

Opportunity Title: Chemist Research Opportunity
Opportunity Reference Code: ARS-APDL-2016-0152

Organization U.S. Department of Agriculture (USDA)

Reference Code ARS-APDL-2016-0152

How to Apply A complete application package consists of:

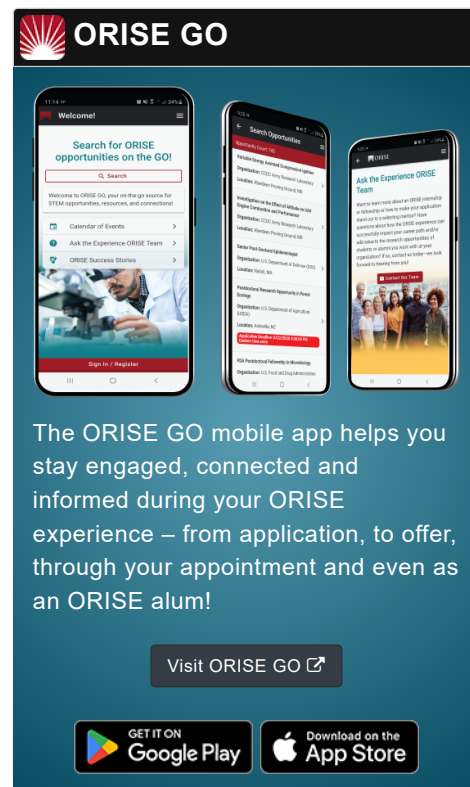
- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Selected candidate must provide proof of completion of the degree before the appointment 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. Please include the reference code for this opportunity in your email.

Description A postgraduate research opportunity is available with the U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS) Animal Parasitic Diseases Laboratory (APDL) in Beltsville, Maryland.

Chromatograms are to be acquired from an Agilent 6530 Accurate-Mass QTOF LC/MS or equivalent equipment. Parasitic nematode specimens will be processed via cryogenic grinding and homogenization. A multivariate statistical analysis will be performed on the data acquired from specimens taken at different times in the infection of pigs (between 10 and 52 days after inoculation) and compared with existing data base entries for known and hypothetical chemical classes. The results of this analysis would depict differentiation between the stages of infection and the host. This information will be associated with similar analysis of the intestinal tissue and contents obtained from naive/uninfected and parasite-infected pigs at similar times in the course of the infection to identify products unique to the parasite and also in common with the host.

The appointment is part-time for a year and may be renewed based upon recommendation of the ARS and availability of funding. The selected applicant will receive a stipend as support for their living and other expenses during this appointment. Stipend rates are determined by ARS officials, and are based on the applicant's academic and professional background. The participant must show proof of health and medical insurance. Health insurance can be obtained through ORISE. The participant will not enter into an employee/employer relationship with ORISE, ORAU, USDA, ARS, or any other office or agency.

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Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

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

This opportunity is available to U.S. citizens.

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

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

Qualifications

To be eligible, applicants must have received a bachelor's or master's degree in Chemistry within five years of the desired starting date. Applicants currently pursuing a doctorate degree in Chemistry are also eligible to apply. Current GPA must be greater than 3.7 on a 4.0 scale.

Preferred skills and experience include:

- Experience analyzing serum, urine, and/or fecal concentrations of metabolites and assessing their function as substrates, inhibitors, intermediates and/or products by correlating with metabolic flux.
- Ability to isolate small molecule metabolites from samples using high throughput analytical techniques.
- Experience using multivariate statistical techniques with GC-MS and LC-MS data.
- Experience investigating gastrointestinal disease.
- Experience with data analysis software including R, Matlab, Covain, Metaboanalyst and Excel for performing chemometric analyses.
- Ability to interpret patterns change in metabolites and associate with metabolic flux.
- Ability to perform biological, chemical, hematological, immunological, and serological tests to assess the effects of metabolites.
- Leadership experience, providing guidance to others by demonstrating procedures and training on instrument use.
- Experience with collection and storage of biological samples.
- Excellence in maintaining accurate and complete documentation of participant information, equipment and test results to comply with regulations.
- Experience with assay and method development.

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- Ability to calibrate, perform preventive maintenance, and troubleshoot equipment and instrument malfunctions.
- Monitor laboratory supply levels. Selected applicant may be asked order supplies.
- BSL2 experience.
- Experience with electrophoresis, radial immunodiffusion and densitometry techniques for analysis of biological fluids.
- Experience with microscopic examination of undigested fats in fecal samples.
- Ability to perform bench chemistry tests to analyze biological specimens.

**Eligibility
Requirements**

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.
- **Overall GPA:** 3.70
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (5 👁)
 - **Life Health and Medical Sciences** (4 👁)
 - **Other Non-Science & Engineering** (1 👁)