分析化学硕士点简介

一、硕士点概况

分析化学于2003年获得硕士授予权，校级重点学科（2007年获准建设）。本学科主要涉及分析化学、物理化学、无机化学、有机化学、测试计量技术及仪器、材料学、应用数学、计算机应用技术、生物技术等学科专业。依托单位为上海师范大学生命与环境科学学院、教育部（共建）绿色化学重点实验室和稀土功能材料上海市重点学科、分析化学博士点（联合招生）、分析化学硕士点。

本学科主要从事现代分析化学及其相关的边缘学科的新理论、新方法、新技术及应用研究，同时担负学士 — 硕士 — 博士的三级学科培养工作和访问学者研究工作。本学科在上海地区有着较高声誉，硕士毕业生适应在高校、研究院所、公司、或企业工作。分析化学硕士点负责人是杨海峰教授。

二、研究方向

1．化学生物传感技术

2．光谱分析与化学计量学

3．基于纳米技术的分离分析方法研究

4．环境检测

三、师资队伍

杨海峰 教授

黄杉生 教授

祝宁宁 教授

张 雷 副教授

四、代表性论文（**2010-2012**）

1. Na Wang, YingWen, Yao Wang, Rui Zhang, Xiyao Chen, Bo Ling, Shuangyan Huan and **Haifeng Yang*** The IP6 micelle-stabilized small Ag cluster for synthesizing Ag–Au alloy nanoparticles and the tunable surface plasmon resonance effect ***Nanotechnology*** 2012， 23， 145702 (7pp)
2. Ying-Cheng Pan, Ying Wen,* Lu-Yuan Xue, Xiao-Yu Guo, and **Haifeng Yang*** Adsorption Behavior of Methimazole Monolayers on a Copper Surface and Its Corrosion Inhibition ***J. Phys. Chem. C*** 2012, 116, 3532−3538
3. Ying-Cheng Pan, Ying Wen, Rui Zhang, Ying-Ying Wang, Zong-Rang Zhang, **Haifeng Yang*** Electrochemical and SERS spectroscopic investigations of 4-methyl-4H- 1,2,4-triazole-3-thiol monolayers self-assembled on copper surface ***Applied Surface Science*** 2012，258， 3956-3961
4. Yun Miao, Ying Wen, Jie Dong, Weixun Zhou, Zongrang Zhang, **Haifeng Yang*** Botanical micelle and its application for direct electrochemical biosensor ***Biosensors and Bioelectronics*** 2011，26 ， 2994-2999
5. Bo Ling, Ying Wen, Zhiqing Yu, Yinghao Yu and **Haifeng Yang***Multifunctional magnetic nanocomposites: separation,

photodecomposition and Raman detection ***J. Mater. Chem.***, 2011, 21, 4623–4628

