



## **iTERM Lunchtime Seminar Series**

### **Institute for Tissue Engineering and Regenerative Medicine**

#### **TITLE**

#### ***“Organic-Inorganic Integrated Fluorescent Nanostructures for Biosensing and Imaging”***

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DNA-functionalized quantum dots (DNA-QDs) have found considerable application in biosensing and bioimaging. Different from the first generation (I-G) DNA-QDs prepared via bioconjugation chemistry, the second generation (II-G) DNA-QDs prepared via one-step DNA-templated QD synthesis featured a defined number of DNA valencies (usually monovalency), which is preferable for controlled assembly and biological targeting. Probes based on II-G DNA-QDs opened up new avenues for sensitive and intelligent sensing of disease-relevant biomolecules.

Multimodality imaging is highly desirable for accurate diagnosis by achieving high sensitivity and penetration depth with a single structural unit. However, it is challenging to integrate organic fluorophore and noble metal as significant fluorescence quenching by plasmonic noble-metal nanoparticles. A new type of silver@AIE core-shell nanoparticles exhibiting excellent performance in fluorescence, dark-field microscopy and computed tomography (CT)-based multimodality bioimaging was smartly designed by a redox-active AIE fluorophore. Further, high efficiency in siRNA delivery was achieved from this core-shell nanocarrier, with capability for real-time tracking the intracellular behavior of siRNA.

#### **DATE**

#### **TIME**

#### **VENUE**

20 Sep 2019 (Friday)

12:30pm - 2pm (please arrive 15 minutes before the scheduled time, light lunch shall be provided)

G02, Lo Kwee-Seong Integrated Biomedical Sciences Building, Area 39, CUHK

**Online Registration:** <https://cloud.itsc.cuhk.edu.hk/mycuform/view.php?id=359898>

*~ All are Welcome ~*

