

Master's Program in Environmental Engineering

Title/degree: Master of Environmental Engineering (M.E)

Duration: 2-3 years, full-time

Start month: September

Language of instruction: English

I. Program Description

The people who incept master's degree in this field need to master basic theories of environmental engineering (pollution control in water, air and solid waste), strategic thought of sustainable development, environmental management and planning, cleaner production, waste resource recovery, urban ecology etc. and systematical professional knowledge.

II. Why study Environmental Engineering at Donghua University?

- 1. Depart. Environmental Engineering (EE) of Donghua University is one of the earliest environmental disciplines established in China. It started to enroll undergraduate in 1976, and it obtained doctoral discipline of environment engineering in 2000, class-one doctoral discipline of Environmental Science and Engineering in 2005 and established post-doctoral station in 2007, which has a comprehensive system of cultivating bachelor, master, PhD and post doctorate. The subject is in the forefront of the same kind subject of colleges and universities with 211 Project, and is also with distinctive feature of textile. It is the vice president of China dyeing and Printing Industry Association as well as the vice director unit of Environmental Protection Committee of professional technical. The environment technology specialty has been approved the key subject of Shanghai in 2007, the national characteristic specialty in 2011, and have been incorporated in the national first 'excellent engineers education training plan' and 'Comprehensive reform of the Education Ministry'. In 2012 ESE as the class-one discipline was included in the first-class discipline (class B) construction plan in Shanghai. Depended on this Discipline, it equips with grade A qualification certificate of National environmental impact assessment and 'Pollution prevention and control engineering technology center of national environmental protection in textile pollution', it is an important base of the talents cultivation and the transformation of study achievements.*
- 2. The qualified teachers of the subject are abundant with 37 professional teachers, 28 of whom are professors, including 23 doctoral supervisors and 18 associate professors. Since the subject was established, more than 1000 graduates have been educated, of which over 700 students awarded master degree and over 100 students awarded doctorate. In recent 5 years, this subject has finished more than 100 national and provincial scientific research projects, and got over 10 national and provincial scientific technological awards. It has been authorized over 50 invention patents and has got 8 outstanding teaching achievement awards of at the department and the city.*
- 3. The Discipline of Environmental Engineering in Donghua University now includes: Environmental Engineering doctoral discipline : Environmental Engineering master discipline and Environmental Engineering post-doctoral station.*

III. Participating Professors and Junior Scientists

ACADEMIC LEADER



Prof Dr Quanyuan Chen (Doctor's Supervisor)

Research Area: chemistry of pollution control and pollution control engineering
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Dr Chen is a professor in School of Environmental Science and Engineering, Donghua University. He received his PhD in Environmental Science and Engineering from University of Greenwich, UK in 2004. Dr Chen's research interests focus on chemistry of pollution control and pollution control engineering.

Selected recent publications:

- [1] Huanhuan Liu, **Quanyuan Chen***, Yang Yu, Zhenghong Liu, Gang Xue, Influence of Fenton's reagent doses on the degradation and mineralization of H-acid, *Journal of Hazardous Materials*, Volume 263, Pages 593–599, 2013
- [2] Xinying Li, **Quanyuan Chen***, Yasu Zhou, Mark Tyrer, Yang Yu, Stabilization of heavy metals in MSWI fly ash using silica fume, *Waste Management*, Volume 34, Pages 2494–2504, 2014
- [3] Huanhuan Liu, **Quanyuan Chen***, Shenghan Zhang, Xinying Li, Relationship of mineralization of amino naphthalene sulfonic acids by Fenton oxidation and frontier molecular orbital energies, *Chemical Engineering Journal*, Volume 247, Pages 275–282, 2014
- [4] **Quanyuan Chen***, Huanhuan Liu, Zaifu Yang, Dejun Tan, Regeneration performance of spent granular activated carbon for tertiary treatment of dyeing wastewater by Fenton reagent and hydrogen peroxide, *J Mater Cycles Waste Manag.*, DOI 10.1007/s10163-015-0410-y2015.
- [5] **Quanyuan Chen***, Qing Lan, Xinyin Li, Juan Zhou, Zaifu Yang, Utilization of fine powder in demolition concrete as recyclable coagulant in removing color from dye-bearing wastewater, *Environ Earth Sci.*, DOI 10.1007/s12665-015-4683-12015.



