

Opportunity Title: Postgraduate Research Opportunity in Molecular & Cellular Biology

Opportunity Reference Code: ARS-FPSQRU-2017-982-0008

Organization U.S. Department of Agriculture (USDA)

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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. Click [Here](#) for detailed information about acceptable transcripts.
- A current resume/CV
- Two references – While two references are requested, applications will be considered without reference information. It is preferred that a complete application package contains a minimum of one reference.

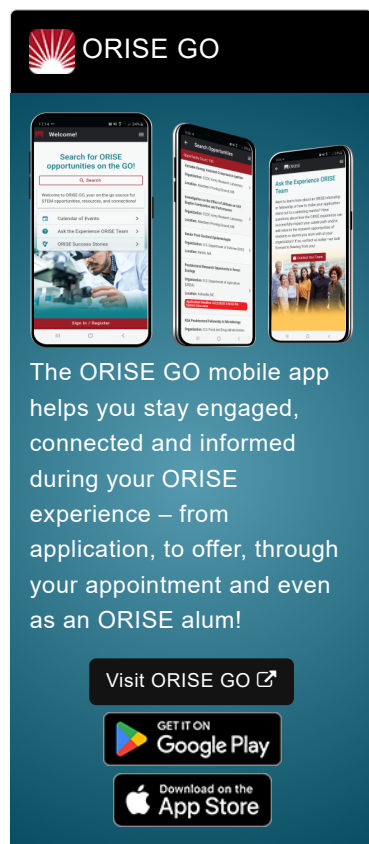
If you have questions, send an email to USDA-ARS@orau.org. Please include the reference code for this opportunity in your email.

Description A postgraduate research opportunity in molecular and cellular biology is available with the U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS) Food Processing & Sensory Quality Research Unit (FPSQRU) in New Orleans, LA.

The participant will perform research with a team that conducts basic and applied research to characterize food allergens including cashew and pecan nut allergens, immunoglobulin-E (IgE) cross-reaction among allergens, and processing induced changes in allergens using immunoassay, chemical analysis, and molecular techniques. The overall objective is to use this information to enable commercial methods that can reduce or eliminate the allergenic properties of allergens and enable assay development to improve allergen detection.


The incumbent's activities may include the following:


- Participates in all phases of a program to characterize the chemical, biochemical, and molecular biological characteristics of seed storage protein allergens from cashew and pecan nuts by productively interacting with the lead scientist and performing a variety of laboratory and field experiments.
- Purifies or synthesizes reagents of interest that can be used in a variety of immunoassays to characterize and/or disrupt IgE binding to food allergens.
- Develops and conducts in vitro and in vivo studies to characterize allergens and allergen extracts.
- Conduct experiments for separation and identification of native and recombinant allergens from foods, plants, insects, or bacteria using a variety of chromatography procedures, including LPLC, that can be




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used to characterize cross-reaction among allergens.

- Conduct a variety of standard molecular biology techniques including: DNA cloning, DNA and RNA extraction, PCR and qRT-PCR, protein analysis (gel electrophoresis, western blot, immunohistochemistry, ELISA).
- 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.
- Must maintain detailed records of all research activities.
- Author or co-author manuscripts and reports for publication.

The appointment is full-time for 12 months and may be renewed based upon recommendation of the ARS and availability of funding. The selected applicant will receive a yearly stipend of \$47,325 per year as well as a health insurance stipend supplement 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. 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-appointment check and a full background investigation.

This opportunity is available to U.S. citizens only.

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

Qualifications Applicants should have received a Master's or Doctoral degree in molecular/cellular biology, food chemistry, biochemistry, chemistry, or related scientific field.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([2](#) )
 - **Life Health and Medical Sciences** ([6](#) )