Yuxin Shen

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EDUCATION

Imperial College London, Department of Chemical Engineering, London, UK
MSc in Advanced Chemical Engineering
Master of Science with Distinction (Grade:76.26/100) Oct 2020 – Sep 2021

- Core Modules: Modelling of Biological Systems(96), Advanced Bioprocess Engineering(79), Advanced Process Operations(79), Dynamical Systems in Chemical Engineering(81), Biochemical Engineering(76), Advanced Process Optimisation(83), Advanced Process Design(71)

Fudan University, Department of Chemistry, Shanghai, China
BSc in Chemistry Sep 2016 – Jul 2020

- Core Modules: Physical Chemistry I(A), II(A), III(A-), Organic Chemistry I(A), II(A), Inorganic Chemistry(A), Analytical Chemistry I(A), II(A), Introduction to Modern Biological Science(A-), Topics in Organic Chemistry(A), Experiments in Modern Analytical Chemistry(A-), Inorganic Synthesis(A), and related experiments
- Summer Program in Chemical Biology at University of Hong Kong (HKU)

SCIENTIFIC RESEARCH EXPERIENCES

MSc Research Project
Department of Chemical Engineering, Imperial College London Nov 2020 – Sep 2021
A comparative study of surrogate methods in model-based design of experiments for parameter precision
Supervisor: Benoit Chachuat

- Applied different surrogates (High Dimensional Model Representation, Artificial Neural Network, Bayesian Neural Network) to approximate the model sensitivities
- Conducted design of experiments with the surrogate sensitivities, and compared the performance of surrogates
- Demonstrated the effectiveness of the surrogate method in reducing computational cost and analysed the best applicable conditions of each surrogate

Undergraduate Thesis
Peptidomics Research Group, Department of Chemistry, Fudan University Feb 2020 – Jul 2020
Synthesis and phosphorylated peptides enrichment ability of $Fe_3O_4@mPDA@Ti^{4+}$
Supervisor: Chunhui Deng

- Synthesised mesoporous IMAC material $Fe_3O_4@mPDA@Ti^{4+}$ for phosphorylated peptides enrichment
- Characterised the material by SEM, TEM, BET and EDX
- Proved its selectivity to enrich phosphorylated peptides by conducting the enrichment and MALDI-TOF-MS analysis of trypsin hydrolysed β-casein

Research Group Member
Institute of Laser Chemistry, Department of Chemistry, Fudan University Jan 2018 – Oct 2018

- Conducted laser-induced molecular reaction of metal ions with CH_4, CO_2 by crossed molecular beams
- Analysed Newton's rings formed by reactive scattering, predicted the intermediates and mechanism of the metal catalysis

WORKING & INTERNSHIP EXPERIENCES

R&D Technologist
Research and Development, Unilever (China) Limited Shanghai Branch Jan 2022 – Present

Bioprocess Engineering Intern
Pall Corporation, Danaher Life Science Platform Sep 2021 – Dec 2021

- Assist upstream bioprocess design for gene therapy and monoclonal antibody production
- Design single-use systems for bioreactors and the filtration processes

Lab Intern
Quality & Safety Department, Coca-Cola Beverages (Shanghai) Co., Ltd. Jul 2020 – Sep 2020

- Conducted sensory tests, density tests, Laser Diffraction Particle Size Analysis, LC-MS, spectrophotometry, etc.
- Provided product feedback and process solutions according to experimental results

Bioanalysis Intern
Industrial Research Institute, Shanghai Fosun Pharmaceutical (Group) Co., Ltd. Dec 2019 – Feb 2020

- Assisted the PK/PD bioanalysis of the APIs for the generic drugs

- Reviewed LC-MS methodology validation reports and bioanalytical reports

SCHOOL EXPERIENCES

Chemistry Learning Assistant
Department of Chemistry, Fudan University — Sep 2018 – Jul 2019

- Explained concepts of General Chemistry and Organic Chemistry to students of other majors
- Answered questions of Analytical, Inorganic and Physical Chemistry in Department of Chemistry

HONORS & AWARDS

Graduate Scholarship of Department of Chemistry (The Third Prize) — Jun 2020
Professional Scholarship of Department of Chemistry — Oct 2018& Oct 2017
Outstanding Student Scholarship of Fudan University (The Third Prize) — Oct 2019& Oct 2018& Oct 2017
First Prize in Chinese Chemistry Olympiad in Shanghai — Oct 2015

ADDITIONAL SKILLS

Structure Characterisation: NMR, UV, Mass spectroscopy, IR, Raman spectroscopy, GC, HPLC, Gel electrophoresis
Software: LaTeX, Aspen HYSYS, GAMS, gPROMS, ChemDraw, etc.
Python programming using PyTorch, NumPy, SciPy, Pandas, Matplotlib and Bokeh
English: IELTS 7.5