

# Curriculum Vitae

## Meng Sun

Ph.D. Environmental Engineering

Key Laboratory of Drinking Water Science and Technology

Research Center for Eco-Environmental Science, Chinese Academy of Sciences

Email: christie007@163.com Tel: 86-18614058121 (Beijing, China)

Email: meng.sun@yale.edu Tel: 1-203-809-7843 (New Haven, USA)

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### **Field of Specialization**

Electrochemical water treatment and purification

Electrochemical analysis

Nanomaterials synthesis and applications

### **Education**

- June 2016* Ph.D. in Environmental Engineering, Research Center for Eco-Environmental Science, Chinese Academy of Sciences, Beijing, P. R. China. (Superadvisor: Jiuhui Qu, Academician of Chinese Academy of Engineering)
- July 2014 – June 2015* Ph.D. Short-term exchange student for electroanalytical chemistry, in Department of Chemistry, Tsinghua University, Beijing, P. R. China. (Superadvisor: Jinghong Li, Cheung Kong Professor)
- June 2012* M.S. in Environmental Engineering, College of Environment and Resources, Jilin University, Changchun, P. R. China.
- June 2009* B.S. in Environmental Engineering, College of Environment and Resources, Jilin University, Changchun, P. R. China.

## Research experience

**Key Laboratory of Drinking Water Science and Technology, Research Center for Eco-Environmental Science, Chinese Academy of Sciences, Graduate Research Assistant, 09/2012-06/2016**

1. Pilot-scale project case research on typical refractory petrochemical wastewater by electrochemical oxidation/coagulation/biological contact oxidation processes. (50–100 m<sup>3</sup>/d for six months, key member, funded by the Major Program of National Natural Science Foundation of China, No. 51290282.)
2. The role of pH in Electro-Fenton process: the optimal control of Electro-Fenton process by pH inflection points. (Funded by the National Natural Science Foundation of China, No. 51221892.)
3. Synthesis of AuPd/carbon nanotube (AuPd/CNTs) nanocatalysts for highly efficient degradation of organic pollutants *via* Electro-Fenton process. (Key member, funded by the National Natural Science Foundation of China, No. 21235004.)
4. Redox conversion of Cr(VI) and As(III) via AuPd/CNTs electrocatalysis in acid aqueous solution with intermediates of Cr(V) and As(IV). (Key member, funded by the National Science Fund for Distinguished Young Scholars of China, No. 51225805.)
5. Synthesis of AuPd/three-dimensional graphene frameworks (AuPd/3DGFs) as particle electrodes for multi-functional electrochemical wastewater treatment. (Funded by the National Basic Research Program of China, No. 2011CB935704.)

**Section for electroanalytical chemistry, Department of Chemistry, Tsinghua University, Ph.D. Short-term training, 07/2014 –06/2015**

1. The electrocatalytic oxygen reduction behavior of transition metal oxides based carbon materials nanocomposites in both acid and alkaline solution.
2. Design and synthesis of transition metal phosphide nanoparticles for energy conversion and storage.

## Publications

**First author (Total cited 49; avg. IF: 8.03)**

1. **Meng Sun**, Huijuan Liu, Jiuhui Qu\* and Jinghong Li. *Adv. Energy Mater.*, 2016, 6, 201600087. (IF: 15.724)
2. **Meng Sun**, Youzhen Dong, Gong Zhang, Jiuhui Qu\*, Jinghong Li\*. *J. Mater. Chem. A*, 2014, 2, 13635-13640. (IF: 8.262, cited times 13)
3. **Meng Sun**, Yang Liu, Huijuan Liu, Jiuhui Qu\*, Jinghong Li\*. *Nanoscale*, 2015, 7, 1250-1269. (IF: 7.76, cited times 26)
4. **Meng Sun**, Gong Zhang, Yang Liu, Huijuan Liu, Jiuhui Qu\*, Jinghong Li\*. *Chemistry - A European Journal*, 2015, 21, 1–11. (IF: 5.771, cited times 1)

5. **Meng Sun**, Gong Zhang, Yinghua Qin, Jinghong Li, Jiuhui Qu, Huijuan Liu. *Environmental Science & Technology*, 2015, 49, 9289–9297. (IF: 5.39, cited times 3)
6. **Meng Sun**, Fayuan Chen, Jiuhui Qu, Huijuan Liu, Ruiping Liu\*. *Chemical Engineering Journal*, 2015, 269, 399–407. (IF: 5.310, cited times 1)
7. **Meng Sun**, Gong Zhang, Huijuan Liu, Yang Liu and Jinghong Li. *Science China Materials*, 2015, 58: 683–692. (IF pending, cited times 1)

