

## Two Postdoctoral Associate Positions Available at Rice University

**Position Description:** Two postdoctoral associate positions, one in computations and one in experiments, are available at Rice University. The first position is in the area of atomistic and molecular modeling of nanoscale defects, dislocations and mechanics of complex, low symmetry compounds. The computational techniques will be integrated to approaches from statistical mechanics and physical chemistry to provide quantitative predictions of properties of complex materials across different time- and length-scales.

The second position is in the area of advanced synthesis and nano/micro-scale characterization of nanoparticles. Topological functionalization techniques will be utilized to synthesize and self-assemble size- and shape-controlled silicate nanoparticles followed by nano- and micro-characterizations including a myriad of probes such as electron microscopies (TEM, XRD, SEM, AFM), ICP, XPS, NMR, porosimetry, dynamic mechanical analysis, nanoindentation, etc. to examine several structural and physical properties.

The research will be carried out at Rice University's Department of Civil and Environmental Engineering, Department of Chemistry, and Department of Materials Science and NanoEngineering. The successful candidates will work in a highly inter-disciplinary and stimulating environment needed for this research.

**Qualifications:** A Ph.D. in materials science, chemistry, physics, engineering or a related field is required. The candidates should have well-developed computational and/or experimental skills. For the first position, a strong background and motivation in materials science, modeling and simulation is required, preferably experience in the areas of *ab-initio* calculations, molecular dynamics simulations and familiarity with defects, dislocations and deformation-based mechanisms. For the second position, candidates with a strong background and motivation in inorganic chemistry, wet chemistry, self-assembly, nanoparticle synthesis and characterizations are highly encouraged to apply. Good written and spoken communication skills are expected.

**How to apply:** Please send a CV, three representative publications, and contact information of three references to rouzbeh@rice.edu. Evaluation of candidates will begin immediately and will continue until the position is filled. For any questions, please contact Dr. Rouzbeh Shahsavari:

### Contact information:

Rouzbeh Shahsavari, Ph.D.  
Assistant Professor  
Department of Civil and Environmental Engineering  
Department of Materials Science and NanoEngineering  
Rice University, Houston, TX.  
Email: rouzbeh@rice.edu  
Phone: 617-872-6507  
Website: <http://rouzbeh.rice.edu>