



School of Mathematics and Sciences

Newsletter for Academic Year 2025-2026

The School of Mathematics and Sciences at North Carolina Wesleyan University presents the 2025-2026 Math and Science Newsletter. Each year, we strive to give our readers a snapshot of all that happened in our school. We are happy to share our faculty and student accomplishments, and we welcome inquiries from potential students.

Our school consists of a wide array of scientific fields — biology, biomedical science, chemistry, earth science, environmental science, mathematics, and physics. Our faculty are dedicated to delivering quality instruction, academic advice, and pathways for the future success of our students, whether in academic or non-academic settings.

This newsletter begins with some thoughts from our school chair, followed by a mention of awardees from Honors Convocation, an awards ceremony held each spring. Next, we highlight some excellent student accomplishments and move into a recap of our annual Student Symposium winners. Next, we call attention to all the science students who completed their projects in the Taylor-Crocker Honors Program as well as hear from long-time director, Dr. Bill Yankosky. Finally, we take a moment to showcase some of our faculty talent in their teaching, development, and research endeavors, and we finish with some Pi Day pictures.



Beyond the Textbook

Alfred North Whitehead (1861-1947) was a British mathematician and philosopher who notably worked on logic, mathematics, physics, philosophy of education, and philosophy of science. Consider his words on universities.

“The universities are schools of education, and schools of research. But the primary reason for their existence is not to be found either in the mere knowledge conveyed to the students or in the mere opportunities for research afforded to the members of the faculty. Both these functions could be performed at a cheaper rate, apart from these very expensive institutions. Books are cheap, and the system of apprenticeship is well understood. So far as the mere imparting of information is concerned, no university has any justification for existence since the popularisation of printing in the fifteenth century. Yet the chief impetus to the foundation of universities came after that date, and in more recent times has even increased.

The justification for a university is that it preserves the connection between knowledge and the zest of life, by uniting the young and the old in the imaginative consideration of learning.”

While there are many theories and philosophies flavoring the purpose of universities, Whitehead notes the “connection between knowledge and the zest of life.” Universities provide a venue for the young and old, the novice and the expert, to team up in a one-on-one dynamic that expresses an interpersonal moment of growth among all parties. Education is a process that enriches both the teacher and student as each engage in the push and pull of learning and exploring. This goes, as the title indicates, beyond the textbook. An individual sitting alone in a room with a textbook can learn, provided he has a certain level of dedication. However, when the learning takes place in a classroom with peers of varying backgrounds and under the supervision of a skilled master, something extra-textual takes place. The content of the textbook begins to show many fingerprints as each individual touches it and finds handles with which to grasp it and manipulate it. Concepts are solidified as we observe others learning to swim in these waters. Stories are shared around the campfire of education as each learner absorbs the experiences of the teacher and classmates and attaches memories to the memorization and successes to the struggles. This is life-enriching as well as knowledge-expanding. This is what you get at a university—especially the small ones. This is the community we offer to you at NCWU.

Brent Dozier, PhD

bdozier@ncwu.edu

Associate Professor of Mathematics

Chair of the School of Mathematics and Sciences

Honors Convocation

At this year's Honors Convocation on April 2, 2026, our school was proud to present its awards and recognize our excellent students formally.

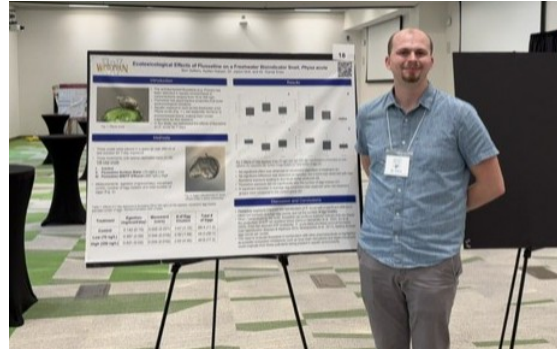
- Biology Award - Benjamin Sellers
- Chemistry Award - Mary Bentley
- American Institute of Chemists / NC Institute of Chemists Foundation Award - Mary Bentley
- Environmental Science Award - Andrea Elaez Miranda
- KME (Kappa Mu Epsilon) Mathematics Honor Society - Cosima Geywitz, Ivy Joy Chelegat, Juan Felipe Gonzalez Leuro, Mary Bentley

