**Sixie Chen**

Major in Mathematics and Physics + Materials Science and Engineering

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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

* 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 techonology 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

Additional Information

**Additional Professional and Extracurricular Experiences**

* Violinist in the Tsinghua Symphony Orchestra

**Computer and Language Skills**

* Proficient in python
* Proficient in academic English