



UNION UNIVERSITY
Fall Poster Session

November 11, 2025



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TUESDAY, NOVEMBER 11, 2025

SUB Hallway | 11 a.m.–12:30 p.m.

Student Presenters

Art

Joelle Cruver | Art Therapy and Children with Trauma: An Overview

Aaron French | Advertisements Are Emotionally Manipulating You (In a Humane Way)

Helen Buller | The Art of Horsehair Raku Firing: An Exploration of History, Science, and Cultural Significance

Caroline Lukasick | The Relationship Between the Arts and the Appalachian Trail

Sarah Robinson | Ceramic Faceting

Biology

Alex Shoemake | Nonlethal Reptile and Amphibian Biodiversity Study in Managed and Unmanaged Woodlands

Cameron Fountain | A Meta-Analysis of *Thalassia testudinum* Growth and Environmental Conditions

Elizabeth Compere | Differential Gene Expression in Microglial and Macrophage Cells Following TLR2 Activation

Rusty Rogers | New Host Records for Nearctic Dryinidae through DNA Barcoding



Art Therapy and Children with Trauma: An Overview

Presenter: Joelle Cruver

Faculty Project Advisor: Christopher Nadaskay

Art therapy is a therapeutic practice that utilizes artistic expression as a means of processing emotions. Trauma is one of the many areas that art therapy can assist in coping with symptoms and impactful experiences. Due to the areas of the brain that trauma impacts and the area that art engages with, art therapy is an effective modality for treating trauma or posttraumatic stress disorder (PTSD). While there is research in support of art therapy being an effective method for treating PTSD symptoms, there is further research needed to provide stronger evidence of this being the case.

Advertisements Are Emotionally Manipulating You (In a Humane Way)

Presenter: Aaron French

Faculty Project Advisor: Christopher Nadaskay

Advertising has evolved quite a large amount in a very short time. However, there is one aspect of it that has remained almost constant since the first instances of advertising research began to be documented: the use of emotional manipulation to catch the attention of the audience. Advertisements now have been forced to become more creative with this draw on emotions due to the rapid deterioration of the average attention span of the general population. It is no exaggeration, then, to claim that emotions in advertising are quite possibly the most important aspect of success in the world of advertisements, especially now more than ever.

The Art of Horsehair Raku Firing: An Exploration of History, Science, and Cultural Significance

Presenter: Helen Buller

Faculty Project Advisor: Christopher Nadaskay

“Raku” meaning “enjoyment” or “ease” was first started in Kyoto, Japan during the 16th century. This firing method was created by Chojiro during the Momoyama period where pots, specifically tea bowls, were hand built, making the pieces unique to the individual. Raku has been used since then in many different cultures and has evolved in the process. The process I am specifically studying is called “horse hair raku firing,” a process that emerged from Native American potters that has become important in their culture to honor both horses and people of their community, as well as creating decorative pieces. This research explores the significance of the raku firing method, the scientific aspects of burning oily horse hair on porous clay pot surfaces, how this has influenced contemporary art, and the aesthetic components of the work. I will explore how one of the most ancient ceramic firing techniques has changed over time and the direction firing that horse hair has gone.

The Relationship Between the Arts and the Appalachian Trail

Presenter: Caroline Lukasick

Faculty Project Advisor: Christopher Nadaskay

There is a group of artists inspired particularly by the Appalachian Trail (AT). Artists whose work is inspired by or resembles the AT include some through-hikers, but often less experienced hikers who are drawn to the Appalachian area. The AT has played an important role in the lives of some artists, evidenced by their desire to produce work about the trail or inspired by it. However, what some people might not recognize is how those same artists have had an impact on the Appalachian Trail. This research will highlight the History of the Appalachian Trail in relation to the art world, recognize the significance the Appalachian Trail has had on artists, and how artists have, in return, influenced the trail.

Ceramic Faceting

Presenter: Sarah Robinson

Faculty Project Advisor: Christopher Nadaskay

What is faceting? Faceting is a ceramic technique that involves cutting or slicing into the surface of a thrown form. This can be done by using tools like wires, knives, or other unexpected tools such as cheese cutters. Faceting allows for additional surface texture as well as visible interest to a form. It can be a great way to experiment with

clay, and lead to new ideas that interact with the glazes differently. Depending on the desired outcome, one can facet while their piece is still on the wheel or wait for the clay to stiffen to a leatherhard state. *History of faceting:* Ceramic faceting has developed over time through many centuries and artists. It is believed to have originated from Asian descent and has since then been modernized and further developed. Research shows that faceting originated during the Iron Age around 400 BCE. The ceramic artist Mike Dodd is currently recognized for his input on faceted pottery. He began faceting his pots directly on the wheel as it was spinning. *Why I enjoy faceting:* I enjoy faceting because I feel it adds textural character and visual appeal to my forms. I also appreciate that it comes from an Asian descent, considering my mother is Korean and it feels like a personal representation that I can incorporate into my work. I also feel that it allows my pots to have a unique addition to them that can relate to my preferred forms and glazes. *Faceting artists I admire:* Some of Mike Dodd’s faceted work is where I drew inspiration in my first faceted pieces. I enjoy the angular look his facets give his pots, which is something I wanted to try on my own forms. This led to a wide range of faceting experimentation throughout my work today. How I can apply it to my work: I plan on pursuing faceting in my future work. Through my experience, research, and experimentation, I thoroughly enjoy faceting and hope to apply my knowledge of it to my coming work. I hope to continue experimenting with new faceting patterns, while still maintaining personal and customer favorites.



