

Opportunity Title: USDA-ARS Fellowship in Soybean Biotechnology

Opportunity Reference Code: USDA-ARS-2022-0357

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2022-0357

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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. 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.

Application Deadline 10/28/2022 3:00:00 PM Eastern Time Zone

Description ***Applications may be reviewed on a rolling-basis.**

ARS Office/Lab and Location: A research fellowship is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Crop Improvement and Genetics Research Unit located in Albany, California.

The Agricultural Research Service (ARS) is the U.S. Department of Agriculture's chief scientific in-house research agency with a mission to find solutions to agricultural problems that affect Americans every day from field to table. ARS will deliver cutting-edge, scientific tools and innovative solutions for American farmers, producers, industry, and communities to support the nourishment and well-being of all people; sustain our nation's agroecosystems and natural resources; and ensure the economic competitiveness and excellence of our agriculture. The vision of the agency is to provide global leadership in agricultural discoveries through scientific excellence.

Research Project: The research project is focused on performing genetic engineering of soybean (*Glycine max*) and potentially other plants with the goal of producing plants with multiple stacked genes. How the introduced traits function together in combination will also be investigated. Tissue culture and *Agrobacterium*-mediated transformation techniques will be utilized by the participant to introduce genes of interest and the Recombinase Mediated Cassette Exchange (RMCE) molecular tools into the transgenic soybean plants.

Learning Objectives: The participant will learn and use multiple molecular biology and plant biotechnology-related tools and techniques including plasmid vector design and assembly, GAANTRY gene stacking, plant



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genetic engineering via RMCE, plant tissue culture, and transgenic plant characterization techniques. New technologies and approaches that improve the efficiency of performing plant genome engineering may also potentially be developed.

Mentor(s): The mentor for this opportunity is Roger Thilmony (roger.thilmony@usda.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: **October 2022.** Start date is flexible and will depend on a variety of factors.

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

Level of Participation: The appointment is full-time.

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

Citizenship Requirements: 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.

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@ornl.gov and include the reference code for this opportunity.

Qualifications The qualified candidate must have received a doctoral degree in one of the relevant fields (e.g. Biology).


Preferred skills:

- Demonstrated experience in plant biotechnology research (e.g. plant tissue culture, *Agrobacterium*-mediated transformation, growth of plants in chambers and greenhouses)
- Demonstrated skill and practical experience in molecular biology techniques (e.g., nucleic acid purification, gene amplification and cloning, PCR, microbial transformation, growth and manipulation)
- Knowledge and experience in plant biology, genetics, plant physiology, genomics, microbiology, and/or molecular biology

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- Demonstrated experience in design of experiments, development of laboratory protocols and keeping a thorough and detailed laboratory notebook
- Ability to work independently as well as part of a team, with good oral and written communication skills to keep team members informed and disseminate results at meetings and in refereed scientific journals

- Eligibility**
- **Degree:** Doctoral Degree.
- Requirements**
- **Discipline(s):**
 - **Life Health and Medical Sciences** ([14](#) )