

## XUN GUAN

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### EDUCATION

**Johns Hopkins University**, Baltimore, Maryland, US

Sep. 2019 – Jan. 2021

- *Master of Science in Engineering in Environmental Health and Engineering* (GPA: 3.93/4.0)
- Courses: Aquatic and Biofluid Chemistry, Physical and Chemical Process I&II, Experimental Methods in Environmental Engineering and Chemistry, Environmental Health and Engineering System Design, Environmental Transport and Dispersion, Current Trends in Environmental Microbiology

**Northeast Agricultural University**, Harbin, Heilongjiang, China

Sep. 2014 – Jun. 2018

- *Bachelor of Science in Environmental Engineering* (GPA: 85/100, Top 5)
- Courses: Bioremediation of Environmental Pollution, Environmental Microbiology, Water Quality Control Engineering, Environmental Chemistry, Principle of Environmental Engineering, Air Pollution Control Engineering
- Awards: Scholarship for “Merit Student” of Northeast Agricultural University (2015–2017); The Excellent Prize in the Mathematical Modeling Contest of China (Jan.2017); The Second Prize in the Mathematical Modeling Contest of Heilongjiang Province (Dec.2016); The Second Prize of Social Practice Survey of Heilongjiang Province (Nov. 2016)

### RESEARCH

#### **Research on the available phosphorus contents different fertilizer crop growth stages in black soil**

Researcher

Sep. 2017 – May. 2018

- Designed the controlled experiment and determined the phosphorus content in the collected soil samples;
- Analyzed the data to get the optimal phosphorus circumstance and summarized the results for the thesis.

#### **Performance and microbial community analysis of a microaerophilic sulfate and nitrate co-reduction system**

Research Assistant

Jul. 2016 – Jun. 2017

- Set up a lab-scale expanded granular sludge bed with an additional aeration tank;
- Used high-throughput next generation sequencing to characterize microbial communities;
- Analyzed the data and prepared the visualized dashboard through excel and Origin;
- Assisted with paper summarization and translation.

#### **Research on the Impact of Biofouling on the Transport of Colloidal Pollutants in Stormwater Runoff**

Research Assistant (Dr. Sarah Preheim’s lab)

Sep. 2019 – Jan. 2021

- Analyzed the biofilm microbial composition with strain-specific primers using Real-time quantitative Polymerase Chain Reaction;
- Used enzymatic restriction digestion to verify the genetic identity of the biofilms in columns, which involved DNA extraction from sand samples, DNA recovery and purification as well as gel electrophoresis.

### PUBLICATION

[1] Xi-Jun Xu, Chuan Chen, **Xun Guan**, Ye Yuan, Ai-Jie Wang, Duu-Jong Lee, Zi-Feng Zhang, Jian Zhang, Ying-Juan Zhong, Nan-Qi Ren, “Performance and microbial community analysis of a microaerophilic sulfate and nitrate co-reduction system”, *Chemical Engineering Journal* 330 (2017) 63–70.

### WORK EXPERIENCE

**Hongli Solar Environmental Protection Technology Co., Ltd.** Harbin, China

Dec. 2017 – Mar. 2017

Assistant Engineer

- Completed engineering drawings by Auto CAD for the whole process of the system;
- Prepared a technical report including site assessment, technical process and financial analysis.

**Huicheng Environmental Monitoring Co., Ltd.** Harbin, Heilongjiang, China

Jun. 2016 – Sep. 2016

#### Lab Analyst

- Performed on-site air quality inspections, including PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>2</sub> and CO, and summarized the data for the air quality report;
- Performed tests for determination of BOD, COD, heavy metals, and organic compounds in water samples;
- Learned environmental impact assessment for industrial program.

#### **SKILLS**

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**Laboratory** – Operation of Ion Chromatography, HPLC, GC, GC-MS; Capable to do some microbial experiments such as enzymatic restriction digestion, gel electrophoresis.

**Computer** – Matlab, Python (basic), Origin (basic), Auto CAD, Microsoft Word, Excel, PowerPoint.

**Language** – English (full professional proficiency), Chinese (native proficiency).