BIOLOGY

Nonlethal Reptile and Amphibian Biodiversity Study in Managed and Unmanaged Woodlands

Presenter: Alex Shoemake

Faculty Project Advisor: Andy Madison

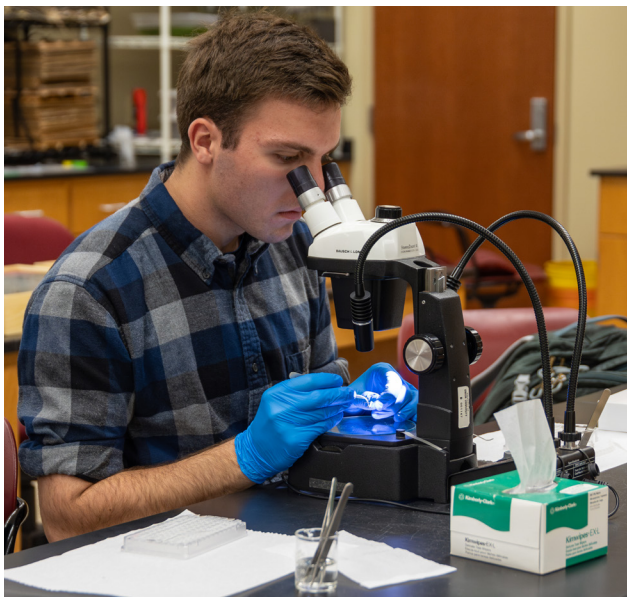
Reptiles are impacted by human activity. This research will explore that impact by sampling their abundance in managed and unmanaged woodlands. Population abundance and diversity of local reptiles is unknown, particularly as they pertain to some managed and unmanaged woodlands. To assess these, coverboards were used. Reptiles observed under coverboards were identified to species and their preferred habitat types were noted. We placed 12 coverboards at 2 different locations with 2 different sites each in West TN. The unmanaged site is in Pocahontas, TN and the managed area is Cypress Grove Nature Park in Jackson, TN. The two different locations had the same species diversity, but the Lake House (Pocahontas, TN) had more species abundance.

A Meta-Analysis of *Thalassia testudinum* Growth and Environmental Conditions

Presenter: Cameron Fountain

Faculty Project Advisor: Michael Schiebout

Seagrasses are a foundational aspect of aquatic ecosystems, but many species are in dramatic decline worldwide. To understand the decline, independent variables such as location, depth, and season must be examined before exploring external factors including algal blooms and invasives. This study evaluated data collected by Dr. Michael Schiebout in 2022 at 2 sites (Cayo Buerca and Cayo Puerca) located in Puerto Rico. Over a 6-month



period, leaf height, width, biomass, and total growth were recorded at 6 transects. Two-way ANOVA analyses were conducted to compare results according to depth, location, and time of year. Results concluded that time of year was significant for density and biomass, whereas location was significant in density, biomass, and length growth. Location proved the most influential factor in growth for this study regardless of depth, whereas seasonality had little influence. The results provide a unique perspective for future studies regarding seagrasses decline.

Differential Gene Expression in Microglial and Macrophage Cells Following TLR2 Activation

Presenter: Elizabeth Compere

Faculty Project Advisor: William Thierfelder

Using microglial cells and RAW macrophages, this study examines how activating Toll-like receptor 2 (TLR2) impacts brain health in specific cell lines. The hypothesis is that activating TLR2 will lead to increased expression of inflammatory genes. PAM3 will be used to stimulate these pathways in cell lines and then analyze changes in gene expression. The research aims to reveal how TLR2 signaling distinctly influences inflammation in these immune cells. This understanding could pinpoint new therapeutic targets for neurodegenerative conditions by helping to manage immune responses and protect neurons.

New Host Records for Nearctic Dryinidae through DNA Barcoding

Presenter: Rusty Rogers

Faculty Project Advisor: Jeremy Blaschke

Dryinid wasps (*Hymenoptera: Dryinidae*) are parasitoids of cicadellid hoppers (*Hemiptera: Cicadellidae*), serving as natural biological control agents. Hopper species can cause significant ecological and agricultural damage, yet many dryinid–host associations remain undocumented due to identification challenges. Using DNA barcoding of the mitochondrial COI gene, this study confirmed species-level identifications and revealed several previously unrecorded host relationships at Cypress Grove Nature Park in Jackson, Tennessee. Three dryinid genera were identified, *Aphelopus*, *Gonatopus*, and *Anteon*, with *Aphelopus* showing the greatest larval diversity. Newly documented host associations include *Aphelopus* species parasitizing *Erasmoneura vulnerata*, *Eratoneura adunca*, *Erythroneura vitis*, *Hymetta balteata*, and *Osbornellus rotundus*, among others. Larvae clustered within *Aphelopus*, while adults were mainly *Gonatopus* and *Anteon*, suggesting possible genus-level partitioning by life stage. These findings provide the first molecularly supported host records for Nearctic dryinids and demonstrate the value of DNA barcoding in uncovering cryptic parasitoid–host relationships.



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The Fall Poster Session is sponsored by
the Union University Research Program