

首页 学院概况 机构设置 师资队伍 党建工作 教学工作 学术科研 学生工作 招生就业 校友工作 合作交流 规章制度

教师风采——郭亮

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一、个人简介

郭亮，博士，副教授，硕士生导师。2017年入选国际清洁能源拔尖创新人才项目；国际水协会IWA会员，IWA中国青年委员会委员；毕业于湖南大学环境工程专业，获工学博士学位，湖南省优秀毕业生。先后在University of Southampton (英国)，Malardalen University (瑞典)，Arizona State University (美国) 访问研究。以第一或通讯发表论文30余篇，其中SCI论文24篇（JCR一区论文16篇，二区论文6篇），获授权国家发明专利5项。Water Research, Applied Energy, Bioresource Technology, International Journal of Hydrogen Energy, Waste Management等多个国际著名一、二区SCI期刊特邀同行评议专家。

研究领域：废水、废弃物生物处理及资源化利用，微藻能源回收，海岸带污染治理；

学生培养：近年培养的研究生，每年都有1~2人获国家奖学金、山东省优秀毕业生和校级（省推）优秀毕业论文；

招生计划：每年拟招生3人，欢迎有志从事污水处理方向的研究生报考；

联系方式：

山东省青岛市松岭路238号 中国海洋大学 环境科学与工程学院 环境工程系 (266100)

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二、工作与学习经历

2018.8~2019.8 Arizona State University, USA, Visiting Scientist

2017.9~2017.12 Malardalen University, Sweden, Visiting Scientist

2017.7~2017.9 University of Southampton (UK), Cooperative research

2014.5~2015.2 University of Southampton (UK), Visiting Scientist

2013.12~至今 中国海洋大学，环境科学与工程学院，副教授

2009.7~2013.11 中国海洋大学，环境科学与工程学院，讲师

2004.9~2009.6 湖南大学，环境科学与工程学院，环境工程专业（硕博连读）

2000.9~2004.7 内蒙古大学，生命科学学院，环境科学专业（本科）

三、课题项目

1. 科研项目

- 1) 山东省自然科学基金（面上）；2017.8~2020.6，主持
- 2) 青岛市科技计划项目；2017.1~2018.12，主持
- 3) 国家实验室-环境生态功能实验室开放基金；2018.1-2020.12，主持
- 4) 国家自然科学基金；2013.1~2015.12，主持
- 5) 教育部高等学校博士学科点专项科研基金(20100132120016)；2011.1~2013.12，主持
- 6) 山东省自然科学基金（青年）(ZR2010EQ028)；2011.1~2013.12，主持
- 7) 青岛市科技计划项目（12-1-4-1-(13)-jch）；2012.1~2014.12，主持
- 8) 中央高校基本科研业务费-海大青年教师基金(201013022)；2010.7~2012.7，主持
- 9) 技术开发项目。2015.5~2016.5，主持
- 10) 国家水体污染控制与治理科技重大专项(2008ZX07106-003-3)；2008.7~2011.7，参与
- 11) 山东省环保厅；2015.1~2017.12-参与
- 12) 国家自然科学基金，2012.1~2015.12，参与
- 13) 山东省中青年科学家奖励基金，参与
- 14) 山东省自然科学基金(ZR2011BM014)；2011.7~2014.7，参与

2. 国际合作项目

- 1) Royal Society International Exchanges Scheme (IE140885), 2015.3~2018.3
- 2) Ocean University of China-Auburn University (OUC-AU) Grants program, 2017.1~2017.12

