

Zucheng Guo

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EDUCATION

- Jan.2015~ Oct.2016 **Earth and Environmental Engineering, Columbia University, United States**
Course Highlight: Thermal treatment of waste and biomass materials, Energy analysis for energy efficiency, Industrial ecology, Carbon sequestration, Industrial Catalysis
- Sept.2013~ Sept.2014 **Institute of Mechanics, Chinese Academy of Sciences, Beijing, China**
Course Highlight: Introduction of Macroeconomics, Flow stability and turbulence, Viscosity of fluid mechanics, Linear-regression analysis
- Sept.2009~ Jul. 2013 **China Agricultural University , College of Water Resources and Civil Engineering, Beijing, China**
Bachelor of Engineering, 2013
Major: Hydraulic and Hydropower Engineering
Course Highlight: Groundwater Resource Assessment, Urban Water Supply, Engineering Hydrogeology, Engineering Geology & Hydrogeology Geology, Introduction to River Mechanics, Hydraulics and River Dynamics, Hydraulic Structure

RESEARCH & PROJECTS

- Dec.2017 ~ Date **A New Waste-to-Energy Plant in Lantian, China**
China Everbright International, Shenzhen, China
- Jan. 2016 ~ May.2016 **Pre-feasibility study of a waste-to-energy plant in Baotou, China**
WTERT, Columbia University, New York, United States, Advisor: Prof. Nickolas J. Themelis
Technologies and Financial analysis of waste-to-energy technology
- Sept.2013~ Jun. 2014 **The improvement of PIV(Particle Image Velocimetry)method**
National Microgravity Laboratory, Chinese Academy of Sciences, China, Advisor: Prof, Li Duan
Designed and built a set of device to filter tracer particles
Used different tracer particles to simulate the flow field of the different water conditions
- Jul. 2012 ~ Jul. 2013 **The Influence of Sediment on the Phosphorus Sorption**
Sediment Laboratory, Tsinghua University, Beijing; Water Conservancy Laboratory and Resources and Environmental Laboratory, China Agricultural University, Beijing / Advisor: Prof. Minghong Chen
Self-learned chemical experiment method including experiment principles and operation steps
Applied Langmuir isotherm and Freundlich isotherm to demonstrate the relationship between the concentration of sediment adsorption equilibrium and equilibrium adsorption quantity
Optimized the experiment data by changing operation methods including to bake sample rather than to filter, and to add more groups of repeated experiments after summarizing and analyzing the previous data
- Jul.2011 **Course Practice of LandSurvey, Team Leader**
Tailing Village, Changping District, Beijing / Advisor: Prof. Chunfa Zhou
Self-learned CASS to draw a local topographic map. Skillfully operated the Level Instrument, Altazimuth and Total Station to measure local terrain Completed all the work within 11 days, shortened the planned time by 20%

PATENTS & PAPERS

- Feb. 2018 **A Method for The Combination of Waste Incineration and Hydrothermal Liquefaction for the Co-Processing of Municipal Solid Waste and Kitchen Waste**
Inventor: Zucheng Guo*, TianZhi Want, Zhiting Guo, Jun Yan, Dapeng Liu, Lei Qu, Hao Wang
Right: Zucheng Guo, TianZhi Want, Zhiting Guo
- Jan. 2018 Tianzhi Wang, Zucheng Guo*, Di Wang, Cigong Ning. **Microbial mechanism of organic contaminant removal of sodium bentonite/clay (BC) mixtures in high permeability regions utilizing reclaimed wastewater.** 2018, Submitted to Science of the Total Environment(Manuscript Number: STOTEN-D-18-00479)

HONORS&AWARDS

- 2012 The Second Place in the China Agricultural University Soccer Competition
- 2011 The First Prize of the Structure design competition
- 2011 Excellent Practice Team of China Agricultural University
- 2011 Advanced Individual of China Agricultural University Winter Vacation Social Practice
- 2010 The Second Prize of the Structure design competition
- 2009 The Second Prize of The National Mathematics League

SKILLS

Computing Skill: AutoCAD, Ansys, Matlab, CASS, Teclop, Fluent Programming Languages: C++