EMSL

SEMINAR ANNOUNCEMENT
New Location and Time

Dr. Sudipta Seal
Nanoscale Science and Technology Center,
University of Central Florida, Orlando, Fl 32816

Tuesday, July 28th
3:00 pm - 4:00 pm
EMSL BOARD ROOM

"Rare-earth nanostructures as Antioxidants"

We have merged nanoscale engineering with cell biology to potentially intervene in a common biomedical pathology, ranging from aging to free radical-induced cell dysfunction. For the first time, we have observed that the oxidation state of cerium changes with the environment and time, subsequently affecting the variation in the absorption edge. The reaction mechanisms presented to discuss the results strengthen the hypothesis that these rare earth NPs can quench reactive oxygen species, while protecting the mammalian cells (such as, neuronal, spinal cord, stem cells, preventing radiation induced damage, lupus disease), in particular, retinal cells are emphasized in this talk. We think that these nanoparticles can be used as potential therapeutic treatments for protection of other neurodegenerative diseases. The role of size and stability of ceria NPs in preparing biocompatible suspensions is discussed and supported through MD simulations.

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Host: Don Baer ~ 371– 6245
Contact: Kristin Lerch ~ 371-6361

Routed to: ^DL PNNL D7M00 W.R. Wiley, EMSL; ^DL PNNL D9H47 Materials & Analytical Chem; ^DL PNNL D9H47 Matl's Chem & Surface Res; ^DL PNNL D9H47 Thin Films & OLEDs; ^DL PNNL D7E52 Materials Sciences; ^DL PNNL D9H66A Engrg Mech & Struc Mtl's II; ^DL PNNL D7E54 Geochemistry, ^DL PNNL D7E53 Catalysis Science; ^DL PNNL D7E80 Biological Sciences Division