四、教学工作

主讲本科生课程《水污染控制工程》；《水污染控制工程实验》，《物理性污染控制》。《水污染控制工程》校级精品课程骨干教师。

五、发表的论文和专利

1. 主要论文情况

第一作者或通讯作者

- [1] Xiaomin Ren, **Liang Guo***, Yue Chen, Zonglian She, Mengchun Gao, Yangguo Zhao, Mengyu Shao. Effect of magnet powder (Fe_3O_4) on the aerobic granular sludge (AGS) formation and microbial community structure characteristics. ACS Sustainable Chemistry & Engineering, 2018, 6: 9707-9715 (SCI, IF=6.140)
- [2] Xiaomin Ren, Yue Chen, **Liang Guo***, Zonglian She, Mengchun Gao, Yangguo Zhao, Mengyu Shao. The influence of Fe^{2+} , Fe^{3+} and magnet powder (Fe_3O_4) on aerobic granulation and their mechanisms. Ecotoxicology and Environmental Safety, 2018,164: 1-11 (SCI, IF=3.974)
- [3] **Liang Guo***, Zengshuai Zhang, Mengchun Gao, Zonglian She, Yangguo Zhao, Yiding Guo, Jian Sun. Comparison of thermophilic bacteria and alkyl polyglucose pretreatment on two-stage anaerobic digestion with waste sludge: Biogas production potential and substrate metabolism process. Bioresource Technology, 2018,249: 694-703 (SCI, IF=5.807)
- [4] Zonglian She, Lan Wu, Qun Wang, Mengchun Gao, Chunji Jin, Yangguo Zhao, Linting Zhao, **Liang Guo***. Salinity effect on simultaneous nitrification and denitrification microbial characteristics in a hybrid sequencing batch biofilm. Bioprocess and Biosystems Engineering, 2018,41: 65-75 (SCI, IF=2.139)
- [5] **Liang Guo***, Yiding Guo, Mei Sun, Mengchun Gao, Yangguo Zhao, Zonglian She. Enhancing denitrification with waste sludge carbon source: the substrate metabolism process and mechanisms. Environmental Science and Pollution Research, 2018, 25(13): 13079-13092. (SCI, IF=2.800)
- [6] Zengshuai Zhang, **Liang Guo***, Yi Wang, Fengmin Li, Yangguo Zhao, Mengchun Gao, Zonglian She. Degradation and transformation of extracellular polymeric substances (EPS) and dissolved organic matters (DOM) during two-stage anaerobic digestion with waste sludge. International Journal of Hydrogen Energy, 2017, 42: 9619-9629 (SCI, IF=4.229)
- [7] Zengshuai Zhang, **Liang Guo***, Qianqian Li, Yangguo Zhao, Mengchun Gao, Zonglian She. Study on substrate metabolism process of saline waste sludge and its biological hydrogen production potential. Environmental Science and Pollution Research, 2017, 24(19), 16383-16395 (SCI, IF=2.800)
- [8] Yiding Guo, **Liang Guo***, Mei Sun, Yangguo Zhao, Mengchun Gao, Zonglian She. Effects of Hydraulic Retention Time (HRT) on denitrification using waste activated sludge thermal hydrolysis liquid and acidogenic liquid as carbon sources. Bioresource Technology, 2017,224: 147-156 (SCI, IF=5.807)
- [9] **Yue Chen**, **Liang Guo***, Jiawen Zhang, Yangguo Zhao, Mengchun Gao, Zonglian She. The interaction of short-chain fatty acids (SCFAs) on denitrification carbon source. Environmental Technology. 2017, 38:15, 1915-1925 (SCI, IF=1.666)