Prof. Dr. Yanan Liu (Doctor's Supervisor)

Research Area:

- 1) Non-thermal plasma application in air, water and soil pollution control;
 - 2) Functional catalysts synthesis by Non-thermal plasma used for pollutants removal from air, water and soil.
 - 3) Combined AOPs and biological technology for water and soil treatment
- liuyanan@dhu.edu.cn*

Dr. Yanan LIU got her Ph.D. in Environmental Engineering from Harbin Institute of Technology in 2005, worked in Donghua University since 2005, postdoctoral fellow in Plasma Application in LGPPTS at ENSCP-UMPC (Paris, France) from 2009 to 2011, full Professor of Environmental Engineering in Donghua since 2014. Her research Interests are: 1)

Non-thermal plasma application in air, water and soil pollution control; 2) Functional catalysts synthesis by Non-thermal plasma used for pollutants removal from air, water and soil. 3) Combined AOPs and biological technology for water and soil treatment

Main Achievements: About 50 papers have been published. 5 patents have been authored and 3 projects are being undertaken as chief investigator.

Selected recent publications:

- [1] Rui Li, **Yanan Liu**, Wenyan Cheng, Wenjuan Zhang, Gang Xue, Stephanie Ognier. Study on remediation of phenanthrene contaminated soil by pulsed dielectric barrier discharge plasma: the role of active species. *Chemical Engineering Journal*. 2016, 296: 132-140.
- [2] Ruiwen Mu, **Yanan Liu**, Rui Li, Gang Xue, Stéphanie Ognier. Remediation of pyrene-contaminated soil by active species generated from flat-plate dielectric barrier discharge. *Chemical Engineering Journal*. 2016, 296: 356–365.
- [3] Yu Sun, **Yanan Liu**, Rui Li, Gang xue, Stéphanie Ognier. Degradation of reactive blue 19 by needle-plate non-thermal plasma in different gas atmospheres: kinetics and responsible active species study assisted by CFD calculations. *Chemosphere*. 2016, 155: 243-249.



Prof. Dr. Jinli Qiao (Doctor's Supervisor)

Research Area: Electrochemistry

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As a Professor, Ph.D. Supervisor and Scientific Core-Competency Leader at Donghua University, China, she received her PhD in Electrochemistry from Yamaguchi University, Japan. Starting from 2008 to present, she carried out and has been carried out in total 12 projects funded by Chinese Government including NNSF of China. As the first/corresponding author, Dr. Qiao has published over 100 peer reviewed journal articles, 40 conference and Keynote/invited oral presentations, 4 book chapters, 3 co-edited books, more than 30 Japan/China invention patents and 12 authorized.

Prof. Qiao is the Vice President of the International Academy of Electrochemical Energy Science (IAOEES) <http://www.iaoees.org/>, and the Board Committee Member of Electrodriving Membrane Industry Association of China, <http://www.membranes.com.cn/xiehuijianjie/fenzhijigou/>. She also serves as the Guest Editor for peer-reviewed journals including *Electrochimica Acta*, *Applied Energy* and *International Journal of Hydrogen Energy*. She has more than 20 years of scientific research experience, particularly in the area of electrochemical material development and energy storage and conversion including PEM fuel cells, metal-air batteries, supercapacitors and CO₂ electroreduction.



Dr. Jianyun Liu (Doctor's Supervisor)

Research Area: sensor development for water contaminate analysis, supercapacitor deionization (CDI) for salt removal in seawater and brackish water, Carbon nanomaterials for supercapacitor device and development of catalyst materials for recalcitrant COD removal

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Dr. Liu is a professor in College of Environmental Science and Engineering, Donghua University. She received her PhD degree of analytical chemistry from Changchun Institute of Applied Chemistry, Chinese Academy of Science in 2001. She worked at the Max-Planck Institute of Polymer Research in Mainz, Germany as a postdoc research fellow (2002 to 2005). And then she moved to Global Research (Shanghai) Center of General Electronic (GE) Company as a Lead scientist for water treatment and water monitoring research (2006-2010). Her research interests focus on sensor development for water contaminate analysis, supercapacitor deionization (CDI) for salt removal in seawater and brackish water, Carbon nanomaterials for supercapacitor device and development of catalyst materials for recalcitrant COD removal. Her current research projects include the NSFC, product-oriented projects and foundation of the state key lab of electroanalytical chemistry. She has published more than 60 papers in peer-reviewed international journals with the h-index of 21, and has issued 16 patents with 6 authorized patents and 1 US patent. She was awarded outstanding postgraduate prize of president fellowship, the first prize of science and technology progress in Jinlin province and GE Global Research innovation prize.

