



# Interaction of Living Systems with Engineered Nanoparticles – between Medical Benefit and Toxicity

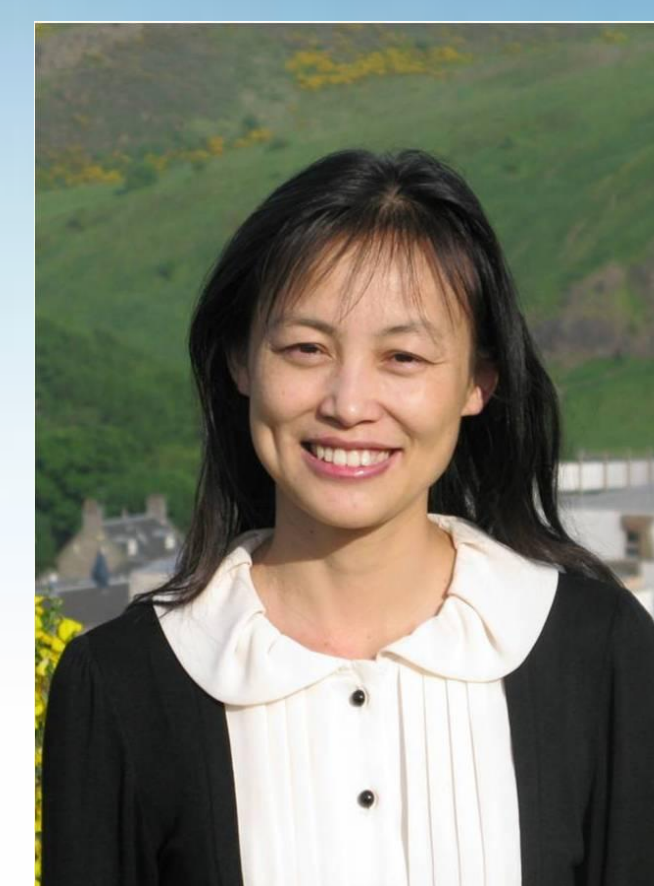


State Key Laboratory of Chemical Resource Engineering

**报告人:** 陈春英 (研究员, 国家纳米科学中心)

**时 间:** 2017-04-13 (周四) 2:30 PM-4:00PM

**地 点:** 化新楼B座 211 (篮球场北侧)



## 个人简介:

陈春英, 国家纳米科学中心研究员, 国家杰出青年科学基金获得者, 中科院“百人计划”, 国家重点研发计划纳米科技重点专项首席科学家, 国家自然科学基金创新研究群体骨干成员。长期从事纳米材料的生物效应与安全性的研究, 是我国该领域的开拓者之一。致力于发展检测生物体系纳米材料转化过程的创新方法, 揭示典型纳米材料的毒理学性质及其健康效应的作用机制, 通过调控纳米材料毒理学性质实现其医学应用。

先后主持国家重点研发计划纳米科技重点专项、973项目课题、国家重大仪器专项课题、国家自然科学基金重点项目等。相关研究成果已在Nature Methods, Nature Commun, Chem Soc Rev, Accounts Chem Res, JACS, PNAS, Adv Mater, ACS Nano等国际著名学术刊物发表学术论文190余篇, 他引超过6000次。曾获得国家自然科学二等奖、中国十大青年女科学家奖、入选国家百千万人才工程、全球高引用科学家、以及中国科学院第五届“十大杰出妇女”等荣誉称号。

## 报告摘要:

Many nanomaterials are promising in biological detection, diagnosis, and therapy for diseases and have shown great potential for biomedical applications. It is important to obtain a better understanding of the uptake, trafficking, pharmacokinetics, clearance, and role of nanomaterials in biological systems, so that their possible undesirable effects can be avoided. Chemical speciation, dynamics and kinetics of nanomaterials in biological systems are extremely necessary since we have very limited knowledge. The intrinsic physicochemical properties of nanomaterials have decisive influence on their biological consequences. These properties include size, shape, surface charge, chemical composition, surface modification, metal impurities, agglomeration and dispersion, degradation, as well as the formation of “protein corona”. In this talk, I will summarize our recent progresses and will show how state-of-the-art approaches help us to understand the fate and behavior of nanomaterials in vivo. We will highlight the concept of safe-by-design for designing biocompatible nanomaterials with low-toxicity and high-efficacy.

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