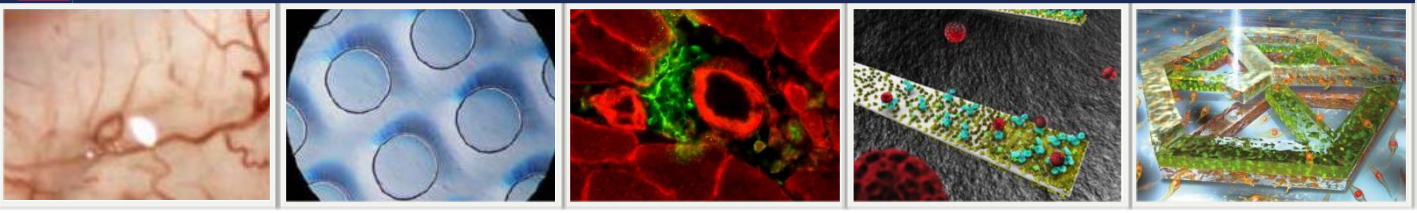
BioNanotechnology Seminar Series

Fall 2013



Facile and efficient preparation of anisotropic DNA-functionalized gold nanoparticles and their regioselective assembly

Li Huey Tan, M-CNTC Trainee

Li Huey Tan is a PhD student in the Department of Chemistry at the University of Illinois at Urbana-Champaign

Date: **Tuesday, September 24, 2013**
Time: **12:00 – 12:30 p.m. Central (10:00 – 10:30 a.m. Pacific)**
Location: **1000 MNTL at Illinois (KL 361 at UC Merced)**

Abstract:

Anisotropic nanoparticles hold great potential for assembly of nanomaterials with unique structures and properties. However, most reported anisotropic nanoparticles are either difficult to prepare, have a low yield, or difficult to functionalize. In this presentation a facile one-step solution-based method to prepare anisotropic DNA-functionalized gold nanoparticles (a-DNA-AuNP) will be reported. The particles are formed via ligand competition between thiolated hydrophilic DNA and thiolated hydrophobic phospholipid. Subsequent exchange of DNA strands on the anisotropic particle allows regioselective hetero- and homo-nuclear assembly with high monodispersity, as well as regioselective functionalization of two different DNA strands for diverse applications.

Seminar Presented by:

Center for Cellular Mechanics
University of Illinois at Urbana-Champaign

IGERT Integrative Graduate Education and Research Traineeship
Cellular and Molecular Mechanics and BioNanotechnology

M-CNTC NCI Alliance for Nanotechnology in Cancer
Midwest Cancer Nanotechnology Training Center

CNST University of Illinois Center for Nanoscale Science and Technology