

Hongda Su

✉ (+86) 19719217657 | ✉ shd0825@mail.ustc.edu.cn

Education

University of Science and Technology of China <i>Department of Thermal Science and Energy Engineering</i>	Aug. 2023 – Present
• Major: Energy and Power Engineering	
• Minor: Chemistry	
• GPA: 3.77/4.30 (Major Ranking 1/42)	

Honors and Awards

• Wu Zhonghua Talent Program Scholarship	Nov. 2025
• CAS Guangzhou Institute of Energy Conversion Scholarship	Oct. 2024
• Outstanding Freshman Scholarship	Dec. 2023

Research Experience

Design of a Thermal Metastructure for Thermal Camouflage <i>with Prof. Liqun He (School of Engineering Science, USTC, China)</i>	Jun. 2025 – Present
• Proposed and validated a method of designing thermal metamaterials to reshape heat sources during transient heat conduction • Performed thermal field transformation using Coordinate Transformation Theory • Developed 3D models and conducted the FEA simulations with COMSOL Multiphysics and Matlab • Experimentally verified the design's feasibility and efficiency with metallic 3D-printed prototypes.	

Design of a AuNP-DNA Structure for Targeted Cell Killing <i>with Prof. Tao Li (School of Chemistry and Materials Science, USTC, China)</i>	Feb. 2025 – Jun. 2025
• Devised a functionalized DNA structure for selective cancer-cell recognition, uptake and triggering cell apoptosis based on the TfR-mediated endocytosis and the affinity between paired i-motifs • Conducted an extensive literature review and group discussions to deepen understanding of Nucleic Acid Chemical Biology	

Catalytic Efficiency of Metal Oxides in Activating Persulfates <i>with Dr. Wan Li (School of Chemistry and Materials Science, USTC, China)</i>	Jul. 2024 – Dec. 2024
• Compared the catalytic efficiencies of various metal oxides with characterized morphologies in peroxymonosulfate(PMS)-based and peroxydisulfate(PDS)-based advanced oxidation processes(AOPs) • Characterized various metal oxides with scanning electron microscope(SEM) and X-ray diffraction(XRD), including synthesized Cu ₂ O nanospheres and nanocubes • Monitored the reaction process via UV–Vis spectrophotometry , with Rhodamine B as the substrate • Processed and visualized the experimental data, providing convincing interpretations of the results	

Research Interests

- Thermal metamaterials and heat-transfer control
- Computational modeling and 3D model development
- Interdisciplinary research across thermal physics, chemistry, and materials science

Skills

- **English Tests:** TOEFL 99 (MyBest 101)
- **Programming:** C/C++, Matlab, LaTeX, bash
- **Software:** Solidworks, Origin, COMSOL, Auto CAD, Lammmps, ChemDraw, Jade, ImageJ