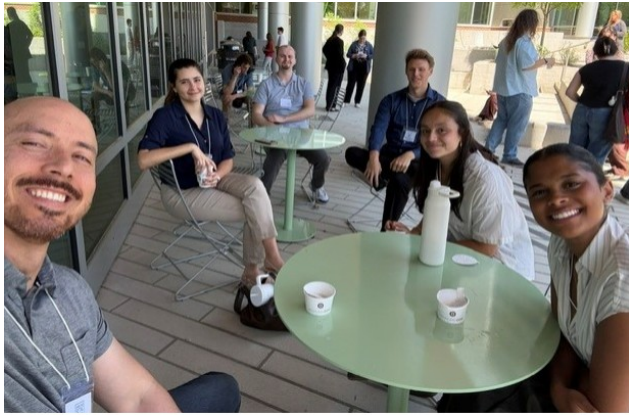
Here are some photos from the ceremonies. Congratulations to everyone!



Student Accomplishments

- On April 13 and 14, 2026, Dr. Daniel Elías' BIO 325 Environmental Science Lab students (Jadyn Smith, Andrea Elaez Miranda, Lauren Martin, Ben Sellers, Kayla Atkins, Christian Thompson) attended the Carolinas SETAC (Society of Toxicology and Chemistry) Conference in Raleigh, NC, hosted by NC State University. Students presented research developed through independent projects in BIO325. Poster presentations included *Ecotoxicological Effects of Fluoxetine on a Freshwater Bioindicator Snail, Physa acuta* by Ben Sellers and Ayden Harper and *Individual and Combined Effects of Fluoxetine and Microplastics on Physa acuta* by Ben Sellers, Jadyn Smith, Andrea Elaez Miranda, Lauren Martin, Kayla Atkins, and Christian Thompson. The conference provided students with experience presenting research, interacting with environmental science professionals, and engaging with current topics in environmental toxicology.

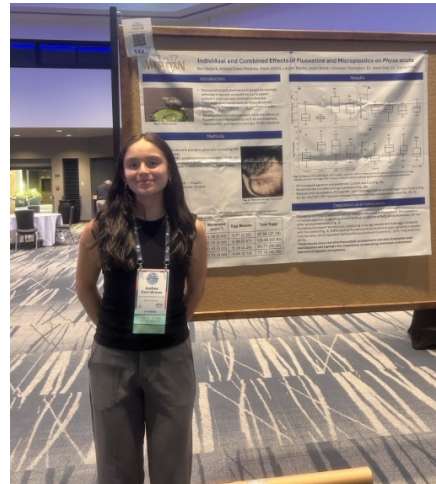
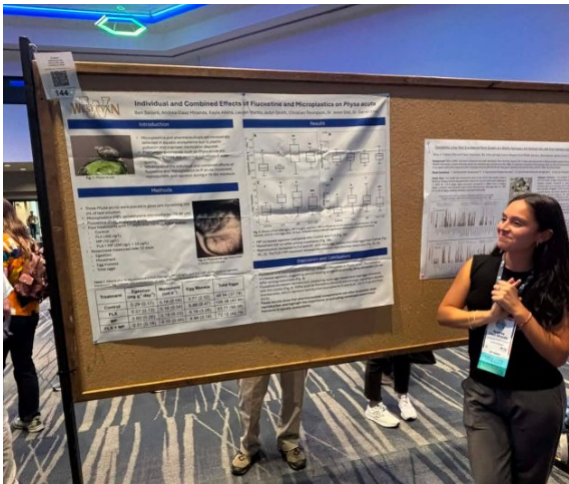




- Andrea Elaez Miranda, a 2026 graduate of our Environmental Science program, gives a report of a recent opportunity to present the research that she and her classmates (Ben, Kayla, Jaydyn, and Christian) completed in Dr. Elías' BIO 325 course.

“Last week I attended the annual Society for Freshwater Science Meeting in Spokane, Washington, where I presented a research poster titled ‘Individual and Combined Effects of Fluoxetine and Microplastics on Physa Acuta.’ In the conference I met researchers, graduate students, and professionals working in freshwater science from across the country.

It was a great opportunity to share our research, receive feedback from experts in the field, attend scientific presentations, and learn about current research on freshwater ecosystems, contaminants, and aquatic organisms. I also had the chance to network with faculty and graduate students from many universities.”





