

Dr. Andrew M. Hoff, a Professor in the Department of Electrical Engineering is also affiliated with the USF Center for Molecular Delivery, the USF Silicon Carbide and Wide Bandgap Group, FCoE-BITT, and the Nanomaterials and Nanomanufacturing Research Center (NNRC). He has an interdisciplinary educational background with B.S. degrees in Biology and Physics and the Ph.D. in Electrical Engineering from Penn State University.

## Research Interests

Dr. Hoff's research interests include the following areas:

- Afterglow chemical processing of materials for electronics, sensor, and MEMS applications; Oxide formation on Si & SiC, Diamond processing, Surface Conditioning.
- Noncontact Corona Kelvin Metrology of electronic materials; Dielectrics, SiC.
- Corona Ion-Assisted delivery of drugs and DNA to Skin and Tissue.
- Noncontact voltage and corona characterization of cells and tissue.
- Contamination monitoring and control in IC Manufacturing.
- Microsystem and MEMS fabrication.
- Integrated Circuit manufacturing and in-line testing.
- Workforce development and training for technology professionals.

## Recent Publications

- A.M. Hoff, E.L. Short, E.I. Oborina, "Impact of Surface Conditioning of 4H-SiC for Characterization and Device Manufacture," State-of-the-Art Program on Compound Semiconductors 49 (SOTAPOCS 49), Honolulu, HI, October 2008.
- S.P. Natarajan, A.M. Hoff, T.M. Weller, "Micro Coaxial-Fed Millimeter-wave Slot Antenna, 2008 IEEE Radio and Wireless Symposium, Orlando, FL, 2008.
- C. Coletti, C.L. Frewin, A.M. Hoff, S.E. Sadow, "Electronic Passivation of 3C-SiC(001) via Hydrogen-Treatment," Electrochem. Solid-State Lett., 11, 10 (2008) H285-H287.
- S.P. Natarajan, T.M. Weller, A.M. Hoff, "3-D micro coaxial transmission lines with integrated MEM capacitors," IEEE Microwave Wireless Comp. Lett., 17, 12 (2007) 858-860.
- A.M. Hoff, S. Aravamudhan, A. Isti, E.I. Oborina, "Degradation of oxide properties caused by low-level metallic contamination," J. Electrochem. Soc., 154, 11 (2007) H977-H982.

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[International Technology Roadmap for Semiconductors](#)