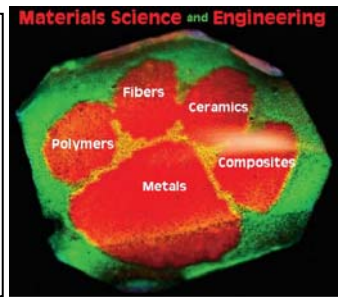


Seminar Series

Sponsored by
School of Materials Science and Engineering
Thursday, November 8, 2007
5:00 PM – Room 200 Olin Hall



Counter Improvised Explosives Techniques and Oxygen Motion in YBCO

Suzanne Huerth

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Abstract:

Today's talk will focus on two distinct areas - counter improvised explosives techniques and oxygen motion in YBCO. The first part of the talk is on ongoing work to counter IEDs by preventing them from exploding. SPAWAR is actively working with the Joint Counter Radio Controlled IED Electronic Warfare group which develops and fields electronic jammer systems. The second part of the talk will focus on material characterization using near-field scanning optical microscopy. YBCO is a high temperature superconductor whose superconducting properties depend on the oxygen concentration. Using NSOM, we were able to image the oxygen concentration and study the motion of oxygen through electromigration.

Short Bio:

Upon completion of her undergraduate degrees in physics and mathematics, Suzanne Huerth worked for IBM in Cary North Carolina for 5 years as a programmer. She left IBM to attend graduate school, receiving a doctorate in physics from North Carolina State University. There she specialized in materials characterization using scanned probe microscopy, studying oxygen motion in yttrium barium cuprate using near-field scanning optical microscopy. After completing her degree, she worked for MCNC in Research Triangle Park on magnetic sensor systems. Suzanne then moved to Charleston SC and joined the Space and Naval Warfare Systems Center as a senior scientist. Currently, her main focus is counter IED technologies. Suzanne works on the Joint Counter Remote Controlled IED Electronics Warfare project and mentors new professionals who are interested in developing technologies to help defeat IEDs.