- As part of an NSF GeoPath grant, Drs. Temple and Elías, along with students Jady Smith, Ben Sellers, and Jazmin Ramirez, visited Hobgood Charter School in Hobgood, NC on April 22, 2026.



- This past fall, Cosima Geywitz received a GlaxoSmithKline Women in Science Scholar award, reflecting excellent academic performance. In addition to a scholarship, Cosima will be paired with a female scientist for a mentoring experience at GlaxoSmithKline in the Research Triangle Park as well as an invitation to attend a bi-annual conference at GlaxoSmithKline.



- Mary Bentley, a chemistry major, has represented our university well and accumulated an astoundingly impressive resumé of accomplishments, including the following:

- ★ accepted into **four** nationally funded research programs — Iowa State, UNC-Charlotte, University of Tennessee, and University of Pittsburgh— completing masters level work at U. Pitt. in her junior year
- ★ awarded a highly competitive internship at Los Alamos National Laboratory in New Mexico. Only 2-3% of applicants nationwide get accepted. She will work on analytical omics workflows and other types of mass spectrometry.
- ★ secured over \$12,000 in funding from the US Department of Energy through the Science Undergraduate Laboratory Internship Program
- ★ secured a research position at ECU with full funding where she synthesized and characterized novel 1,8-naphthalimide based fluorophores
- ★ secured an internship at Catalent Pharma Solutions
- ★ at least 3 or 4 research paper submissions in progress
- ★ multiple job offers at state-of-the-art facilities across the country



- This summer, Environmental Science students Jadyn Smith, Ashlyn Bulluck, and Christian Thompson are gaining valuable field experience through internships with the North Carolina Wildlife Resources Commission (NCWRC). Supported by Associate Professor Daniel Elías' NSF GEO PATH grant, the students are assisting with surveys of fish, freshwater mussels, crayfish, and aquatic invertebrates across North Carolina. Their work contributes to freshwater conservation efforts while providing hands-on experience in aquatic ecology and natural resource management.



Student Symposium

This year's Student Science Symposium was held on April 9, 2026 in the Dunn Center. The keynote address, "My Journey from a Small Village Farm to the Ag-Tech Industry" was delivered by Dr. Jiarui Li, Chief Executive Officer of Innatrix, Inc.



The winners of the poster competition are:

1st Place Lower-Level Category:

Connor Jones and Daniel Smith

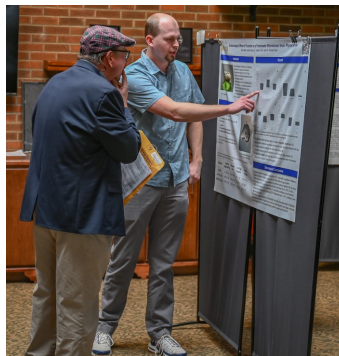
Not all Dirt is Equal: an Earthworm Texture Preference Experiment



1st Place Upper-Level Category:

Benjamin Sellers and Ayden Harper

*Ecotoxicological Effects of Fluoxetine on a Freshwater Bioindicator Snail, *Physa acuta**



Taylor-Crocker Honors Program

The following students completed their honors projects this academic year.

- Mary Bentley - *The Synthesis and Characterization of Novel 1,8-Naphthalimide-Based Fluorophores* (directed by Dr. Pamela Patterson)
- Niana Gunter - *The Effect of Antimicrobial Herbal Remedies on Consumer Probiotic Lactobacilli* (directed by Dr. Heather Louch)
- Benjamin Sellers - *Ecotoxicological Effects of Fluoxetine on a Freshwater Bioindicator Snail, Physa acuta* (directed by Dr. Daniel Elías)

★ Message from Dr. Bill Yankosky

As some of you may have heard, I stepped down as the Director of the Taylor-Crocker Honors Program at the end of my term in May 2026. After what ended up being 18 years as the Director of the Honors Program, I felt the time was right to pass the baton to someone else to lead this wonderful program. Fred Sanborn in Psychology is now the Director of the Taylor-Crocker Honors Program and Doreen Thierauf in English is now the Assistant Director. I have no doubt they will do a wonderful job leading the Honors Program going forward.

When I first agreed to take over as the Director of our Honors Program following the somewhat unexpected retirement of my predecessor back in 2008, I honestly could not have envisioned still being in the position nearly two decades later. However, agreeing to become the Director was the best professional decision I ever made. Without a doubt, working with Honors Program students has been the highlight of my career at Wesleyan and has been more rewarding than I could have ever imagined. The bonds I formed with many students and colleagues because of the shared experiences we had will always be something I cherish and look back on fondly. I was honored to have been trusted with this important role for so many years.