Selected recent publications:

- [1] Jianyun Liu*, Zhubiao Xiong, Shiping Wang, Wenshu Cai, Jianmao Yang, Hexuan Zhang, Electrochim. Acta, 2016, doi:10.1016/j.electacta.2016.05.133.
- [2] Jianyun Liu*, Guodong Zhu, Mengni Chen, Xiaoyu Ma, Jianmao Yang, Fabrication of electrospun ZnO nanofiber-modified electrode for the determination of trace Cd(II), 2016, Sensors and Actuators B 2016, 234, 84–91.
- [3] Haojie Pan, Jianmao Yang, Shiping Wang, Zhubiao Xiong, Wenshu Cai and Jianyun Liu*, Facile fabrication of porous carbon nanofibers by electrospun PAN/dimethylsulfone for capacitive deionization, J. Mater. Chem. A, 2015, 3, 13827.
- [4] Wenshu Cai, Chuanliang Feng, Xiaoyu Ma, Mengni Chen, Jianyun Liu*, C2-Symmetric Benzene-based Low Molecular Weight Hydrogel Modified Electrode for Highly Sensitive Detection of Copper Ions, Electrochim. Acta, 2015, 169, 424-432.
- [5] Jianyun Liu*, Miao Lu, Jianmao Yang, Jian Cheng, Wenshu Cai, Capacitive desalination of ZnO/activated carbon asymmetric capacitor and mechanism analysis, Electrochim. Acta, 2015, 151, 312–318.
- [6] Jianyun Liu*, Shiping Wang, Jianmao Yang, Jinjin Liao, Miao Lu, Haojie Pan, Le An, ZnCl₂ activated electrospun carbon nanofiber for capacitive desalination, Desalination, 2014, 344, 446–453



Dr. Wolfgang Sand

Research Area: Biochemistry and ecology of sulfur/iron/manganese/nitrogen compound metabolism /degraders, bioleaching and biocorrosion of metals, biodeterioration mechanisms, biofilm /biofouling ecology and chemistry

Professor of the Aquatische Biotechnologie im Biofilm Centre / Aquatic Biotechnology in the Biofilm Centre. He received a doctor degree in Biologie / Diploma in Biology, University Hamburg German, in 1981. And he worked in University Hamburg as scientific employee, 1977-2004. Dr. Sand worked as a full professor at University Duisburg-Essen of German from 2004-2016. His research interests focus on Biochemistry and ecology of sulfur/iron/manganese/nitrogen compound metabolism /degraders, bioleaching and biocorrosion of metals, biodeterioration mechanisms, biofilm /biofouling ecology and chemistry. More than 230 research papers have been published in peer-reviewed international journals.



Dr. Xianying Li (Master's Supervisor)

Research Area: preparation and application of Nano-eco-material, and design and controllable self-assembly of the functional supramolecular polymers

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Dr. Li is an associate professor in College of Environmental Science and Engineering, Donghua University. She received a doctor degree in Engineering from Kyushu University, Japan in 2002. And she worked in National Institute of Advanced Industrial Science and Technology (AIST), Japan in 2002-2006. Dr. Li taught at Institute of Material Science and Engineering, Ocean University of China from 2006-2009. Her research interests focus on the preparation and application of Nano-eco-material, and design and controllable self-assembly of the functional supramolecular polymers. The main research findings are published in *Advanced Materials.*, *Chem. Commun.*, *Langmuir*, *Tetrahedron*, *RSC Advances*.

