the Fourth Engineering and Architecture Symposium, Prairie View A&M University (E&A'96), p. 30, February 5, 1996.
 42. Design of a Plasma Enhanced Chemical Vapor Deposition System for Thin Film Applications", H. Huff, *et. al.*, Proceedings of the Second Engineering and Architecture Symposium, Prairie View A&M University, p. 818, March 1994 . (Student paper.)
 43. Evaporation and Sputtering for Thin Film Applications", R. Tunon, *et. al.*, *ibid*, p. 687 (Student paper.)
 44. "Ilmenite as a Dual Use Material", A. A. Kumar, T. N. Fogarty, R. K. Pandey, and R. Wilkins*, Proceedings of the Dual-Use Space Technology Transfer Conference, NASA Conference Publication 3263, p. 347 (1994). (*Presented the paper.)

Invited Talks (Chronological Order)

1. "Engineering Physics", R. Wilkins, Session G2: Employment Issues for Physicists, *Meeting of the American Physical Society*, March 1994; Bull. of the American Physical Society **39**, 367 (1994).
2. "Quantum Molecular Dynamics and Electron Ion Dynamics: Versatile Techniques for Simulation of Defects and Growth on Semiconductor Surfaces", G. Lengel, R. Wilkins, G. Brown, M. Weimer, J. Gryko and R. E. Allen, *CECAM Workshop on Computer Simulation of Growth of Semiconductor Materials*, Lyon, France, May 1994.
3. "Characterization of the Gallium Vacancy on GaAs(110)", G. Lengel, R. Wilkins, M. Weimer, J. Gryko and R. E. Allen, *International Conference on the Physics of Semiconductors*, Vancouver, CA, August 1994.
4. "Characterization of the Wide Bandgap Semiconductor Ilmenite for Radiation Tolerant Applications", R. Wilkins, Center for Material Science, Los Alamos National Laboratory, August 1996.
5. "Radiation Effects on Quantum Devices", with Wiley Kirk et.al., NanoSpace'98, Johnson Space Center, November 1998.
6. "Radiation Research Capabilities at CARR" Department of Industrial Engineering, Texas A&M University, June 1999.
7. "Radiation Effects on Quantum Devices", Air Force Research Laboratory, Kirkland Air Force Base, New Mexico, July 1999.
8. "Neutron Radiation Testing and Mitigation Studies of Commercial SRAM", Los Alamos Neutron Science Center Users Meeting, 1/23-24/2000.
9. "Alteration in dose and Lineal Energy Spectra Under Different Shielding in the Los Alamos High-Energy Field" presented at the International Workshop on Secondary Particle Production from Heavy Ion Interactions, Berkley, CA, March 2001.
10. "Radiation Effect Studies at LANSCE on Materials and Devices for Space Applications", 2nd Los Alamos Neutron Science Center (LANSCE) Workshop on Defense, Basic and Applied Science, January 2003.

11. "Materials for a Radiation Tolerant Spacecraft", Texas A&M University, Department of Aeronautical Engineering, January 2003.
12. "Materials for a Radiation Tolerant Spacecraft", University of Houston, Department of Mechanical Engineering, October 2003.
13. "Ground-Bases Space Radiation Studies on Single-Walled Carbon Nanotube Materials", 2004 Materials Research Society Meeting, December 2004.
14. "Radiation Research for Space Exploration at Prairie View A&M University" at NASA/Ames on January, 21, 2005.
15. "Effects of the Radiation Environment on Nanostructured Materials", Paper II5.1, Symposium II: Materials in Extreme Environments, Spring 2006 Meeting of the Materials Research Society, San Francisco, CA, April 2006.
16. "Radiation Research on Carbon Nanotube Materials for Space Exploration at Prairie View A&M University", NASA Johnson Space Center, August 16, 2005.

Presentations (without accompanying paper)

1. NanoSpace 2001 Conference, Galveston, TX, March 2001; presented a talk entitled "Radiation Effects Risk Analysis and Mitigation of Carbon Nanotube Materials".
2. "Preliminary Characterization of Ilmenite and Ferroelectrics at Prairie View A&M University", biannual meeting of the NSF-Center for Electronic materials, Devices and Systems, Texas A&M University, June 1996.
3. "Crystal Defect Characterization with Scanning Tunneling Microscopy: Vacancies and Steps on GaAs(110)", poster presented in the Current Issues of Novel Electronic Materials Symposium of the American Ceramic Society Meeting, April 30 – May 4, 1995.
4. "Ilmenite as a Dual-Use Material", Dual-Use Space Technology Transfer Conference, NASA/ Johnson Space Center, February 1994.
5. Participant in the Workshop on Granular Nanoelectronics, Beckman Institute, University of Illinois at Urbana-Champaign, May 15-17, 1991.
6. "Observation of Single Electron Tunneling Effects with a Cryogenic Scanning Tunneling Microscope", colloquium given at Polytechnic University, September 1990.
7. "Surface Oxide Effects on Tunneling Spectra Measured with a Cryogenic Scanning Tunneling Microscope", poster presented at STM'90/NanoI Conference, Baltimore, MA, July 1990.
8. "Tunneling Spectroscopy Study of $\text{YBa}_2\text{Cu}_3\text{O}_7$ Thin Films Using a Cryogenic STM", Bull. Of the American Physical Society **35**, 1990.
9. "Experimental Study of Small Metal Droplets Using a Cryogenic STM", Bull. Of the American Physical Society **34**, supplemental talk in Session G7, 1989.
10. "Application of a Cryogenic Scanning Tunneling Microscope to the Study of Mesoscopic Tunnel Junctions:", Bull. Of the American Physical Society **33**, 430, 1988.
11. "Electrodeposition of Zinc in a Capillary Tube", Bull of the American Physical Society **32**, 770, 1987.