I want to specifically express thanks to all my math colleagues who supported me during my time as the Honors Program Director. My former colleagues Gail Stafford, Carol Lawrence and Mulugeta Markos strongly encouraged me to take the position when it was offered to me. I was hesitant to commit to the role since I knew it would impact the math side of things, but they assured me we could work things out, and I am forever grateful for that. More recently, I have appreciated Brent Dozier and Aaron Allen continuing the tradition and supporting me in my role for the past several years.

Whether you were a student in the Honors Program, a faculty member who either taught honors courses, directed or served as readers for honors projects, or were just a general supporter of the Taylor-Crocker Honors Program and its role at NCWU, I want to express my sincerest thanks to all of you. Everyone's support helped make my time as the Honors Program Director much easier and allowed me to enjoy the opportunity.

With thanks and gratitude,

Dr. Bill Yankosky, Professor of Mathematics

Thank you for your outstanding service, Dr. Bill.

Faculty Highlights and Activities

Justin Davis, Ph.D. - Biology

Dr. Justin Davis recently had an article published in microPublication through the Caltech Library. The title is “Crithidia fasciculata gene of unknown function CFAC1_070014400 encodes a putative alpha/beta hydrolase with a conserved active site”.

<https://www.micropublication.org/journals/biology/micropub-biology-001967>

Brent Dozier, PhD - Mathematics

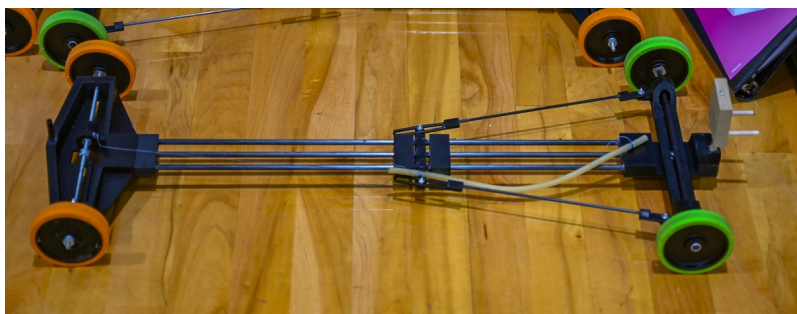
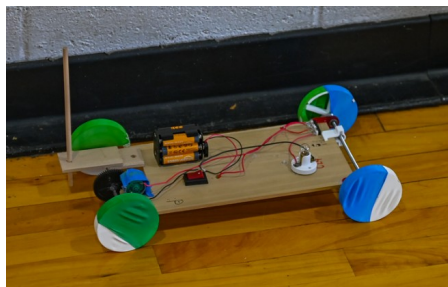
- Dr. Dozier was promoted to the rank of Professor of Mathematics.

Emily Weber, PhD - Biology, Biomedical Science

- Dr. Weber was awarded tenure and promoted to the rank Associate Professor of Biology.
- At our 2026 commencement ceremony, Dr. Weber was awarded the NCWU Excellence in Teaching Award.

Brittany Al Attabi, MS - Chemistry, Biology

- This year, under the direction and initiative of Ms. Al Attabi, we hosted our first annual Regional Science Olympiad tournament, where over 300 students on 27 middle and high school teams competed in STEM-themed events. The winners of this tournament went on to compete at the state tournament hosted by NC State. The event was a huge success, and we have already scheduled next year's tournament. We hope to bring this event back to campus every year in an effort to recruit more STEM-minded students to Wesleyan while supporting our (relatively) local community.



Daniel Elías, PhD - Biology, Environmental Science

- Publications

- ★ *Effects of Casuarina equisetifolia L. litter on Helianthus annuus L.* Wilder, R., Elías, D., & Doll, J.

