



# NEWSLETTER

## February 2024

Chemistry and Physics Department, Oxendine Science Building – Room 3101, Pembroke, NC 28372  
[chem\\_phy@uncp.edu](mailto:chem_phy@uncp.edu) 910/521-6247

## Open House - February 3, 2024

Open House is a fantastic opportunity to showcase our university, programs, and campus culture to future members of our academic community. More than 600 prospective students and guests visit the campus and the departments of their choice.



Dr. Uma Poudyal  
Assistant Professor of Physics



Dr. Siva Mandjiny, Ph.D.  
Chair-Chemistry & Physics

Thank you, Dr. Poudyal and Dr. Mandjiny, for playing an important role in recruiting and welcoming potential Braves to campus, sharing your experiences, and providing valuable insights into the department and programs. We greatly appreciate your support and contributions to recruiting future Braves!

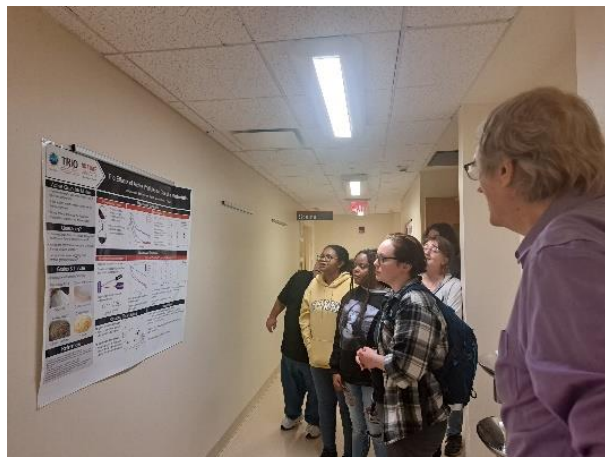
## Chemistry and Physics Club



Fundraiser for the club was held February 6 from 10 am – 2 pm. Thank you to all who helped make and/or sell the cake pop bites! We got great feedback from customers! The club raised over \$539.



The **Chemistry and Physics Club** went to NC State University on February 10 to visit the Chemistry / Engineering Campus. This trip was an opportunity for the club members (Keirah-Lee Garry, Tiffani Roberts, Ridge Leviner, Dominick Burgess, Alicia McCrimmon, Jasmin Carballido, Hannah Leviner, Edward Gamache, Gretchen Gillenwater, Nevaeh Roverato, and Kae Burns) to check out the options for graduate school.







The **Chemistry and Physics Club** host a game night open to all students and friends on February 13.



## Spring 2024 STEM Student Transfer Panel

Fayetteville Technical Community College extend an invitation to the Science / Math advisors to attend the STEM Transfer Symposium which was held on February 14 from 11:30 am to 1:30 pm in the General Classroom Building on main campus.

The students in the FTCC Science, Math and Computer Science Divisions asked questions regarding program requirements and transfer questions relating to various undergraduate degrees to institutions. Dr. Siva Mandjiny (Chemistry and Physics), Dr. Amy Gross (Geology and Geography), and Dr. Madan Maharjan (Geology and Geography) from UNCP gave presentations at the FTCC recruiting event. Dr. Nicholas McNeill (Undergraduate Admissions) wants to promote the University programs and assist with students transferring to UNCP.

Another event is scheduled at Robeson Community College on February 29. Dr. Leonard Holmes will be representing the Chemistry and Physics Department.



