Opportunity Title: Neuroscience Research Opportunity
Opportunity Reference Code: MRDC-MRICD-2025-0006

Organization U.S. Department of Defense (DOD)

Reference Code MRDC-MRICD-2025-0006

How to Apply **Click on *Apply* at the bottom of the opportunity to start your application.**

Description

The U.S. Army Medical Research Institute of Chemical Defense (USAMRICD) is offering two Postgraduate/Postdoctoral fellowship opportunities at the Aberdeen Proving Ground in Gunpowder, MD. The U.S. Army Medical Research Institute of Chemical Defense (USAMRICD) is the Department of Defense's lead laboratory for medical chemical defense research. As a subordinate element of the U.S. Army Medical Research and Development Command (USAMRDC), the institute conducts research for development of medical countermeasures to treat exposure to various chemical threat agents for protection of soldiers and civilians. Scientific disciplines at USAMRICD include, but are not limited to, chemistry, biology, biochemistry, pharmacology, molecular biology, neuroscience, toxicology, physiology, psychology, and immunology Visit us on Facebook at: http://www.facebook.com/USAMRICD.

Who Should apply?

These fellowships are for candidates who have an earned BS, MS, or PhD with a background in neuroscience or related field. The two fellowships will be hosted in Dr. Lucille Lumley's laboratory in the Neuroscience Department and in Dr. Michael Adler's laboratory, respectively, at the US Army Medical Research Institute of Chemical Defense (USAMRICD).

Why Should I apply and What will I be doing?

Under the mentorship of Dr. Lumley, you will join a team to collaborate on research projects involving in vivo studies to identify therapeutics against chemical threat agents. One project includes *in vivo* pharmacology and toxicology experiments to determine age and sex differences in chemical-induced seizure, epileptogenesis, neuroinflammation, and neurodegeneration. This study includes the evaluation of therapeutics to mitigate the effects of exposure to cholinergic-induced seizure. Methodologies include telemetry to assess EEG seizure, microscopy to assess neurodegeneration and a battery of behavioral tests to assess motor, sensorimotor, emotional, and cognitive function.

Under the mentorship of Dr. Adler, you will collaborate on tiered studies using cell culture, ex vivo and in vivo approaches to evaluate the toxicity of toxins (especially neurotoxins) and to assess the efficacy of therapeutics in mitigating the toxic effects. Methodologies used in the laboratory include electrophysiological techniques in cultured neuron-like cells and tension recordings in isolated nerve-muscle preparations.

In addition, as the selected candidate, you will gain hands on experience to complement your education and support your academic and professional goals.

This includes, but is not limited to:

- Engaging in the planning and implementation of in vivo pharmacology studies to assess therapeutics against chemical-induced toxicity
- Cell culture studies
- Ex vivo muscle tension studies (mouse diaphragm preparation)
- Participating in immunohistochemistry and microscopy studies on brain
- Behavioral assays of motor, cognitive and emotional function

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- Small animal surgery
- Telemetric physiological assessments of brain, cardiac and motor function
- Preparing and writing manuscripts for publications
- Preparing and presenting scientific findings at conferences
- Obtaining experience with grant writing

Where will I be located?

Aberdeen Proving Ground, Maryland

What is the appointment length?

USAMRICD is prepared to begin this appointment as soon as possible and will review applications on an ongoing basis until a candidate is selected. This appointment is a 12-month research appointment, with the possibility to be renewed for additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant. For inquiries, please contact Lucille.a.lange.civ@health.mil.

What are the benefits?

You will receive a stipend to be determined by USAMRICD. The stipend will be commensurate with education and experience.

Other benefits may include the following:

- Health Insurance Supplement (*Participants are eligible to purchase health insurance through ORISE*)
- Relocation Allowance
- Training and Travel Allowance

About ORISE

This program, administered by Oak Ridge Associated Universities (ORAU) through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and DoD. Participants do not enter into an employee/employer relationship with ORISE, ORAU, DoD or any other office or agency. Instead, you will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE. For more information, visit the ORISE Research Participation Program at the U.S. Department of Defense.

Qualifications

Applicants should possess a Bachelor's, Master's or Doctoral Degree in Neuroscience, Physiology, Pharmacology, Toxicology or related field. Degree must have been received within 5 years of the appointment start date. U.S. military veterans who have been honorably discharged (or who have been medically discharged because of a service-connected disability) and who received a bachelor's master's or doctoral degree within ten years of the desired start date are also eligible. Experience with in vivo studies in small animals, cell culture and/or ex vivo preparation is preferred. Microscopy experience and excellent writing skills preferred.

US Citizenship required.

Additional Information:

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Dr. Lucille Lumley (Lange) is a Neuroscientist whose research is primarily in the area of Nerve Agent Countermeasures, with the objective to mitigate the acute and long-term effects of exposure to organophosphorus nerve agents. The focus of Dr. Lumley's research is on the toxic effects of exposure to chemical agents and on the efficacy of therapeutics in mitigating this toxicity. Particular focus has been on the identification of efficacious anti-seizure medications to reduce the neuropathological effects of benzodiazepine refractory status epilepticus that follows nerve agent exposure when treatment is delayed. Bibliography with this URL: http://www.ncbi.nlm.nih.gov/sites/myncbi/1TCn-bKqBU0kF/bibliograpahy/48613537/public/?sort=date&direction=ascending

Application Requirements

A complete application consists of:

- Zintellect Profile
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records - For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Click here for detailed information about acceptable transcripts.
- Two Recommendations. We encourage you to contact your recommenders as soon as you start your application to ensure they are able to complete the recommendation form and to let them know to expect a message from Zintellect. Recommenders will be asked to rate your scientific capabilities, personal characteristics, and describe how they know you. You can always log back in to your Zintellect account and check the status of your application.

If you have questions, send an email to ARMY-MRMC@orise.orau.gov. Please list the reference code of this opportunity [MRDC-MRICD-2025-0006] in the subject line of the email. Please understand that ORISE does not review applications or select applicants; selections are made by the sponsoring agency identified on this opportunity. All application materials should be submitted via the "Apply" button at the bottom of this opportunity listing. Please do not send application materials to the email address above.

Point of Contact Kimberly

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 month(s).
- **Minimum Overall GPA:** 3.00
- **Discipline(s):**
  - **Life Health and Medical Sciences** (49)
  - **Social and Behavioral Sciences** (29)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).