



APPALACHIAN STATE UNIVERSITY

COLLEGE OF ARTS AND SCIENCES  
**Physics and Astronomy**

**LETTER FROM THE CHAIR**



**Dr. Tonya Coffey**

Welcome back everyone! This summer, our faculty and students stayed busy with research, internships, conferences, and even a few classes. We finished renovating room 243, and the floors on the second floor of Garwood got a makeover. Read all about our summer inside!

With a donation from you, we can do even more. A donation to our department could help refurbish our space, purchase scientific equipment for teaching or research, provide a scholarship for a needy student, or fund travel for research for students and faculty. Every gift--no matter how small--can make a big difference.

**08**

Summer  
2024

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# New Faculty



## DR. MADELINE HINKLE

Madeline earned her Bachelor's degree in physics from UNC Chapel Hill and then taught high school physics and astronomy while working on her Masters in Education degree from Clemson University. She went on to earn her Ph.D. in STEM Education from NC State University where her research focused on the integration of computer science into science instruction. She is an avid reader and huge sports fan (especially hockey), and she is so excited to be moving to Boone with her husband, toddler, and standard poodle - Apollo (named after the Apollo space program, of course!)

## DR. ZACH RUSSELL

Zach's research specializes in novel scientific instrument design and research development efforts utilizing machine learning, computer vision, compressive sensing, smart automation, and advanced data analytics. These techniques are also applied to widely used micro and nano-scale imaging and characterization tools. Zach is highly involved in professional service and passionate about science communication and education. He gained 10 years of experience founding and managing a high-tech start-up called Ion Innovations





# The S.P.I.C.E. Lab



Carla Ramsdell's SPICE lab renovations are finished! From Carla "This space is half energy efficient cooking laboratory and half virtual kitchen cooking classroom. Thanks to Patrick Richardson, I will be able to trace the electrical power from every outlet and appliance in the lab. This will be helpful in zoom cooking classes so participants can track the energy for radiant cooktops vs induction cooktops, for example. In addition to general education course (PHY2220 - The Physics of Food and Cooking) lectures and demos, this space will be used to host "Cooking with Purpose" - the student cooking class series that helps students learn how to use ingredients that are sustainable and typically found in food pantries. The hope is that this will alleviate food insecurity on our campus. Additionally, this space will eventually host other cooking classes that focus on the physics of sustainable cooking anywhere on the globe - The power of online instruction! Stay tuned!! Find her full post on our [FB page](#)."

**CARLA RAMSDELL**

## Renovation Timeline

- Chair J. Burriss offered the space to me in November of 2020.
- The interior design work was done in the fall of 2021.
- The tile was made in the summer of 2022.
- The REI grant was received in February of 2023.
- Re-design completed June 2024!

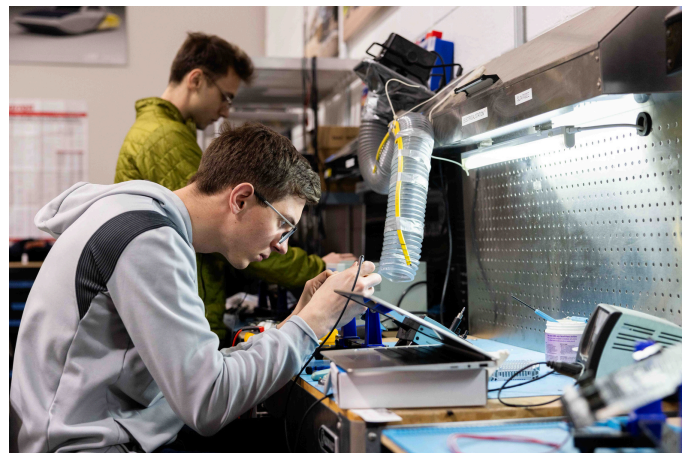


# MS ENGINEERING PHYSICS STUDENT

## *Spotlight*

“App State’s Team Sunergy has secured yet another international podium win, placing 2nd in its class in the 2024 Electrek American Solar Challenge. Team Sunergy also earned this year’s Spirit of the Event Award for being the team that best represented the spirit of solar car racing.” Jonathan Linderich is from Stuttgart, Germany and is currently studying to get his Master in Engineering Physics. He worked on developing and commissioning the PCBs for the new electric system together with Jack Hughes (a recent Physics graduate) and Ari Romaldini (sustainable tech department). He also programmed some of the state machine of the car, where he was a passenger during the races.