Siva Mandjiny, Nicholas B. McNeill, Amy Gross, and Madan Maharjan

## ***THE NORTH CAROLINA REGION IV SCIENCE & ENGINEERING FAIR***

The 2024 North Carolina Region IV Science & Engineering Fair took place on Saturday, February 17, 2024, at the Auxiliary Gym, Jones Health and Physical Education Center on the campus of UNC Pembroke. This marked the 44th year that UNCP has hosted the regional fair. With over 55 projects entered from eleven different counties in the surrounding area, including elementary, junior, and senior-level students, the fair provided a platform for students to showcase their scientific projects. Twenty projects are advancing to the state level competition. Beyond competition, participants had the chance to present their work, interact with judges, and vie for recognition in various categories. Thanks to generous support from sponsors, five special recognition awards and five awards from NC One Water with monetary prizes were presented. The collaborative efforts of Dr. Tikaram Neupane, the Chemistry and Physics Department, and supporting offices at UNCP highlight their dedication to nurturing a passion for science and fostering exploration in STEM fields.



The department would like to give a special “thank you” to Dr. Tikaram Neupane for his remarkable work on our Region IV Science Fair. It was a grand success under the leadership of Dr. Neupane as the Director. He did a great job for his organization and executing the work nicely with Elementary, Middle, and High School students. Congratulations, Dr. Neupane. Great job!

Also, thank you to the following faculty members for their dedication and the time they took to judge the Science Fair Projects. The faculty members judging the projects were Dr. Rachel Smith, Ms. Sally Vallabha, Dr. Benjamin Killian, Dr. Tikaram Neupane, Dr. Siva Mandjiny, Dr. Tom Dooling, and Dr. Uma Poudyal. A presentation was given by our special keynote speaker, Dr. Jose D’Arruda. Thank you, Mrs. Carolyn Oxendine, with the help for the refreshments / snacks and meal tickets. Thanks to all of you and without your support, this would not have happened. We appreciate everything you do. We need this kind of community-based events to encourage the future scientists.

On behalf of the NC Region IV Science and Engineering Fair organizing committee, Dr. Neupane want to express his deepest appreciation for the outstanding contribution as the keynote speaker, Dr. Jose D'Arruda, during the Science Fair. "Your insightful and inspiring address truly elevated the atmosphere of the event, leaving a lasting impact on both participants and attendees. Your ability to connect with the audience and convey the importance of science education added significant value to the fair's overall mission of promoting STEM education. We recognize and commend the time and effort you invested in preparing and delivering a compelling presentation. Your expertise and passion for promoting the young generation were evident, and we are grateful for the positive influence you had on everyone present. Your support has played a crucial role in advancing our goals of fostering a love for science and encouraging the pursuit of knowledge in our community. We are truly honored to have had you as our keynote speaker."



**Dr. Jose D'Arruda**  
(Retired) Professor of Physics

*And the  
Winners  
are...*

### **Elementary Winners**

Gage Williams - Project: *Erosion in Motion*  
 Andrew Thomas - Project: *Why Does Fruit Turn Brown?*  
 Bailey Arthur - Project: *Stinky Science - Chicken Litter Compost*  
 Sawyer Ceneskie - Project: *Pond H<sub>2</sub>O: Safe or No*  
 Bailey Cummings - Project: *Is it Egg-cellent?*  
 Brayden Lambert - Project: *Stuck in the Muck*  
 Nishma Maharjan - Project: *Are all Salts the Same?*  
 Nickolas Manherz - Project: *Going the Distance- Wood vs Metal Bats*

### **Elementary Honorable Mentions**

Zenovia Chavis - Project: *Stainless Steel and The Science Behind Stanley and Yeti*  
 Melbiann Hicks - Project: *Hen vs Incubators*  
 Audrie Hodgin - Project: *Fluid Dynamics: Optimal Techniques for Fast Liquid Emptying*  
 Cameron Ackerman - Project: *If You Want to Grow, Use the Right H<sub>2</sub>O!*  
 Amaya Jones - Project: *Citrus Squeeze for the Winter Sneeze*

Ethan Lowe - Project: *Stretching Temperatures*  
 Keegan Williamson - Project: *Hot vs. Cold Magnets*  
 Garrett Scott - Project: *Safe to Play?*

### **Junior/Senior Winners**

#### **JR-Biological Science A and B Category,**

Camden Ney - Project: *Blue Light Exposure: The Eye-Opening Effects of Distance*  
 Camden Marks - Project: *Hand Hygiene: our first line of defense*

