

**Postdoctoral Research Associate:
Virus Structure and Function**

**Neutron Scattering Science Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee**

ORNL08-21-NSSD

Project Description:

We seek a Biophysicist/Biochemist or Physicist to work on Small Angle Neutron Scattering (SANS) and neutron reflectivity analysis of virus structure and function. Arthropod borne viruses (arboviruses) are transmitted by blood sucking insects and cause some of the most devastating diseases known to human and veterinary medicine. Sindbis virus is prototypic of the arboviruses. Its structure is complex, comprising two nested icosahedral shells separated by a lipid membrane that protects a core of single-stranded RNA. Cellular interaction and infection involves dramatic reorganization of the virus surface and interior and in appearance of the lipid bilayer. These transitions can be duplicated by exposure to acidic pH. The aim of the project is to characterize these dynamic changes in solution and during membrane surfaces interactions with a series of neutron scattering and reflectometry experiments that employ contrast variation and modeling. The ultimate goal is to elucidate the infection mechanism of Sindbis across several levels of complexity.

The candidate should be proficient in conducting all aspects of experimental scattering and analysis, data reduction and modeling. Previous work in either neutron or X-ray scattering is desirable.

Qualifications: Ph.D. degree required in Physics, Chemistry or Life Health and Medical Sciences. Applicants cannot have received the most recent degree more than five years prior to the date of application and must complete all degree requirements before starting their appointment.

How to Apply:

Qualified applicants may apply online at https://www2.ornl.gov/ORNL_POST/. All applicants will need to register before they can begin the online application. For complete instructions, on how to apply, please see the instructions at <http://www.ornl.gov/orise/edu/ornl/ornl-pdpm/application.htm>. When applying for this position, please reference the position title and number (ORNL08-21-NSSD).

This appointment is offered through the ORNL Postdoctoral Research Associates Program and is administered by Oak Ridge Associated Universities (ORAU). This appointment is open to all qualified U.S. and non-U.S. citizens without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.