



# THE PERIODIC TIMES

STUDENT NEWSLETTER - MARCH 2023

CHEMISTRY AND  
FERMENTATION  
SCIENCES NEWSLETTER

## Table of Contents

Welcome Letter- pg.1

Jobs and Internships  
Announcements- pg. 2

REUs and Internships  
for Summer -pg.3

Professional Development  
Corner -pg.4

Club News -pg.5

Student and Faculty  
News -pg.6

Alumni Spotlight -pg.7

Pie for Pi Day-pg.7

Garwood Tips and  
Tricks-pg.8

Dear Labby-pg.8

Cointributions-pg.9

## WELCOME!

BY EDITOR-IN-CHIEF  
GRAHAM NEBLETT

Spring into the March 2023 edition of *The Periodic Times: Student Newsletter*. We hope you take some time to read about the accomplishments of both students and professors here in the Department of Chemistry and Fermentation Sciences. In this edition we will explore research experiences for undergraduates, jobs, internships and professional development. Learn more about the most recent grant awarded to Dr. Michael Reddish from the National Institute of Health and check in with our featured Alumni: Sarah Altman. Enjoy keeping up to date with the happenings in and around Garwood Hall as well as some helpful tips and tricks that you might not be aware of!

# JOBS AND INTERNSHIPS

BY TERRY KATE DICKSON

## REU Opportunities

This QR code will take you to all of the active chemistry division funded REU sites, scroll through and take a look to see if any peak your interest! The website also features other areas of interest, so look around if you are wishing to pursue another field of interest.



## Job Opportunities

This website below has an entire category of science and research jobs around the country that ALL App State students are welcome to apply to!

Hispanic Association of Colleges and Universities (HACU) Job Board: <https://jobs.hacu.net/>

Additionally, Handshake is a great resource for App students to locate jobs and internships!

## Not sure on your next steps?

### Attend the 2023 Hybrid Graduate and Professional School Fair!

This is a school fair through the National Institute of Health (NIH) that provides attendees with the resources for the next step in their careers. You can explore PhD, MD, DDS, MD/PhD, and other graduate and professional degrees. Last year they had over 300 programs participate, hoping to recruit future students!

The fair is anticipated to occur on July 19, 2023. The QR code below will have more information as the time approaches, and currently has recordings from last year's fair!



# REU'S AND INTERNSHIPS

BY: LAUREN JOHANN

## What's the difference?

### Research Experience for Undergrads (REU)

- Spend the summer or semester working on a research project
- Hosted at a college or university
- You may receive a monthly stipend and housing is provided
- More helpful if you are considering going to graduate school

### Internships

- What you will work on depends on the internship
- Can be paid or unpaid
- Gives experience for what a job may be like post graduation

## How to Apply

- Check websites that post jobs such as LinkedIn or Handshake
- Reach out to the school or company directly



## Helpful Hints

- Apply to multiple jobs, you might not get into your first pick!
- Start **early**, if you haven't applied yet, start now
- Fill out optional parts of the application (like a cover letter) to make yourself stand out

# PROFESSIONAL DEVELOPMENT CORNER

BY: LOGAN JENKINS



## PRACTICING YOUR INTERVIEWS

The Career Development Center has a program called "Big Interview" that provides free interview training for students. This training includes a mock interview for all levels of interviewing and with different types of companies. It also includes a step by step interview answer builder that will help students come up with intellectual answers. Visit this website to help you prepare for your summer interviews!

<https://careers.appstate.edu/big-interview>



## HEALTH SCIENCES PROFESSIONAL AND GRADUATE SCHOOL FAIR

There is a career fair opportunity on March 30 from 6-8 pm in the student union for anyone who is interested in a career in healthcare. Have your resume ready and get ready to meet with different graduate schools. Remember that gaining connections are important for your future!



# APPALACHIAN CHEMICAL SOCIETY

Are you fascinated by all things chemistry related and wish to get more involved in the subject? Join your fellow enthusiasts in the Appalachian Chemical society!

The Appalachian Chemistry Society strives to provide a better understanding of chemistry and further education of the topic. This club offers students an opportunity for both personal and professional growth as well as information regarding current trends in the field of chemistry. Members are not limited to chemistry majors, all are welcome! Meet with your peers twice a month to discuss interesting topics in the field of chemistry.

## Upcoming events:

- Meeting on Tuesday, March 7th for the highly anticipated Professor Jeopardy! How well do you know your professors?
- Buildfest and University Open House on Saturday, April 1st.
- STEAM Expo on Monday, April 24th from 9 AM - 2 PM

If you're interested in attending or helping at any of these events, or if you're just interested in joining the Appalachian Chemical Society, reach out to them on engage or follow the link or QR code below.

<https://engage.appstate.edu/organization/appalachian-chemical-society>



## CLUB NEWS

BY GRAHAM NEBLETT,  
ELLA THOMPSON, AND  
LOGAN JENKINS

## FERMENTATION SCIENCES CLUB

The Fermentation Sciences Club is open to all majors! So, if you have an interest in hands-on fermentation experiments and product tasting join on engage with the link below!