#### **JR-Chemistry Category**

Natalie Huymaier - Project: *Goey Gummies: Osmosis in Action*  
 Leah Mullennix - Project: *Heated Hair: Exploring the Chemistry and Effectiveness of Heat Protectant*  
 Suyash Gautam - Project: *pH of Drinkable Liquids*

#### **JR-Earth and Environmental Science Category:**

Chase Tomala - Project: *Biomass to Biogas*  
 Ethan Dunlap - Project: *What Is the Impact of Water Filtration Systems on Contaminated Water?*

#### **JR-Technology category:**

Lexie Spannhake - Project: *Let's ChatGPT*

#### **JR-Engineering category:**

Hannah Helms - Project: *Archimedes Screw Pump*

#### **JR-Physics and Mathematics category:**

Sarina Gautam - Project: *The Relationship between Temperature and Resistance*  
 Jeremiah Bryan - Project: *Power Plants*

#### **SR-Senior Biological Science B**

Noha Muzaffar - Project: *Effect of Fasting on Immunotherapy Response in Male vs Female Mice*

### **Special Award Winner**

#### **Lumbee River EMC**

Sarina Gautam - Project: *The Relationship between Temperature and Resistance*  
 Lexie Spannhake - Project: *Let's ChatGPT*

#### **Biotechnology Award**

Melbiann Hicks - Project: *Hen vs Incubators*

#### **Navy Award**

Natalie Huymaier - Project: *Goey Gummies: Osmosis in Action*  
 Camden Ney - Project: *Blue Light Exposure: The Eye-Opening Effects of Distance*  
 Noha Muzaffar - Project: *Effect of Fasting on Immunotherapy Response in Male vs Female Mice*

#### **NC One Water (Water Environment Federation)**

Sawyer Ceneskie - Project: *Pond H2O: Safe or No*  
 Gage Williams - Project: *Erosion in Motion*  
 Audrie Hodgin - Project: *Fluid Dynamics: Optimal Techniques for Fast Liquid Emptying*



Ethan Dunlap - Project: *What Is the Impact of Water Filtration Systems on Contaminated Water?*

Hannah Helms - Project: *Archimedes Screw Pump*

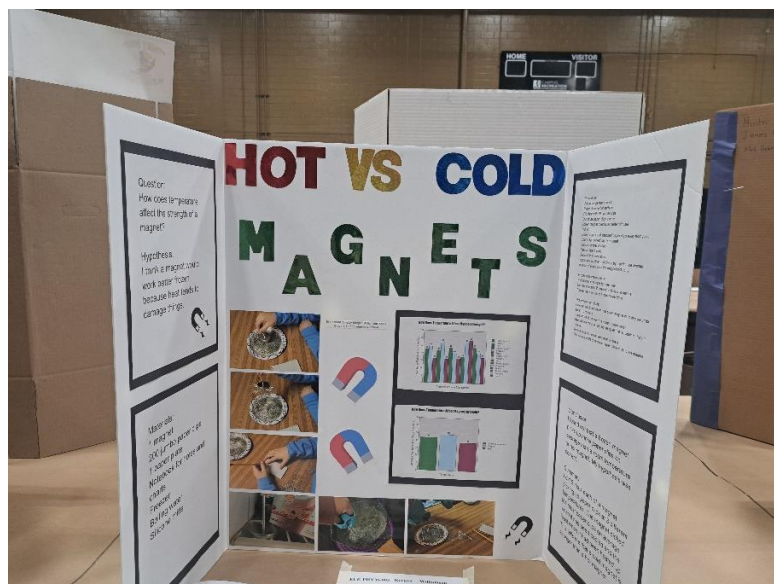
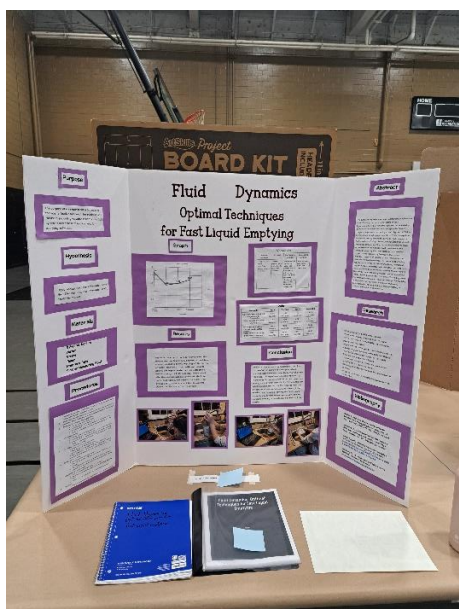
**Grand Prize Winner**

