

Chuqing Zhou

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EDUCATION

University of California, Davis 09/2018~

Ph.D. Program in Chemical Engineering

University of California, San Diego 09/2015~03/2017

Master of Science: Chemical Engineering GPA: 3.7/4.0

Shandong University 09/2011~06/2015

Bachelor of Engineering: Chemical Engineering GPA: 88.8/100 (3.6/4.0); GPA Ranking: 2/54

KEY SKILLS

Research-Oriented Basic Chemistry and Biology Experiments; Fluids Mechanisms of Microfluidics design; Synthesis and Characterization of nanomaterials/biomaterials; Electrochemistry.

Engineering-Oriented Microfluidics device design, fabrication and simulation; Electrochemical biosensor design and fabrication; Chemical & Biochemical reactor design (Engineering-in-Training (EIT) Certificate); algorithm development and data analysis.

Software C/C++, Matlab, CAD, Solidworks, Aspen Plus.

RESEARCH AND INTERNSHIPS

Research Assistant | *Laboratories of Prof. Tingrui Pan and Prof. Cheemeng Tan, UC Davis* 06/2018~

- Design, fabricate and characterize microfluidic droplet generation devices and integrate them into a fully automated sample processing system for high-throughput screening

Research Associate | *Wondfo Biotech Co., Ltd. San Diego* 08/2016~ 05/2018

- Assisted Dr. Lei to design portable electrochemical medical devices for hematology tests, including microfluidics design and system integration
- Assisted Senior Scientist Gabriela Korzus to develop immunoassay device for human vitamins detection, focusing on coating and characterizing antibodies on the chip
- Coordinated Tech transfer and Product Registration process and carry on the partial document work

Biochemical Engineering Intern | *Cell Separation department in BioLegend Inc., San Diego* 06/2016~08/2016

- Assisted Senior Scientist Dhanesh Gohel to conduct bio-organic ferrofluid characterization studies used for cell separation

Research Associate | *Laboratory of Dr. Ye Zhu, Shandong University* 09/2014~07/2015

- Conducted electrochemical experiments with a three-electrode system using various electrochemical methods, such as CV, DPC, EIS and characterized assembled-sensors using SEM, TEM, XPS, XRD
- Applied DNA technology and nanotechnology to improving the sensitivity and selectivity of biosensors and completed my undergraduate thesis named 'A signal amplification strategy based on DNA assembled nanocatalyst network for electrochemical detection of microRNA', praised as 'Excellent Undergraduate Thesis'

Research Assistant | *Laboratory of Prof. Yi Ding, Shandong University* 09/2012~07/2015

- Explored electro-catalytic and optical properties of nanoporous gold (NPG) and designed sensitive NPG-based electrochemical sensor for BPA detection

- Conducted original research combining SERS technology with NPG for mercury detection

Project Leader | *A largest chemical engineering contests for college students in Shandong* 05/2014~07/2014

- Completed a proposal aiming at reducing the pollutant in industrial wastewater from a local factory
- Developed a mathematic model to simulate a task of separating process

Reader/Teaching Assistant Experience | *University of California, San Diego and University of California, Davis*

- Reader: graded homework, papers, and exams in the courses Mass Transfer and Fluid Mechanisms
- Teaching Assistant: graded homework and exams, hosted office hours in the course Thermodynamics

GRADUATE PROJECTS

Chemical Reaction Design | *Course: Chemical Reaction Engineering* 03/2016~06/2016

- Researched on Reaction-Diffusion process control and used Matlab to simulate Reaction-Diffusion in porous catalysts and in Chemical Vapor Deposition (CVD)

Numerical Methods | *Course: Numerical Methods* 09/2015~03/2016

- Improved numerical accuracy and stability through advanced numerical methods to solve ODEs and PDEs

HONORS

- 2014 Presidential Scholarship, Shandong University (30/28,000 undergraduates)
- 2014 National Scholarship, Chinese Ministry of Education (GPA top 2%)
- 2013 'Excellent College Student' of Shandong Province (1/1,000 Engineering students)

PUBLICATIONS

- *Jingjing Wang, Ka Deng, **Chuqing Zhou (Co-first author)**, Zecong Fang, Conary Meyer, Kaustubh Umesh-Anjali Deshpande, Zhihao Li, Xianqiang Mi, Qian Luo, Bruce D. Hammock, Cheemeng Tan, Yan Chen, Tingrui Pan, 'Microfluidic Cap-to-Dispense (μ CD): A universal microfluidic-robotic interface for automated pipette-free high-precision liquid handling', *Lab on a Chip* (accepted in Aug. 2019)*
- *Co-author of three patents (CN208091967U, CN108761105A, CN108398470A), Wondfo Blood Coagulation Analyzer System, 2018-2019*
- *Ye Zhu, **Chuqing Zhou**, Xupeng Yan, Yan Yan, Qiang Wang, 'Aptamer-functionalized nanoporous gold film for high-performance direct electrochemical detection of bisphenol A in human serum', *Analytica Chimica Acta*, Volume 883, 9 July 2015 (Cited by 58 until Aug. 2019)*
- *Xupeng Yan, **Chuqing Zhou**, Yan Yan, Ye Zhu, 'A simple and renewable nanoporous gold-based electrochemical sensor for bisphenol A detection', *Electroanalysis*, Volume 27, Issue 12, pages 2718-2724, December 2015 (Cited by 12 until Aug. 2019)*
- *Ye Zhu, Yan Yan, **Chuqing Zhou**, Xupeng Yan, Patent CN104749233 B, granted on Sep. 2017*