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Pennsylvania State University	Nuclear Engineering	Ph.D., 1976
Iowa State University	Nuclear Engineering	M.S., 1971
New York University	Chemical Engineering	B.E., 1970

Appointments

2014 to present	Professor and SmartState Chair Director of the General Atomics Center Nuclear Engineering Program, Mechanical Engineering Department University of South Carolina
2011-2014	Joint Faculty Nuclear Engineering , University of Tennessee-ORNL at rank of Full Professor
1985 to 2014	Head, Surface Processing and Mechanics Group , Materials Science and Technology Division, Oak Ridge National Laboratory.
1975 to 1985	Development Staff , Chemical Technology Division, Oak Ridge National Laboratory.

PUBLICATIONS SUMMARY:

- Over 160 refereed journal or proceedings papers and six book chapters. Review articles in *Science*, *Bulletin of the American Ceramic Society*, and the *MRS Bulletin* (2).
- Six patents
- Associate Editor of the *Journal of the American Ceramic Society*
- Editorial Advisory Board member for the journal *Chemical Vapor Deposition* (defunct).
- Editor of the three proceedings: *Chemical Vapor Deposition of Refractory Metals and Ceramics*, Materials Research Society, 1990; *Chemical Vapor Deposition of Refractory Metals and Ceramics II*, Materials Research Society, 1992; *Chemical Vapor Deposition XIII*, Electrochemical Society, 1996.
- Coauthor of the book, *A Desirable Energy Future*, Franklin Institute Press, 1982.

SOCIETY/CONFERENCE POSITIONS:

- Chair 2002 Gordon Research Conference on “High Temperature Materials, Processes, and Diagnostics”
- Chair, Materials Research Society Government Affairs Committee, 2001-2003
- Member of Council (1997-99), Materials Research Society
- NIST/ACerS Phase Equilibria Committee (1997-2000)
- Vice President for Corporate Relations (1995-98), American Ceramic Society
- Chair, Fall 1994 Meeting of the Materials Research Society
- Chair, 13th International Conference on Chemical Vapor Deposition, 1996
- Organizing Committee, "High Temperature Ceramic Matrix Composites" International Meetings
- Nuclear Division Chair, American Ceramic Society
- Twice Symposium Chair, Materials Research Society

AWARDS/APPOINTMENTS:

- Co-Director, DOE Office of Science *Center for Hierarchical Waste Form Materials* (2016-present)
- Member of the Science Council for the DOE *Consortium for Advanced Simulation of Light Water Reactors (CASL)* (2016-present)
- Contributor to *Technology and Applied R&D Needs for Molten Salt Chemistry: Innovative Approaches to Accelerate Molten Salt Reactor Development and Deployment*, Report for the US Department of Energy, Office of Nuclear Energy Molten Salt Chemistry Workshop, Oak Ridge National Laboratory (2017)
- *D.T. Rankin Award* 2016 for exemplary service to the Nuclear & Environmental Technology Division of The American Ceramic Society
- Contributor to *Basic Research Needs for Environmental Management: Report of the Office of Science Workshop on Environmental Management*, Office of Science, Department of Energy, Washington, DC (2016)
- Visiting Faculty, Department of Nuclear Engineering, Imperial College, London, UK (May-June 2016)
- Visiting Scientist, Commissariat à l'Énergie Atomique et aux Énergies Alternatives (Atomic Energy and Alternative Energies Commission) or CEA, Cadarache, France, April-June 2014
- Chair of the OECD Nuclear Energy Agency *Expert Group on Multi-scale Modelling of Fuels and Structural Materials* (2014-present)
- Vice-chair and U.S. representative to the OECD Nuclear Energy Agency program on *Thermodynamics of Advanced Fuels-International Database* (2012-present)
- Joint Appointment at rank of full professor, University of Tennessee-ORNL Center for Interdisciplinary Research and Graduate Education (CIRE), 2011-2014
- ORNL/UT-Battelle Distinguished Engineer Award, 2010
- Fellow of the American Nuclear Society, 2010
- *Mishima Award* 2010 of the American Nuclear Society for Research in Nuclear Fuels and Materials

- Past Member of the *International Commission on Glass Technical Committee on Nuclear and Hazardous Waste Vitrification*
- Contributor to DOE Basic Energy Sciences Report *Basic Research Needs for Advanced Nuclear Energy Systems*, 2006
- Science Advisor, US-Israel Binational Science Foundation, 2006-2010
- Member of the *Technical Committee on Nuclear Waste Immobilization*, Intl. Comm. On Glass
- *Spriggs Phase Equilibria Award*, American Ceramic Society 2004
- Federal Laboratory Consortium 2002 *Excellence in Technology Transfer Award*
- 2002 U. S. Dept. of Energy *National Laboratory Fuel Cell R&D Award*
- Martin Marietta Energy Systems Technical Achievement Award, 1993
- Fellow of the American Ceramic Society, 1990
- R&D-100 Award for "Fiber-Reinforced Ceramic Composite Fabrication," 1987
- Significant Accomplishment Award, Materials Science and Technology Division, American Nuclear Society, 1985
- American Nuclear Society Young Member Engineering Achievement Award, 1985
- U.S. Department of Energy *Award for Research in Materials Chemistry of Significant Implication for Energy Technology*, 1983
- Best Paper Award, Nuclear Division, American Ceramic Society, 1983
- U.S. Participant for United Nations International Atomic Energy Agency 1979 Conference on the Thermodynamics of Nuclear Materials.
- Recipient of U.S. Atomic Energy Commission Traineeship, 1970

PATENTS

- 6,809,304 High efficiency, oxidation resistant radio frequency suscepter
- 6,171,720 Bipolar plate/diffuser for a proton exchange membrane fuel cell I
- 6,037,073 Bipolar plate/diffuser for a proton exchange membrane fuel cell II
- 5,843,533 CVD method of forming self-lubricating composites
- 5,709,936 Composite coating for low friction and wear applications and method thereof
- 4,929,328 Titanium diboride ceramic fiber composites for Hall-Heroult cells