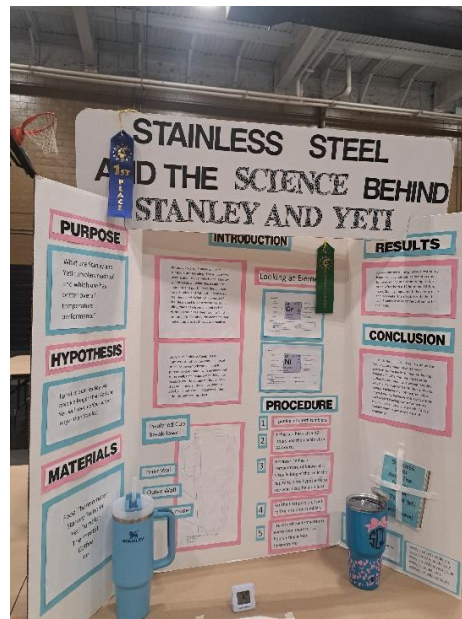
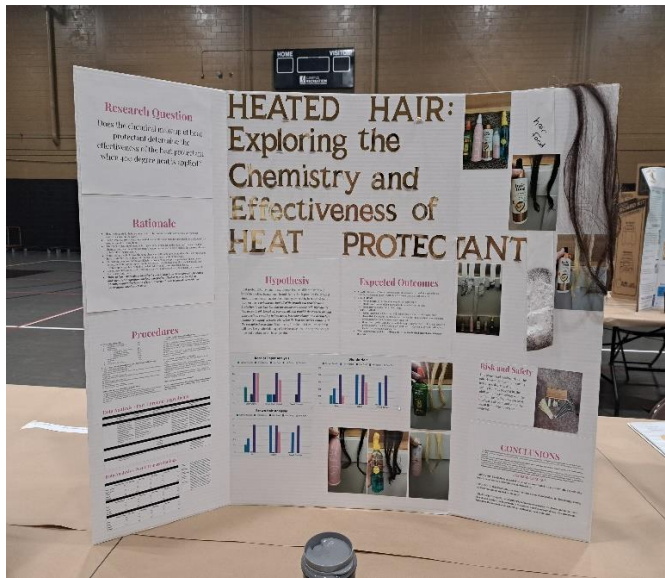
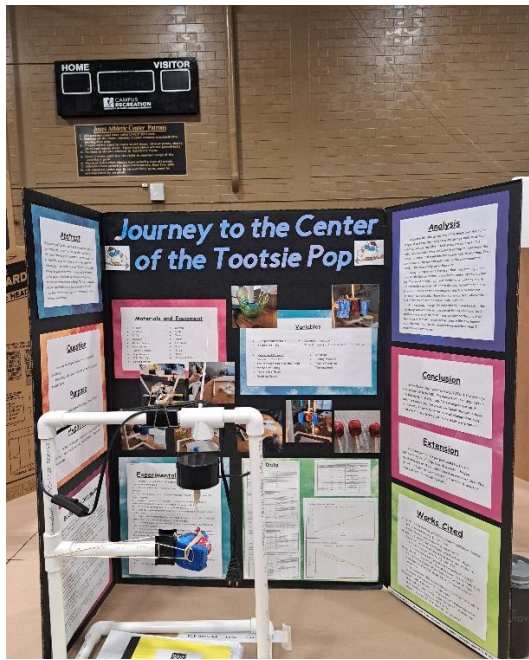
Noha Muzaffar - Project: *Effect of Fasting on Immunotherapy Response in Male vs Female Mice*