Selected recent publications:

- [1] Duoduo Xiao, Siqi Zhang, Dengqing Zhang, Dahai Xie, Qingdao Zeng, Yunjie Xiang, Ruguang Ning, **Xianying Li*** and Wusong Jin*, Reversible transformation of self-assemblies and fluorescence by protonation–deprotonation in pyrimidinylene–phenylene macrocycles, **Chem. Commun.** 2016.52.4357-4360
- [2] Yunjie Xiang, Wenjing Li, Yuxi Fang, Dengqing Zhang, **Xianying Li*** and Wusong Jin*, Construction and luminescence property of a highly ordered 2D self-assembled amphiphilic bidentate organoplatinum(II) complex, **RSC Adv.**, 2016, 6, 27360
- [3] Yunjie Xiang, Qiang Wang, Gang Wang, **Xianying Li ***, Dengqing Zhang, Wusong Jin *, Synthesis and coordination of star-shaped electron-deficient hexaheteroarylbenzene derivatives containing three pyrimidylbenzene derivatives, **Tetrahedron**, 2016, 72, 2574-2580
- [4] Duoduo Xiao, Dengqing Zhang, Beihua Chen, Dahai Xie, Yunjie Xiang, **Xianying Li***, and Wusong Jin*, Size-Selective Recognition by a Tubular Assembly of Phenylene–Pyrimidinylene Alternated Macrocycle through Hydrogen-Bonding Interactions, **Langmuir** 2015, 31, 10649–10655
- [5] Dengqing Zhang, Gang Wang, a Rong Li, **Xianying Li,*** Yunjie Xiang, Zhen Zhang and Wusong Jin*, Synthesis and characterization of pyrimidinecontaining hexaarylbenzene derivatives, **RSC Adv.**, 2015, 5, 99688



Dr. Qunshan Wei (Master's Supervisor)

Research Area: the fate and transport of some of POPs (e.g. Antibiotics) in aquatic environment including their relationships and reactions with DOM

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Dr. Qunshan Wei is an Associate Professor, College of Environmental Science and Engineering, Donghua University and an Adjunct Associate Professor in the Institute of Urban Environment (IUE), Chinese Academy of Sciences (CAS). He has over 10 years experience in environmental science & engineering and aquatic chemistry including 8 years experience in drinking water treatment and analytical chemistry. Since joined IUE in 2007, he has been involved in a number of major water treatment related research projects. His experience included, dissolved organic matter (DOM), disinfection by-products (DBPs) control, removal of algae by coagulation, optimization of water treatment processes (conventional water treatment, membrane filtration, Ultrafiltration, coagulation, MIEX, carbon adsorption, advanced oxidation), recycled water, storm runoff quality & assessment and various analytical techniques related to water quality investigation and process optimization. Recently, one of his research interests is focusing on the fate and transport of some of POPs (e.g. Antibiotics) in aquatic environment including their relationships and reactions with DOM.

Selected recent publications:

- [1] W-C. Zhang, **Q-S. Wei***, J. You, J-H. Xiao, J-S. Liu*, C-Z. Yan. The effect of alkalinity and turbidity on the removal of OTC and SMZ by coagulation. 3rd Water Research Conference, 11-14 January 2015, Shenzhen. (IWA International Conference)
- [2] Zhuanxi Luo, Zhaozheng Qiu, **Qunshan Wei**, Gijis Du Laing, Yanling Zhao, Changzhou Yan. Dynamics of ammonia-oxidizing archaea and bacteria in relation to nitrification along simulated dissolved oxygen gradient in sediment-water interface of the Jiulong river estuarine wetland, China [J]. Environmental Earth Sciences, October 2014, 72(7): 2225-2237.
- [3] **Qunshan Wei***, Changzhou Yan*, Jianshe Liu, Zhuanxi Luo, Qiujin Xu, Xian Zhang, Christopher W. K. Chow, Meng Nan Chong. Multi-step, Micro-Volume Resin Fractionation Combined with 3D-Fluorescence Spectroscopy for Improved DOM Characterization and Water Quality Monitoring. Environmental Monitoring and Assessment, 2013, 185(4): 3233-3241. (SCI)
- [4] **Qunshan Wei**, Changzhou Yan*, Zhuanxi Luo, Xian Zhang, Qiujin Xu, Christopher W. K. Chow. Application of a New Combined Fractionation Technique (CFT) to Detect Fluorophores in Size-Fractionated Hydrophobic Acid of DOM as Indicators of Urban Pollution. Science of the Total Environment, 2012, 431: 293–298 (SCI, IF 3.3).
- [5] **Qunshan Wei**, Rolando Fabris, Christopher W.K. Chow, Changzhou Yan, Dongsheng Wang and Mary Drikas. Characterization of Dissolved Organic Matter from Australian and Chinese Source Waters by Combined Fractionation Techniques. Water Science & Technology, 2011, 64, 1 (171-177).
- [6] **Qunshan Wei**, Changzhou Yan, Zhuanxi Luo. Distribution and variation of typical contaminant species in short-term storm runoff from different urban land surfaces. In Proceedings of the Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP), Adelaide, Australia, 6-9 December 2011, IEEE Xplore



