



Physics/Electro-Optics Seminar

Tuesday, July 29, 2014, 1:30 PM, CPC 568

All are welcome to attend.

Micro/Nano Optics and Engineering (MORE) Laboratory Undergraduate Research and Mentoring in Nanolithography for Extreme Ultraviolet (EUV), Metamaterials, and Terahertz (THz) systems

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ABSTRACT

Research at any undergraduate institution, especially Morehouse College – a private, all-male, liberal arts HBCU, can be very challenging. To address this challenge, we expanded our research interests, projects, and collaborations to (1) provide a variety of meaningful, year-around research experiences for undergraduates at Morehouse and (2) prepare our students for graduate studies in STEM disciplines. We will discuss our developments on (1) table top, EUV nanopatterning based on an amplitude division interferometer, (2) dynamic optical properties of chiral metamaterials in a wide spectral range, and (3) infrastructure for THz imaging and spectroscopy. Also, our methodology and pedagogical approach for undergraduate research in the MORE Lab – *Scholarly Mentorship in Laboratory Experiences (SMiLE)* will be presented.

BIOGRAPHY

Dr. Willie Rockward received his B.S. in Physics, cum laude, from Grambling State University, and his Ph.D. from Georgia Tech. Thereafter, he served as a civilian Research Physicist for the Advanced Guidance Division of AFRL at Eglin AFB, Florida. Currently, Dr. Rockward is Associate Professor and Chair of the Department of Physics & Dual Degree Engineering Program at Morehouse College. He also serves as the Research Director of the Micro/Nano Optics Research & Engineering (MORE) Laboratory. His current research interests include micro/nano optics lithography, extreme ultraviolet optics, metamaterials, terahertz imaging, nanostructure characterization, and crossed phase optics. He is a member of the American Association of Physics Teachers, the National Society of Black Physicists, and the Optical Society of America.