<https://engage.appstate.edu/organization/fermentation-sciences-club>





# STUDENT & FACULTY NEWS

BY ELLA THOMPSON



Photo by Chase Reynolds

## DR. REDDISH IS UP AND ATOM

Dr. Michael Reddish is well known around the Chemistry and Fermentation Sciences department for his Biochemistry teaching as well as his talent for being awarded massive grants. His most recent grant being a total of \$1.6 million from the National Institutes of Health (NIH) to help fund his research on the cytochrome P450 27 family of enzymes which Reddish believes "can contribute to the development of some cancers". Reddish's grant is the largest Appalachian State University has ever received from the NIH - another grand accomplishment for Dr. Michael Reddish. Dr. Reddish's big news was featured in NCBiotech, Watauga Democrat, and many other news sources.

## POST-BACCALAUREATE

Lindsay Vaughn and Zach Davis, two recent App State graduates, previously members of Dr. Christian and Dr. Reddish's labs, as undergraduate researchers, have taken on a new project. As research laboratory technicians, they are assisting Dr. Reddish's quickly growing lab. Dr. Reddish currently has 8 undergraduate researchers working in his lab and as lab technicians, Lindsay and Zach are there to help them learn and enhance their research experience. Working as a laboratory technician is a great option as a post-baccalaureate if you are not ready for graduate school or heading into the workforce!



# ALUMNI SPOTLIGHT

BY CARSON SHIVERS

## SARAH ALTMAN

**Graduation Year: 2021**

**Degree: Chemistry - Certified**

### **What is life like after graduating from Appalachian State? What are you up to now?**

"After graduating from Appalachian State I moved to Raleigh, NC to begin my graduate studies at North Carolina State University. I currently work under the supervision of Dr. Gavin Williams and Dr. Joshua Pierce. My current research focuses on natural product synthesis with an emphasis on the installation of non-natural building blocks into polyketides, a family of medicinally significant natural products."

### **How did your time at Appalachian time affect your trajectory?**

"My time in the department of CFS at ASU was extremely valuable to both my personal and professional development. I did not begin my undergraduate education as a chemistry major and that change was not made until I took organic chemistry with Dr. Nicholas Shaw, who would later become my research advisor. It was while I was researching within the Shaw Research Group, where I would spend almost three years performing research, that I discovered my passion for performing chemical research. Due to the close-knit chemistry department at ASU, I made the decision to pursue my PhD in chemistry. I wouldn't be where I am today without the mentorship of Dr. Shaw and so many others in the department."

### **What did your undergrad research look like? Any advice for those who want to get involved, but don't know how?**

"My undergraduate research focused on the facilitation of multi-component reactions inside of nanoreactors, specifically the Ugi reaction. During those three years of research in the Shaw Research Group I formed lifelong connections that grew immensely as a scientist. For those who want to get involved, talk to a professor! Figure out who's doing research that interests you and ask them questions about it. Ask about getting involved and don't be afraid to put yourself out there!"



## PIE FOR PI DAY

### March 14th, 2023

Whip out your at-home analytical balance



<https://www.pillsbury.com/recipes/triple-berry-pi-day-pie/e1a7c76c-cb8e-4a9b-97b7-a0b62aca45ad>

The Maillard reaction is a vital aspect of a good pie as it is the reason for a crispy, brown crust.

### INGREDIENTS

1 recipe for double pie crust  
1.02 kg Granny Smith Apples, peeled, cored  
0.00414 kg cinnamon  
0.108 kg unsalted butter  
0.0235 kg all-purpose flour  
59.15 ml water  
200 g granulated sugar  
1 egg , + 0.0148 kg water, for egg wash

### RECIPE

As you may know, making pie takes a lot of steps so follow this link to a recipe or scan the QR code for an apple pie with the "best-filling".

<https://natashaskitchen.com/apple-pie-recipe/>



SCAN ME

# GARWOOD TIPS AND TRICKS

**In a rush to lab and don't want to run all the way to the library to print your report?**

Garwood Hall has 2 printers available for student use! One is located on the fourth floor in the office block (401) directly beside the elevators. The other is located on the second floor in the physics department in the same location, known as the physics lounge.

**Lab goggles foggy?  
Can't see that dangerous  
reaction you're performing?**

Try anti-fog goggle cleanser or wipes! Or for a DIY, take a little bit of soap, rub it around, and rinse. A thin layer of soap will remain and prevent fog.



## DEAR LABBY

### How do you get involved in undergraduate research?

Talk to your professors! The majority of your professors, not just in the Chem department, are doing research and all you need to do is ask them about it. Department websites are also a great resource, as they explain the research projects that each professor is working on and provide an easy way to see if you are interested in that specific work. You may want to reach out to many professors before making a final decision.

Got a question for your fellow chemistry students? Follow this link or scan the QR code for some advice from someone who has been here awhile. Don't worry, it's anonymous!



**SCAN ME**

<https://forms.gle/Eo8enUC1GYaEnFH86>



# CONTRIBUTIONS

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