SSRL Research Associate in X-ray Microscopy for Additive Manufacturing

The Applied Energy Program (AEP), a division in the Science Directorate of the SLAC National Accelerator Laboratory, seeks a Research Associate with interest and experience in X-ray microscopy. This position is split with approximately half time X-ray microscopy development and half time supporting Stanford Synchrotron Radiation Lightsource (SSRL) microscopy and imaging users. The development fraction will involve the development and implementation of rapid, projection-based X-ray microscopy during additive manufacturing (3D printing) of metals to capture the solidification process of the melt pool after laser melting. The position is part of a collaboration between Ames Laboratory, Lawrence Livermore National Laboratory, and SLAC. The second half of this position would include user support at SSRL, primarily on the transmission X-ray microscope at beamline 6-2 and the micron-tomography system which is typically on beamline 2-2.

A goal of this position will be to utilize rapid, in-situ X-ray imaging during the additive manufacturing process to understand the underlying physics linking processing parameters to the quality of the printed part in both multilayer powder bed builds and a directed energy (powder feed) builds.

Qualifications:
- Ph.D. in physics, materials sciences, metallurgy, or related fields.
- Experience in microscopy; X-ray microscopy preferred. Excellent candidates with other X-ray characterization experience may be considered.
- A solid background in characterization and experience with instrumentation design and development, computer-instrument interfacing, data analysis and acquisition methodologies
- Willingness to learn and bridge knowledge/experience gaps.
- Demonstrated effective written and verbal communications skills.
- Demonstrated ability to work and communicate effectively with a diverse population.
- Demonstrated ability to work independently and in a team environment.
- Strong analytical and computation skills.

This is a one-year appointment beginning in the winter/spring of 2018, with the possibility of an extension to a second year.

Interested candidates should submit the following to Johanna Nelson Weker via email at jlnelson@slac.stanford.edu:
- Current CV
- Brief statement of research interest