

## Default Question Block

# Stellar Spectroscopy and the Origin of the Elements



Scientist in Every  
Florida School  
Thompson Earth Systems Institute

**UF Thompson Earth Systems Institute (TESI)  
Scientist in Every Florida School (SEFS)  
UF Department of Astronomy**

### **Present:**

***Stellar spectroscopy and the origin of the elements STEM program for Florida (Alachua, Bradford, Clay, Columbia, Gilchrist, Levy, Putnam, Marion, and Union County) Middle School Teachers and Students***

**WHEN:** Thursday, March 21st, 2024 following sunset

**(Thursday, March 28th, 2024 will serve as backup date in case of inclement weather)**

**LOCATION:** University of Florida Main Campus Gainesville, FL

### **BACKGROUND:**

Middle school teachers and students from different schools will undertake research opportunities to observe, analyze, and determine the chemical abundances of stars using the local teaching observatory and telescopes. The current plan includes:

- An opportunity for you and your students to participate in a session at UF's Department of Astronomy Campus Teaching Observatory. You and your students will be responsible for transportation to the observatory. During this time, scientists will cover observation and data collection techniques. This on-site, interactive training

activity would provide opportunities for students (i) to develop technical and practical experience in real-time observing (ii) gain insight into an astronomer's STEM career, which can encourage students interested in STEM to pursue such a career themselves.

- Remote mentoring sessions between scientists and students to analyze the obtained stellar spectra to obtain abundances. Students with no prior experience in research or astronomy can work on research quality abundance analysis.

### **LEARNING GOALS/RATIONALE:**

Florida middle school teachers and students (particularly those from Title I public schools) will gain astronomy content expertise and skills in general as well as become part of a collaborative network of teachers and scientists.

This authentic research experience provides students with an opportunity to work with real spectroscopic data. These steps are important in encouraging students to self-identify as scientists, which is a strong factor in developing K-12 students' persistence and interest to pursue STEM majors and careers.

### **LEARNING GOALS AND BENEFITS:**

Students will gain the following:

- Opportunity to work with real spectroscopic data
- Authentic research experience
- A chance to work with university researchers
- Exposure to science careers and role models

Teachers will gain the following:

- A chance to network with university researchers and like-minded teachers across the state
- A \$200 stipend for successful completion of the program components
- Ability to expose students to various STEM career paths

### **PROGRAM EXPECTATIONS:**

In order to for teachers to receive the \$200 stipend, participants must:

- Attend the field trip with their students on March 21, 2024
- Teach newly learned astronomy concepts in the classroom
- Have a scientist visit your classroom before the end of the school year

- Administer an evaluation survey to students

\*Funded by the National Science Foundation

**APPLICATION PROCESS:**

- The application deadline will be **February 28, 2024.**
- **Space is limited to 2 teachers with up to 25 students per teacher**
- All applicants will be notified of the status of their application (selected or not) by **March 3, 2024.**
- 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.

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What is your first and last name?

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Please provide your school email address for communication.

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

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What is the best telephone number to reach you at?

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Emergency contact information:

First Name

Last Name

Relationship

Emergency Contact Number

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What Florida county do you teach in?

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What is the name of the school you teach at?

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Do you teach at a Title I school?

Yes

No

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What grade levels do you teach?

6

7

8

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What is the number of students you anticipate bringing to the observation night?

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Please list the classes you anticipate teaching during the 2022-2023 school year.

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How many years have you been teaching?

1 - 5

6 - 10

11 - 15

- 16 - 20
  - 21 - 25
  - 26 - 30
  - 31+
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Undergraduate degree, major, and institution

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

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

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

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

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

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

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What size t-shirt would you like?

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

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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.

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Successful completion of this PD for receipt of stipend entails:

- Attending observation session (with students)
- Teaching newly learned astronomy concepts in the classroom (while collaborating with Dr. Ezzeddine's lab)
- Administering an evaluation survey to students

- 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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