Read the full article [here](#).



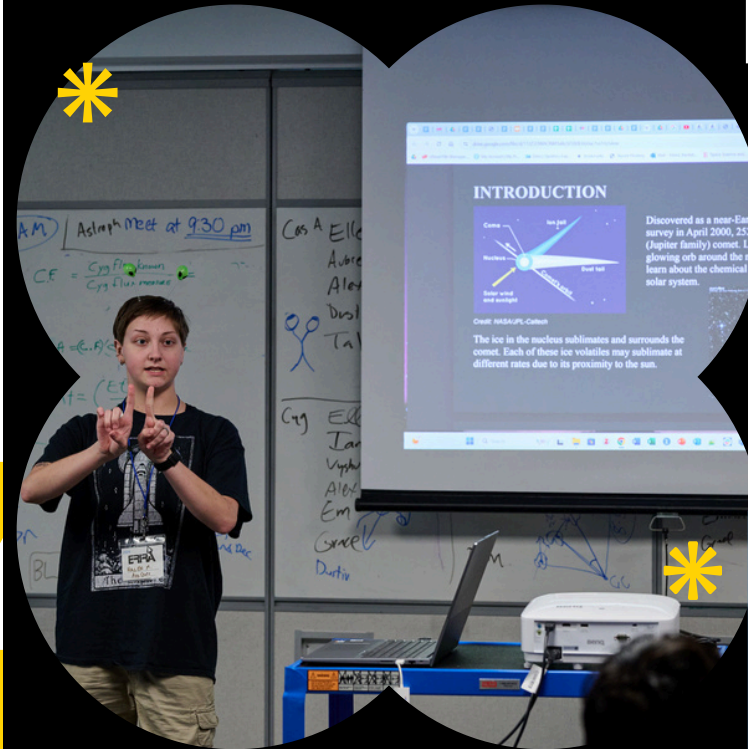
# JONATHAN LINDERICH

*Team Sunergy*



# Halen McMorris

Junior Physics Major, Math Major, and Dance Minor from Rolesville, NC



## ERIRA

Educational Research in Radio Astronomy

18 students selected each summer



### How did you first hear about the program?

I applied for ERIRA after someone else from App said they really enjoyed it!

### Have you always been interested in radio astronomy?

I am a physics major with an emphasis in astronomy, so I had experience with optical astronomy, but I was brand new to radio!

### What was one of the most inspirational experiences of the program?

I got to see the milky way with my own eyes for the first time. I also got to touch the dish of the GBT! I met so many amazing people there and made lifelong memories.

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### What was your research subject for the week?

I researched the North Polar Spur, Neural Network Training, and detected solar activity with a sun antenna.

### Any other interesting things to add?

I had the pleasure of attending with our own Jim Dole of the astronomy department! We both got to tour the GBT together.

