

Opportunity Title: USDA-ARS Barley Crop Research Internship
Opportunity Reference Code: USDA-ARS-2020-0185

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2020-0185

How to Apply A complete application 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. All transcripts must be in English or include an official English translation. 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 recommendations

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

Connect with ORISE...on the GO! Download the new ORISE GO mobile app in the [Apple App Store](#) or [Google Play Store](#) to help you stay engaged, connected, and informed during your ORISE experience and beyond!

Application Deadline 10/30/2020 3:00:00 PM Eastern Time Zone

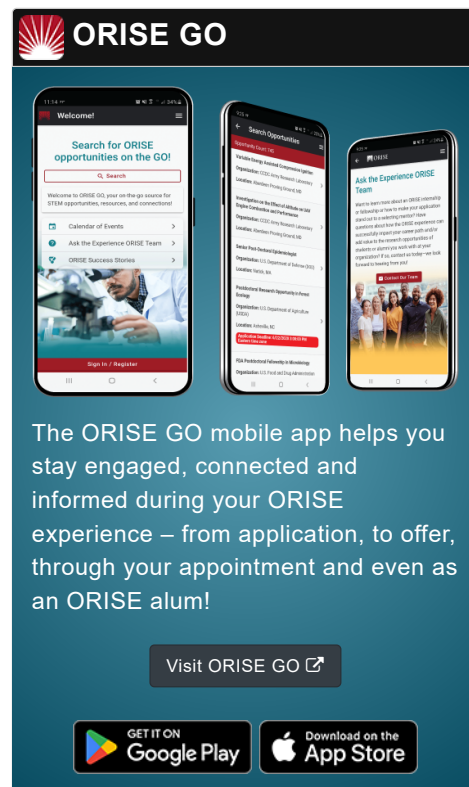
Description *Applications are reviewed on a rolling-basis and this posting could close before the deadline.

ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS) at the Cereal Crops Research Unit located in Madison, Wisconsin.

Research Project: The selected participant will conduct research with the Malting and Quality Analysis group at USDA-ARS Cereal Crops Research Unit, which provides malting quality phenotyping for public sector barley breeders and researchers to help evaluate their germplasm for malt quality traits. This is important for increased agronomic yields, due to changing biotic and abiotic pressures on barley, and the desire for improved malting quality for the divergent needs of industrial and craft brewers.

Under the guidance of a mentor, the participant will:

1. Learn the process of malting barley, which has great economic importance for the Brewing and Food Industries. This would be important for a career in craft or industrial malting companies, distilling, and cereal chemistry and malting applied research. Hands on, up close participation in the controlled stages involved – steeping, germination, and kilning. Small scale, laboratory malting of a wide range of barley varieties, sizes, and qualities.
2. Learn techniques for barley grading. These techniques are important for barley procurement and developing process schedules in the Malting Industry and Cereal Research. Activities include cleaning/separation of barley samples using a Carter Dockage Tester, and assessing principal grading factors.
3. Learn barley malt quality evaluation techniques. This would be important for

The ORISE GO mobile app helps you stay engaged, connected and informed during your ORISE experience – from application, to offer, through your appointment and even as an ORISE alum!

Visit ORISE GO

GET IT ON Google Play

Download on the App Store

Opportunity Title: USDA-ARS Barley Crop Research Internship

Opportunity Reference Code: USDA-ARS-2020-0185

work in the Malting and Brewing Industries, as well as Cereal Chemistry, Agronomy, and Applied Malting Research.

4. Learn technical operation of Leco FP528 Nitrogen Analyzer. This would be useful for research in Food Science, Cereal Chemistry, Agronomy, and Applied Malting Research, as well as other areas. It would also have useful applications for the Food Science, Malting, and Brewing industries. Specific activities would include periodic routine maintenance and replacement of consumable parts and reagents.
5. Learn technical operation of the Skalar San ++ Segmented Flow Analyzer. This would be of use in Food Science, Water Chemistry, Applied Malting Research, and other areas. Daily operation would involve placement of reagent leads, functioning of pumps, heaters, and FlowAccess software. Maintenance entails rotation and replacement of tubing, replacement of dialysis membranes, replacement of reactors, and proper daily and weekly cleaning procedures. Troubleshooting would require the participant to learn recognition of correct analyzer flow patterns, and correct baselines on each channel.

Learning Objectives: Throughout the course of this research project, the participant will learn and develop techniques related to barley crop research. The skills learned will help prepare the participant for a future in an agronomic research field.

Mentor(s): The mentor for these opportunities is Jason Walling (jason.walling@usda.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: September 21, 2020. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year, but may be renewed upon recommendation of ARS and is contingent on the availability of funds.

Level of Participation: This appointment is full-time.

Participant Stipend: The participant(s) will receive a monthly stipend commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens.

ORISE Information: 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 ARS. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

Questions: Please visit our [Program Website](#). After reading, if you have additional questions about the application process please email USDA-ARS@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should have received a bachelor's degree in one of the relevant fields.

Opportunity Title: USDA-ARS Barley Crop Research Internship

Opportunity Reference Code: USDA-ARS-2020-0185

Preferred skills:

- Ideal candidate would have a keen interest in cereal science specific to the barley breeding, malting, brewing and/or distilling industries
- Basic chemistry experience including reagent preparation as well as practical lab experience
- Ability to pay attention to detail and be well organized
- Previous experience/coursework in basic data analysis and statistics

**Eligibility
Requirements**

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree.
- **Discipline(s):**
 - **Life Health and Medical Sciences** (8 👁)