

“Design of Biocompatible Nanoparticles for Molecular Imaging of Single Living Cells”

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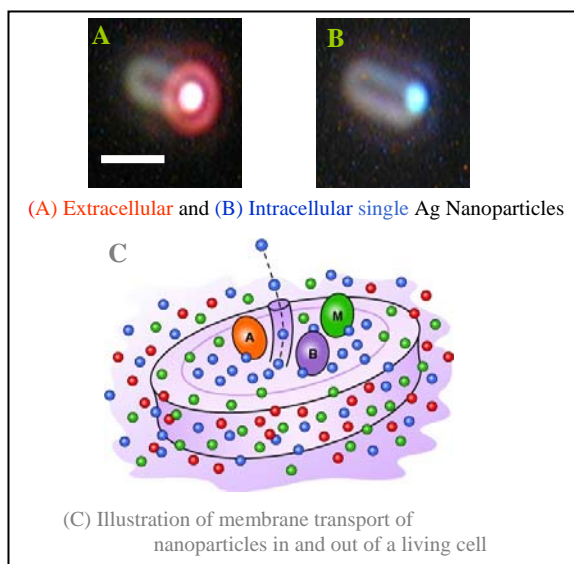
<http://www.odu.edu/sci/xu/xu.htm>

Monday, February 16, 2009
Barus & Holley, Room 190
11:00 AM

Abstract

Membrane proteins in living cells can specifically recognize an array of structurally unrelated chemotoxics and assemble membrane transporters (efflux pump) optimized for extruding them selectively out of the cells. These smart sensing and transport mechanisms occur at the nanoscale regime. Using single nanoparticle optics, the Xu group has demonstrated real-time sizing of single nanoparticle transport in and out of living cells (A-C).

In this seminar, we will discuss the design of single nanoparticle optics for probing such fascinating sensing and transport mechanisms in single living cells in real-time and design of *in vivo* assay for characterization of biocompatibility of nanoparticles. This study will lead to new knowledge that is essential to better understanding of nanoparticle optics, rational design of biocompatible nanomaterials and sensors, and the potential impacts of nanomaterials on our environment. Such



new knowledge will advance our understanding of an array of research topics in biology, chemistry, environment, material science and engineering.

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Host: Robert Hurt, IMNI Director and Professor of Engineering
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