- [10] Jian Sun, **Liang Guo***, Qianqian Li, Yangguo Zhao, Mengchun Gao, Zonglian She and Guangce Wang. Structural and functional properties of organic matters in extracellular polymeric substances (EPS) and dissolved organic matters (DOM) after heat pretreatment with waste sludge. *Bioresource Technology*, 2016, 219: 614-623. (SCI, IF=5.807)
- [11] Jian Sun, Mei Sun, **Liang Guo***, Yangguo Zhao, Mengchun Gao and Zonglian She. The effects of denitrification with sludge alkaline fermentation liquid and thermal hydrolysis liquid as carbon sources. *RSC Advances*, 2016, 6: 72333-72341 (SCI, IF=2.936)
- [12] Jian Sun, **Liang Guo***, Qianqian Li, Yangguo Zhao, Mengchun Gao, Zonglian She, Chunji Jin. Three-dimensional fluorescence excitation-emission matrix (EEM) spectroscopy with regional integration analysis for assessing waste sludge hydrolysis at different pretreated temperatures. *Environmental Science and Pollution Research*, 2016, 23(23): 24061-24067 (SCI, IF=2.800)
- [13] **Liang Guo***, Mei Sun, Yan Zong, Yangguo Zhao, Mengchun Gao, Zonglian She. Comparison of multi-enzyme and thermophilic bacteria on the hydrolysis of mariculture organic waste (MOW). *Water Science and Technology*, 2016, 73(3): 1978-1985 (SCI, IF=1.247)
- [14] **Liang Guo***, Jun Zhao, Zonglian She, Changli Cao. Effect of different pretreatment on bio-hydrogen production from mariculture organic wastes (MOW). *Environmental Engineering and Management Journal*. 2016, 15 (11): 2545-2550 (SCI, IF=1.334)
- [15] **Liang Guo***, Mingmin Lu, Qianqian Li, Jiawen Zhang, Zonglian She. A comparison of different pretreatments on hydrogen fermentation from waste sludge by fluorescence excitation-emission matrix with regional integration analysis. *International Journal of Hydrogen Energy*, 2015, 40(1): 197-208 (SCI, IF=4.229)
- [16] **Liang Guo***, Jiawen Zhang, Li Yin, Yangguo Zhao, Mengchun Gao and Zonglian She. Optimization of VFAs and ethanol production with waste sludge used as the denitrification carbon source. *Water Science and Technology*, 2015, 72(8): 1348-1357 (SCI, IF=1.247)
- [17] **Liang Guo***, Mingmin Lu, Qianqian Li, Jiawen Zhang, Yan Zong, Zonglian She. Three-dimensional fluorescence excitation-emission matrix (EEM) spectroscopy with regional integration analysis for assessing waste sludge hydrolysis treated with multi-enzyme and thermophilic bacteria. *Bioresource Technology*, 2014, 171(11): 22-28 (SCI, IF=5.807)
- [18] **Liang Guo***, Yan Zong, Mingmin Lu, Jiawen Zhang. Effect of different substrate concentrations and salinity on hydrogen production from mariculture organic waste (MOW). *International Journal of Hydrogen Energy*, 2014, 39 (2): 736-743 (SCI, IF=4.229)
- [19] **Liang Guo***, Jun Zhao, Zonglian She, Mingmin Lu, Yan Zong. Statistical key factors optimization of conditions for hydrogen production from S-TE (Solubilization by thermophilic enzyme) waste sludge. *Bioresource Technology*, 2013, 137(6): 51-56 (SCI, IF=5.807)
- [20] **Liang Guo***, Jun Zhao, Zonglian She, Mingmin Lu, Yan Zong. Effect of S-TE (solubilization by thermophilic enzyme) digestion conditions on hydrogen production from waste sludge. *Bioresource Technology*, 2012, 117 (8): 368-372 (SCI, IF=5.807)
- [21] **Liang Guo***, Xiaoming Li*, Guangming Zeng, Yi Zhou. Effective hydrogen production using waste sludge and its filtrate. *Energy*, 2010, 35(9): 3557-3562 (SCI, IF=4.968)
- [22] **Liang Guo***, Xiaoming Li*, Guangming Zeng, Xiaofeng Zhu, Qi Yang, and Zonglian She. Enhanced hydrogen production from sewage sludge pretreated by thermophilic bacteria. *Energy and Fuel*, 2010, 24(11): 6081-6085 (SCI, IF=3.024)
- [23] **Liang Guo***, Xiaoming Li*, Xie Bo, Qi Yang, Guangming Zeng, Dexiang Liao, Jingjin Liu. Impacts of sterilization, microwave and ultrasonication pretreatment on hydrogen producing using waste sludge. *Bioresource Technology*, 2008, 99(9): 3651-3658 (SCI, IF=5.807)
- [24] Xiaoming Li*, **Liang Guo***, Qi Yang, Guangming Zeng, Dexiang Liao. Removal of carbon and nutrients from low strength domestic wastewater by expanded granular sludge bed-zeolite bed filtration (EGSB-ZBF) integrated treatment concept. *Process Biochemistry*, 2007, 42(8): 1173-1179 (SCI, IF=2.616)
- [25] **郭亮***, 刘元军, 赵悦, 韩英越, 郭一丁. C/N对初沉池污泥为碳源的反硝化效果研究. *中国海洋大学学报*, 2018, 12 (接受待刊)
- [26] 刘悦, **郭亮***, 孙健, 张增帅, 廖倩茹. 嗜热菌预处理对含盐污泥的水解及减量效果研究. *中国海洋大学学报*, 2018, 22 (接受待刊)
- [27] 郭士亮, **郭亮***, 张嘉雯, 陈月, 张增帅, 孙健, 郭一丁. 响应面法对剩余污泥发酵过程中反应条件的优化. *中国海洋大学学报*, 2017, 47(11): 103-108
- [28] 陈月, **郭亮***, 孙美. 好氧颗粒污泥对污泥水解液为碳源的反硝化出水处理效果研究. *中国海洋大学学报*, 2017, 47(9): 104-109
- [29] 刘一平, **郭亮***, 冉依禾, 赵阳国, 余宗莲, 高孟春. 好氧瞬时补料(ADF)工艺合成聚羟基脂肪酸酯(PHA)的研究---COD浓度、pH值和运行周期的影响. *环境工程学报*, 2017, 11(2): 695-701
- [30] 冉依禾, **郭亮***, 刘一平, 赵阳国, 余宗莲, 高孟春. 不同比例乙酸和丙酸对活性污泥微生物合成聚羟基脂肪酸酯的影响研究. *环境工程学报*, 2017, 11(2): 1276-1280
- [31] 李倩倩, **郭亮***, 赵阳国, 余宗莲, 高孟春, 柳苗苗. 热处理温度对污泥水解效果的影响及其三维荧光光谱(EEM)特征. *中国海洋大学学报*, 2016, 46(9): 102-106
- [32] 张嘉雯, **郭亮***, 李倩莹, 李帅, 卢明敏, 纵岩. 初始pH、ORP和振荡速率对剩余污泥厌氧酸化的影响研究. 中

