

SES07-2007-020006

Abstract for an Invited Paper
for the SES07 Meeting of
the American Physical Society

**Research and Educational Activities at the CREST Center for Physics and Chemistry of Materials
at Fisk University¹**

W. EUGENE COLLINS, Fisk University

The Center for Physics and Chemistry of Materials (CPCoM) at Fisk University will establish a program that integrates high-quality science education with state-of-the-art research and develop it over the course of CREST support into an internationally recognized research center. Education of undergraduates and graduates will be a vital component of the Center. The four components of the research program at CPCoM are: (1) controlled defect formation during processing of wide-gap semiconductors for optical and electro-optical applications (crystal growth and materials science), (2) fabrication of metal and semiconductor nanocrystals by pulsed laser deposition: linear and nonlinear optical properties (chemical physics and optics), (3) mesoscale materials for photonic applications (applied optics and spectroscopy), (4) modification, and characterization of new thin film optical materials (surface sciences).

¹Co-authors: Arnold Burger, Weijie Lu, Steve Morgan and Richard Mu, Fisk University.