



Environmental Engineering (M.E) **(English-taught Master's Program)**

● **Program Description**

The English-taught Master of Engineering (M.E.) program in Environmental Engineering recruits worldwide those from the fields of environmental engineering, environmental science, chemistry, chemical engineering, biological science and engineering. After two and a half years' study and research, graduates are expected to master basic theories and systematical professional knowledge of environmental engineering (pollution control in water, air and solid waste), strategic thoughts of sustainable development, environmental management and planning, cleaner production, waste resource recovery, urban ecology etc., understand the current situation and development tendency of this field, develop the abilities of solving practical problems professionally, undertaking innovatively the research or management work on environmental pollution control, waste resource recovery and cleaner production, as well as further scientific research abilities and skills.

● **Study Duration, Credits and Degree Awarding**

In line with the Chinese university system, Masters degrees in Donghua University last for two years and a half and the school starts from fall. A typical workload of the first year full-time study is a set of courses worth a total of 37 credits, composed of 22 compulsory and 15 elective credits. From the second year, students will undertake a research project and write a dissertation.

Students who are academically qualified, successfully fulfill 37 credits within designated years, accomplish the dissertation, pass the thesis defense and finally be approved by Donghua University Academic Degree Evaluation Committee will be awarded Master Degree in Engineering of Donghua University.

● **Curriculum**

Compulsory Courses (22 credits)

- ✓ Air Pollution Control Engineering (3 credits)
- ✓ Engineering Unit-Operations (3 credits)
- ✓ Environmental Monitoring (3 credits)
- ✓ Environmental Microbiology (3 credits)

- ✓ Introduction to China (2 credits)
- ✓ Chinese Language (8 credits)

Elective Courses (at least 5 from the courses below)

- ✓ Advanced Analytical Chemistry (3 credits)
- ✓ Ecomaterials (3 credits)
- ✓ Environmental Chemistry and Water Treatment (3 credits)
- ✓ Electrochemical Technologies: Fundamentals, Materials, and Applications (3 credits)
- ✓ Environmental Biotechnology (3 credits)
- ✓ Scientific Graphs Drawing and Data Analysis (3 credits)
- ✓ Environmental Toxicology (3 credits)

● **Course Description:**

- ✓ **Air Pollution Control Engineering (3 credits):** This course is designed for beginning graduate students in Environmental Engineering. The main contents of this course include: (1) Air Pollution Effects; (2) Air Pollution Control Laws and Regulations; (3) Air Pollution Measurements, Emission Estimates; (4) Meteorology for Air Pollution Control Engineers; (5) General Ideas in Air Pollution Control, Particulate Pollutants, Volatile Organic Compounds, Sulfur Oxides, Nitrogen Oxides, Motor Vehicle Exhaust Gas; (6) Global Warming Gas Control. ***【Prerequisites: Environmental chemistry, Inorganic chemistry, Organic chemistry, Chemical engineering】***

- ✓ **Engineering Unit-Operations (3 credits):** This course has to do with engineering processes, in which the engineer must develop, design, and engineer both the complete process and the equipment used, and operate the plants efficiently, safely and economically. This course is designed for beginning graduate students in Environmental Engineering. The main contents include: (1) Introduction (Definitions and Principles); (2) Fluid Flow; (3) Transportation of Fluids; (4) Heat Transfer and Its Applications; (5) Distillation. ***【Prerequisites: Advanced mathematics, Physical chemistry】***

- ✓ **Environmental Monitoring (3 credits):** This major course is designed for graduate students in Environmental Engineering. The main contents of this course include: 1) water and waste water monitoring; 2) air pollutant monitoring; 3) soil and groundwater pollutant monitoring.4) Environmental noise monitoring. 5) Environmental data mining and modeling. ***【Prerequisites: Environmental chemistry, Statistics】***

- ✓ **Environmental Microbiology (3 credits):** This course is designed for beginning graduate students in Environmental engineering. The main contents of this course include: 1) Role, function and metabolism of Virus, bacterial, fungus, protozoon in

environmental engineering of water treatment technology. 2) Behavior and metabolism of anaerobic microbe in Environmental engineering. 3) Solving environmental engineering problem using microbiology. **【Prerequisites: Water pollution control】**

