

# Hongni Jin

## **OBJECTIVE**

A position for 2020 fall PhD project

## **CONTACT**

neon.jin77@gmail.com

## **EDUCATION**

01/09/2016–Present      Bachelor of Science in Chemistry  
Central China Normal University (CCNU), Wuhan (China)

19/07/2018–20/06/2019      Exchange Program  
The University of Newcastle (UoN), New South Wales (Australia)

GPA: 85.30/100

## **Standard Tests**

**GRE:** Verbal-158; Quantitative-168; Analytical writing-3.5

**TOEFL:** Reading-27; Listening-27; Speaking-22; Writing-27; Total-103

## **Research Experiences**

**Design novel amphiphilic fluorosurfactants for anti-corrosion**      Jul 2019-present

**Mentor:** Prof. Aidong Zhang

**Institute:** College of Chemistry, CCNU

- 1-Hexanesulfonyl fluoride and 1-Methylpiperazine were used as starting materials to prepare a series of fluorosurfactants containing nitrogen heterocycle
- Employed  $^1\text{H}$  and  $^{19}\text{F}$  NMR and MS techniques to determine the structure of products
- Measured the surface activity of the already-synthesized surfactants
- Currently, continue to synthesize more targeted fluorosurfactants

**Ru(III) polyethyleneimine (PEI) complexes for bifunctional ammonia production and biomass upgrading**

Feb 2019-Jun 2019

**Mentor:** Dr. Tianyi Ma

**Institute:** Discipline of Chemistry, UoN

- Ru(III) and PEI were prepared together as a co-catalyst covered on carbon cloth
- Employed a three-electrode system to catalyse the  $\text{N}_2$  reduction reaction (NRR) under different potentials with an electrochemical workstation
- Characterized the catalyst samples using SEM and XRD
- Measured ammonia yield and calculated the Faradaic efficiency (FE)

## **Studies on electrochemical reduction of N<sub>2</sub> using transition metals**

Jul 2018-Jan 2019

**Mentor:** Dr. Tianyi Ma

**Institute:** Discipline of Chemistry, UoN

- Prepared elements of Fe and Ru by reducing their respective chlorides with NaBH<sub>4</sub>
- Employed electrochemical techniques, including CV, LSV and EIS to help to investigate NRR
- Compared the catalytic efficiency between transition metals and Ru-C<sub>3</sub>N<sub>4</sub> complex

## **Professional skills**

- Techniques required for organic synthesis and purification, including distillation, extraction, filtration, TLC and column chromatography
- Techniques for sample characterization and structure analysis, including SEM, XRD, NMR and MS
- Techniques for the synthesis of nanomaterials like centrifugation, coating and fixation;
- Techniques for electrochemistry, including the design of three-electrode system and operation of electrochemical workstation.
- Skill for information retrieval, including SciFinder, Reaxys and Web of Science
- Programming Language: Python

## **Social Service**

**The 10th Chinese National Conference on Chemical Biology (CNCCB) 23/09/2017-26/09/2017**

4 full-time days, roles include miss etiquette, usher and waiter

**Volunteer teaching in CCNU**

**Apr 2017-May 2017**

5 hours each week, teach retired professors in CCNU how to use mobile phones

## **Honours and Awards**

**2018-2019** Scholarship, China Scholarship Council (CSC) (the only one among more than 1000 students in Chemistry, CCNU)

**2017** Experimental Skills Competition, Excellent Group Award, CCNU

**2017,2016** Dangui Awards, CCNU (top 5% in CCNU)

**2016** Learning activists, CCNU (top 8% in CCNU)

**2016** Certificate of summer camp from Tsinghua University-Peking University Center for Life Sciences (CLS)