

导师信息表

姓名	李哲	性别	男	最高学位	博士研究生
博导/硕导	博导	邮箱	lizhe@cigit.ac.cn		
个人简介（限 300 字）： 李哲，男，1981 年生。以三峡水库及长江上游水库为主要研究对象，聚焦于变化水文环境下生源要素循环的微生物过程与微生态机制，服务河流-水库系统适应性管理与生态修复。先后承担国家自然科学基金国际合作研究项目、面上项目、青年基金项目等国家级或省部级重点研究项目十余项。以第一作者或通讯作者发表学术论文 50 余篇，其中 SCI 论文 20 余篇；以第一发明人获权发明专利 6 项；在科学出版社出版专著、译著各 1 部。先后担任政府间气候变化专门委员会（IPCC）、联合国教科文组织（UNESCO）国际水文计划（IHP）、国际能源署（IEA）、国际水电协会（IHA）相关专家组专家，参编国际技术标准或导则共 3 部。目前任 Ecohydrology & Hydrobiology 编委，中国地理学会湖泊与湿地委员会常务委员、中国海洋与湖沼学会湖泊分会委员。					
教育经历： ● 2000 年－2004 年：重庆大学，城市建设与环境工程学院，给水排水工程专业本科，获工学学士学位； ● 2004 年－2006 年：重庆大学，城市建设与环境工程学院，市政工程专业，硕士研究生，硕博连读； ● 2006 年－2009 年：中国重庆大学-美国密苏里大学（罗拉分校）联合培养博士研究生，市政工程专业，工学博士学位（在美研修时间：2007 年 7 月至 2008 年 5 月）。					
主要研究方向：生态水文学，大型水库生源物质循环，水库水环境演变					
招生专业：环境科学与工程					
科研成果（含文章、专利、科研项目等）： ● 在研的主要科研项目 [1]. 国家自然科学基金委员与阿根廷国家科学与技术研究理事会国际合作项目，水库“藻-菌”群落及其同 CO₂、CH₄ 耦合关系的比较湖沼学研究（51861125204），200.0 万元，2018.06~2022.05（阿根廷合作方：University of Buenos Aires, Irina Izaguirre 博士） [2]. 国家自然科学基金面上项目，碳在金沙江梯级水库过坝下泄中的迁移转化及其通量研究（51679226），62.0 万元，2017.01~2020.12 [3]. 国家自然科学基金委员会与英国皇家学会合作交流项目，河流-水库系统的适应性管理：中欧河流研究实践的比较分析（51811530322），6.8 万元，2018.4~2020.3（英国合作方：Swansea University, Carlos Garcia de Leaniz 教授） [4]. 中国科学院“西部之光”西部青年学者 A 类（科发人函字〔2016〕84 号），50.0 万元，					

2017.1~2019.12

- 近 3 年来的主要学术论文

- **2019**

- [1]. **Zhe Li**, Hailong Du, Hui Xu, Yan Xiao, Lunhui Lu, Jinsong Guo, Yves Prairie, Sara Mercier-Blais. The carbon footprint of hydropower in China: life cycle assessment of China's five largest hydro-projects and a nationwide estimation [J]. Journal of Environmental Management, 2019, 250: 109363
- [2]. Shuqing Zhang, Yan Xiao, **Zhe Li**, Jinsong Guo, Lunhui Lu. Turbulence exerts nutrients uptake and assimilation of bloom-forming *Dolichospermum* through modulating morphological traits: field study and laboratory evidence [J]. Science of the Total Environment, 2019, 671: 329-338

- **2018**

- [1] Ping Zhang, Yan Xiao, **Zhe Li**, Jinsong Guo, Lunhui Lu. Microalgae in microwell arrays exhibit differences with those in flasks: evidence from growth rate, cellular carotenoid, and oxygen production, Frontiers in Plant Science, 2018, 8: 2251
- [2] Yan Xiao, Shuqing Zhang, **Zhe Li**, Xinghua Wu, Shu Wang, Jinsong Guo. Turbulent mixing mediates photosynthetic activities and biochemical composition of *Anabaena*: implications for bioengineering, Journal of Applied Phycology, 2018, 30(4): 2227~2236
- [3] Lunhui Lu, Jie Liu, **Zhe Li**, Zhiping Liu, Jinsong Guo, Yan Xiao, Jixiang Yang. Occurrences and Distribution of Tetracycline Antibiotics and Resistance Genes in the sediments of the Three Gorges Reservoir Area, China, Frontiers in Microbiology, 2018, 9: 1911
- [4] Lunhui Lu, Linlin Xu, Jixiang Yang, **Zhe Li**, Jinsong Guo, Yan Xiao, Juanjuan Yao. Contribution of heterotrophic bacterioplankton to cyanobacterial bloom formation in a tributary backwater area of the Three Gorges Reservoir, China. Environmental Science and Pollution Research, 2018, 25(27): 27402~27412
- [5] **Zhe Li**, Jianrong Ma, Jinsong Guo, Hans W. Paer, Justin D. Brookes, Yan Xiao, Fang Fang, Wenjuan Ouyang, Lunhui Lu. Water quality trends in the Three Gorges Reservoir region before and after impoundment (1992–2016), Ecohydrology & Hydrobiology. 2018. doi.org/10.1016/j.ecohyd.2018.08.005
- [6] Shixuan He, Wanyi Xie, Ping Zhang, Shaoxi Fang, **Zhe Li**, Peng Tang, Xia Gao, Jinsong Guo, Chaker Tlili, Deqiang Wang. Preliminary identification of unicellular algal genus by using combined confocal resonance Raman spectroscopy with PCA and DPLS analysis, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 2018, 190: 417~422.

