



所属学院 材料科学与工程学院

学科领域 材料科学与工程；材料工程

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个人简介

作为项目负责人或项目技术骨干参加了多项国家自然科学基金项目，国家 863 项目和上海市纳米专项等，近 5 年共发表文章 50 余篇。

研究方向

研究方向为纳米结构功能材料，主要研究领域包括：

- 1、纳米颗粒及纳米结构材料的可控制备。
- 2、纳米结构材料的电化学行为及其在燃料电池和生物传感器应用。
- 3、石墨烯、碳量子点等纳米碳材料的制备及生物应用。

研究成果及主要发表文章

Papers, Books, Patents, Awards

Major Publications: Taken part in a number of National Natural Science Foundation of China, National 863, and Shanghai Nano-special projects as project leader or technical backbone. Some representative publications are as follows:

1. Xiaoling Yang, Kaicai Fan, Yihua Zhu*, Jianhua Shen, Xin Jiang, Peng Zhao, Shaorong Luan, and Chunzhong Li. Electric Papers of Graphene Coated Co₃O₄ Fibers for High-Performance Lithium-Ion Batteries[J]. ACS Applied Materials & Interfaces, 2013, 5(3): 997-1002. (IF 4.525)
2. Xiaoling Yang,* Kaicai Fan, Yihua Zhu,* Jianhua Shen, Xin Jiang, Peng Zhao, Chunzhong Li. Tailored graphene-encapsulated mesoporous Co₃O₄ composite microspheres for high-performance lithium ion batteries. J. Mater. Chem., 2012, 22: 17278-17283. (IF 5.099)
3. Xiaoling Yang*, Jindan Lu, Yihua Zhu*, Jianhua Shen, Zhen Zhang, Jianmei Zhang, Cheng Chen, Chunzhong Li. Microbial fuel cell cathode with dendrimer encapsulated Pt nanoparticles as catalyst. J Power Sources, 2011, 196: 10611-10615. (IF 4.283)
4. Xiaoling Yang, Ping Wang, Yihua Zhu*, Chunzhong Li. Photoelectronic properties of horseradish peroxidase-functionalized CdSe/silica mesoporous composite and its sensing towards hydrogen peroxide. J Solid State Electrochem, , 2011, 15: 731-736. (IF 2.234)
5. Xiaoling Yang, Liming Peng, Jie Zong, Yihua Zhu*. Preparation of photoluminescent carbon dots-embedded polyelectrolyte microcapsules[J]. Particuology, doi.org/10.1016/j.partic.2012.09.008, 2013. (IF 1.423)
6. Jianhua Shen, Xiaoling Yang*, Yihua Zhu*, Chunzhong Li. Gold-coated silica-fiber hybrid materials for application in a novel hydrogen peroxide biosensor. Biosens. Bioelectron.2012, 34(1): 132-136. (IF 5.361)
7. Jianhua Shen, Yihua Zhu*, Kangfu Zhou, Xiaoling Yang, Chunzhong Li. Tailored anisotropic magnetic conductive film assembled from graphene-encapsulated multifunctional magnetic composite microspheres. J Mater Chem, 2012, 22: 545-550. (IF 5.099)
8. Jianhua Shen, Yihua Zhu*, Xiaoling Yang, Chunzhong Li*. Graphene quantum dots: emergent nanolights for bioimaging, sensors, catalysis and photovoltaic devices. Chem. Commun., 48(31): 3686-3699, 2012. (IF 5.787)
9. Kangfu Zhou, Yihua Zhu*, Xiaoling Yang, Jinghong Zhou, Chunzhong Li. Demonstration of photoluminescence and metal-enhanced fluorescence of exfoliated MoS₂. Chem Phys Chem, 2012, 13: 699-702. (IF 3.339)
10. Jie Zong, Yihua Zhu*, Xiaoling Yang, Jianhua Shen, Chunzhong Li. Synthesis of photoluminescent carbogenic dots using mesoporous silica spheres as nanoreactors. Chem Commun, 2011, 47: 764-766. (IF 5.787)
11. Jianhua Shen, Yihua Zhu*, Cheng Chen, Xiaoling Yang, Chunzhong Li. Facile preparation and upconversion luminescence of graphene quantum dots. Chem Commun, 2011, 47: 2580-2582. (IF 5.787)
