



NEBRASKA CENTER FOR MATERIALS AND NANOSCIENCE
2012 SEMINAR SERIES PRESENTS



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Department of Chemistry and Burnett School of
Biomedical Sciences
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Orlando, FL**

*Nanobioimaging and sensing with multimodal/
multifunctional nanoparticle probes*

Nanomedicine is an emerging and rapidly growing research field that has been empowered by the unique properties of nanomaterials. Research in this field encompasses various aspects of “Nano-bio” such as nanobioimaging and sensing, nanodiagnostics and nanotherapeutics. It is expected that technology development in this field will tremendously benefit our society in improving the quality of life by various means that include early disease diagnosis, targeted drug delivery and remote monitoring of therapy. In the past decade, a substantial amount of research has been done by chemists and material scientists in developing novel nanoparticle probes with unique properties that has greatly advanced the nano-bio research. In my presentation, I will discuss our current research on design and fabrication of polymeric and semiconductor based fluorescent and paramagnetic nanoparticle probes for nano-bio applications. I will describe a simple but versatile method of making nanoparticle probes that is suitable for performing nanochemistry within a nano-size droplet. At the end, I will demonstrate design and fabrication of activatable quantum dot probes which are targetable, imageable in dual-modality and useful for reporting intra-cellular drug release event in cancer cells.

**Wednesday, October 31—4:00 pm
Room 136 Jorgensen Hall**

Refreshments served at 3:45 pm

**Host:
Prof. Linxia Gu
Department of
Mechanical & Materials
Engineering**

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