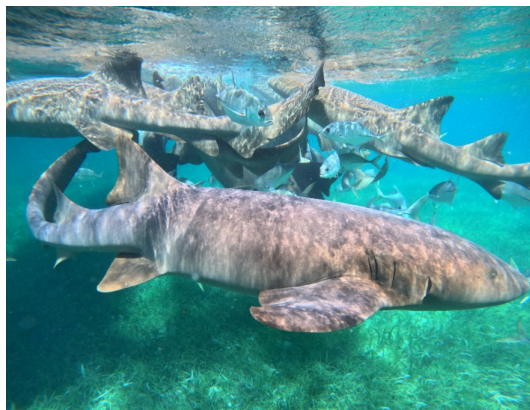
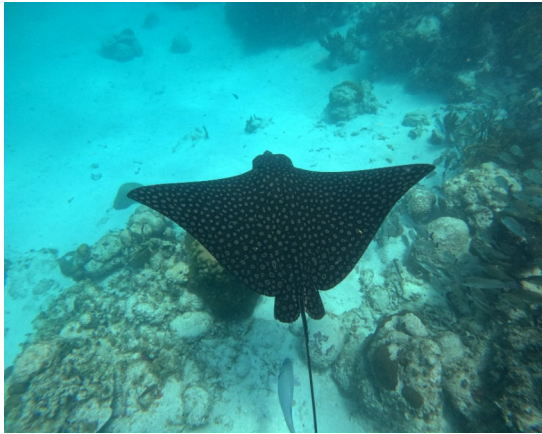
- ★ *Integrating Communication, Reflection, and Real-World Relevance in Undergraduate Science Through Scaffolded Case Studies in Environmental Health..* Elías, D., Elaez, A., Funoy Sayar, M., Lynch, C., Martin, L., Minchew, K., Ramirez, J., Rizzo, A., Van Norden, C. (2026) <https://doi.org/10.1080/0047231X.2025.2557989>

- In Review:

★ *Effects of fluoxetine on egestion, reproduction, and movement of Physa acuta.* Sellers, B., Doll, J., & Elías, D. Tropical Life Research

• In May 2026, Dr. Elías and the Environmental Science program at North Carolina Wesleyan University traveled to Belize for a hands-on learning experience focused on ecology, conservation, and environmental sustainability. The trip brought together a current student and several alumni, creating a unique intergenerational learning experience that extended the program's impact beyond the classroom. Participants explored Mayan history at Xunantunich, visited the Green Iguana Conservation Project, hiked and canoed through tropical ecosystems near Monkey River, and studied marine biodiversity through snorkeling and mangrove kayaking in Caye Caulker. The experience highlighted the program's commitment to experiential learning, global perspectives, and lifelong connections with its graduates.



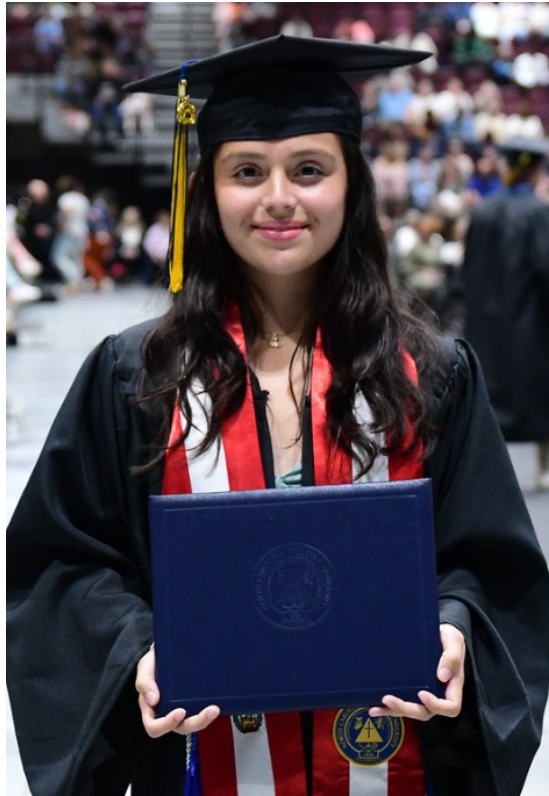


Pi Day 2026

Pi Day (March 14) was on Saturday this year, but that didn't stop us from approximating with 3-13 and having a *Freaky Friday Pi Day*. Dr. Aaron Allen, in collaboration with our ZTLC (Zipf Teaching and Learning Center) and Science Club, made the halls sweet and mathematically festive. This is always a fun event for our campus community.



Just the beginning ...



Andrea Elaez Miranda - Environmental Science Graduate 2026

★ Special thanks to Dr. Carl Lewis (Criminal Justice) for generously sharing his photos with the community.