

Opportunity Title: Postgraduate Research Opportunity – Food Scientist/Chemist

Opportunity Reference Code: ARS-FPSQRU-2016-0153

Organization U.S. Department of Agriculture (USDA)

Reference Code ARS-FPSQRU-2016-0153

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

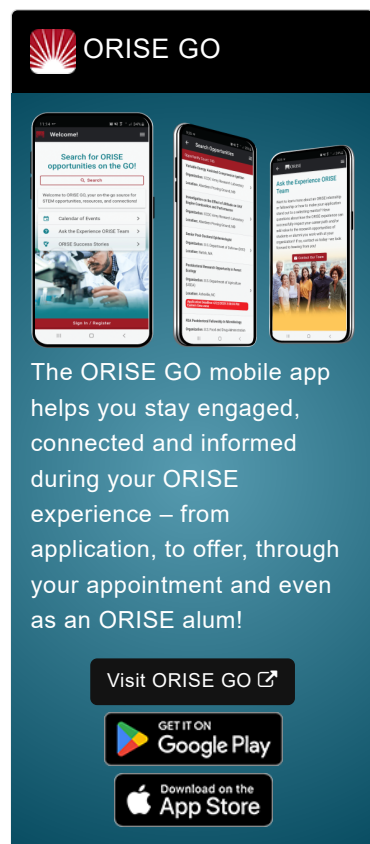
If you have questions, send an email to USDA-ARS@orau.org. Please include the reference code for this opportunity in your email.

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

The participant will be part of a research team that conducts applied research to add value to rice products and rice byproducts. Value-added rice milk beverages will be produced by enzymatic hydrolysis of starch out of the intact rice kernel to convert into simple sugars in a liquid matrix. Step-wise enzymatic hydrolyses and liquefaction of whole unstabilized freshly hulled brown rice is proposed to naturally deliver rice milk products using “green technologies” with insignificant insoluble (protein) components. Product development though clean-up and stabilization routes possibly involving solid/liquid separation, filtration, microfluidization and/or homogenization followed by pasteurization will be evaluated. The filtered off insoluble “waste stream” may be further processed and characterized. Other plant-based, natural materials may be included to improve flavor and natural fortification. Characterization of the beverages and phytochemicals will likewise promote and position them for creation/inclusion into the value-added functional foods category.

The appointment is full-time for one year and may be renewed based upon recommendation of the ARS and availability of funding. The annual stipend rate for this position is \$35,609. A stipend supplement in the amount of \$6,153 is available to offset the cost of a health insurance plan. 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, 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,



Opportunity Title: Postgraduate Research Opportunity – Food Scientist/Chemist

Opportunity Reference Code: ARS-FPSQRU-2016-0153

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 Eligible applicants must have received an undergraduate Bachelor's degree within five years of the desired starting date in cereal science, chemistry, food science, or related field. Applicants who are currently pursuing a Master's degree or who have received a Master's degree within five years of the desired starting date are eligible to apply.

Applicants possessing demonstrated talent and experience in the following areas will attain a higher priority. Analytical chemical knowledge and experience with food crops (rice, cereals grains, fruits) especially with high/ultra-performance liquid chromatography (HPLC/UPLC), gas chromatography (GC) mass spectrometry (MS), separation technologies (e.g. protein, oil, centrifugation) and enzymology (as related to cell wall carbohydrates digestion, and protein solubility). Pilot plant and general food manufacturing knowledge is beneficial. Knowledge of functional foods and horticulture is also beneficial. Familiarity with equipment mentioned herein, and HACCP, GMP's, SOP's, etc. for maintaining safe product through processing and scale up from bench-top and through the pilot plant. Participant provides professional support to research concerned with the physiological, biochemical, chemical and analytical evaluation of agricultural crops and value added products from those crops. S/he will search literature for principles and methods to meet assignment objectives, carry out measurements, and component characterization and analyses by applying established or modified chemical methods. Helps develop experimental approaches, followed by the design and execution of experiments to solve complex research problems. Provides input as to the feasibility of experiments and possible impact of findings, where the investigation of processing effects on quality, flavor and chemical attributes dictate whether or not manufacturing processes are acceptable and relevant. Undertakes routine care, maintenance, and calibration of moderately complex laboratory instruments (centrifuges, UV-VIS spectrometer, UPLC, HPLC, GC-MS, colorimeter, automated titrator, automated 96-well tray pipetter, steam-jacketed kettles, hydraulic food press, ultrafiltration pilot skid unit, beverage pasteurization unit, etc.).




Maintains computer data files and an accurate official laboratory notebook describing the methods and procedures used, statistical analysis used, modifications of methodology applied, and the results. Prepares data for statistical analyses, and performs analyses and basic statistics on

Opportunity Title: Postgraduate Research Opportunity – Food Scientist/Chemist

Opportunity Reference Code: ARS-FPSQRU-2016-0153

completed data sets. As required, provides technical advice to lower level support personnel assigned to research programs in the unit. Attends mentor approved meetings, workshops, and conferences.

- Eligibility**

Requirements
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Bachelor's Degree.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([2](#) )
 - **Engineering** ([1](#) )
 - **Life Health and Medical Sciences** ([8](#) )