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[33] 赵璿, **郭亮***, 曹昌丽, 王宇宁. 不同预处理条件对海水养殖废弃物发酵产氢的影响. 微生物学通报, 2012, 39(9):1225-1233

[34] **郭亮**, 李小明*, 曾光明, 杨麒, 廖德祥. 沸石在废水厌氧生物处理技术中的应用. 工业水处理, 2007, 27(1): 12-16

2. 专利情况

[1]. 国家发明专利:

【发明人】: **郭亮**, 李小明, 曾光明, 杨麒, 管慧玲

【发明名称】: 城市污水综合处理装置

【授权专利号】: ZL 200510032555.5

[2]. 国家发明专利:

【发明人】: **郭亮**, 余宗莲, 马启敏, 李茜

【发明名称】: 序批式悬浮填料生物膜污水处理装置

【授权专利号】: ZL 201010246280.6

[3]. 国家发明专利:

【发明人】: **郭亮**, 余宗莲, 马启敏, 赵璿, 卢明敏, 纵岩

【发明名称】: 一种嗜热菌及其在发酵产氢中的应用

【授权专利号】: ZL 2011110341833.0

[4]. 国家发明专利:

【发明人】: 余宗莲, **郭亮**, 马启敏, 李茜

【发明名称】: 一种悬浮填料微生物快速挂膜的方法

【授权专利号】: ZL 201010246301.4

[5]. 国家发明专利:

【发明人】: 余宗莲, **郭亮**, 马启敏, 周艳丽

【发明名称】: 内循环序批式生物膜污水处理装置

【授权专利号】: ZL 201010246293.3