

学术讲座



报告题目: **Functional Metal-based Nanomaterials from Molecular Precursors**

报告人: **Prof. Wai-Yeung WONG (黄维扬 教授)**

时间: **2018年5月5日 9:30 am**;地点: **玉泉校区教十 5109会议室**

邀请人: **杨彬, 李中坚**

黄维扬, 香港理工大学应用科学及纺织学院副院长及应用生物与化学科技学系化学科技讲座教授和欧雪明能源教授。1992年获香港大学化学专业一级荣誉学士学位; 1995年获香港大学博士学位; 1996至1997分别于美国德州农工大学和英国剑桥大学从事博士后研究, 自1998至2016年在香港浸会大学任教。现为香港化学会主席、担任杂志J. Mater. Chem. C 副主编, Topics in Current Chemistry主编和J. Organomet. Chem. 亚太地区主编; 担任Adv. Opt. Mater., Chem. Rec., Chem. Asian J., Dalton Trans., Macromol. Rapid Commun., Macromol. Chem. Phys., Scientific Reports, Dyes & Pigments等刊物的编委和国际编委顾问成员。长期从事无机和金属有机配合物合成、分子功能材料, 金属有机聚合物及其应用(如有机发光二极管和有机太阳能电池)和纳米材料等方面研究工作。现已在Nature Mater., Nature Commun., Chem. Soc. Rev., Acc. Chem. Res., J. Am. Chem. Soc., Angew. Chem. Int. Ed., Energy & Environ. Sci., Adv. Mater., Adv. Funct. Mater., Nano Lett.等国际知名学术期刊发表论文550余篇, 被国内外同行他人引用达到19,000次(总引用22,000余次), H-索引指数为75, 入选为2014-2017年汤森路透公布的材料科学领域高被引用的科学家。2009年, 获香港裘槎基金会“优秀科研者奖。作为首位华人于2010年荣获英国皇家化学会“过渡金属化学奖”; 2010年荣获国家教育部高校自然科学一等奖(排名第一)和国家自然科学基金委“海外及其港澳学者合作研究基金”(原国家杰青B)。2011年获亚洲化学会联合会杰出年青化学家奖; 2012年获“何梁何利基金科学与技术创新奖”; 获2013年度国家自然科学基金二等奖(排名第一); 以及2014年获日本光化学学会亚洲及泛洋洲光化学科学家讲学奖(Eikohsha奖); 2015年获国家教育部“长江学者”讲座教授。

Abstract: Organometallic polymers represent an important research field due to their combination of unique and intriguing redox, electronic, magnetic, optical, and catalytic properties and their ability to be easily processed and fabricated into thin films, fibers, and other forms. Modern technology depends on fast, reliable data processing and storage. Hard ferromagnetic (L10-phase) FePt alloy nanoparticles (NPs) with extremely high magnetocrystalline anisotropy are considered to be one of the most promising candidates for the next generation of ultrahigh-density data storage systems. The question of how to generate ordered patterns of L10-FePt NPs and how to transform the technology to the practical application is challenging. As these metallopolymers can be readily shaped and patterned using various lithographic techniques, they offer a convenient synthetic access to patterned arrays of metal NPs with control of their composition and density per unit area. However, many of the most desirable properties are exhibited by metal alloy NPs rather than single-component metal NPs. In this talk, the recent advances in developing new functional organometallic polymers as precursors to magnetic metal alloy nanoparticles and their lithographic patterning studies will be presented. These metallated polymers are promising as building blocks in high-density magnetic data storage media where the convenient and rapid patterning of magnetic NPs is highly desirable. In a related context, the synthesis and characterization of new bottom-up photofunctional metal complex nanosheets will also be presented.