6. Lijun Zhang, Ying Wen, Yingcheng Pan, **Haifeng Yang*** 2-Amino-5-(4-pyridinyl)-1,3,4- thiadiazole film at the silver surface: Observation by Raman spectroscopy and electrochemical methods Applied Surface Science 2011，257，6347-6352
7. Xiyao Chen, Ying Wen, Na Wang, Kai Gu and **Haifeng Yang*** Uniform gold nanoarray formed by controlled IP6 micelles for chemical mapping ***Nanotechnology*** 2011，22， 205603 (7pp)
8. Ai-Jing Lin, Ying Wen*, Li-Jun Zhang, Bin Lu, Yan Li, Ying-Zhi Jiao, **HaiFeng Yang*** Layer-by-layer construction of multi-walled carbon nanotubes, zinc oxide, and gold nanoparticles integrated composite electrode for nitrite detection ***Electrochimica Acta*** 2011，56 ，1030-1036
9. Jie Dong, Ying Wen, Yun Miao, Zhijuan Xie, Zongrang Zhang, **Haifeng Yang*** A nanoporous zirconium phytate film for immobilization of redox protein and the direct electrochemical biosensor ***Sensors and Actuators B*** 2010，150 ，141-147
10. Rui Zhang, Ying Wen, Na Wang, Yao Wang, Yingying Wang, Zongrang Zhang, **Haifeng Yang*** Insight in the Relationship between the Structure and Property of Methimazole Monolayers on Silver Surface: Electrochemical and Raman Study ***J. Phys. Chem. B*** 2010, 114, 2450–2456
11. Xuan Zhu, **Haifeng Yang *,** Na Wang, Rui Zhang, Wei Song, Yiping Sun, Guoping Duan, Wen Ding, Zongrang Zhang A facile method for preparation of gold nanoparticles with high SERS efficiency in the presence of inositol hexaphosphate ***J Colloid Interf. Sci.*** 2010，342， 571–574
12. Yao Wang, Xiaoling Ma, Ying Wen, Yueyi Xing, Zongrang Zhang, **Haifeng Yang*** Direct electrochemistry and bioelectrocatalysis of horseradish peroxidase based on gold nano-seeds dotted TiO2 nanocomposite ***Biosens. Bioelectron.*** 2010， 25，2442-2446
13. Yao Wang, Xiaoling Ma, Ying Wen, Yaqing Zheng, Guoping Duan, Zongrang Zhang, and **Haifeng Yang*** Phytic Acid-Based Layer-by-Layer Assembly for Fabrication of Mesoporous Gold Film and Its Biosensor Application，***J Electrochem. Soc.,*** 2010，157，K5-K9
14. Na. Wang, Ying. Wen, Yao. Wang, Rui. Zhang, Xuyang. Zhang, Danhui. Xiong and **Haifeng Yang*** Facile and Controlled Synthesis of the Self- conjugated Ag@IP6-Micelle Compositions for Surface-enhanced Spectroscopic Application ***J Mater. Chem. 2010***，20, 2317-2321 **Cover paper**
15. Qing Yang, Liuying Fan, **Shasheng Huang***, Wei Zhang, Chengxi Cao. Equivalence-Point Electromigration Acid-Base Titration via Moving Neutralization Boundary Electrophoresis, ***Electrophoresis,*** 2011，32(9),1015-1024
16. Yang Bo, Weiqi Wang, Junfei Qi，**Shasheng Huang***，A DNA Biosensor Based on Graphene Paste Electrode Modified With Prussian Blue and Chitosan，***Analyst***, 2011，136 (9), 1946 – 1951
17. Weiqi Wang, ShuhuaYing & ZhihuiZhang, **Sahsheng Huang***. Novel glucose biosensor based on a glassy carbon electrod emodified with hollow gold nanoparticles and glucose oxidase, ***Microchimica Acta***, 2011，173(1,2), 143-148
18. Yang Bo,Huiyan Yang, Ying Hu, Tianming Yao, **Shasheng Huang***，A novel electrochemical DNA biosensor based on graphene and polyanilinenano wires，***Electrochimica Acta,*** 2011，56:2676-2681
19. PeisiZhu，**Shasheng Huang***，Mengyao Li，Na Ding， Bing Peng， Lingmi Kong Yang Bo.A Sandwiched Biologica lFluorescent Probe for the Diagnosis of Human Ovarian Tumor Based on TiO_2 Nanoparticles, ***Journal of Fluorescence***, 2011，21:179–186
20. Na Ding，Qing Ynag, **Shasheng Huang**, Liuyin Fan, Wei Zhang, Jianjiang Zhong, Chengxi Cao. Separation and determination of fourganoderic acids from dried fermentation mycelia powder of Ganodermalucidum by capillary zone electrophoresis，***Journal of Pharmaceutical and Biomedical Analysis,*** 2010，53: 1224-1230
21. Zenglian Yue, Guoqing Zhao, **Shasheng Huang***, Xiaoxue Fan, Wenling Shi, Zhihui Zhang. Study of Transportation of Atrazine and Paraquat through Nanochannels, ***Journal. of Membrane Science***, 2010，356,117-122
22. Qing Yang，Yongxia Qu，Yang Bo，Yin Wen，**Shasheng Huang***. Biosensor for atrazin based on aligned carbon nanotubes

