



SAN FRANCISCO
STATE UNIVERSITY

Physics

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Fall 2014 Colloquium



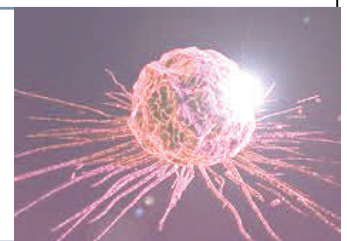
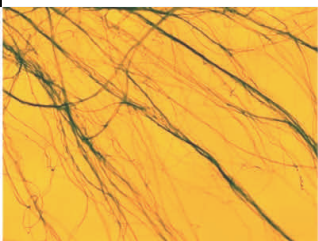
Monday, September 22nd
Jin Zhong Zhang, Ph.D

UC Santa Cruz

4:00 PM in TH 411

Refreshments served at 3:50 PM

Novel Optical Properties of Plasmonic Metal Nanomaterials for Chemical Sensing and Cancer Therapy: A Case Study of Hollow Gold Nanospheres



Abstract:

Nanomaterials possess novel physical and chemical properties that differ from those of bulk matter due to quantum confinement effect and exceedingly large surface-to-volume ratio. These novel properties are highly promising for applications in emerging technologies. Our lab has been actively engaged in the study of optical and dynamic properties of nanomaterials of both semiconductor and metal for solar energy conversion, solid state lighting, chemical sensing, and biomedical applications. As a specific example, my lab has been actively involved in the design and characterization of metal nanostructures for surface enhanced Raman scattering (SERS) and cancer imaging/therapy applications. I will describe recent progress in the reproducible synthesis of HGNs, which has been a challenging issue for years, and in understanding the HGN growth mechanism.