Dr. Lisha Zhang (Master's Supervisor, the editor member of Scientific Report)

Research Area: design and preparation of advanced functional materials, photocatalysis technology, photoelectric conversion technology and water pollution control technology

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Dr. Lisha Zhang is an associate professor in College of Environmental Science and Engineering, Donghua University. She received her PhD degree in school of life science from the Chinese University of Hong Kong in 2010. Her research interests focus on the design and preparation of advanced functional materials, photocatalysis technology, photoelectric conversion technology and water pollution control technology. As first or corresponding author, she has 25 papers published in peer-reviewed scientific journals on these research field, including Chemical Society Reviews, Scientific Report, Environmental Science & Technology, Water Research, Nano Energy and etc. Among these papers, there are 8 ESI high cited papers and one hot paper. Her publications have been cited over 2575 times and have H index of 18.

Selected recent publications:

- [1] Tsz Wai Ng, **Lisha Zhang***, Jianshe Liu, Guocheng Huang, Wei Wang, Po Keung Wong*, Visible-Light-Driven Photocatalytic Inactivation of Escherichia Coli by Magnetic $\text{Fe}_2\text{O}_3\text{-AgBr}$, *Water Research*, **2016**, 90: 111-118 (SCI, IF: 5.528)
- [2] Junlei Zhang, **Lisha Zhang***, Nuo Yu, Kaibing Xu, Shijie Li, Huanli Wang, Jianshe Liu*, Flower-Like $\text{Bi}_2\text{S}_3/\text{Bi}_2\text{MoO}_6$ Heterojunction Superstructures with Enhanced Visible-Light-Driven Photocatalytic Activity, *RSC Advances*, **2015**, 5(92): 75081-75088 (SCI, IF: 3.84)
- [3] Huihui Zhao, **Lisha Zhang***, Xiaodong Gu, Shijie Li, Bo Li, Huanli Wang, Jianmao Yang, Jianshe Liu, $\text{Fe}_2\text{O}_3\text{-AgBr}$ Nonwoven Cloth with Hierarchical Nanostructures as Efficient and Easily Recyclable Macroscale Photocatalysts, *RSC Advances*, **2015**, 5(15): 10951-10959 (SCI, IF: 3.84)
- [4] Huanli Wang, **Lisha Zhang***, Zhigang Chen, Junqing Hu, Shijie Li, Zhaohui Wang, Jianshe Liu*, Xinchun Wang*, Semiconductor Heterojunction Photocatalysts: Design, Construction, and Photocatalytic Performances, *Chemical Society Reviews*, **2014**, 43(15): 5234-5244 (SCI, IF: 33.383)
- [5] Shijie Li, **Lisha Zhang***, Huanli Wang, Zhigang Chen, Junqing Hu, Kaibing Xu, Jianshe Liu*, $\text{Ta}_3\text{N}_5\text{-Pt}$ Nonwoven Cloth with Hierarchical Nanopores as Efficient and Easily Recyclable Macroscale Photocatalysts, *Scientific Reports*, **2014**, 4: 3978-3985 (SCI, IF: 5.578)
- [6] Huanli Wang, Shijie Li, **Lisha Zhang***, Zhigang Chen, Junqing Hu, Rujia Zou, Kaibing Xu, Guosheng Song, Huihui Zhao, Jianmao Yang, Jianshe Liu*, Surface Decoration of Bi_2WO_6 Superstructures with Bi_2O_3 Nanoparticles: An Efficient Method to Improve Visible-Light-Driven Photocatalytic Activity, *Crystengcomm*, **2013**, 15(44): 9011-9019 (SCI, IF: 4.034)



Dr. Yuhui Wang (Master's Supervisor)

Research Area: Ecological Control on Pollutants, and Environmental modeling

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Dr. Wang is an associate professor in College of Environmental Science and Engineering, Donghua University. He received PhD of Environmental Science and Engineering from Donghua University in 2012. Dr. Wang's research interests focus on the Ecological Control on Pollutants, and Environmental modeling.

