

Call for Applications and Proposals for the 2014 Sandia National Laboratories Nonlinear Mechanics and Dynamics Summer Research Institute

The 2014 Sandia National Laboratories Nonlinear Mechanics And Dynamics Summer Research Institute is **open to graduate students and early career researchers from both the US and international communities**. The goal of this institute is to bring together participants with diverse technical backgrounds from around the world to work in small teams on projects germane to **interfacial mechanics and jointed structures**. It is our hope that this institution will help form long lasting collaborations and will make significant progress towards solving several of the major challenges in the area of joints and interfacial mechanics.

The institute is scheduled to last for six weeks, from **July 7th through August 15th, 2014**. After the conclusion of the institute, participants will be able to present their research at the ASME IDETC 2014 conference (<http://www.asmeconferences.org/idehc2014/>), held from August 17th through the 21st, in Buffalo, NY, as part of a symposium organized for this institute. There are also a limited number of student internships available through Sandia National Laboratories for selected US graduate students, which will include support for the institute as a part of the summer assignments. For researchers in the US, funds are potentially available through the NSF to cover some of the expenses associated with attending the institute, and for researchers from other NATO affiliated countries, we will work with you to apply for a NATO co-sponsorship grant. There is no registration fee or other fees for participating in the institute itself.

As the institute is intended to be a collaboration between national laboratories, academia, and industry, **we are also soliciting proposals for research projects**. Proposed projects may be associated with a participant's application, or they may be a separate research question that is of interest and suitable for a research team to make significant progress towards during the six week duration of the institute. Some of the experimental and high performance computational facilities at Sandia National Laboratories will be available for use by the teams in the institute. Examples of projects currently planned for the institute include:

1. Experimentally assessing the variability and repeatability in jointed structures in order to test hypotheses of the mechanisms that contribute to their variability.
2. A numerical round robin to assess the relative merits of different model reduction strategies for simulating complex systems with strong nonlinearities
3. Developing a formal framework for assessing epistemic and aleatoric uncertainty in large data sets from systems with strong nonlinearities

To formally submit an application for participating in the institute, please email Matthew Brake (mrbrake@sandia.gov) a copy of your CV, a statement of your research interests, and a statement of whether your home institution can provide funding for you to attend the institute or if you need funding. Applications are due by March 1, 2014. For more information, to submit a proposal for a research project, or for details about the internships at Sandia, which are available to US citizens and that support this institute, contact Matthew Brake, or visit http://www.sandia.gov/careers/special_programs/nonlinear_mechanics_and_dynamics_summer_research_institute.html.