
Default Question Block



**UF Thompson Earth Systems Institute (TESI) Scientist in Every Florida School (SEFS)
and UF-IFAS Plant Pathology
Present:**

Research Experience for Florida High School Teachers in Plant Pathology

WHEN: July 23-28, 2023

LOCATION: University of Florida Main Campus, Gainesville, FL

BACKGROUND:

For this PD experience, work with Dr. Wenyuan Song's Lab on NSF funded research in plant pathology. Dr. Song's lab is interested in the mechanisms by which the rice Xa21 gene confers resistance against the bacterial blight disease and the approaches to engineering broad spectrum and durable resistance in crops. Laboratory research is focused on molecular mechanisms of the plant immune system. In particular, the roles of protein kinases, E3 ubiquitin ligases and transcription factors in plant immunity. Our models include bacterial blight disease of rice caused by *Xanthomonas oryzae* pv. *oryzae*, citrus canker disease caused by *Xanthomonas citri* subsp. *citri*, and citrus greening. Our goal is to better utilize the plant immune system for disease control in crops. Mammalian rhomboid proteases

are linked to homeostasis, stress response and human diseases (e.g., cancer and neurodegeneration). Plant genomes are predicted to contain more rhomboid proteins (18 in rice), but less functional information is available. To date, no physiological substrate is known for any rhomboid proteases in higher organisms. The focus here is on cleavage of the receptor kinase XA21 and the polytopic membrane resistance proteins XA27 and XA10 by rice rhomboid proteases. The proposed studies are timely and will greatly advance our understanding of rhomboid proteases in higher eukaryotes and the rules of life cross kingdoms. Given that both plant and human genomes encode numerous membrane-spanning proteins (e.g., 443 receptor-like kinases in Arabidopsis and 786 in rice and 70 in humans), of which many have important physiological functions, the knowledge gained will not only contribute to U.S. agriculture, but may also have implications in medical studies.

LEARNING GOALS/RATIONALE:

The outreach/education component integrated into this project will create opportunities for Florida high school teachers (especially from Title I public schools) to gain expertise in general and advanced molecular biochemistry techniques, co-write lessons for the classroom related to this research content, become part of a collaborative network of teachers and scientists, and host scientist classroom visits to best integrate the content in classroom.

PARTICIPANT SUPPORT:

Participants will receive a **\$1,000 stipend upon successful completion** of the PD, deliverables, evaluation, and scientist classroom visit as mentioned above. This is a residential weeklong workshop for teachers. Application preference will be given to those who can stay on campus for the week (paid), even if living locally.

*Funded by the National Science Foundation

APPLICATION PROCESS:

- The application deadline will be **May 12, 2023**.
- **Space is limited to 6 teachers.**
- All applicants will be notified of the status of their application (selected or not) by **May 19, 2022**.
- Teachers will be selected based on responses provided in the application and our desire to diversify the participants, including Title I schools, grade level, and school location in Florida.



PLANT
PATHOLOGY



Scientist in Every
Florida School
Thompson Earth Systems Institute



What is your first and last name?

Please provide your school email address for communication.

Please re-enter your school email address

For set up of stipend payment, please enter your personal email address (NOT school email)

Please re-enter your personal email address (NOT school email)

What is the best telephone number to reach you at?

Emergency contact information:

First Name

Last Name

Relationship

Emergency Contact Number

What Florida county do you teach in?

What is the name of the school plan to teach at during the 2023-2024 school year?

Is this a Title I school?

Yes

No

What grade levels do you teach?

9

10

11

12

Please list the classes you anticipate teaching during the 2023-2024 school year.

How many years have you been teaching?

1 - 5

- 6 - 10
- 11 - 15
- 16 - 20
- 21 - 25
- 26 - 30
- 31+

Undergraduate degree, major, and institution

Graduate degree/concentration (if applicable, otherwise indicate N/A)

What are your personal and professional goals with reference to this PD opportunity?

How do you plan to incorporate what you learn into your classroom?

How did you hear about the Scientist in Every Florida School program?

In the box below, please let us know of any health problems, dietary restrictions, or mobility limitations.

What other information would you like us to know as we consider you for as a participant?

What size t-shirt would you like?

- Adult small
- Adult medium
- Adult large
- Adult xlarge
- Adult xxlarge

In the event that you are chosen to participate, we want to document our experiences together and share your professional pursuits and outcomes through multiple media outlets (i.e., website, social media, and traditional news print). By checking below, you give consent that all photographs, video images, voice recordings, productions, and/or written extraction obtained during this workshop may be used by UF and/or others with the permission of UF for the purpose of illustration, advertising, or publication in any manner. Consent will not impact selection for the program.

- I agree to allow UF to use program artifacts for promotional and grant reporting purposes.
- I do not agree to allow UF to use program artifacts for promotional and grant reporting purposes.

Successful completion of this PD for receipt of stipend entails:

- Attend in-person (University of Florida, Gainesville) the workshop from July 23-28.
- You will plan to stay on campus (paid) throughout the duration of this residential workshop at a workshop provided hotel.
- Successful completion of a lesson in the classroom that relates to the research content.
- Scientist classroom interaction(s) during the coming school year.
- Completion of survey/evaluation tool for program.

- Participate in a virtual final showcase session via Zoom to be scheduled for April 2024.

- I agree
- I do not agree

Please thoroughly read the assumption of risk and release below and check the “I Accept” box if you agree to the terms set forth. I, the undersigned, on my own behalf and on behalf of my heirs, administrators and assigns, in exchange for being permitted to participate in activities anytime during the program at the University of Florida, agree to assume the risks and hazards, whether known or unknown, disclosed or undisclosed, of participating in the Activity. The University of Florida shall not be liable for any damages or injury I may sustain in arising out of my participation in the Activity, and I assume full responsibility for any such damage or injury. In consideration for permitting me to participate in the Activity, I hereby release the University of Florida and any other organization connected with the Activity, their respective directors, officers, employees, members and agents, and waive voluntarily and without duress any and all claims for liability which I or any of my heirs, administrators, or assigns, might or could assert.

- I accept
- I decline

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