- ✓ **Advanced Analytical Chemistry (3 credits):** This course is designed to give the graduate students in Environmental Science and Engineering a through training in the theory and practice of modern analytical techniques with special regard to solve the environmental problems. The main contents consist of: 1), Atomspectroscopy (AAS, OES, AFS) theory and practice of the environmental sample analysis; 2) molecular spectroscopy (UV-Vis, infrared, fluorescence) theory and practice for environmental sample and material characterization; 3) Chromatography separation methods (incl. gas-liquid and high-performance liquid chromatography) and the application in environmental sample analysis; 4) Principle and application of electroanalytical techniques (incl. potentiometry, voltammetry, sensors). **【Prerequisites: Analytical chemistry, Environmental chemistry】**

- ✓ **Ecomaterials (3 credits):** This course provides some insight into the design and development of ecomaterials for future practical environmental protection and energy saving. The main contents of this course include: 1) components, structure and properties of materials; 2) the assessment of ecomaterials ; 3) Eco-design of materials ; 4) the classification ,preparation and application of ecomaterials. **【Prerequisites: Physical chemistry, Inorganic chemistry, Environmental Science】**

- ✓ **Environmental Chemistry and Water Treatment (3 credits):** Besides of the emphasized knowledge of aquatic chemistry, this course would also introduce some water treatment technologies and methods. Lots of the mechanisms of aquatic chemistry are the basis of water treatment. Furthermore, realizing the essences of some water treatment processes would be help to understand the nature of the environmental chemistry and its processes, and vice versa. In a word, studying both aspects of the knowledge would benefit each other. **【Prerequisites: Environmental chemistry】**

- ✓ **Electrochemical Technologies: Fundamentals, Materials, and Applications (3 credits):** The course, “Fundamentals of Electrochemical Technologies”, specifically designed for the third year undergraduates and the first year M.Sc students as well as foreign students. This course contains comprehensive electrochemical theory, and the new development in electrochemical theory and applications in recent years. In the lectures, the electrochemistry related practical examples from academic and industrial communities worldwide will also be given and deep analysis to help the students to achieve a deep understanding of electrochemical science and technologies. In addition, the contents in this course will be also useful to those university lecturers/professors for their teaching and researches, and those electrochemical scientists and engineers

for their researches and technology development. In order to help the students understand the contents lectured, some attractive PPT slides will be given during the lecture. These PPT slides will contain highlights, typical figures/photos and representative data/tables, which describe the most cutting-edge research and progress in electrochemical science and technology, particularly in the area of electrochemical energy storage and conversion.

- ✓ **Environmental Biotechnology (3 credits):** The main contents of this course include: (1)The basic principle of microbiology (2)Bioreactors (3)Environmental biotechnology traditional applications, such as activated sludge and anaerobic digestion (4)Environmental biotechnology new applications, such as detoxification of harmful compounds and bioremediation. **【Prerequisites: Environmental Microbiology, Environmental Engineering】**

- ✓ **Scientific Graphs Drawing and Data Analysis (3 credits):** This course will cover the major techniques for scientific graphing and statistical analysis. Specific course topics include scientific graphing and data analysis software “Origin”, chemical structure drawing software “Chemoffice”, flow chart &diagram software “Microsoft Visio”, and the software of material characterization such as “Jade”, “XPSpeak”, etc. The project task is to help students to solve data analysis and visualization challenges in research study.

- ✓ **Environmental Toxicology (3 credits):** This course is designed for the effects of environmental pollutants on living organisms, especially on human health. Environmental toxicology is a branch of toxicology. It not only studies the effects of environmental pollutants on soil and aquatic ecosystem, but also on the health of mammal, especially human beings. **【Prerequisites: Chemistry related courses】**

- **Research orientation**
 - ✓ **Water pollution control:** textile and industry wastewater treatment of cutting edge, classical refractory wastewater removal with high efficiency using membrane and electro-chemical technology.
 - ✓ **Clean production and comprehensive utilization of resources:** process optimization within low water and energy consuming, wastes treatment recycling, sludge and organic waste recovery.
 - ✓ **Biological engineering and technology:** metabolic regulation of environmental microorganism, optimization bio-enzyme activity and enhancement of wastewater bio-treatment efficiency.