Selected recent publications:

- [1] **Wang YH**, Wang JF, Zhao XX, Song XS, Gong J, 2016. The Inhibition and Adaptability of Four Wetland Plant Species to High Concentration of Ammonia Wastewater and Nitrogen Removal Efficiency in Constructed Wetlands. *Bioresource Technology*, 202:198-205.
- [2] He Y, **Wang YH**, Song XS, 2016. High-effective denitrification of low C/N ratios wastewater by constructed wetland (CW) combined with biofilm-electrode reactor (BER). *Bioresource Technology*, 203: 245-251.
- [3] **Wang YH**, Jiang YZ, Liao WH, Gao P, Huang XM, Wang H, Song XS, Lei XH, 2014. 3-D hydro-environmental simulation of Miyun reservoir, Beijin. *Journal of Hydro-environment Research*, 8(4): 383-395.
- [4] **Wang YH**, Song XS, Liao WH, Niu RH, Wang W, Ding Y, Wang Y, Yan DH, 2014. Impacts of inlet-outlet configuration, flow rate and filter size on hydraulic behavior of quasi-2-dimensional horizontal constructed wetland: NaCl and dye tracer test. *Ecological Engineering*, 69: 177-185.
- [5] **Wang YH**, Song SX, Ding Y, Niu RH, Zhao XX, Yan DH, 2013. The impact of influent mode on nitrogen removal in horizontal subsurface flow constructed wetlands: A simple analysis of hydraulic efficiency and nutrient distribution. *Ecological Engineering*, 60: 271-275



Dr. Chensi Shen (Master's Supervisor)

Research Area: water pollution control using the environmental friendly materials

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Dr. Chensi Shen, PhD, is a teacher of the Environmental Science at Donghua University. Shen's work is focused on water pollution control using the environmental friendly materials. She has published 17 peer-reviewed papers in *Water Research*, *Journal of Hazardous materials*, etc. Her researches about the application of chitosan-metal complex in wastewater treatment were supported by National Natural Science Foundation of China and the Shanghai Yang-Fan Program of Science and Technology Commission of Shanghai.

Selected recent publications:

- [1] Sadia Rashid, **Chensi Shen***, Xiaoguang Chen, Su Li, Yanhong Chen, Yuezhong Wen, Jianshe Liu*, Enhanced

catalytic ability of chitosan–Cu–Fe bimetal complex for the removal of dyes in aqueous solution, *RSC Advances*, 2015, 5: 90731-90741.

[2] **Chensi Shen**, Hui Chen, Yuezhong Wen*, Lina Li, Zheng Jiang, Meichao Li, Weiping Liu, Highly efficient detoxification of Cr(VI) by chitosan–Fe(III) complex: process and mechanism studies, *Journal of Hazardous Materials*, 2013, 244: 689-697.

[1] **Chensi Shen**, Yu Shen, Yuezhong Wen*, Hongyu Wang, Weiping Liu, Fast and highly efficient removal of dyes under alkaline conditions using magnetic chitosan-Fe(III) hydrogel, *Water Research*, 2011, 45(16): 5200-5210.



Dr. Xuehui Xie (Master's Supervisor)

Research Area: environmental microbial ecology, environmental toxicology, water treatment biotechnology, bioremediation of contaminated sites and so on
xiexuehui@dhu.edu.cn

Dr. Xie is a lecturer in College of Environmental Science and Engineering, Donghua University. She received her PhD of Environmental Science and Engineering from Donghua University in 2010. In 2009, Dr. Xie had been to Professor Zhou Jizhong's laboratory, US Environmental Genome Center, University of Oklahoma, for short-term study. In 2011, Dr. Xie was selected by "Shanghai Young Teachers' Training Scheme". As a visiting scholar, 2012-2013, she joined the research group of Dr. Hongying Hu in Tsinghua University. Her research interests focus on: environmental microbial ecology, environmental toxicology, water treatment biotechnology, bioremediation of contaminated sites and so on.

