

# 生命与环境科学学院

## College of Life and Environmental Sciences

### 无机化学硕士点简介

#### 一、硕士点概况

无机化学硕士点建立于2007年，设配位化学、生物无机化学和纳米材料三个研究方向。

目前承担有国家自然科学基金、教育部重点科学研究重点项目、上海市科技启明星基金、上海市自然科学基金等多项科研项目。

获2001年度国家科技进步二等奖、2002上海市科技进步一等奖和2007上海市科技进步三等奖各一项。

#### 二、研究方向

1. 配位化学：配位聚合物的合成、结构与性质和分子工程，超分子化学。

2. 生物无机化学：金属药物的抗菌与药物的机理与应用开发、金属配位聚合物的纳米化及其在分子影像中的应用。

3. 纳米材料：无机-有机复合和杂化材料的合成和修饰及其功能化；金属及其合金纳米分子设计与合成及其纳米化以及在生物医学和环境检测方面的应用

4. 稀土发光材料：稀土或参杂的复合杂化材料的合成及其发光机理和应用；稀土离子为发光特征的各种基质的长余辉发光材料。

#### 三、师资队伍

杨仕平 教授（博士）

吴惠霞 副教授（博士）

杨红 副教授

彭子飞 副教授（博士）

刘洁 博士

胡鹤 博士

李晓峰 副教授（兼职）

#### 四、代表性论文(最近三年Impact Factor 大于3.0的文章)

##### 2011年

1. He Hu, Hong Zhou, Lu An, Antao Dai, Xuejian Li, Hong Yang, Shiping Yang\*, Huixia Wu, Facile Synthesis of Amino-Functionalized Hollow Silica Microsphere and Their Potential Application for Ultrasound Imaging, *J. Colloid Interface Sci.*, 2011, 358(2), 392-398 (SCI, Impact Factor 3.066).
2. He Hu, Hong Zhou, Jing Du, Zhiqian Wang, Lu An, Hong Yang, Fenghua Li, Huixia Wu, **Shiping Yang\***, Biocompatible hollow silica microsphere as a novel ultrasound contrast agent for In Vivo imaging. *J. Mater. Chem.*, 2011, 21 (18), 6576 - 6583 (SCI, Impact Factor 5.099).
3. Huixia Wu , Gang Liu , Yeming Zhuang , Dongmei Wu , Haoqiang Zhang , Hong Yang , He Hu , Shiping Yang\*, The behavior after intravenous injection in mice of multiwalled carbon nanotube / Fe<sub>3</sub>O<sub>4</sub> hybrid MRI contrast agents, *Biomaterials*. 2011, 32, 4867-4876. (SCI, Impact Factor 7.882)
4. Hong Yang, Yeming Zhuang, Yun Sun, Antao Dai, Xiangyang Shi,\* Dongmei Wu, Fuyou Li,\* He Hu and Shiping Yang\*,

- Targeted Dual-contrast  $T_1$ - and  $T_2$ -weighted Magnetic Resonance Imaging of Tumors using Multifunctional Gadolinium-Labeled Superparamagnetic Iron Oxide Nanoparticles, *Biomaterials*. 2011, 32, 4584-4593 (SCI, Impact Factor 7.882)
5. Hong Yang, Hong Zhou, Cuixia Zhang, Xuejian Li, He Hu, Huixia Wu, Shiping Yang\*, Water Soluble Magnetic CoO Nanocrystals Functionalized with Surfactants as  $T_2$ -weighed MRI Contrast Agents *in Vitro*, *Dalton Trans.*, 2011, 40 (14), 3616 – 3621, (SCI, Impact Factor 3.647)
  6. He Hu, Zhi-qing Tian, Jie Liang, Hong Yang, An-tao Dai, Lu An, Hui-xia Wu and Shi-ping Yang\* Surfactant-controlled morphology and magnetic property of manganese ferrite nanocrystal contrast agent, *Nanotechnology*, 2011, 22, 085707(7pp). (SCI, Impact Factor 3.644)
  7. Hui-Xia Wu, Sheng-Jian Zhang, Jia-Min Zhang, Gang Liu, Jian-Lin Shi\*, Ling-Xia Zhang, Xiang-Zhi Cui, Mei-Ling Ruan, Qian-Jun He, Wen-Bo Bu. A hollow core/magnetic and mesoporous double-shell nanostructure: in-situ decomposition/reduction synthesis, bio-imaging and drug delivery properties. *Advanced Functional Materials*, 2011, 21, 1850-1862. (SCI, Impact Factor 8.486)
  8. **Hui-Xia Wu**, Gang Liu, Sheng-Jian Zhang, Jian-Lin Shi\*, Ling-Xia Zhang, Yu Chen, Feng Chen, Hang-Rong Chen. Biocompatibility, MR imaging and targeted drug delivery of a rattle-type magnetic mesoporous silica nanosphere system conjugated with PEG and cancer-cell-specific ligands. *Journal of Materials Chemistry*, 2011, **21**, 3037-3045. (SCI, Impact Factor 5.099).