- ✓ **Environmental friendly materials:** Insight into the design and development of novel eco-materials for future practical environmental protection and energy saving.
- ✓ **Environmental monitoring evaluation and planning management:** Oriented to encourage talents mastering theory and skills of environmental monitoring for advanced application, as well with the spirit of fostering elites in environmental planning and management.
- ✓ **Air pollution analysis and control:** To understand the atmospheric environmental pollution sources and the migration and transformation of pollutants in the atmosphere, and grasp the basic methods, principles and typical purification process of removing the atmospheric pollutants.
- ✓ **Water resources and utilization of water resources:** The basic concept, assessment, classification of water environment will be introduced. The interactions and relationships between kinds of elements of water quality and their transport & variation will be discussed and realized. Furthermore, the concept, assessment, reasonable distribution & utilization of water resource will also be exhibited and its relationships between economic development and ecologic system will be explored

● Faculty Team

1、Prof Dr Quanyuan Chen (Doctor's Supervisor) 陈泉源教授、博导

Introduction: 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/s 10163-015-0410-y2015.
- [5] **Quanyuan Chen***, Qing Lan, Xinyin Li, Juan Zhou, Zaifu Yang, Utilization of fine powder indemolition concrete as recyclable coagulant in removing color from dye-bearing wastewater, Environ Earth Sci., DOI 10.1007/s12665-015-4683-12015.

2、Prof. Dr. Yanan Liu (Doctor's Supervisor) 刘亚男教授、博导

Introduction: 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.

3、 Prof. Dr. Jinli Qiao (Doctor's Supervisor) 乔锦丽教授、博导

Introduction: 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 (IAOEEES) <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.

4、 Dr. Jianyun Liu (Doctor's Supervisor) 刘建允教授、博导

Introduction: 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, Wenhui 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

5、 Dr. Xianying Li (Master's Supervisor) 李贤英博士，副教授

Introduction: 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 pyrimidine-containing hexaarylbenzene derivatives, *RSC Adv.*, 2015, 5, 99688

6、 Dr. Qunshan Wei (Master's Supervisor) 魏群山博士，副教授

Introduction: 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, MIEEX, 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, Qiuji 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, Qiuji 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

7、Dr. Lisha Zhang (Master's Supervisor) 张丽莎博士，副教授

Introduction: Dr. Lisha Zhang is the editor member of Scientific Report 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 Fe₂O₃-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 Bi₂S₃/Bi₂MoO₆ 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, Fe₂O₃-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*, Ta₃N₅-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 Bi₂WO₆ Superstructures with Bi₂O₃ Nanoparticles: An Efficient Method to Improve Visible-Light-Driven Photocatalytic Activity, Crystengcomm, **2013**, 15(44): 9011-9019 (SCI, IF: 4.034)

8、 Dr. Yuhui Wang (Master's Supervisor) 王宇晖博士 , 副教授

Introduction: 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

9、 Dr. Chensi Shen 沈忱思博士、 讲师

Introduction: 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.
- [3] **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.

10、Dr. Xuehui Xie 谢学辉博士、讲师

Introduction: 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 JiansheLiu. Bioleaching of Arsenic-Rich Gold Concentrates by Bacterial Flora before and after Mutation. *BioMed Research International*. **2013**: 1-10.

11、Dr. Xiang Li (Master's Supervisor) 李响博士、讲师

Introduction: 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**, 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. (SCI , IF=5.481 ,

—区)

[2] **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. (SCI , IF=3.055)

[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. (SCI , IF=5.323 , 二区)

● **About the School of Environmental Science & Engineering**

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.

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.

The Discipline of Environmental Engineering in Donghua university now includes: Environmental Engineering doctoral discipline; Environmental Engineering master discipline; Environmental Engineering post-doctoral station.