

Opportunity Title: CDC Immunodiagnostics Research Fellowship
Opportunity Reference Code: CDC-NCEZID-DHCPP-2022-0412

Organization Centers for Disease Control and Prevention (CDC)

Reference Code CDC-NCEZID-DHCPP-2022-0412

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A complete application consists of:

- An application
- Transcripts – [Click here for detailed information about acceptable transcripts](#)
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- One educational or professional recommendation. Your application will be considered incomplete, and will not be reviewed until one recommendation is submitted.

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

Application Deadline 2/13/2023 3:00:00 PM Eastern Time Zone

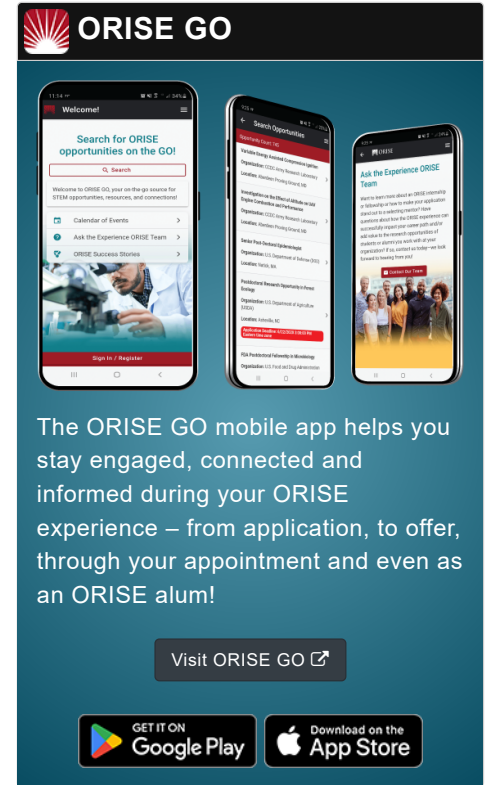
Description ***Applications will be reviewed on a rolling-basis.**

CDC Office and Location: A research and training opportunity is available in the Poxvirus and Rabies Branch (PRB), Division of High-Consequence Pathogens and Pathology (DHCPP) of the National Centers for Emerging and Zoonotic Infectious Diseases (NCEZID) at the Centers for Disease Control and Prevention (CDC) located in Atlanta, Georgia.

The Centers for Disease Control and Prevention (CDC) is one of the major operation components of the Department of Health and Human Services. CDC works to protect America from health, safety and security threats, both foreign and in the U.S. Whether diseases start at home or abroad, are chronic or acute, curable or preventable, human error or deliberate attack, CDC fights disease and supports communities and citizens to do the same.

Research Project: The Poxvirus and Rabies Branch is responsible for consultation, disease surveillance, and investigations related to poxviruses and rabies viruses. We serve as World Health Organization (WHO) Collaborating as one of two WHO Collaborating Centers for Smallpox and other Poxvirus Infections, the WHO Collaborating Center for Reference and Research on Rabies, and the World Organization for Animal Health (OIE) reference laboratory for rabies.

To support our mission, our laboratories perform nucleic acid and serologic based diagnostic testing, undertake research and development of novel assays, and engage in animal studies designed to elucidate viral mechanisms and anti-viral compound efficacy. We are seeking a research fellow to assist the



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Immunodiagnostics and Proteomics Team for a period of 2-3 years. The fellow will utilize common and novel serology techniques for diagnostic testing to confirm prior infection or vaccination by pox- and rabies viruses. We utilize a variety of techniques to characterize serologic responses including ELISA, blotting, and virus neutralization assays (PRNT, or plaque reduction and neutralization titration) to detail immune response and to detect viruses. We incorporate modern technologies such as protein microarrays, Luminex, and MSD to aid in these endeavors, and utilize automated liquid handling equipment (Tecan Evo ELISA) to automate assays and workflows.

The research fellow will perform diagnostic testing for poxviruses, including learning CLIA and ISO standards required for lab accreditation. They will use tissue culture to grow and purify viruses for comparison with recombinantly expressed proteins by ELISA and other assays to assess sensitivity and specificity gains. One key project will be to complete our transition into automated workflows to eliminate hands-on time for our assays. Opportunities to participate in one or more independent and group projects of the fellow's interest will also be provided and could include: use of animal model systems to understand pox- or rabies- virus pathogenesis, participation and field investigations or study protocols in national and international locations, or in design and assessment of cutting-edge technologies for application in our laboratories. Publication of findings from clinical testing, ongoing collaborations, and independent research is anticipated. Experience from these efforts will provide the fellow experience and a robust base for future graduate or medical school plans.

Learning Objectives: ORISE PRB Learning Objectives:

- Learn and become proficient at lab techniques including ELISA, western blotting, protein microarray, Luminex, or MSD.
- Use, assay development, assay optimization, workflows programming, and maintenance of automated liquid handling equipment.
- Develop novel diagnostic assays to detect and differentiate poxvirus species.
- Understand and detail immune responses to orthopoxvirus vaccination and infection
- Prepare project summaries and draft manuscripts for publication of results.

Mentor(s): The mentor(s) for this opportunity is Michael Townsend (gbu3@cdc.gov). Please contact them if you have questions about the nature of this research.

Anticipated Appointment Start Date: February 1, 2023. Start date is flexible and will depend on a variety of factors.

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Appointment Length: The appointment will initially be for one year, but may be renewed upon recommendation of CDC and is contingent on the availability of funds.

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens only.

ORISE Information: This program, administered by 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 CDC. Participants do not become employees of CDC, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

The successful applicant(s) will be required to comply with Environmental, Safety and Health (ES&H) requirements of the hosting facility, including but not limited to, COVID-19 requirements (e.g. facial covering, physical distancing, testing, vaccination).

Questions: Please visit our [Program Website](#). After reading, if you have additional questions about the application process please email ORISE.CDC.NCEZID@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should have received a bachelors, master's, or doctoral degree in one of the relevant fields (e.g. Biology, Chemistry, Molecular and Cellular Biology, Microbiology, Engineering), or be currently pursuing one of the degrees with completion by May 31, 2023. Most recent degree must have been received in the past five years.

Preferred Skills:

- Coursework should include more than 24 hours of chemistry, biology and related classes.
- The ideal candidate will have lab experience with common serologic or molecular testing as well as some background in automated instrumentation platforms and workflows.
- Prior assay development with serologic or immunologic assays will be helpful.
- Tissue culture and virus production is preferred but not required.

Eligibility Requirements





- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral

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Degree received within the last 60 months or anticipated to be received by 5/31/2023 11:59:00 PM.

• **Discipline(s):**

- **Chemistry and Materials Sciences** (1 )
- **Computer, Information, and Data Sciences** (1 )
- **Engineering** (2 )
- **Life Health and Medical Sciences** (48 )

Affirmation I certify that I have not previously been employed by CDC or by a contractor working directly for CDC. I understand that CDC does not permit individuals with a prior employment relationship with CDC or its contractors to participate as trainees in the ORISE program. (Exceptions may be granted for individuals who, since the previous CDC employment, have obtained a new STEM degree which necessitates training in a new field.)