In-Situ Investigations of Interfacial Electrochemical Processes for Energy Storage

The Stanford Synchrotron Radiation Lightsource (SSRL), a Directorate of the SLAC National Accelerator Laboratory, Stanford University, and a national research facility, seeks a Ph.D. Postdoctoral Scholar with research interest in characterization of electrified interfaces. This position will involve in situ X-ray scattering and absorption spectroscopy as well as electron microscopies aimed at understanding solid-liquid interfacial processes important to multivalent energy storage systems. This position will be part of the Joint Center for Energy Storage Research (JCESR) Energy Hub (www.jcesr.org), which will focus on the foundational knowledge of electrochemical processes in multivalent energy storage materials.

The processes that occur at electrode-electrolyte interfaces in

The project will involve the development and use of advanced x-ray scattering and spectroscopy techniques as well as electrochemical characterization of model electrodes, with a focus on Mg metal anodes and MgCrO spinel cathodes. These can be supplemented with electron microscopies, taking advantage on the new cryo-TEM facilities at SLAC. This is a two-year appointment, with a possible extension to three years, available to begin immediately.

Qualifications:

- Ph.D. in physics, materials sciences, chemistry, or related fields.
- experience with synchrotron X-ray scattering, or X-ray absorption spectroscopy or electron microscopies
- experience with energy storage chemistries
- Strong experimental, analytical and computation skills.
- effective written and verbal communication skills.
- ability to work and communicate effectively with a diverse population; good interpersonal skills are essential.
- ability to work independently and in a team environment.

Please send a cover letter with CV to Mike Toney -mftoney@slac.stanford.edu. See for more information - https://www-ssrl.slac.stanford.edu/toneygroup/