## 2010年

9. Hong Yang, Yeming Zhuang, He Hu, Xiaoxia Du, Cuixia Zhang, Xiangyang Shi,\* Huixia Wu, and **Shiping Yang\***, Silica-Coated Manganese Oxide Nanoparticles as a Platform for Targeted Magnetic Resonance and Fluorescence Imaging of Cancer Cells, *Adv. Funct. Mater.* , 2010, 20, 1733-1741. (SCI, Impact Factor 8.486)
10. Hong Yang, Cuixia Zhang, Xiangyang Shi, He Hu, Xiaoxia Du, Yong Fang,<sup>‡</sup> Yanbin Ma, Huixia Wu, **Shiping Yang\***, Water-Soluble Superparamagnetic Manganese Ferrite Nanoparticles For Magnetic Resonance Imaging, *Biomaterials*, 2010, 31, 3667-3673. (SCI, Impact Factor 7.882)
11. Hui-Xia Wu, Wei-Man Cao, Yan Li, Ying Wen\*, Gang Liu, Hai-Feng, Yang and Shi-Ping Yang\*, In-situ growth of copper nanoparticles on multiwalled carbon nanotubes and their application as non-enzymatic glucose sensor materials, *Electrochim. Acta*, 2010, 55, 3734–3740 (SCI, Impact Factor 3.642).

## 2009年

12. Hong Yang, Jia-Min Chen, Jing-Jia Sun, **Shi-Ping Yang\***, Jie Yu, Hong Tan, Wei Li, Syntheses, crystal structures and magnetic properties of three novel cobalt (II) complexes containing imidazole derivative groups, *Dalton Trans.* 2009, 2540-2551 (SCI, Impact Factor 3.647)
13. Hui-Xia Wu, Wei-Man Cao, Qiang Chen, Miao-Miao Liu, Shi-Xiong, Neng-Qin Jia, Hong Yang and **Shi-PingYang\***, Metal sulfide coated multiwalled carbon nanotubes synthesized by an in situ method and their optical limiting properties, *Nanotechnology*, 2009, 20, 195604(11pp) .(SCI, Impact Factor 3.134)

## 五、主要科研项目

1. 碳纳米管表面纳米粒子修饰及其非线性光学性质研究，国家自然科学基金面上项目(50972092)，2010.1~2012.12
2. 具空腔的磁性/介孔纳米复合结构的多功能化及抗肿瘤药物装载与应用，中国博士后科学基金特别资助项目(201003282)，2010.3~2011.2
3. 国家自然科学基金，基于纳米粒子组装体的固态染料敏化太阳能电池的研究（50802059）；2009-2011
4. 上海科技启明星计划：d-f金属配位聚合物纳米粒子的制备与生物成像研究（09QA1404300）
5. 基于PAMAM原位修饰的功能化铁酸锰的合成及其在分子影像中的应用，国家自然科学基金(20971086)，2010-2012

## 六、联系方式

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