
BORN: 26 February 1972, Georgia U.S.A.
CITIZENSHIP: USA
LANGUAGES: English (native), German (fluent), Dutch (intermediate),
 Russian (intermediate, dormant)
CLEARANCE: Active Secret

OBJECTIVE: I seek leadership roles that best utilize my ability to conceive and coordinate new research initiatives, in environments supportive of creativity and innovation.

BRIEF BIOGRAPHY: Born in Georgia, USA in 1972; moved shortly thereafter to the middle east (Jordan) and then southern Africa, including Rhodesia (Zimbabwe), Botswana, and South Africa, attending local/native schools throughout. Completed middle school education via correspondence with The Calvert School in Baltimore, Maryland. Returned to the US for three years of high school. Completed MS degree in physics at the University of Kentucky in 1999, including stipendium at the Ruprecht-Karls University in Heidelberg, Germany. Graduate work included two research appointments in Japan. Completed a Ph.D. in materials physics at Penn State University in 2001. Completed postdoctoral research in the Molecular Biophysics Group at the Delft University of Technology in the Netherlands; thereafter established a nanophysics laboratory in the physics department at the University of Virginia. Became Program Manager and division CTO for the Materials, Corrosion, and Environmental Technologies Department of Leidos (f/k/a SAIC), based at the Naval Research Laboratory in Washington DC, while on leave from the University of Virginia.

EDUCATION:

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| Postdoctoral Researcher | Delft University of Technology | 2001-2004 |
| Ph.D. - Physics | Pennsylvania State University | 2001 |
| M.S. - Physics | University of Kentucky | 1998 |
| Stipendiat | Ruprecht-Karls Universität Heidelberg | 1991-92 |

APPOINTMENTS:

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| Program Manager and Chief Technology Officer | Leidos (f/k/a SAIC) Materials, Corrosion, and Environmental Technologies Department | 2010-present |
| Visiting Professor | University of Virginia, Department of Electrical & Computer Engineering | 2012-present |
| Assistant Professor | University of Virginia, Physics | 2004-2012 |
| Postdoctoral Researcher | Technische Universiteit Delft, Nanoscience | 2001-2004 |
| Research Assistant | Pennsylvania State University, Physics | 1999-2001 |
| Research Assistant | University of Kentucky, Physics | 1997-1999 |
| Visiting Researcher | Institute for Molecular Science, Okazaki, Japan | 1996 |
| Teaching Assistant | University of Kentucky | 1995-7 |

ACADEMIC HONORS:

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| Mead Endowment Honored Professor's Program | 2009-2010 |
| "For outstanding potential to become a friend of students and an example for other faculty." | |
| Fund for Excellence in Science and Technology (FEST) Award | 2005 |
| "For highly innovative research projects that will lead to strong proposals for outside funding and early career recognition." | |

CURRENT WORK:

Began work with Leidos (f/k/a SAIC), based at the Naval Research Laboratory (NRL), in July 2010, while on leave from University of Virginia. Promoted to Program Manager at NRL in Fall 2010. Current work includes management of R&D contracts in engineering, chemistry and materials science and oversight of scientific personnel based at NRL facilities in Washington D.C. Management duties have included oversight of R&D at the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland at the Hollings Marine Laboratory in Charleston, S.C., and an NRL facility in Key West, Fla. Contracts currently managed include:

- NRL Contract N00173-07-C-2068 (\$36M /5 years) “Research Development Test & Engineering in Corrosion Mechanisms on Various Systems and Materials”
- NRL Contract N00173-12-D-2001 (\$18M /5 years) “Engineering and Physical and Life Sciences Research and Development”
- NRL Contract N00173-07-C-2023 (\$6.4M /5 years) “Research, Development, Technology and Engineering Related Synthesis and Characterization of Advanced Chemical Materials”

Management responsibilities include client and sponsor relations, proposal and white paper authorship, human resources activities, small business teaming, university outreach, intellectual property management, financial and legal oversight, subcontract oversight, and human resources activities including hiring, performance review, technical reporting and other related program management functions.

Business development activities include “capture” and proposal management, teaming relations, and lead proposal authorship. Recently coordinated successful \$19M contract win in the NRL Chemistry Division. Lead author for two currently pending awards: NRL Corrosion (\$45M / 3 years) and Sonar Dome Program (\$7M / 5 years).

Began a visiting professorship at the University of Virginia School of Engineering and Applied Sciences (SEAS) in August 2012, in the Department of Electrical and Computer Engineering. Recent teaching experience includes design of new maker-style introductory engineering curriculum, featuring hands-on design and build experience using CAD, 3D printing and related prototyping techniques in Introductory Engineering (ENGR 1620). Recent courses: American Politics of Science (STS 2500), Fundamentals of Nanoelectronics (ECE 4140/6140), Microelectronic Integrated Circuit Fabrication (ECE 5150). All courses very highly rated by students. Also work with several research groups in the area of IP development.

EXPERIMENTAL RESEARCH:

Director of experimental physics laboratory combining optical and transport measurements on carbon and silicon nanoscale devices. Recent work includes design of silicon-based ‘surfets’ – field effect transistors (FETs) in which resonant channel surface scattering is actively controlled; this effort was funded by a Nanoscale Interdisciplinary Research Team (NIRT) grant from the National Science Foundation. Other work includes development of new spectroscopic techniques to study rotational hindrance in magnetic metallofullerenes, envisioning applications for magnetic memories and quantum computation. Research group has developed a novel, scanning-probe implementation of direct-write, near-field ultraviolet photolithography; ongoing work in this area was supported via a DARPA subcontract from Luna Corp. Other recent areas of research include graphene disorder mapping by surface-enhanced Raman spectroscopy, molecular dopant nanowire fabrication in silicon, and a collaborative biomedical wound repair project based on fabrication of actuatable artificial cilia that recently generated a patent. Other recent projects include acoustically actuated coatings and nanotube-based radiation sensors.

EDUCATIONAL AND SYNERGISTIC WORK:

As an instructor for numerous STEM courses at UVa, I have implemented new hands-on, experiential learning objectives and new advising methods, including embedded student advising in UVa's introductory engineering curriculum. This work entails ongoing research to determine the most effective means of training and advising young scientists and engineers.