- **2017**

- [1] **Zhe Li**, Lunhui Lu, Hailong Du, Pingyu Lv, Jinsong Guo, Xiao He, Jianrong Ma. Carbon footprints of pre-impoundment clearance on reservoir flooded area in China's top five largest hydro-projects: Implications for GHG emissions reduction and climate change mitigation, Journal of Cleaner Production, 2017, 168: 1413~1424
- [2] **Zhe Li**, Hailong Du, Yan Xiao, Jinsong Guo. Carbon footprints of two large hydro-projects in China: Life-cycle assessment according to ISO/TS 14067, Renewable Energy, 2017, 114: 534~546
- [3] Yang Huang, Lindsey MW Yasarer, **Zhe Li**, Belinda SM Sturm, Zengyu Zhang, Jinsong

- Guo, Yu Shen. Air-water CO₂ and CH₄ fluxes along a river-reservoir continuum: Case study in the Pengxi River, a tributary of the Yangtze River in the Three Gorges Reservoir, China., *Environmental Monitoring and Assessment*, 2017, 189(5): 223~223
- [4] Ping Zhang, **Zhe Li**, Lunhui Lu, Yan Xiao, Jing Liu, Jinsong Guo, Fang Fang. Effects of stepwise nitrogen depletion on carotenoid content, fluorescence parameters and the cellular stoichiometry of *Chlorella vulgaris*, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 2017.3.7, 181: 30~38
- [5] **Zhe Li**, Lunhui Lu, Jinsong Guo, Jixiang Yang, Jiachao Zhang, Bin He, Linlin Xu, Responses of spatial-temporal dynamics of bacterioplankton community to large-scale reservoir operation:a case study in the Three Gorges Reservoir, China, *Scientific Reports*, 2017.1.12, 7: 0~42469
- [6] Jing Liu, **Zhe Li**, Jinsong Guo, Yan Xiao, Fang Fang, Rong-cong Qin, Ling-ling Zhang, The effect of light on the cellular stoichiometry of *Chlorella* sp . in different growth phases: implications of nutrient drawdown in batch experiments, *Journal of Applied Phycology*, 2017, 29: 123~131
- [7] Wenjuan Ouyang, **Zhe Li**, Jing Liu, Jinsong Guo, Fang Fang, Yan Xiao, Lunhui Lu, Inventoryof apparent nitrogen and phosphorus balance and risk of potential pollution in typical sloping cropland of purple soil in China—A case study in the Three Gorges Reservoir region, *Ecological Engineering*, 2017.1.1, 106: 620~628
- [8] Peng Yan, Rongcong Qin, Jinsong Guo, Qiang Yu, **Zhe Li**, Youpeng Chen, Yu Shen, Fang Fang, Net-Zero-Energy model for sustainable wastewater treatment, *Environmental Science & Technology*, 2017, 51(2): 1017~1023
- **2016**
- [1] **Zhe Li**, Zengyu Zhang, Chuxue Lin, Yongbo Chen, Jinsong Guo, Anbang Wen, Fang Fang. Soil–air greenhouse gas fluxes influenced by farming practices in reservoir drawdown area: a case at the Three Gorges Reservoir in China, *Journal of Environmental Management*, 2016, 181: 64~73
- [2] Yan Xiao, **Zhe Li**, Jixiang Yang, Zhen Zhang, Jinsong Guo, Effect of small-scale turbulence on the physiology and morphology of two bloom-forming cyanobacteria, *PLoS One*, 2016.12.30, 11(12): e0168925
- [3] Yan Xiao, **Zhe Li**, Jinsong Guo, Jing Liu, Shengjun Wu, Cyanobacteria in a tributary backwater area in the Three Gorges Reservoir, China, *Inland Waters*, 2016.2, 1(6): 77~88
- [4] Yan Xiao, **Zhe Li**, Jinsong Guo, Fang Fang, Val H Smith, Succession of phytoplankton assemblages in response to large-scale reservoir operation: a case study in a tributary of the Three Gorges Reservoir, China., *Environmental Monitoring and Assessment*, 2016.3, 188(3): 153~153
- [5] **Zhe Li**, Yan Xiao, Jixiang Yang, Chao Li, Xia Gao, Jinsong Guo, Response of cellular stoichiometry and phosphorus storage of the cyanobacteria *Aphanizomenon flos-aquae* to small-scale turbulence, *Chinese Journal of Oceanology and Limnology*, 2016.9.27, 35(6): 1409~1416
- [6] Fei Ye, Shengjun Wu, Yi Jiang, Huub J. M. Op den Camp, **Zhe Li**, Guibing Zhu, Jun Zheng, Yu Wang. Shifts of archaeal community structure in soil along an elevation gradient in a reservoir water level fluctuation zone, *Journal of Soils and Sediments*, 2016, 16(12): 2728~2739