Youth Outreach at UNCP  
Science Fair

Chemistry & Physics Club  
members help with  
assistance in judging,  
door-greeting, and  
directing parents.





Congratulations!



## Chemistry and Physics Club

On February 20, the Club host the speaker, T. J. Osborne of Pepco Holdings. He spoke on the career pathways in the Clean Energy Industry and discovering new strategies for improving on clean energy.

**UNCP Chemistry & Physics Club**

*Speaker Series*

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**T.J. Osborne**

Discovering career opportunities and pathways within the industry of clean energy!  
Discovering new strategies for improving on clean energy.

20, February, 2024  
Oxendine Sci. - Room 3202 - @ 3:30pm

This publication is available in alternative formats upon request. Please contact the Accessibility Resource Center, Oxendine Administrative Building, Room 110, 910-521-6695

**T.J. Osborne**



**Title:**

- Senior Business Program Manager at Pepco Holdings

**Current Works:**

- Develop clean energy strategies to achieve Washington D.C.'s climate solutions plan

**Background:**

- M.S in Energy Policy & Climate (Johns Hopkins University)
- B.S. in Marine & Environmental Science (Hampton University)

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**T.J. Osborne**

**Q&A with (T.J. Osborne)**

**Question 1: What is one piece of advice you would give to student seeking a career in your field?**

- "Reach out to experts in the field. They have decades of experience to learn from & connections that can open doors for your career."

**Question 2: What has been your favorite accomplishment or experience in either your education or occupation?**

- "My favorite experience was this year where I spoke on a panel in front of 100 people for an hour as an expert in my field. After the panel, I met with a dozen attendees and got to answer all their questions on clean energy transition which was a rewarding experience"

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## UNCP Rocket Team

On Saturday, February 24, Dr. Steven Singletary and the Rocket Team went to Bayboro, NC. The team did a vehicle demonstration flight test. The team will be going to Alabama and Wisconsin in April to participate in rocket competitions with other schools.



## Students News

### Invitation to UNC Chemistry Event

Frank Leibfarth  
Associate Professor of Chemistry  
UNC Chapel Hill

**Kayla Kaye** and **Sharon Daminabo** have been nominated by Dr. Siva Mandjiny as an outstanding scholar to take part in the UNC Chapel Hill Chemistry Department's annual Slayton Evans [Lectureship](#) and [Outreach Program](#) on February 15, 2024. Kayla and Sharon will be joined by students from 4 local institutions (St. Augustine, Fayetteville State, NC Central University, and NC A&T). This will be a great opportunity to learn more about career options in chemistry as well as network with peers from the area. The fully funded day-long workshop is meant to introduce students to cutting-edge research, diverse scientists, and future career paths in the chemical sciences.

The UNC Chemistry Department will be hosting [Professor Luisa Wittaker-Brooks](#) of University of Utah for its annual Slayton Evans Lecture on February 16, 2024. The Slayton Evans lecture is part of the Carolina Colloquia Series that features leading scientists presenting broadly accessible talks addressed to the full Department of Chemistry in a festive atmosphere. Our goal is to introduce these students to opportunities for graduate education in the chemical sciences and give them a chance to interact with an internationally renowned researcher. We seek to give the students a view of a "day in the life" of graduate students and demystify the pathway to graduate school. We aim to provide the students an opportunity to meet one of the premier scientists in the country, [Professor Luisa Wittaker-Brooks](#) of University of Utah, as well as learn about the many career options and opportunities available to STEM students.