

Research Project Opportunity for Semester Thesis or Master's Thesis:

Investigation of Corrosion Behavior and Thermal Properties of Storage Media in High-Temperature Thermal Energy Storage Systems

We are looking for enthusiastic students to join our research team starting **January 1, 2025**. This is a unique opportunity to contribute to cutting-edge research in **Thermal Energy Storage (TES)** systems for **Concentrated Solar Power (CSP)** applications. The project focuses on investigating the chemical corrosion properties and thermal characteristics of thermal storage media.

Project Description: The research will primarily involve experimental work, supplemented with literature reviews and simulations as needed. Utilizing our custom-built experimental platform, you will perform a series of in-situ and ex-situ experiments to explore:

1. **High-temperature electrochemical experiments:** Collecting, processing, and analyzing data to understand corrosion behavior in high-temperature thermal storage environments.
2. **Thermal and chemical property analysis:** Using advanced instruments to analyze and distinguish the thermal properties of various thermal storage media.
3. **Optimization of experimental setups:** Strengthening the functionality and development of the thermal storage experimental platform, including collecting data under critical conditions.

We are looking for candidates with:

1. A background in **Chemistry, Chemical Engineering, or Mechanical Engineering**.
2. Experience with **electrochemical workstations** or battery-related experiments.
3. Strong hands-on skills, patience, and a problem-solving mindset.
4. Proficient in data collection and visualization, with logical and innovative thinking, and the ability to integrate solutions effectively.

What we offer:

1. Access to state-of-the-art experimental equipment.
2. Comprehensive scientific guidance throughout your project.
3. A friendly and collaborative working environment focused on high productivity.
4. Opportunities for international collaboration and engagement with a diverse research team.

Contact Information: If you are interested in joining this exciting research project, please reach out to:

Mr. Jun Zheng Email: jun.zheng@tum.de

We look forward to welcoming you to our team!