- [7] Jianrong Ma, Boqiang Qin, Hans W. Paerl, Justin D. Brookes, Nathan S. Hall, Kun Shi, Yongqiang Zhou, Jinsong Guo, **Zhe Li**, Hai Xu, Tingfeng Wu, Shengxing Long. The persistence of cyanobacterial (Microcystis spp.) blooms throughout winter in Lake Taihu, China, Limnology and Oceanography, 2016.1.17, 61(2): 711~722

● 代表性专著、国际技术导则

- [1]. IPCC Wetlands 2019 Refinement. June, 2019 (Contributing Author)
- [2]. Jukka Alm, Jorge Machado Damazio, Atle Harby, Vincent Chanudet, Zhe Li, Alain Tremblay. IEA Hydropower Annex XII: Guidelines for Quantitative Analysis of Net GHG Emissions from Reservoirs - Volume 2: Modeling. November 2015. (<http://www.ieahydro.org/annex-xii-hydropower-and-the-environment>)
- [3]. Jorge Machado Damazio, Marco Aurelio dos Santos, Zhe Li, Jukka Alm, Vincent Chanudet. IEA Hydropower Annex XII: Guidelines for Quantitative Analysis of Net GHG Emissions from Reservoirs - Volume 3: Management, Mitigation and Allocation. January, 2018. (<http://www.ieahydro.org/annex-xii-hydropower-and-the-environment>)
- [4]. 郭劲松, 李哲, 方芳 著. 三峡水库运行对其生态环境的影响与机制—典型支流澎溪河水环境变化研究. 北京: 科学出版社. 2017.1. ISBN: 978-7-03-051461-5
- [5]. 李哲, 李翀 译著. 水库温室气体净通量定量分析技术导则. 北京: 科学出版社. 2017.4. ISBN: 978-7-03-051089-1
- [6]. Zhe Li, Jinsong Guo, Fang Fang, Xu Gao, Man Long, Zhiping Liu. The nutrients-phytoplankton relationship under artificial reservoir operation: a case study in tributaries of the Three Gorge Reservoir, China [A]. In: Han B, Liu Z, eds. Monograph 91: Tropical and sub-tropical reservoir limnology in China: theory and practice [M]. NY: Springer Press. 2010: 193-200. (Corresponding author)

● 获权发明专利

- [1]. 李哲, 张萍, 杨俊, 肖艳, 郭劲松, 刘静, 史浩飞; 发明专利, 201510035231.0, 一种测定浮游藻类细胞比增殖速率的方法; 2015.01.23; 已授权
- [2]. 李哲, 肖艳, 刘静, 郭劲松; 发明专利, 201410478417.9, 一种在高藻水源地分层取水的方法; 2014.09.18; 已授权
- [3]. 李哲, 刘静, 张利萍, 闫彬, 张呈, 方芳, 郭劲松; 发明专利, 201310155605.3, 一种用于水中藻类细胞内氮磷元素测量的前处理方法; 2013.04.28; 已授权
- [4]. 李哲, 龚本洲, 姚晓, 何萍, 王钦, 张呈, 郭劲松, 王琳, 张利萍; 发明专利, 201210079819.2 水动力条件下水下气泡收集装置与水下气泡通量监测方法; 2012.03.23; 已授权
- [5]. 李哲, 刘静, 郭劲松, 肖艳; 发明专利, 201510540128.1, 一种浮游植物细胞模型及其构建和应用; 2015.08.28; 已授权
- [6]. 李哲, 鲁伦慧, 马健荣, 郭劲松, 肖艳; 发明专利, 201511026737.1, 一种水体颗粒物沉降与沉积过程的原位试验装置与方法; 2015.12.30; 已授权

所获荣誉:

- [1]. 2019 年入选第三批重庆市学术技术带头人后备人选, 环境科学与工程专业
- [2]. 2016 年入选中国科学院“西部之光”西部青年学者计划 A 类
- [3]. 2016 年度重庆市科技进步二等奖 (排名第三)
- [4]. 2010~2015《湖泊科学》优秀作者
- [5]. 2011 年 (首届)《李圭白院士专项基金》市政工程学科优秀博士学位论文奖, 颁奖单

位：全国给水排水科学与工程专业指导委员会《李圭白院士专项基金》委员会 [6]. 2011 年度重庆大学优秀博士学位论文奖；
个人承诺：本人承诺以上信息真实。如有不实之处，愿承担相应后果。 承诺人签名：