

高士祥

教授，博士生导师

南京大学环境科学研究所副所长，全国优秀博士论文导师

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主要研究方向

在有机污染化学研究方面，主要开展有机污染物对大气、水体和土壤的污染机制研究；有机污染物生物降解及生物有效性调控研究及污染土壤修复机理研究等。在污染生态化学研究方面，主要研究污染物在水环境中的转化、生物富集、污染物生态毒性、生态风险评估及水环境基准等。

学 历

1982.7 华东石油学院炼制系本科毕业

1985.8 中国科学院环境化学研究所硕士研究生毕业

1999.7 南京大学环境学院博士研究生毕业

研究经历

1989-1991年：加拿大不列颠哥伦比亚大学（The University of British Columbia）化学系访问学者；

1985-1999年：江苏省理化测试中心工程师、副研究员；

1999-2002年：南京大学环境学院副教授；

2003年起：南京大学环境学院教授，博士生导师；

2000-2008年：任南京大学环境化学教研室主任；

2006年起：任南京大学环境科学研究所副所长

主持科研项目

- 2009.1-2013.12 国家“973”项目，“持久性有机污染物的环境行为、毒性效应与控制技术原理”课题4“POPs污染物的生物转移、累积与放大”
- 2011.1-2014.1 环保部环保公益性行业科研专项，“兽药污染的健康风险评估与风险管理技术研究”
- 2010.1-2012.12 国家自然科学基金项目，“多溴联苯醚肝脏代谢机理的模拟研究”
- 2007.12-2012.8 国家“863”重大项目“重大环境污染事件应急技术系统研究开发与应用示范”课题“重大环境污染事件风险场预警技术”
- 2008.1-2011.12 国家“十一五”国家水体污染控制与治理科技重大专项课题“流域水环境质量基准与标准体系研究课题”子课题“流域水生生物毒理学效应基准指标与基准阈值”
- 2007.1-2009.12 国家自然科学基金项目“白腐菌降解多溴二苯醚的机理研究”
- 2006.1-2008.12 江苏省社会发展项目“大气污染对六朝石刻的影响及保护对策研究”
- 2001.1-2003.12, 国家自然科学基金项目“环糊精促进难降解有机污染物生物降解研究”

奖励及学术兼职

- 有毒有机物结构与作用机理的研究，教育部自然科学奖，二等奖，2002年12月
- 新型污染物的环境过程机制及其结构-活性关系的研究，教育部高等学校科学研究优秀成果奖-自然科学奖，二等奖，2012年12月
- 《环境化学》编委
- 《生态与农村环境学报》编委
- 中国环境科学学会持久性有机污染物专业委员会委员
- 中国毒理学会环境与生态毒理学专业委员会委员
- 江苏科技大学兼职教授