Selected recent publications:

[1] **Xuehui Xie*** (corresponding author), Na Liu, Bo Yang, Fang Yang, Jianshe Liu. Comparison of microbial community in hydrolysis acidification reactor depending on different structure dyes by Illumina MiSeq Sequencing. *International Biodeterioration and Biodegradation*. **2016**.(Accepted)

[2] Na Liu, **Xuehui Xie*** (corresponding author), Hong Jiang, Fang Yang, Chengzhi Yu and Jianshe Liu. Characteristics of estrogenic/antiestrogenic activities during the anoxic/aerobic biotreatment process of simulated textile dyeing wastewater. *RSC Advances*. **2016**, 6: 25624-25632.

[3] Qing Tian, Say Kee Ong, **Xuehui Xie*** (corresponding author), Fang Li, Yanbin Zhu, Fengrui Wang, Bo Yang. Enhanced phosphorus recovery and microbial biofilm community changes in an Alternating Anaerobic/Aerobic Biofilter. *Chemosphere*. **2016**, 144: 1797-1806.

[4] **Xuehui Xie**, Xuewu Yuan, Na Liu, Xiaoguang Chen, Awad Abdelgadir, and Jianshe Liu. Bioleaching of Arsenic-Rich Gold Concentrates by Bacterial Flora before and after Mutation. *BioMed Research International*. **2013**: 1-10.



Dr. Xiang Li (Master's Supervisor)

Research Area: sludge resource recovery and metabolism regulation of anaerobic microbe fermentation, industry wastewater new treatment technology and application.

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Dr. Li is the lecture in Department of Environmental engineering. He received his PhD of environmental engineering degree in 2014 from Tongji University. Dr. Li is the recipient of New Scientist Award from State Education Ministry, Young Scientist Sailing Program in Shanghai Deputy. He once visited TU Delft and Wageningen UR in the Netherlands, Bordeaux in France, HKU of Science and Technology. His research interests focus on the sludge resource recovery and metabolism regulation of anaerobic microbe fermentation. Also, he interests in industry wastewater new treatment technology and application.

Selected recent publications:

