

Postdoctoral Position in Neutron Scattering & Quantum Systems

The Indiana University Center for the Exploration of Energy and Materials (CEEM), together with the Indiana University Physics Department, is seeking a post-doctoral fellow to develop neutron scattering techniques applied to quantum information and quantum materials. CEEM houses a small accelerator-based neutron source called the Low Energy Neutron Source (LENS) that focuses on the development of instrumentation such as neutron spin-echo techniques and neutron polarization filters as well as on the application of neutron scattering to a variety of scientific problems. LENS has strong partnerships with national and international neutron facilities (e.g. NCNR and SNS/HFIR in the U.S. and ISIS in the UK) and an international reputation for neutron scattering investigations and for building novel instrumentation.

The post-doctoral appointee will work on one or more projects including: the use of superconducting neutron Wollaston prisms to probe quantum entanglement in materials such as those which exhibit quantum spin liquid behavior; the development of novel RF neutron-spin-flippers using high temperature superconducting materials; and the development of a wide-angle neutron spin echo spectrometer, again using high T_c materials. Development of new instrumentation will require computer simulation using commercially available software such as MagNet© and COMSOL© and well as mechanical design, testing and neutron beam experiments at LENS and at national neutron facilities. The appointee will have the opportunity to spend extended time at the labs mentioned above in the course of these projects.

Applicants should have a PhD or equivalent qualification in a field such as Physics, Chemistry or Engineering. Experience with neutron or synchrotron x-ray experiments and/or the development of associated instrumentation is an advantage but not a necessity. Experience in designing, building and using novel instrumentation for science experiments will be an advantage.

The position is available immediately. The initial Postdoctoral Associate appointment will be for 1 year, with the expectation for renewal for an additional 2 years, contingent on funding.

Applications, including a CV, a list of publications, a statement of research, and three references should be submitted through the application portal located at:

<http://indiana.peopleadmin.com/postings/6063>

Questions regarding the position or application process can be directed to Prof. Roger Pynn (mrpynn@indiana.edu).

For more information about the group research, see <http://www.indiana.edu/~lens/research.html>

Indiana University is an equal employment and affirmative action employer and a provider of ADA services. All qualified applicants will receive consideration for employment without regard to age, ethnicity, color, race, religion, sex, sexual orientation or identity, national origin, disability status or protected veteran status.

Applications for postdoctoral positions are accepted on a continuing basis, and starting dates can be adjusted to suit the candidates.