



College of Engineering

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We are seeking to fill two postdoctoral scholar positions at Oregon State University. The ideal candidates will have expertise in one or more of the following: computational materials science, granular mechanics, solid mechanics, and/or mechanical testing of materials. Positions will initially be for 1 year with an anticipated starting date of January 1st, 2015, with the possibility to continue for a second year depending on performance and continued funding.

The successful candidates will:

- Develop, test, and experimentally validate a new model-driven approach for simulating creep and microstructural evolution in nickel-based superalloys that is based on the discrete element method (DEM)
- Develop constitutive plasticity models for creep and grain boundary sliding based on understanding gained from atomistic simulations.
- Publish research results in peer reviewed journals and present findings at conferences.

Required qualifications for the first position:

- PhD in materials science, granular mechanics, solid mechanics, condensed matter physics, or a related field
- Experience with computer programming, algorithm development, and scripting
- Demonstrated proficiency with at least one (and preferably several) of the following computational methods:
 - Discrete element method
 - Classical molecular dynamics
 - Kinetic Monte Carlo methods
 - Dislocation dynamics simulations
 - Density functional theory
 - Advanced finite element analysis, peridynamics or other advanced continuum mechanics methods.

Required qualifications for the second position:

- PhD in materials science, granular mechanics, solid mechanics, condensed matter physics, or a related field
- Experience with mechanical testing and microstructure characterization of materials
- At least one (or preferably several) of the following:
 - Experience with computer automated experiments and data acquisition (e.g., with LabView or similar)
 - Familiarity with Unix/Linux computing environment
 - Experience with scripting languages such as python or perl
 - Familiarity with materials simulation software packages for classical molecular dynamics or density functional theory

Oregon State University is situated ~90 minutes drive south of Portland in the picturesque town of Corvallis in Oregon's Willamette Valley. Corvallis is routinely ranked in the top 10 small US cities to live in and is nestled in the foothills of the coastal mountain range ~60 minutes from the Pacific Ocean or the Cascade mountains with ample opportunities for outdoor activities.

Positions will remain open until filled. To apply, please send a letter of interest, a curriculum vitae, and a list of three professional references to jamie.kruzic@oregonstate.edu