- [1]**Xiang Li**, Wenjuan Zhang, Shunli, Xue, Sizhou Lai, Jun Li, Hong Chen, Zhenhong Liu, Gang Xue*. Enrichment of D-lactic acid from organic wastes catalyzed by zero-valent iron: an approach for sustainable lactate isomerization. **Green Chemistry**, 2017, 19: 928-926. (IF= 9.125, **JCR 一区**, **封面文章**)
- [2]**Xiang Li**, Wenjuan Zhang, Li Ma, Sizhou Lai, Shu Zhao, Yinguang Chen, Yanan Liu*. Improved production of propionic acid driven by hydrolyzed liquid containing high concentration of L-lactic acid from co-fermentation of food waste and sludge. **Bioresource Technology**, 2016, 220:523-529. (IF= 5.651, **JCR 一区**)
- [3]**Xiang Li**, Yinguang Chen*, Shu Zhao, Hong Chen, Xiong Zheng, Jinyang Luo, Yanan Liu. Efficient production of optically pure L-lactic acid from food waste at ambient temperature by regulating key enzyme activity. **Water Research**, 2015, 70: 148-157. (IF=6.942, **JCR 一区**)
- [4]**Xiang Li**, Wenjuan Zhang, Sizhou Lai, Yanfei Gan, Jun Li, Tingting Ye, Jiguang You, Siyu Wang, Hong Chen, Wenyi Deng, Yanan Liu, Wenqi Zhang, Gang Xue*. Efficient organic pollutants removal from industrial paint wastewater plant employing Fenton with integration of oxic/hydrolysis acidification/oxic. **Chemical Engineering Journal**, 2018, 332:440-448. (IF= 6.216, **JCR 一区**)
- [5]**Xiang Li**, Hong Chen, Lanfang Hu, Lei Yu, Yinguang Chen*, Guowei Gu. Pilot-scale waste activated sludge alkaline fermentation, fermentation liquid separation, and application of fermentation liquid to improve biological nutrient removal. **Environmental Science & Technology**, 2011, 45: 1834-1839. (IF=6.198, **JCR 一区**)
- [6]Wenjuan Zhang, **Xiang Li***, Ting Zhang, Jun Li, Sizhou Lai, Hong Chen, Pin Gao, Gang Xue. High-rate lactic acid production from food waste and waste activated sludge via interactive control of pH adjustment and fermentation temperature. **Chemical Engineering Journal**, 2017, 328:197-206. (IF= 6.216, 通讯, **JCR 一区**)
- [7]Jun Li, Wenjuan Zhang, **Xiang Li***, Tingting Ye, Yanfei Gan, Ai Zhang, Hong Chen, Gang Xue, Yanan Liu. Production of lactic acid from thermal pretreated food waste through the fermentation of waste activated sludge: effects of substrate and thermal pretreatment temperature. **Bioresource Technology**, 2018, 247: 890-896. (IF= 5.651, 通讯, **JCR 一区**)
- [8]**Xiang Li**, Yinguang Chen*, Shu Zhao, Dongbo Wang, Xiong Zheng, Jinyang Luo. Lactic acid accumulation from sludge and food waste to improve the yield of propionic acid-enriched VFA. **Biochemical Engineering Journal**, 2014, 84: 28-35. (IF=2.892, **JCR 二区**)
- [9]Qiwei Jian, **Xiang Li***, Yinguang Chen, Yanan Liu & Yin Pan. Production of high optical purity l-lactic acid from waste activated sludge by supplementing carbohydrate: effect of temperature and pretreatment time. **Environmental Technology**, 2016, 37: 2457-2466. (IF=1.751, 通讯, **JCR 三区**)
- [10]**Xiang Li**, Yinguang Chen*, Xiong Zheng, Jinyang Luo and Zhao Shu. Production of propionic acid-enriched volatile fatty acids from co-fermentation liquid of sewage sludge and food waste using *Propionibacterium acidipropionici*. **Water Science and Technology**, 2013, 68: 2061-2066 (IF=1.197, **JCR 四区**)
- [11]Yinguang Chen*, **Xiang Li**, Xiong Zheng, Dongbo Wang. Enhancement of propionic acid fraction in volatile fatty acids produced from sludge fermentation by the use of food waste and *Propionibacterium acidipropionici*. **Water Research**, 2013, 47: 615-622. (导师第一作者) (IF=6.942, **JCR 一区**)

IV. Modules

C: compulsory course E: elective course CP: credit points

Consolidation Phase			<i>One needs to obtain 22CPs from compulsory courses and 12CPs from elective courses. These 34CPs should in general be acquired in the 1st year.</i>
1st Year			
<i>C/E</i>	<i>Topic</i>	<i>CP</i>	
C	<i>Intergrated Chinese I</i>	4	
C	<i>Intergrated Chinese II</i>	4	
C	<i>China Survey</i>	2	
C	<i>Air pollution control engineering</i>	3	
C	<i>Engineering Unit-Operations</i>	3	
C	<i>environmental mornitoring</i>	3	
C	<i>Environmental Microbiology</i>	3	
E	<i>Advanced Analytical Chemistry</i>	3	
E	<i>Ecomaterials</i>	3	
E	<i>Environmental chemistry and water treatment</i>	3	
E	<i>Electrochemical Technologies: Fundamentals, Materials, and Applications</i>	3	
E	<i>Environmental Biotechnology</i>	3	
E	<i>Scientific Graphs Drawing and Data Analysis</i>	3	
E	<i>Environmental Toxicology</i>	3	
E	<i>Biofouling/Biocorrosion of Materials</i>	3	

Scientific Phase			<i>During the research phase, your Master thesis should be completed.</i>
2nd Year	<i>Thesis Proposal</i>	<i>November</i>	
	<i>Pre-defense</i>	<i>June</i>	
3rd Year	<i>Final Defense</i>	<i>March</i>	
	<i>Concealed Evaluation</i>	<i>May</i>	

Application Details for international students

To be eligible for our Master program you are required to have the research background of Environmental Engineering, Environmental Science, Chemistry, Chemical industry, Biological science and Engineering.