12. Cheng Chen, Yihua Zhu*, Hua Bao, Jianhua Shen, Hongliang Jiang, Liming Peng, Xiaoling Yang, Chunzhong Li, Guorong Chen. Ethanol-assisted multi-sensitive poly(vinyl alcohol) photonic crystal sensor. Chem Commun, 2011, 47: 5530-5532. (IF 5.787)
13. Cheng Chen, Yihua Zhu*, Hua Bao, Peng Zhao, Hongliang Jiang, Liming Peng, Xiaoling Yang, Chunzhong Li. Solvent-assisted poly(vinyl alcohol) gelated crystalline colloidal array photonic crystals. Soft Matter, 2011, 7: 915-921. (IF 4.457)
14. Yihua Zhu*, Jianhua Shen, Kangfu Zhou, Cheng Chen, Xiaoling Yang, Chunzhong Li. Multifunctional Magnetic Composite Microspheres with in Situ Growth Au Nanoparticles: A Highly Efficient Catalyst System. J Phys Chem C, 2011, 115: 1614-1619. (IF 4.52)
15. Yujia Jing, Yihua Zhu*, Xiaoling Yang, Jianhua Shen, Chunzhong Li. Ultrasound-Triggered Smart Drug Release from Multifunctional Core-Shell Capsules One-Step Fabricated by Coaxial Electrospray Method. Langmuir, 2011, 27: 1175-1180. (IF 4.268)
16. Jie Zong, Yihua Zhu*, Xiaoling Yang, Chunzhong Li. Confined growth of CuO, NiO and Co₃O₄ nanocrystals in mesoporous silica (MS) spheres. J Alloys Compd, 2011, 509: 2970-2975. (IF 2.134)
17. Xiao Han, Yihua Zhu*, Xiaoling Yang, Jianmei Zhang, Chunzhong Li. Dendrimer-encapsulated Pt nanoparticles on mesoporous silica for glucose detection. J Solid State Electrochem, 2011, 15: 511-517. (IF 2.234)
18. Jie Zong, Yihua Zhu*, Xiaoling Yang, Chunzhong Li. Preparation of monodispersed mesoporous silica spheres with tunable pore size and pore-size effects on adsorption of Au nanoparticles and urease. Mater Sci Eng C, 2011, 31: 166-172. (IF 2.178)
19. Kangfu Zhou, Yihua Zhu, Xiaoling Yang, Chunzhong Li. Electrocatalytic Oxidation of Glucose by the Glucose Oxidase Immobilized in Graphene-Au-Nafion Biocomposite . Electroanalysis, 2010, 22(3): 259-264. (IF 2.949)
20. Xiao Han, Yihua Zhu, Xiaoling Yang, Chunzhong Li. Amperometric glucose biosensor based on platinum nanoparticle encapsulated with a clay. Microchim Acta, 2010, 171:233-239. (IF 2.648)

Research Projects

1. Controlled synthesis and fluorescence enhancement of core-shell metal@silica/carbon dots composites (Source: National Natural Science Foundation of China)
2. Design and Study of the microreactors based on the assembling of polyelectrolyte on silica spheres (Source: National Natural Science Foundation of China)
3. Modify enzyme electrodes with self-assembled polyelectrolyte multilayers and Sensitivity study of photoelectrochemical properties of enzyme (Source: Key Project of Science and Technology for Ministry of Education)
4. Study of flexible enzyme based photoelectrochemical fuel cells sensitized with quantum dots (Source: Innovation Program of Shanghai Municipal Education Commission)
5. Photonic crystal sensors based on physical cross-linked gel containing crystalline colloidal arrays (Source: Fundamental Research Funds for the Central Universities)