

**RESEARCH PARTICIPATION PROGRAM
U.S. ARMY MEDICAL RESEARCH INSTITUTE OF CHEMICAL DEFENSE (USAMRICD)
ABERDEEN PROVING GROUND, MARYLAND**

Biological Research Project at Aberdeen Proving Ground, Maryland

Project #MRMC-MRICD FY2008-11

The Research Participation Program for the U.S. Army Medical Research Institute of Chemical Defense (USAMRICD) provides opportunities to participate in USAMRICD on-going applied research and development projects. USAMRICD is the Department of Defense's lead laboratory for the execution of medical chemical defense research. As a subordinate element of the U.S. Army Medical Research and Development Command (USAMRDC), the institute conducts research involving the development, testing, and evaluation of medical counter-measures to the effects of various chemical warfare agents. Project areas include chemical, biochemical, pharmacology, molecular biology, neuroscience, toxicology, and immunology.

An appointment is available at Analytical Toxicological Division, Neurobehavioral Toxicological Branch, USAMRICD, Aberdeen Proving Ground, MD.

This appointment includes, but is not limited to, the following:

- Research employs in vitro and in situ nerve-muscle preparations to study the effects of botulinum neurotoxins (BoNTs) on synaptic transmission using multidisciplinary approach (electrophysiology, pharmacology, biochemistry, biophysics, and molecular biology). Nerve-muscle preparations will be used to study pharmacological agents designed to treat poisoning with BoNTs. Potential therapeutic compounds will be screened for their ability to block or delay BoNT-induced paralysis using in vitro mouse phrenic nerve-hemidiaphragm preparations and tested further using a rat extensor digitorum longus preparation.
- Investigating efficacy of oximes to reverse nerve agent intoxication and pretreatments to prevent the intoxication.
- Collaborative research is also being conducted on the use of some novel kainite receptor antagonists against nerve agent-induced seizures in mammalian brain slices, using electrophysiological techniques including field potential recording and patch clamping.
- Assist with and/or perform small animal surgery.
- Assist with data collection during experiments.
- Safely utilize laboratory equipment such as pH meters, osmometers, anesthesia equipment, tissue slicers, and electrophysiological recording equipment.
- Prepare physiological and drug-containing solutions.
- Fabricate and prepare microelectrodes and patch pipettes.
- Conduct literature/library searches.
- Perform computer-aided data reduction and analysis and prepare tables and graphs.
- Attend and/or participate in scientific briefings or conferences.

Applicants should have received a **bachelor's degree in Biological sciences, chemistry, pre-med, or other discipline compatible with neuroscience** within three years of the desired starting date, or completion of all requirements for the degree should be expected on or about the starting date. Other applicants will be considered on a case-by-case basis. The program is open to all qualified U.S. citizens without regard to race, sex, religion, color, age, physical or mental disability, national origin, or status as a Vietnam era or disabled veteran.

The participants will be selected based on academic records, recommendations, applied research interests and compatibility of background with applied research programs and projects at USAMRICD and/or the host Installation.

The initial appointment is for **one year** and may be renewed for up to two additional years based upon recommendation of USAMRICD and subject to availability of funds. The appointment is **full time** at USAMRICD.

The participant will receive a monthly stipend. The stipend rate is determined based upon level of education, training, and experience. Inbound travel and moving expenses are reimbursed according to established policies. Travel and other costs will also be reimbursed for training related to the project and approved by ORISE and the host installation.

The participant must show proof of health and medical insurance. Health plans are available through the Oak Ridge Institute for Science and Education for Postgraduate Internship participants.

Applications are accepted and processed on a continuing basis. The Research Participation Program for USAMRICD is administered by the Oak Ridge Institute for Science and Education. Please reference **Project #MRMC-MRICD FY2008-11** when calling, emailing, or writing for information. For immediate consideration, applicants may forward resumes, or vitas to the email address listed below. Additional information and application materials can be found on the following website www.ornl.gov/Maryland.

ORAU/ORISE
4692 Millennium Drive
Suite 101
Belcamp, MD 21017
[Email: ORAUMaryland@ornl.gov](mailto:ORAUMaryland@ornl.gov)
Fax: (410) 306-9306
www.ornl.gov/Maryland