

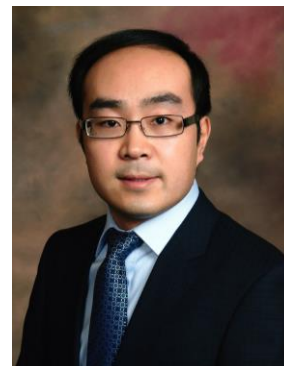
***In Vivo* Molecular Imaging Using Semiconducting Polymer Nanoparticles**

(有机半导体纳米粒子在分子影像中的应用)

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Abstract: Molecular imaging is a powerful tool to longitudinally and noninvasively study biochemical processes in intact living organisms. However, *in vivo* imaging of reactive oxygen and nitrogen species, key chemical mediators of many diseases, remains challenging due to the lack of reliable imaging probes. In this presentation, a unique approach to tackle this challenge using semiconducting polymer nanoparticles as the photonic imaging platform will be presented. The chemistry and design of semiconducting-polymer-based nanoprobe with different optical imaging modalities including fluorescence, chemiluminescence and photoacoustic will be discussed, followed by detailing their applications in different animal models ranging from drug-induced hepatotoxicity to inflammation induced by chronic bacterial infection or acute oedema.

Biography: Dr. Pu joined the School of Chemical and Biomedical Engineering (SCBE) at NTU as an Associate Professor in June 2015. He did his MS (2007) with Prof. Wei Huang (CAS member) at Fudan University in China. He then came to Singapore and did his PhD (2011) with Prof. Bin Liu at National University of Singapore, where he designed and synthesized water-soluble conjugated polyelectrolytes for biosensors and cell imaging. He moved to Stanford University School of Medicine for his postdoctoral study in 2011, under the supervision of Prof. Jianghong Rao and the directorship of Prof. Sanjiv Sam Gambhir at the molecular imaging program at Stanford (MIPS). As an active member of MIPS and the Center for Cancer Nanotechnology Excellence and Translation (CCNE-T), he made significant contributions to organic polymer based imaging probes and technologies, such as photoacoustic imaging, chemiluminescence imaging and *in vivo* imaging of reactive oxygen and nitrogen species.



Dr. Pu has published more than 60 journal papers, 2 book chapters and 6 patents. With a h-index of 32, his work has been highlighted by many world-renown scientific journals such as *Nature Biotechnology*, *Nature Methods*, and *Cell Express* et al.. He has won a number of awards for his creative work, including a young investigator travel award and several best poster awards.

Job advertisement: PhD and postdoctoral positions are immediately available at Associate Professor Pu's lab. The successful candidates will work on an interdisciplinary project to develop multifunctional imaging probes and technologies and use them to understand, detect and treat life-threatening diseases. Prior research experience in fluorescence probe design, cell imaging, nanoparticle synthesis, photophysics, cell culture or animal work is highly preferred.