近期发表的论文

- Yiping Feng, Lisa M. Colosi, Shixiang Gao, Qingguo Huang, Liang Mao Transformation and Removal of Tetrabromobisphenol A from Water in the Presence of Natural Organic Matter via Laccase-Catalyzed Reactions: Reaction Rates, Products, and Pathways, *Environ. Sci. Technol.*, 47(2): 1001-1008, 2013
- Cheng J., Mao L., Zhao Z.G., Shen M.G., Zhang S.G., Huang Q.G., Gao S.X., Bioaccumulation, depuration and biotransformation of 4,4'-dibromodiphenyl ether in crucian carp (*Carassius auratus*). *Chemosphere*, 86: 446-453, 2012
- Shen M., Cheng J., Wu R.H., Zhang S.H., Mao L., Gao S.X., Metabolism of polybrominated diphenyl ethers and tetrabromobisphenol A by fish liver subcellular fractions in vitro. *Aquat. Toxicol.*, 114-115:73-79, 2012
- Jie Cheng, Mengnan Shen, Jianfeng Wu, Zhigang Zhao, Liang Mao and Shixiang Gao, Distribution and Assessment of Heavy Metals in Surface Water and Sediments from Nanjing Chemical Industrial Park, *Fresenius Environmental Bulletin*, 21 (9) :2702-2710, 2012
- Shi JQ., Cheng J, Wang FY, Flamm A, Wang ZY, Yang X, Gao SX, Acute toxicity and n-octanol/water partition coefficients of substituted thiophenols: Determination and QSAR analysis, *ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY* 78:134-141, 2012
- Han Chao; Geng Jinju; Xie Xianchuan; Wang Xiaorong; Ren Hongqiang; Gao Shixiang, Determination of Phosphite in a Eutrophic Freshwater Lake by Suppressed Conductivity Ion Chromatography, *Environ. Sci. Technol.*, 46(19): 10667-10674, 2012
- Zhao, Yanping; Gu, Xueyuan; Gao, Shixiang; Adsorption of tetracycline (TC) onto montmorillonite: Cations and humic acid effects, *GEODERMA*, (183): 12-18, 2012
- Zhao, Yanping; Geng, Jinju; Wang, Xiaorong; Gu, Xueyuan; Gao, Shixiang “Adsorption of tetracycline onto goethite in the presence of metal cations and humic substances”, *JOURNAL OF COLLOID AND INTERFACE SCIENCE* 361(1):247-251, 2011
- Mao, Liang; Colosi, Lisa M.; Gao, Shixiang; Huang, Qingguo, “Understanding Ligninase-Mediated Reactions of Endocrine Disrupting Chemicals in Water: Reaction Rates and Quantitative Structure-Activity Relationships” *Environ. Sci. Technol.*, 45(14):5966-5972, 2011
- Zhao, Yanping; Geng, Jinju; Wang, Xiaorong; Gu, Xueyuan; Gao, Shixiang, “Tetracycline adsorption on kaolinite: pH, metal cations and humic

