

SIXIE CHEN

Major in Mathematics and Physics + Materials Science and Engineering
Weiyang College, Tsinghua University, P.R. China
+86 13896278145 | e: chensx22@mails.tsinghua.edu.cn

EDUCATION

Tsinghua University	Beijing, China
Bachelor in Mathematics and Physics + Materials Science and Engineering	2022 –Present

RESEARCH EXPERIENCE

Tsinghua University (Department of Material Science and Engineering)	Beijing, China
Research Assistant to Professor Chen Wang, Associate Professor	April 2023 – October 2023

Investigation Interlayer excitons in two-dimensional materials

- Synthesized the WSe₂-WS₂ heterojunctions, conducted Raman and photoluminescence characterizations
- A grade in Student Research Training Project

Tsinghua University (Future Lab)	Beijing, China
Research Assistant to Professor Di Chen, Associate Professor	October 2023 – Present

High temperature electrochemical reduction of carbon dioxide

- Synthesized the perovskite materials and the test of conducted the cells test, achieved the significant performance improvement of CO₂ Reduction Reaction
- A research paper under review, as third author

Improved the hydrogen evolution activity and stability of reversible cells by in situ ex-solution of high entropy alloy nanoparticles

- Synthesized the multi-element doped materials, achieved the **in-situ generation** of high entropy alloys on the surface of perovskite, conducted the **transmission electron microscopy characterization** of the nanoparticles
- Conducted reversible fuel cell test, achieved the simultaneous improvement of stability and activity of the anode materials modified by high entropy alloy particles
- A research paper in preparation, as third author

Improvement of electrochemical performance of SOFC cathodes with surface infiltration

- Investigated the literature in the field, designed experimental protocols, and established a research objective to investigate the influence of various surface species formation on the ORR activity of fuel cell cathodes
- Conducted the multiple characterization methods to figure out the surface species
- Won the Beijing Natural Science Foundation Grant as a PI (**one of 200 nationwide**)
- Got A grade in Academic advancement program (Top 10% of all 210 projects)
- Awarded as best poster of CongYou Science and Technology Exhibition (**Top 1** of 30 projects)
- A research paper submitted to *Ceramics International*, as **first author**

SELECTED AWARDS AND HONORS

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|---|-----------|
| • University-level Scholarship (Top30 of 360 students) | 2022-2023 |
| • Awards for Science and Technology Innovation (Top 27 of 360 students) | 2023-2024 |
| • Awards for Excellence in Voluntary Public Welfare (Top 23 of 360 students) | 2023-2024 |
| • Best Poster of University Student Academic Research Promotion Program (Top 52 of 357 posters) | 2023-2024 |
| • University-level third-prize: Challenge Cup Competition for science and technology exhibition | 2023-2024 |
| • Social Practice Gold Medal | 2023-2024 |
| • Excellence Award: 3D printing design competition | 2022-2023 |
| • Outstanding Students: the 39th summer school of Tsinghua University | 2023-2024 |

WORK EXPERIENCE

Student Association of Xiuzhong College, Tsinghua University	Beijing, China
President	June 2024-Present

Student Science and Technology Innovation Center, Tsinghua University	Beijing, China
Group Leader	July 2024-Present

- Organized the initiation of 19 research projects

Tsinghua University	Beijing, China
Teaching Assistant	September 2024-Present
Violinist in the Tsinghua Symphony Orchestra	October 2024-Present