### Co-author

8. Gong Zhang, **Meng Sun**, Yang Liu, Xiufeng Lang, Li-Min Liu, Huijuan Liu, Jiuhui Qu\*, and Jinghong Li\*. *ACS Appl. Mater. Interfaces*, 2015, 7, 511–518. (IF: 7.145)
9. Gong Zhang, **Meng Sun**, Yang Liu, Huijuan Liu, Jiuhui Qu\*, Jinghong Li\*. *Langmuir*, 2015, 31, 1820–1827. (IF: 3.993)
10. Gong Zhang, Ziyu Hu, **Meng Sun**, Yang Liu, Limin Liu, Huijuan Liu,\* Chin-Pao Huang, Jiuhui Qu, and Jinghong Li\*, *Adv. Funct. Mater*, 2015, 25, 3726–3734. (IF: 11.382)
11. Ran Mao, Ning Li, Huachun Lan, Xu Zhao, Huijuan Liu, Jiuhui Qu\*, and **Meng Sun**. *Environmental Science & Technology*, 2016, 50, 3829-3837. (IF: 5.39)
12. Yinghua Qin, **Meng Sun**, Huijuan Liu and Jiuhui Qu. *Electrochimica Acta*. 2015, 186, 328-336. (IF: 4.803)
13. Huachun Lan, Jianfei Li, **Meng Sun**, Xiaoqiang An, Chengzhi Hu, Ruiping Liu, Huijuan Liu, Jiuhui Qu\*. *Water Research*, 2016, 100, 57-64. (IF: 5.9)

### Paper in preparation or submitted

1. **Meng Sun**, et al. Fe(III)-EDTA as Precursors to synthesis High-performance Iron-Nitrogen-Doped Carbon Catalysts for Oxygen Reduction Reaction. (To be submitted)
2. **Meng Sun**, et al. Novel Three-dimensional Nitrogen Doped Graphene Frameworks Supported AuPd macrostructures for Highly Efficient Wastewater Treatment. (To be submitted)

### Skills

**Laboratory techniques:** Anion or cation routine analysis, Electrochemical analysis, HPLC-ICP-MS, UPLC-MS, Gel permeation chromatography (GPC), GC MS, Capillary electrophoresis (CE), Mossbauer Spectroscopy (Ms), Extended x-ray absorption fine structure (EXAFS), TOC/TON, UV-vis, FTIR, XRD, Raman, XPS, BET, SEM, TEM, AFM, TGA, et al.

**Course:** completed in Environmental Sciences, Environmental Engineering Science, Inorganic Chemistry, Organic Chemistry, Analytical chemistry, Physical Chemistry, Water treatment technology, Membrane separation technique, Principles of Chemical Engineering, Environmental microbiology, Ecology, Groundwater science and technology

## **Awards**

- 2016 The Outstanding Graduates of Beijing
- 2016 The Outstanding Graduates of University of Chinese academy of sciences
- 2016 The Dean Scholarship of the Chinese academy of sciences
- 2016 The Special prize of ORGANO Water Prize
- 2015 National Scholarship for Distinguished Doctorates
- 2015 Merit student of University of Chinese Academy of Sciences
- 2015 Zhu Li Yue Hua Scholarship of Chinese Academy of Sciences for Distinguished Doctorates
- 2015 Special Prize Scholarship of Research Center for Eco-Environmental Science, Chinese Academy of Sciences
- 2013–2014 First Prize Scholarship of Research Center for Eco-Environmental Science, Chinese Academy of Sciences (twice)
- 2012 Second Prize Scholarship of Research Center for Eco-Environmental Science, Chinese Academy of Sciences
- 2012 Outstanding Graduates Awards of Jilin University
- 2012 Excellent Master Thesis of Jilin University and Nomination of the Outstanding Master Thesis in Jilin province
- 2011 National Scholarship for Graduate Students
- 2010–2011 First Prize Scholarship of Jilin University (twice)
- 2009 Outstanding Freshman Scholarship of Jilin University
- 2009 National Scholarship for Undergraduates

## **Research interests**

I am interested in the design and synthesis of functional nanomaterials and nanostructures, as well as their energy and environment applications combining with the electrochemical processes. Especially, I hope to study the incorporation of electrochemical technologies and nanomaterials before/into membrane technologies for optimal performance of membrane-based processes. In my Ph.D. study, I was well trained by Prof. Jiuhui Qu at Research Center for Eco-environmental Sciences, Chinese Academy of Sciences and Prof. Jinghong Li at Tsinghua University, and I am familiar with the electrochemical techniques of wastewater treatment, nanomaterial synthesis and electrochemical property characterizations.