

Opportunity Title: CDC Postgraduate Fellowship in Molecular Characterization of Antimicrobial Resistance

Opportunity Reference Code: CDC-NCEZID-DHQP-2022-0317

Organization Centers for Disease Control and Prevention (CDC)

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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 10/25/2022 2:02:09 PM Eastern Time Zone

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

CDC Office and Location: A research opportunity is currently available in the Division of Healthcare Quality Promotion (DHQP) within the National Center for Zoonotic and Emerging Infectious Diseases (NCEZID) at the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia.

The 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 Clinical and Environmental Microbiology Branch (CEMB) is the laboratory branch in the Division of Healthcare Quality Promotion (DHQP). The mission of DHQP is to protect patients; protect healthcare personnel; and promote safety, quality, and value in both national and international healthcare delivery systems.

The Antimicrobial Resistance Characterization Laboratory (ARCL) Team in CEMB is seeking applications for an ORISE fellow to train in understanding the relationship between pathogen genotype and phenotype. We will assess the activity of all alleles of AR gene families by cloning AR genes into a standard laboratory strain to directly compare the phenotypic/biochemical activities of AR genes under isogenic background. The fellow will join the ARCL Team as an ORISE Fellow to assist/train in Molecular Characterization of



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Antimicrobial Resistance Project, called CRATAR: Center for Rapid Assessment and Testing of Antibiotic Resistance, a centralized laboratory to assess the activity of antimicrobial resistance (AR) genes and share these results as a publicly accessible database.

Learning Objectives: The fellow will gain experience collaborating with other teams and branches within DHQP and in communicating findings with CDC colleagues and public health partners.

Mentor(s): The mentor(s) for this opportunity is Alicia Shams (aop9@cdc.gov). Please contact them if you have questions about the nature of this research.

Anticipated Appointment Start Date: October 3, 2022. Start date is flexible and will depend on a variety of factors.

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, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the [Guidelines for Non-U.S. Citizens Details page](#) of the program website for information about the valid immigration statuses that are acceptable for program participation.

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.

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Qualifications The qualified candidate should have received a master's or doctoral degree in one of the relevant fields (e.g., Biological Science, Cellular and Molecular Biology, Biochemistry, Microbiology, Health Science, Food Science, Agricultural Science, Animal Science, Pharmacology), or be currently pursuing the degree with completion before the appointment start date. Degree must have been received within five years of the appointment start date.

Preferred Skills:

- Hands-on experience with:
 - Microbiological techniques - preparation of growth media and propagation of bacterial strains
 - DNA cloning & Synthetic Biology techniques - preparation of plasmid DNA, PCR, restriction, ligation, transformation, and site-directed mutagenesis
 - Electrophoresis techniques - agarose gels for DNA and acrylamide gels for proteins
 - Enzyme study techniques - purification and kinetic study
 - Phenotypic Antibiotic Susceptibility Testing - broth microdilution and disk diffusion
 - Wet Lab experience

Eligibility Requirements

- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
 - **Life Health and Medical Sciences** ([12](#) )

Affirmation Candidate should have at least a Masters degree or be currently pursuing the degree with completion by the appointment start date, with a focus in one of the relevant fields (e.g., Biological Science, Cellular and Molecular Biology, Biochemistry, Microbiology, Health Science, Food Science, Agricultural Science, Animal Science, and Pharmacology, etc.). Degree must have been received within the past five years.