modified with glucose oxidase, ***Microchimica Acta***, 2010， 168(3,4), 197-203

23. N. Zhu, H. Gao, Q. Xu, Y. Lin, L. Su, L. Mao, Biosensors and Bioelectronics 2010, 25, 1498–1503.

24. Y. Jiang, H. Zhao, Y. Lin, N. Zhu, Y. Ma, L. Mao, Angew. Chem. Int. Ed. 2010, 49, 4800–4804.

25. Lei Zhang, Zhige Shi, Qiuhua Lang， Fabrication of poly(orthanilic acid)–multiwalled carbon nanotubes composite film-modified glassy carbon electrode and its use for the simultaneous determination of uric acid and dopamine in the presence of ascorbic acid， ***Journal of Solid State Electrochemistry,*** 2011, 15, 801–809.

26. Lei Zhang, Baoqin Hou, Qiuhua Lang， In Situ UV–Vis Spectroelectrochemical Studies on the Copolymerization of Diphenylamine and *o*-Phenylenediamine， ***American Journal of Analytical Chemistry***, 2011, 2, 182-193.

27. Lei Zhang, Jianjun Wu, Voltammetric differentiation of dopamine and ascorbic acid at glassy carbon electrode modified with carboxylic acid groups functionalized single-walled carbon nanotube, ***Sensor Letters,*** **2011, 9, 1755-1766**

28. Lei Zhang, Baoqin Hou, Simultaneous electrochemical determination of dopamine, ascorbic acid and uric acid using PACBK-MWCNT film, ***Sensor Letters,*** **2012, Proof.**

29. Lei Zhang, Zhige Shi, Qiuhua Lang, Jie Pan, Electrochemical synthesis of belt-like polyaniline network on p-phenylenediamine functionalized glassy carbon electrode and its use for the direct electrochemistry of horse heart cytochrome c, ***Electrochimica Acta***, 2010, 55: 641–647.

30. Lei Zhang, Qiuhua Lang, Zhige Shi, Electrochemical Synthesis of Three-Dimensional Polyaniline Network on 3-Aminobenzenesulfonic Acid Functionalized Glassy Carbon Electrode and Its Application, ***American Journal of Analytical Chemistry***, 2010,1(3): 102-112.

五、主要科研项目（近三年）

1. 《基于肌醇六磷酸酯组装体制备高稳定表面增强拉曼散射基底及其分析应用》20975068 国家自然科学基金面上项目 负责人：杨海峰 （2010.1~2012.12）

2. 《植酸类环境友好金属缓蚀试剂自组装单分子层构效关系研究》21073121国家自然科学基金面上项目 负责人：杨海峰（2011.1~2013.12）

3. 《纳米通道用于环境样品中阿特拉津残留的分离传感研究》 国家863计划项目 负责人： 黄杉生 （2009.1~2010.12）

4. 《基于纳米通道分离传感环境中烷基苯酚类雌激素的研究》上海市科委 负责人：黄杉生 （2009.1~2011.9）

5. 《食品安全与营养》 上海师范大学学术创新团队 祝宁宁 （2011.7~ **2014.7)**

6. 《电极表面有序掺杂态聚苯胺膜的制备及其在电化学传感器中的应用》上海市教委科研创新项目 负责人：张雷（2009.01-2011.12）

7. 《线/管状自掺杂聚苯胺的合成及其在电化学传感器中的应用》上海自然科学基金项目，负责人：张雷（2009.07-2011.12）

六、联系方式

联系人：杨海峰教授
E-mail:hfyang@shnu.edu.cn

更新时间：2012-06-26