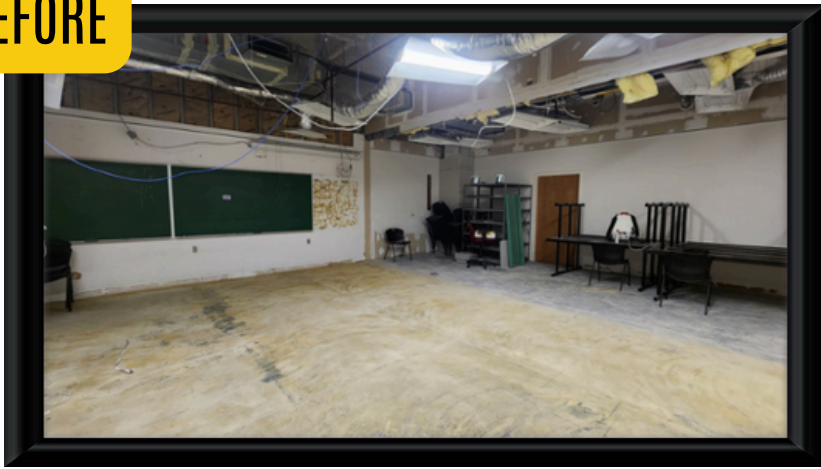
### Why did you choose AppState?

I am in awe with the astronomy lab department and how lucky we are to have such amazing faculty and resources for astronomy concentrations and others.

# GARWOOD 2ND FLOOR

## *Renovations*

**BEFORE**

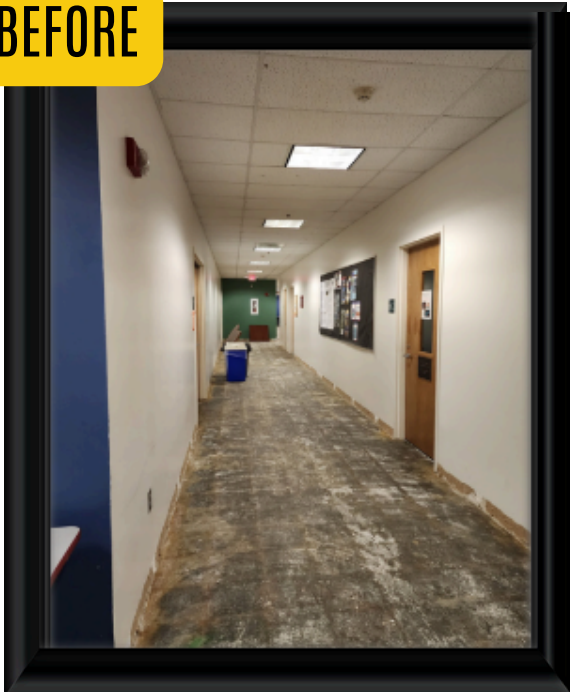


Welcome to the freshly renovated room 243! This space includes new tile flooring, a spacious open layout, and new furniture!

**OUT WITH THE OLD...**

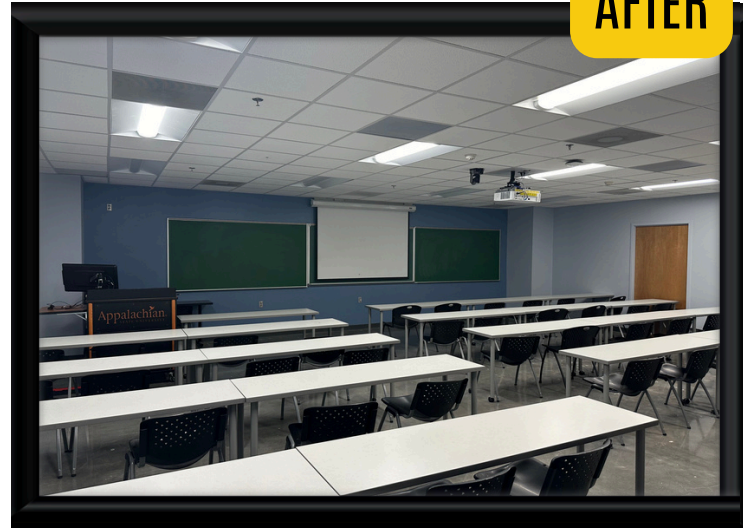
**...AND IN WITH THE NEW**

**BEFORE**



**Shiny New  
Hall Floors!**

**AFTER**



**AFTER**

