

**Opportunity Title:** Chemical Ecologist/Molecular Biologist/Entomologist

Postdoctoral Research Opportunity

**Opportunity Reference Code:** ARS-CMAVE-2015-0081-01

**Organization** U.S. Department of Agriculture (USDA)

**Reference Code** ARS-CMAVE-2015-0081-01

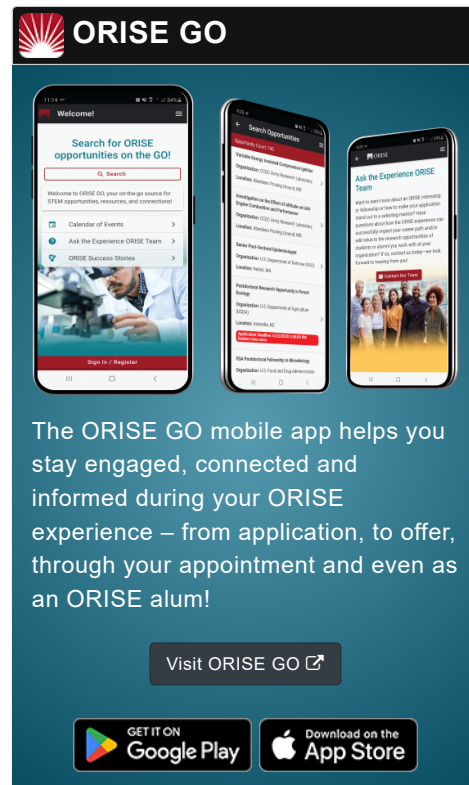
**How to Apply** A complete application package consists of:

- An application
- Transcript(s) – 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. Selected candidate must provide proof of completion of the degree before the appointment can start. Proof must be sent to ORISE directly from the academic institution including graduation date and degree awarded. All transcripts must be in English or include an official English translation.
- A current resume/CV

If you have questions, send an email to [USDA-ARS@orau.org](mailto:USDA-ARS@orau.org). Please include the reference code for this opportunity in your email.

**Description** A Chemical Ecologist/Molecular Biologist/Entomologist Postdoctoral Research Opportunity is available with the Imported Fire Ant and Household Insects Research Unit/CMAVE in Gainesville, Florida. The Participant will work with a research team that conducts basic and applied research to elucidate invasive pest ant behavior, semiochemicals, and key biosynthetic pathways through bioassay development, chemical analysis, and molecular techniques. The overall objective is to use this information to develop novel biologically-based control methods for invasive pest ants. Responsibilities for the incumbent include the following examples of major activities:

1. Participates in all phases of a program dealing with the chemical ecology, physiology, and molecular biology of invasive pest ants, e.g. imported fire ants by interacting with lead scientist and performing a variety of laboratory and field experiments.
2. Formulates materials of interest and conducts a variety of bioassays, some already in place and others to be developed by candidate, to characterize function.
3. Develops and conducts in vitro and in vivo studies with potential biologically-based control agents.
4. Develops new techniques for the delivery, extraction, identification, manipulation or bioassay of potential bioactive compounds in the laboratory.
5. Conduct experiments for separation and identification of volatile compounds from insects and/or plants with a variety of chromatography procedures including: gas chromatography (GC), GC-MS or FID detectors, column chromatography, including Gravity, TLC, and HPLC



**Opportunity Title:** Chemical Ecologist/Molecular Biologist/Entomologist

Postdoctoral Research Opportunity

**Opportunity Reference Code:** ARS-CMAVE-2015-0081-01

interaction).

6. Conduct a variety of standard molecular biology techniques: DNA cloning, DNA and RNA extraction, PCR and qRT-PCR, protein analysis (purification, gel electrophoresis, Western blot, immunohistochemistry, ELISA).
7. Utilizes computer and appropriate software to collect, handle, and analyze data for the evaluation of the validity and significance of experiments conducted in the laboratory.
8. Maintains detailed records of all research activities.

The appointment is full-time for one year and may be renewed upon recommendation of the ARS and availability of funding. The annual stipend rate for this position is \$48,403. A stipend supplement in the amount of \$3,000 is provided to offset the cost of an individual or family health insurance plan. The participant must show proof of health and medical insurance. Health insurance may be obtained through ORISE. Relocation expenses in the amount of \$1,000 will be reimbursed, with prior approval. A travel allowance in the amount of \$2,000 is available to reimburse travel-related expenses to scientific and professional development activities. **The participant does not become an employee of ARS or ORISE.**

While participants will not enter into an employment relationship with the ARS, this position requires a pre-employment check and a full background investigation.

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.

This is an equal opportunity program open to all qualified individuals without regard to race, color, age, sex, religion, national origin, mental or physical disability, genetic information, sexual orientation, or covered veteran's status.

For more information about the ARS Research Participation Program, please visit the [Program Website](#).

#### **Qualifications**

Successful candidates should have received their doctorate degree within five years of the desired start date and have experience in insect molecular biology, physiology, chemical ecology, behavior or some combination of these areas of expertise that includes molecular biology.

The incumbent must possess comprehensive knowledge of the principles and methods of general entomology, insect physiology, and molecular biology, and chemical ecology, or some combination of these subject areas. Formal training in biochemistry is desirable.

**Opportunity Title:** Chemical Ecologist/Molecular Biologist/Entomologist




Postdoctoral Research Opportunity

**Opportunity Reference Code:** ARS-CMAVE-2015-0081-01

Additional preferred skills include:

- Knowledge of the principles of scientific methodology and skill in their application.
- Skill in tissue identification and dissection of insects.
- Skill in the use of analytical equipment including, such as gas chromatography/MS, liquid chromatography, and the tools of molecular biology.
- Skill in the use of statistical software for data analysis.
- Skill in the ability to establish and maintain insects in the laboratory.
- Knowledge of the current literature (especially as it pertains to invasive pest ants) and the procedures and software for searching literature datab

**Eligibility  
Requirements**

- **Degree:** Doctoral Degree.
- **Academic Level(s):** Postdoctoral.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (3 )
  - **Life Health and Medical Sciences** (8 )
  - **Mathematics and Statistics** (1 )