Job Description

Professor Barbaros Ozyilmaz's group is looking for enthusiastic individuals for the position of Research Fellow/Research Assistant to join the journey to support the exciting new project on silicon-anode batteries.

Our group is at the forefront of 2D materials-based research and particularly in developing new device applications based on 2D materials such as graphene, black phosphorus, and monolayer amorphous carbon (MAC).

About the project:

The new project will focus on the development of silicon-graphene hybrid anodes that can play a pivotal role in the development of batteries for various applications including electric vehicles. The project has attracted big automotive players and if successful will play a crucial role in shaping new battery chemistries for electric vehicles.

Highly motivated individuals who want to be part of the project are encouraged to apply.

Duties and Responsibilities

- Work on the development of silicon anodes and do further studies to help commercialize the chemistry
- Fabricate the cells and characterize the same using various characterization techniques
- Design and operate standard operating procedures, and risk assessments and also execute effective task lists/experimental plans for the success of the project
- Should be able to write reports and suggest innovative pathways to execute the project
- Review and understand scientific and technical literature
- Meet with the stakeholders and update them accordingly
- Should be able to work in a team and contribute to the success of the team
- Work in a laboratory environment with a team of multicultural and multidisciplinary researchers

Qualifications for RA

- Candidate must have a Bachelor's or Master's degree in chemical engineering, mechanical engineering, material science/engineering, or related field from an internationally recognized institution
- Should be self-motivated, outgoing, a team player and have the desire to learn
- Able to troubleshoot and perform root cause analysis
- Experience in electrochemistry and in particular in the development and fabrication of batteries
- Hands-on experience in battery fabrication, SEM, XRD, TEM, FTIR, etc
- Experience working in laboratory and various research projects
- A strong understanding of electrochemistry and research background related to energy storage systems is a plus point

Qualifications for RF

- Hold a Ph.D. degree in science or engineering in the area of Material science and Engineering, Chemical Engineering, Mechanical Engineering, Physics, or related field from
- Able to lead and conduct experiments related to energy storage systems including supercapacitors
- Practical experience in planning and performing laboratory experiments along with the ability to troubleshoot
- a strong understanding of the processes related to batteries, supercapacitors in a pilot plant environment, and characterization techniques are preferable
- Experience analyzing laboratory and/or field test data to correlate and validate analytical models
- Have excellent communication skills and enjoy solving problems with limited information
- Must be a team player adhering to high ethical standards.

Interested candidates who want to be part of this exciting new journey can send in their applications to Prof. Barbaros Özyilmaz at msehead@nus.edu.sg. Also do note that the positions will be yearly renewable and reports to the Principal Investigator (Prof. Barbaros Özyilmaz), Head of the Department of Materials Science and Engineering (MSE), full Professor of the Centre for Advanced 2D Materials (CA2DM), National University of Singapore (NUS).