Opportunity Title: 2019 Neuroscience Research Opportunities (Post-Doctoral and Post-Baccalaureate)
Opportunity Reference Code: MRMC-MRICD-2019-0013

Organization U.S. Department of Defense (DOD)

Reference Code MRMC-MRICD-2019-0013

How to Apply Components of the online application are as follows:

- Profile Information
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records - Click here for detailed information about acceptable transcripts
- Recommendation

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blanked out, blackened out, made illegible, etc.) prior to uploading into the application system.

If you have questions, send an email to Army-MRMC@orise.orau.gov. Please list the reference code of this opportunity in the subject line of the email.

All documents must be in English or include an official English translation.

Description The lab of Dr. Patrick McNutt at USAMRICD is currently a research opportunity focused on developing novel therapies for the medical consequences of exposure to biological and chemical warfare agents. The participant will have the opportunity to gain practical research experience in a well-funded laboratory environment, receive research and career base mentoring, attend and present at scientific conferences, and earn co-authorships on peer-reviewed publications. Our goal is to help you prepare for the next step, whether that be a PhD program, DVM, MD, biotech position, or something completely different.

Our lab is a vibrant, fast-paced research environment involving in vitro and in vivo projects related to neurotoxicology, neuropharmacology, electrophysiology and skeletal muscle physiology. Participants will have the opportunity to participate in one or more research efforts, including: (1) development and screening of novel countermeasures for botulinum neurotoxin poisoning; (2) evaluation of novel therapies to mitigate neurological toxicity following nerve agent exposure; (3) development of next-generation nerve agent antidotes with reduced toxicity at the neuromuscular junction; and (4) novel treatments for opioid-induced respiratory depression. In most cases, funded efforts involve lead candidates that are at various stages of drug development, including preclinical trials of a repurposed FDA-approved countermeasure for botulism.

Participants will have the opportunity to learn a wide array of experimental techniques in a variety of animal models, including (but not limited to): electrophysiological characterization of primary neurons; functional, biochemical and immunofluorescent characterization of brain and skeletal muscle; high density recordings from multiple brain regions using implanted recording arrays; cortical electroencephalograms; animal surgical procedures; cell and molecular biology techniques such as cloning, viral production and recombinant gene; confocal microscopy; functional studies of nerve-muscle preparations; and characterization of ventilatory function.

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 Materiel Command (USAMRMC), the institute conducts research for development of medical countermeasures to treat exposure to various chemical threat agents

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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 www.facebook.com/USAMRICD.

Appointment Length

This appointment is a twelve 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.

Participant Benefits

Participants will receive a stipend to be determined by MRICD. Stipends are typically based on the participant's academic standing, discipline, experience, and research facility location. Other benefits may include the following:

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

Nature of Appointment

The participant will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

Qualifications

Candidate must submit paperwork for a background check and be able to obtain and maintain a secret security clearance.

Bachelor of Science in biology, chemistry, biochemistry, or a science-related field with > 3.0 GPA.

Candidates interested in pursuing an advanced degree (MS, PhD, MD, DVM etc.) are highly preferred. We will actively mentor you in preparing your applications. Team members have had great success in earning admission to highly competitive post-graduate educational programs, including at Duke, John Hopkins, NIH, Karolinska, West Virginia, Colorado and USC.

Excellent verbal and written communication skills are desirable.

Ability to participate as part of a large (15-20 person) research team actively engaged in diverse and complex research projects.

Engaged and enthusiastic with a good work ethic.

Experience with Microsoft Excel, GraphPad Prism, Python and/or MATLAB are preferred, but not required.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or currently pursuing.
- **Overall GPA:** 3.00
- **Discipline(s):**

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- **Chemistry and Materials Sciences** (12 👁)
- **Engineering** (2 👁)
- **Environmental and Marine Sciences** (1 👁)
- **Life Health and Medical Sciences** (45 👁)
- **Physics** (16 👁)

- **Age:** Must be 18 years of age
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).

Affirmation Degree must be received within 3 months of application submission date.