

# CURRICULUM VITAE

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## Kuan Huang

Graduate Research Assistant (Starting on August 15, 2016)  
Department of Civil and Environmental Engineering  
The Pennsylvania State University, 777 West Harrisburg Pike, Middletown, PA 17057, USA  
Telephone: +86 150-7313-5174; Email: [kzh21@psu.edu](mailto:kzh21@psu.edu)  
Homepage: <http://www.minnwater.com/research/?p=796>

### EDUCATION

- B.S. in Water Supply and Drainage Engineering, Department of Water Engineering and Science, College of Civil Engineering, Hunan University (June 2016)  
Core courses: Water Supply Engineering; Water Treatment; Wastewater Drainage Engineering; Wastewater Treatment; Environmental Microbiology; Water Analytical Chemistry; Physical Chemistry; Water Treatment Plant Design; Wastewater Treatment Plant Design; Hydrology; Fluid Mechanics; Civil Engineering Drawing; Organic Chemistry
- Biotechnology Program, College of Biology Science, Hunan University (Admitted in September 2012, and transferred to College of Civil Engineering in August 2013)

### RESEARCH EXPERIENCE

- Undergraduate Research Assistant, Department of Water Engineering and Science, College of Civil Engineering, Hunan University (March 2014 – June 2016)
  - ❖ Impact of temperatures on desalination performance of CDI (Faculty Advisor: Prof. Hao L. Tang, Ph.D., P.E.)
    - Performed experimental design and assembled a new bench-scale apparatus
    - Collected and analyzed data
    - Wrote a research report and one journal paper is under preparation
  - ❖ Relation between operating parameters and desalination performance of CDI (Faculty Advisor: Prof. Hao L. Tang, Ph.D., P.E.)
    - Conducted literature research and wrote three review papers on CDI technology
    - Performed experimental design and assembled a bench-scale apparatus
    - Collected and analyzed data
    - Wrote a research report and published a peer reviewed journal paper
  - ❖ Infiltration rate and rainfall-runoff coefficient study of red soils (Faculty Advisor: Prof. Shirong Xu)
    - Statistical analysis (F-test) of various factors impacting the infiltration rates and rainfall-runoff coefficients

- Construction and reformation of large-scale experimental equipment
- Undergraduate Research Assistant, College of Biological Science, Hunan University (October 2012 – January 2013)
  - ❖ Survey of vegetation at Hunan University (Faculty Advisor: Prof. Yaohong Gao)
    - Surveyed 247 vegetation species and assisted in editing the book “Overview of vegetation at Hunan University”

### **TEACHING EXPERIENCE**

- Undergraduate Teaching Assistant, Department of Water Engineering and Science, College of Civil Engineering, Hunan University (September 2015 – November 2015)
  - ❖ *Introduction to Water and Wastewater Engineering* (taught in English by Prof. Hao L. Tang, Ph.D., P.E. in Fall 2015)
    - Delivered a 45-min talk on current research project
    - Assisted in answering questions in office hours
    - Participated in grading homework and exams

### **INTERNSHIP EXPERIENCE**

- R&D Engineer Intern, Ningbo Chuanning Environmental Protection Technologies Co. Ltd., Ningbo 315048, China (January 2015 – February 2015)
  - ❖ Development of 5 tons per day pilot-scale CDI system (Supervisor: Mr. Yongfu Shao, General Manager)
    - Acquired materials (e.g. activated carbon cloth, titanium wires, ion-exchange membranes) for system assembly
    - Performed engineering calculations and AutoCAD designs
    - Filed a patent with the State Intellectual Property Office of the PRC

### **HONORS AND AWARDS**

- First Prize of Outstanding Undergraduate Thesis, Hunan University (2016)
- Outstanding Graduate of General Universities, Hunan Province (2016)
- Outstanding Graduate of Hunan University (2016)
- Person of the Year of College of Civil Engineering, Hunan University (2015)
- National Endeavor Fellowship (2015)
- Undergraduate Research Assistantship, Hunan University (2015-2016)
- Third Prize in Professional Knowledge Competition, Hunan University (2014)
- Outstanding Organizer of Social Entrepreneurship Association of Hunan University (2014)
- Outstanding Organizer of Mingcang Cup National College Students Entrepreneurship Competition (2013)
- Volunteer of Hunan Province (2013-2016)

## PUBLICATIONS

1. Danyang Liu, Kuan Huang, Leijie Xie, Hao L. Tang\*. Relation between operating parameters and desalination performance of capacitive deionization with activated carbon electrodes. *Environmental Science: Water Research & Technology*, 2015, 1, 516-522. DOI: 10.1039/C5EW00102A.
2. Kuan Huang, Hao Tang\*, Danyang Liu, Siyu Zhu, Zhiyong Ren. A Review of Capacitive Deionization Technology: Part 1. Theoretical Foundations. *Environmental Engineering*. (In Chinese) (In press)
3. Kuan Huang, Hao Tang\*, Danyang Liu, Siyu Zhu, Zhiyong Ren. A Review of Capacitive Deionization Technology: Part 2. Electrode Materials. *Environmental Engineering*. (In Chinese) (In press)
4. Kuan Huang, Hao Tang\*, Danyang Liu, Siyu Zhu, Zhiyong Ren. A Review of Capacitive Deionization Technology: Part 3. Impact Factors. *Environmental Engineering*. (In Chinese) (In press)
5. Danyang Liu, Hao Tang\*, Kuan Huang, Leijie Xie, Zhiyong Ren. Progress in membrane capacitive deionization and microbial capacitive desalination cell technologies. *Technology of Water Treatment*. 2015, 12, 20-24. (In Press)
6. Kuan Huang, Jian Yu, Hao Tang\*. A microbial capacitive desalination fuel cell technology. China Patent Application No. 201410824619.4. (In Chinese)
7. Hao Tang\*, Leijie Xie, Kuan Huang, Danyang Liu. A slot-lockable multi-series capacitive deionization device. China Patent Application No. 201510129740.X. (In Chinese)

## CONFERENCE PRESENTATIONS

1. Kuan Huang (Presenter), Hao L. Tang\*, Zhiyong Ren, Danyang Liu, Leijie Xie. Capacitive deionization with activated carbon electrodes for desalination of wastewater for reuse applications. The 4th Annual World Congress of Advanced Materials (WCAM 2015), May 27-29, 2015, Chongqing, China.

## SKILLS

- Language skills: English (fluent), Mandarin Chinese (native)
- Laboratorial skills: Reactor design; Experimental design; Water quality analysis (e.g. BOD, COD, TOC, TSS, TN, TP); Instrument analysis and maintenance (ion chromatograph); Statistical analysis
- Computer skills: MS office suite, SPSS, AutoCAD, MATLAB, Photoshop, C/C++

## EXTRACURRICULAR ACTIVITIES / MEMBERSHIP

- Financial controller & co-administrator, Dr. Hao L. Tang's research group
  - ❖ Responsible for reimbursement and laboratory management affairs
- Founding member, Water and Wastewater Engineering Association of Hunan University
  - ❖ Advised freshmen on their academic study and research

- Vice Chairman, Social Entrepreneurship Association of Hunan University
  - ❖ Organized various charitable events in and out campus

## **HOBBIES**

- Cycling
  - ❖ Cycled across the Inner Mongolia Prairie and Greater & Lesser Khingan within 27 days, traveled 2700 km and 16 cities
- Hiking
  - ❖ Twice walked across 3 cities in 1.5 days, each over 100 km
- Photography; Traveling; Running; Watching movie; Cooking; Fishing; Text editing; Badminton; Football