**SSRL Postdoctoral Scholar for space weathering and impact synthesis investigations**

The Stanford Synchrotron Radiation Lightsource (SSRL), a Directorate of the SLAC National Accelerator Laboratory, Stanford University, seeks a Postdoctoral Scholar to study space weathering and impact synthesis at SSRL. This project is supported for a 2yr period by a grant from NASA. The appointment starting date is expected to be on June 1st, 2020. The candidate will have the opportunity to study never before opened samples from the Apollo 17 mission to the lunar surface as well as other lunar regolith materials. The candidate will also investigate the chemistry of organic materials in meteorite impacts. The dissemination of scientific outcomes through peer reviewed publications, as well as presentations at meetings/conferences, is expected.

Responsibilities

* Investigate lunar regolith materials using soft X-ray XAS and XES
* Develop methods for simulating space weathering events using molecular dynamics and density functional theory
* Identify species present in materials subjected to space weathering
* Examine ultra-fast kinetics of organic material break down in simulated impact events using XAS/XES at LCLS-II
  + This includes, design and execution of shock compression experiments on porous silicates
* Determine mechanisms for formation of complex organics from impact plasmas
  + Analysis of dynamic compression data
* Lead independent investigations related to space weathering and high energy states
* Collaborate with scientists at SLAC, NASA, and other universities to examine lunar regolith materials
* Disseminate research results through peer reviewed publications and presentations at scientific meetings and conferences

Qualifications

* Ph.D. in Physics, Applied Physics, Chemistry or related field
* Strong background in theoretical and computational chemistry
* Background in synchrotron radiation techniques and instrumentation, with emphasis in soft X-ray spectroscopy (e.g. XAS/XES)
* Demonstrated ability to investigate chemical reactions and underlying mechanisms
* Demonstrated ability to analyze spectroscopic and kinetic data
* Demonstrated record of scientific productivity through publications
* Strong analytical and computation skills
* Effective written and verbal communication skills
* Demonstrated ability to work in a team environment.

Applications should be sent to Richard Walroth (walroth@slac.stanford.edu) including a curriculum vitae and a brief statement in relevance to the job description.