

# ZHOUYI HE

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## EDUCATION

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**Hong Kong University of Science and Technology (HKUST), HK, China** 08/2019 - 07/2022

Master of Philosophy in Chemistry (Working on Computational Biology)

GPA: 3.33/4.3

**University of Science and Technology of China (USTC), Hefei, China** 08/2015 - 06/2019

B.Sc. in Chemistry (Chemical Physics)

GPA: 3.23/4.3 (Major GPA: 3.44/4.3)

TOEFL: 98 (R:30 L:28 S:18 W:22)

02/06/2018

## RESEARCH EXPERIENCE

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**Hong Kong University of Science and Technology**

Postgraduate Student

*Prof. Haibin Su's research group, department of chemistry*

08/2019-present

- A novel method is developed for sequences analysis of SARS-CoV-2 spike protein, which effectively extracts pre-warning signals from massive temporal data. This work can be seen in bioRxiv: [Dynamic Expedition of Leading Mutations in SARS-CoV-2 Spike Glycoproteins](#).
- This project focus on off-target effects of CRISPR system induced by mutations in Cas9 and the interaction of bacteria and virus species through CRISPR system. This work is still ongoing and was partially presented in the [1st International Symposium on Marine Science and Engineering](#).

**Hefei National Laboratory for Physical Science at the Microscale**

Undergraduate Thesis

*Prof. Xiao Zheng's research group, department of chemical physics, USTC*

09/2018-07/2019

- Theoretical derivation and computation validation of unit cell consistency of wannier functions, published in [Unit Cell Consistency of Maximally Localized Wannier Functions](#), [Electron Structure](#).

**Hong Kong University of Science and Technology**

Research Assistant

*Prof. Jingqing Huang's research group, department of chemistry*

07/2018-08/2018

- Focus on the physicochemical proprieties by manipulation of protein using Optical Tweezers, meanwhile, real-time conformational change is measured by Raman spectroscopy.

**Hefei National Laboratory for Physical Science at the Microscale**

Research Assistant

*Prof. Junling Lu's research group, department of chemical physics, USTC*

03/2017-06/2018

- Synthesis of single-atom catalyst with Pt atomic layer deposition on g-C<sub>3</sub>N<sub>4</sub>.

## TECHNICAL STRENGTHS

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**Coding** Python, MATLAB, Mathematica, C.

**Tools & Skills** Latex, Origin, Gaussian, Gromacs, Wannier 90, Pymol, BLAST, MSA tools etc.

## ACADEMIC ACHIEVEMENTS AND EXTRA-CURRICULAR ACTIVITIES

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Teaching Assistant of *Physical Chemistry II* @HKUST

2022

Teaching Assistant of *Mathematical Methods for Physical Chemistry* @HKUST

2020, 2021

National Endeavor Scholarship and Outstanding student Scholarship @USTC

2016, 2018

Leader of teaching volunteers of aid education in western Hunan, China

2015

Second Prize in 28th China Chemistry Olympic Competition

2014

Hobbies: Photography, Literature, Hiking, Basketball, etc.