- acid effects”, *ECOTOXICOLOGY*, 20 (5) SI 1141-1147, 2011
11. Han, Chao; Geng, Jinju; Zhang, Rui; Wang, Xiaorong; Gao, Shixiang, “Matrix-bound phosphine and phosphorus fractions in paddy soils”, *JOURNAL OF ENVIRONMENTAL MONITORING*, 13 (4) 844-849, 2011
 12. Han, Chao; Geng, Jinju; Hong, Yuning; Zhang, Rui; Gu, Xueyuan; Wang, Xiaorong; Gao, Shixiang; Glindemann, Dietmar, “Free atmospheric phosphine concentrations and fluxes in different wetland ecosystems, China”, *ENVIRONMENTAL POLLUTION*, 159 (2) 630-635, 2011
 13. Han, Chao; Geng, Jinju; Zhang, Juan; Wang, Xiaorong; Gao, Shixiang, “Phosphine migration at the water-air interface in Lake Taihu, China”, *CHEMOSPHERE*, 82 (6) 935-939, 2011
 14. Mao Liang; Meng Cui; Zeng Chao; Ji Yuefei, Yang Xi, Gao Shixiang, The effect of nitrate, bicarbonate and natural organic matter on the degradation of sunscreen agent p-aminobenzoic acid by simulated solar irradiation, *SCIENCE OF THE TOTAL ENVIRONMENT*, 409(24): 5376-5381, 2011
 15. Shen, X; Shao, ZJ; Xian, QM, Gao SX, “Detection method and toxicity study of a new disinfection by-product, 2,2,4-trichloro-5-methoxycyclopenta-4-ene-1, 3-dione (TCMCD), in chlorinated drinking water”, *WATER RESEARCH*, 44(3): 974-980, 2010
 16. Xie, MJ; Wang, GH; Hu, SY, Gao SX, Polar organic and inorganic markers in PM10 aerosols from an inland city of China - Seasonal trends and sources, *SCIENCE OF THE TOTAL ENVIRONMENT*, 408(22): 5452-5460, 2010
 17. Liang Mao, Qi Luo, Qingguo Huang, Shixiang Gao, “Ligninase-Mediated Removal of 17 β -Estradiol from Water in the Presence of Natural Organic Matter: Efficiency and Pathways”, *Chemosphere*, 80 (4) 469-473, 2010
 18. Liang Mao, Junhe Lu, Mussie Habteselassie, Qi Luo, Shixiang Gao, Miguel Cabrera, Qingguo Huang, “Ligninase-Mediated Removal of Natural and Synthetic Estrogens from Water: II. Reactions of 17-Estradiol”, *Environ. Sci. Technol.*, 44, 2599-2604, 2010
 19. Liang Mao, Junhe Lu, Shixiang Gao, Qingguo Huang, “Transformation of 17 β -Estradiol Mediated by Lignin Peroxidase: The Role of Veratryl Alcohol”, *Archiv. Environ. Contam. Toxic.*, 59(1):13-19, 2010
 20. CHEN Yi-Jun, WANG Zun-Yao, MAO Liang, GAO Shi-Xiang. QSBR Study on the Biodegradation Rate Constant of Chloro-phenol Compounds. *Chinese J. Struct. Chem.*, 2010, 29(6): 895-899.
 21. Feigao Xu, Jian Tang, Shixiang Gao, Characterization and origin of weathering crusts on Kylin carved Stone, Kylin Countryside, Nanjing -A case study, *JOURNAL OF CULTURAL HERITAGE*, 11: 228-232, 2010
 22. Liang Mao, Qingguo Huang, Junhe Lu, and Shixiang Gao, “Ligninase-Mediated Removal of Natural and Synthetic Estrogens from Water: I. Reaction Behaviors”, *Environ. Sci. Technol.*, 43 (2):374-379, 2009
 23. Pan HY, Li XL, Xu XH, Gao SX. “Phytotoxicity of four herbicides on *Ceratophyllum demersum*, *Vallisneria natans* and *Elodea nuttallii*”, *JOURNAL OF ENVIRONMENTAL SCIENCES*, 21 (3) : 307-312, 2009
 24. Ji L, Gao SX, Wang XD, et al. QSAR Study of Endocrine Disrupting Chemicals, *PROGRESS IN CHEMISTRY*, 21 (2-3) : 335-339, 2009
 25. DING Juan, CONG Jun, ZHOU Juan, GAO Shixiang, “Polycyclic aromatic hydrocarbon biodegradation and extracellular enzyme secretion in agitated and stationary cultures of *Phanerochaete chrysosporium*”, *Journal of Environmental Sciences*, 20: 88-93, 2008
 26. Xin Z, Wang GH, Liu SS, et al. Gas chromatography-ion trap tandem mass Spectrometry for the determination of Polybrominated biphenyl ethers in air, *CHINESE JOURNAL OF ANALYTICAL CHEMISTRY*, 36 (2) : 137-142, 2008
 27. Shixiang GAO, Cheng SUN, Aiqian ZHANG, “Persistent organic pollutants in asia:sources, distributions, transport and fate: Chater 5. Pollution of Polycyclic Aromatic Hydrocarbons in China”, Edited by An LI et al, Elsevier, Amsterdam, The Netherlands, 2007
 28. Juan Zhou, Weiyang Jiang, Juan Ding, Xingding Zhang, Shixiang Gao “Effect of Tween 80 and β -cyclodextrin on degradation of decabromodiphenyl ether (BDE-209) by White Rot Fungi”, *Chemosphere*, 70 (2) :172-177, 2007
 29. XIAO Yu, WANG Yan-Li, GAO Shi-Xiang, SUN Cheng, ZHOU Zhong-Yuan, “Chemical Composition of *Hydrilla Ve icillata* (L.f.) Royle in Taihu Lake”, *Chinese Journal of Chemistry*, 25 (05): 661-665, 2007
 30. Liu, Y.; Gong, H. J.; Yu, Y.; Zou, H. X.; Xing, S.; Xian, Q. M.; Gao, S. X., Stability of 4'-substituted monobenzo-15-crown-5-bentonites and