

## **FRANCES R. WILLIAMS, PH.D.**

Associate Vice President for Research and Sponsored Programs and Chief Research Officer  
Associate Dean for Graduate Programs and Research, College of Engineering  
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## **PROFESSIONAL PREPARATION**

North Carolina Agricultural and Technical State University	Electrical Engineering	B.S., 1994
North Carolina Agricultural and Technical State University	Electrical Engineering	M.S., 1996
Georgia Institute of Technology	Electrical and Computer Engineering	Ph.D., 2003

## **APPOINTMENTS**

2019-present	Associate Vice President for Research and Sponsored Programs and Chief Research Officer
2016-present	Associate Dean, College of Engineering, Tennessee State University
2016-present	Professor, Electrical and Computer Engineering, Tennessee State University
2014-2015	Professor, Dept. of Engineering, Norfolk State University
2014-2015	Director and Professor, Center for Materials Research, Norfolk State University
2012-2014	Interim Director, Center for Materials Research, Norfolk State University
2007-2015	Director, NSU Micro- and Nano-technology Center Cleanroom (Class 100/1000)
2010-2015	Thrust III (Nanostructured Devices) Leader, NSF CREST Center for Nano & Bio-Inspired Materials and Devices (CNBMD)
2011-2014	Associate Professor, Center for Materials Research, Norfolk State University
2009-2014	Associate Professor, Dept. of Engineering, Norfolk State University
2004-2009	Assistant Professor, Dept. of Engineering, Norfolk State University

## **PRODUCTS**

### **Five Related Publications**

1. Yuri A. Barnakov, Omari Paul, Akinwunmi Joaquim, April Falconer, Richard Mu, Vadim Y. Barnakov, Dmitriy Dikin, Vitalii P. Petranovskii, Andre Zavalin, Akira Ueda, and Frances Williams, "The Light Intensity Induced Phase Transitions in Graphene Oxide Doped Polyvinylidene Fluoride," *Optical Materials Express*, 8(9), 2579-2585 (2018).
2. Adrian Parker, Akira Ueda, Claire Marvinney, S. Keith Hargrove, Frances Williams, and Richard Mu, "Structural and Thermal Treatment Evaluation of Electrospun PVDF Nanofibers for Sensors," *Journal of Polymer Science Applications*, 2 (1), (2018).
3. Frances Williams, Archana Komirisetty, and Aswini Pradhan, "Using Nanotechnology for Biosensor Applications (Invited)," *ECS Transactions*, 66 (30) (2015): 9-21.
4. Doyle Baker, Casey Gonder, Frances Williams, Messaoud Bahoura, and Oliver Myers, "Design and Simulation of PZT-based MEMS Piezoelectric Sensors," *Proceedings of SPIE*, Vol. 9057, 905719 (2014).
5. Frances Williams and Gary May, U.S. Patent No. 7,784,346, "A Micromachined Acoustic Sensor for Monitoring Electrochemical Deposition."

### **Five Additional Publications**

1. Qiguang Yang, Frances Williams, Xin Zhao, Charles Reece, and Mahadevan Krishnan, "Investigating Crystal Microstructure of Niobium Materials by an X-ray Diffraction Reciprocal Space Mapping Technique," *Physical Review Special Topics-Accelerators and Beams*, 17, 013501 (2014).
2. Xi Zhou, Frances Williams, Sacharia Albin, and Kalpathy Sundaram, "Simulation of Thermal Effects on Hydrogen-Terminated Diamond MOSFETs," *Electrochemical Transactions*, 53(2) (2013): 145-157.

3. Sacharia Albin, Frances Williams, Xi Zhou and Weican Xiao, "Selective Growth of Nanodiamond Films in Microwave Plasma," *Composite Interfaces*, 19 (3-4) (June 2012): 179-187.
4. Aswini Pradhan, Ozgul Yasar, Rajini Konda, Rajeh Mundle, Messaoud Bahoura, Frances Williams, Kyo Song, D. R. Sahu, "Growth and Properties of PZT Based Perovskite Multilayers for Sensor Applications," *Proceedings of SPIE*, Vol. 7646, 76460F (2010).
5. Dudley R. Ridley, Frances R. Williams, Kyo D. Song, S. R. Yun, K. S. Kang, and Jaehwan Kim, "Effect of Electrode Pattern on the Actuator Performance of Cellulose Electro-Active Paper," *Journal of Intelligent Material Systems and Structures*, 21 (4) (March 2010): 401-406.

### **SYNERGISTIC ACTIVITIES**

1. Center for Micro-, Nano-, and Bio-technology Research (CMNBR) Director (2016-present): Leads the operation and utilization of a TSU research center that provides research on micro- and nano-scale devices and materials as well as biotechnology research.
2. Micro- and Nano-technology Center (MiNaC) Cleanroom Director (2007-2015): Directed and led the operation and utilization of a 6,000 square foot research user facility at NSU.
3. Faculty Outreach Coordinator/Founder: CIAN Engineering and Science Ambassadors (CESA) (2011-2014)—Coordinated the efforts of the CESA After-School Outreach Program at Ingleside Elementary School. The program provided fun, engaging engineering and science activities for students in grades 3-5.
4. Session Co-Organizer for the *2012 ASME International Mechanical Engineering Congress and Exposition*, Micro- and Nano-Systems Engineering and Packaging Track, Technical Session 10-21-2, Applied Mechanics and Materials.
5. Session Chair for the *2012 SPIE Smart Structures and Materials and Nondestructive Evaluation and Health Monitoring 19<sup>th</sup> Annual International Symposium*, Nano-, Bio-, and Info-Tech Sensors and Systems Conference, Nano Devices and Sensors Session I, March 2012.