

Multiple positions for PhD and Postdoc Southern Methodist University

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Posted Jan. 29, 2025, set to expire May 31, 2025

Job Title	Multiple positions for PhD and Postdoc
Department	Mechanical Engineering https://www.smu.edu/lyle/departments/me/
Institution	Southern Methodist University Dallas, Texas
Date Posted	Jan. 29, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Graduate Student Post-Doc
Academic Field(s)	Polymer Science Mechanical Engineering Engineering Physics Engineering Mechanics Energy Technology Chemical/Petroleum Engineering - Other

Apply By Email

Job Description

The Nanomaterials and Energy Systems Laboratory (NESL) seeks highly motivated PhD and Postdoc applicants with an interest in energy conversion and storage systems, materials science, additive manufacturing, and electrochemistry.

In NESL, we develop novel cathode and anode materials, as well as state-of-the-art solid-state electrolytes, that can be used in a plethora of battery systems such as Li-O₂, Li-CO₂, and Li/Na-ion.

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We study the capture and conversion of CO₂ to value-added products and the electrosynthesis of ammonia. Our lab also specializes in the synthesis of high-entropy materials for extreme conditions (high temperature and pressure, corrosion) and the design of resilient materials with superior mechanical properties. Furthermore, we are establishing for the first time in university environment, a center for automated manufacturing processes and large-scale fabrication. The positions are fully funded by DOE and ARPA-E grants, offering the opportunity to collaborate with a strong multidisciplinary team of engineers and computational scientists. The starting date can be as soon as Spring 2025.

Required qualifications:

- Bachelor/Masters degree in chemical engineering, mechanical engineering, materials science, electrochemistry, or any related field.
- Experience in electrochemical measurements, including the operation of relevant equipment and instruments (such as potentiostats/galvanostats, three-electrode cells, battery analyzers).
- Familiar with material synthesis methods and characterization techniques (such as XRD, SEM, XPS).
- Proficient with data analysis software (such as OriginPro).
- Knowledge of charge transfer mechanisms, anode/cathode reactions, and electrolyte chemistry.
- Meet admission requirements for the PhD program in the Lyle School of Engineering.

Interested applicants should email a brief cover letter and CV to:

Dr. Amin Salehi-Khojin, Professor and Department Head
Department of Mechanical Engineering
Lyle School of Engineering, Southern Methodist University
Dallas, TX 75205, USA
Email: asalehikhoin@mail.smu.edu

About SMU and Dallas:

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Southern Methodist University (SMU) is a prestigious private university located in Dallas, Texas. It is ranked among the top 100 universities in the US and offers a comprehensive campus and a multidisciplinary engineering program that can enhance engineering skills in various fields. SMU is situated in one of the top-ranked cities for cultural diversity and economic opportunity, that offers a unique combination of urban sophistication and southern hospitality.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact Dr Amin Salehi-Khojin
Mechanical Engineering
Southern Methodist University
Dallas, TX

Contact E-mail asalehikhoin@mail.smu.edu