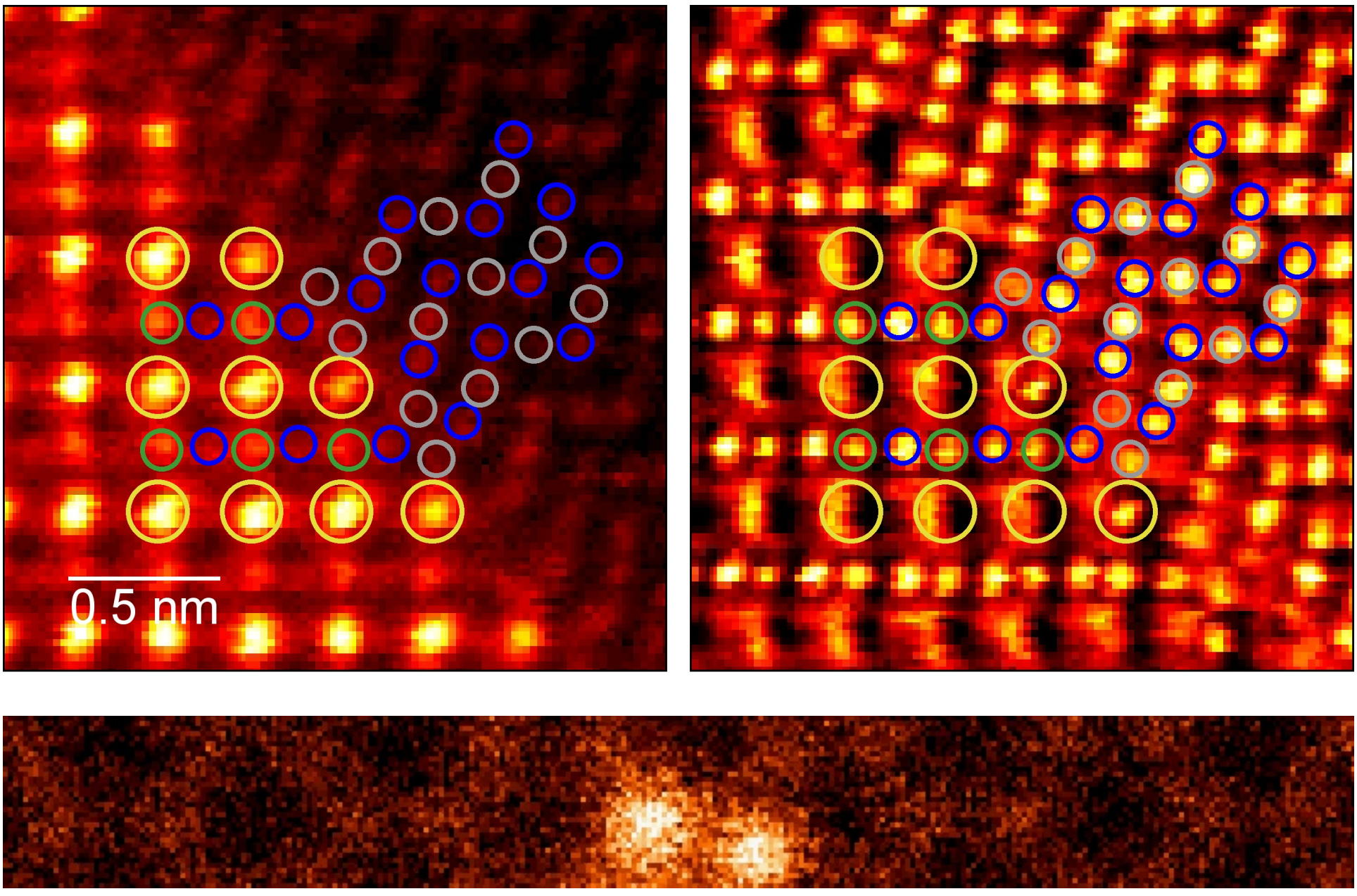
Boston University Physics Colloquium



Probing the Nanoscale with a Combination of Theory and Microscopy

Calculations based on density functional theory using high-performance computers have made enormous strides in describing the atomic-scale properties of complex materials. In parallel, aberration-corrected scanning transmission electron microscopy has reached extraordinary levels of spatial and energy resolution, in both imaging and electron-energy-loss spectroscopy. The combination of theory and microscopy provides an unparalleled probe to unravel the atomic-scale processes that control vital properties for electronic, optoelectronic, magnetic, and energy-related applications. You are invited to a journey through the wide world of complex materials structures – semiconductors, superconductors, complex oxides, graphene, ultrasmall nanoparticles – for a first-hand experience of the nanoscale. Research supported by DOE Basic Energy Sciences; primary collaborator: Steve Pennycook (ORNL).

Socrates Pantelides

Vanderbilt University

March 26, 2013 (Tuesday) at 3:30pm (Refreshments at 3:00pm)

SCI 109, Metcalf Science Center, Boston University

Call: Winna Somers (wsomers@bu.edu) (617) 353-9320

Host: Theodore Moustakas, David Campbell