Opportunity Title: Impact of pesticide exposure on the bee immune system
Opportunity Reference Code: EPA-ORD-NHEERL-EPHD-2018-07

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-ORD-NHEERL-EPHD-2018-07

How to Apply 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
- Two educational or professional references

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

If you have questions, send an email to EPArpp@orau.org. Please include the reference code for this opportunity in your email.

Description The Office of Research and Development at the EPA supports high-quality research to improve the scientific basis for decisions on national environmental issues and to help EPA achieve its environmental goals. Research is conducted in a broad range of environmental areas by scientists in EPA laboratories and at universities across the country.

The National Health and Environmental Effects Research Laboratory (NHEERL) provides expertise in the conduct of studies designed to assess the effects of environmental exposures on the health and wellbeing of people and the environment. NHEERL has an immediate training opportunity related to protecting pollinator health, which is a recognized national priority. Pollinators provide critical ecological services essential to maintaining our food supply and valued natural habitats. However, populations of many managed and wild pollinators are declining. While it is believed that diminished immunity may be a central factor in population declines, relatively little research has been conducted on the effects of exposure to environmental stressors on immunocompetence in bees. The goal of this research project is to evaluate the effects of pesticide exposure on immunocompetence across species of bees and to assess the suitability of honey bees as a model organism for bee risk assessment.

The research participant may have the opportunity to be involved in the following activities:

- Establishing and maintaining bee colonies, performing

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laboratory and field assessments of bee colony health
- Designing and implementing studies of the effects of pesticides on bee colony growth and development, including immunological effects
- Developing and performing biochemical assays, in vitro assays, and molecular biology techniques including RNA isolation, cDNA synthesis and PCR
- Contributing to the development or improvement of adverse outcome pathways and tools for predicting relative intrinsic susceptibility across species of bees

Through this research project, the research participant will have the opportunity to:

- Learn techniques and approaches to assessing the effects of pesticides on bee health
- Contribute to a multi-disciplinary research team
- Synthesize findings to support peer-reviewed publications and presentations at scientific meetings
- Collaborate with scientists in EPA's Office of Research and Development and regional and program offices as well as potentially with scientists from other state and federal agencies and academic institutions

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 EPA. The initial appointment is for one year, but may be renewed upon recommendation of EPA and is contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time in the Research Triangle Park, North Carolina area. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits.

The mentor for this project
is David Lehmann (lehmann.david@epa.gov). The anticipated start date for the appointment is November 1, 2018.

Qualifications

Applicants must have received a doctoral degree in toxicology, entomology, ecology, biology, ecotoxicology, or a closely related field within five years of the desired starting date, or completion of all the requirements for the degree should be expected prior to the starting date. Experience working with insect models, and in developing biochemical and in vitro assays and computational models is desirable. The successful candidate must be comfortable working with stinging insects and cannot be allergic to hymenoptera stings.

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Eligibility Requirements

- **Degree:** Doctoral Degree received within the last 60 month(s).
- **Discipline(s):**
  - **Communications and Graphics Design** (1 👁)
  - **Computer, Information, and Data Sciences** (2 👁)
  - **Environmental and Marine Sciences** (1 👁)
  - **Life Health and Medical Sciences** (6 👁)
  - **Mathematics and Statistics** (3 👁)