Gong Zixuan

Email: gongzx2022@163.com Tel: (44) 7387823022

EDUCATION

Imperial College London 2021.10 - 2022.10

Advanced Chemical Engineering (MSc 1YFT) London, U.K.

- **GPA**: 74.39%
- **Core courses**: Advanced Process Design, Biochemical Engineering, Advanced Process Optimization, Dynamic Behavior of Process Systems, Fluid mechanics, Membrane Science and Membrane Separation Processes, Particle Engineering

The University of Edinburgh 2019.08 - 2021.06

Bachelor of Engineering with Honours in Chemical Engineering Edinburgh, U.K.

- **GPA**: 73.28%
- **Core courses**: Solids Processing, Thermodynamics and Unit Operations, Process Dynamics and Control, Process Safety, Chemical Engineering Design

South China University of Technology (SCUT) 2017.09 - 2019.07

"2+2" Joint Program of SCUT and the University of Edinburgh, Dual Degree Guangzhou, China

Bachelor of Engineering in Chemical Engineering and Technology

- **GPA**: 3.4/4.0
- **Awards**: Second prize scholarship, SCUT, 2018(top 16%); Study Abroad Scholarship, SCUT, 2019

INTERNSHIP

Eagles Men Aeronautic Science & Technology Group Co.,Ltd. 2020.06 - 2020.08

Intern technician, The First Business Division Beijing, China

- Reviewed a great deal of literature to search for ideal materials for the synthesis and massive production of **Composite Wave-Absorption Materials**;
- Tested the **physico-chemical** properties of the chosen materials;
- Analyzed the **FT-IR** and **XRD** spectrum of single material and its composite and compared their characteristic absorption peak of functional groups to identify whether or not it is successfully compounded;
- Conducted **feasibility analysis** to reduce mass production cost.

Chinese Academy of Sciences. 2023.06 - present

Research Assistant, Institute of Process Engineering

The comparative and experimental study on structure with optimization of new type homogenization valve based on CFD technology

- **Mathematical modelling** of two homogeneous valves with radial dispersion structure;
- Provide detailed information on the variation of velocity and pressure parameters in the flow field inside the homogenising valve;
- **Numerical simulation** and **experimental verification;**
- Propose the **optimisation** of the design of the homogenising valve structure.

PROJECT EXPERIENCE

Process Design for Acetone - Water Continuous Rectification Column 2019.06 - 2019.07

Supervisor: Prof. Jiang Yanbin, SCUT

- Drew PFD (Process Flow Diagram) and Parts Map utilizing AutoCAD;
- Implemented and checked Process Calculation including material calculation, dimension calculation, hydrodynamics calculation, etc;
- Conducted structural design and load-bearing analysis of the rectification column;
- Validated formula via Excel and performed process simulation on PRO/II.

Chemical Engineering Design Project - Design of an olefin plant for the production of polymers or polymers and intermediates 2020.09 - 2021.03

Supervisor: Dr. Cher Hon Lau, The University of Edinburgh

- Process selection;
- Thermodynamic and chemistry analysis;
- Economic analysis;
- Short cut design of cracking process;
- Process modelling utilizing HYSYS and gPROMS;
- Mass and energy calculations of the plant;
- Drew PFD and P&ID utilizing AutoCAD.

Chemical Engineering Design Project - Liquid-based exfoliation of graphite to form graphene 2022.05 - 2022.09

Supervisor: Professor Omar K. Matar, Imperial College London

- The use of two in-house developed devices for the lab-scale production of graphene;
- Explore the controllability of the graphite exfoliation process;
- Experimental Graphene rig will be deployed using Taylor-Couette flow;
- Monitor and control the liquid exfoliation process in heterogeneous dispersion in real-time;
- Characterize the separated graphene product;
- Provide a scalable solution that can ensure batch quality, traceability, and repeatable performance.

PUBLICATION

(Manuscript under review) Yuting Li; Yu Wang; Haoran Kong; **Zixuan Gong**; Qinhuan Wang; Jin Yan; Xiang Liu. Large-scale conformal synthesis of one-dimensional MAX phases.

EXTRACURRICULUM ACTIVITIES

- 2020 International Online Summer School - "Green for Life", China-UK Low Carbon College, 2020
- Award for New Students, The 8th Reading Competition, SCUT, 2019
- Theme Activity "Advice and Suggestions for School & Top Ten Proposals", SCUT, 2017

SKILLS

AutoCAD (Skilled); HYSYS (Skilled); PRO/II (Skilled);

Matlab (Average); gPROMS (Average); GAMS (Average); ANSYS Fluent (Average).