

DNazymes as Novel Tools for Metal-Ion Sensing in Living Cells

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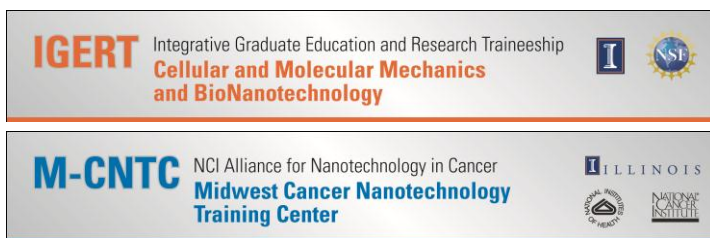
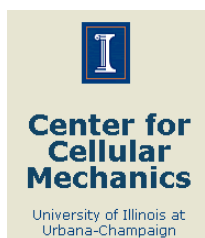
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Date: Tuesday, September 25, 2012
Time: 12:00 – 12:30 p.m. CST (10:00 – 10:30 a.m. PST)
Location: 1000 MNTL at Illinois (SSM 150 at UC Merced)

Abstract:

Solely considered as a generic storage material, DNA was discovered to be capable of carrying out catalytic or enzymatic functions in 1990s. Since then, DNazymes specific for a wide range of bioavailable metal ions have been selected through in vitro selection and have been converted into a large number of metal-ion specific sensors for environmental detection. Such a development has significantly expanded the number of metal ions one can detect. However, despite of such advancement, no report on using DNazymes for cellular detection and actuation has been reported. In this talk, we will discuss the strategies and demonstrations for metal-ion sensing in living cells using DNazymes. Nanoparticle-based DNazyme probes, as well as photoactivatable DNazymes have shown to be promising tools for intracellular metal-ion sensing.

Seminar Presented by:



CNST University of Illinois Center for Nanoscale Science and Technology