Undergraduate Research Journal

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Introduction from the Director of Undergraduate Research

In Fall 2021, Young Harris College launched a new program focused on undergraduate research, *Undergraduate Research for the Common Good*, which originated from the college's reaffirmation of its accreditation with the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). After a diligent review of institutional data and resources by a committee of faculty, staff, and administrators, YHC selected undergraduate research as the topic and focus of its quality enhancement plan (QEP). As a result, undergraduate research opportunities have been created and expanded across the campus community with the goal of engaging all students in the high-impact practice of research. The result of this activity is the publication of this first issue of the YHC Undergraduate Research Journal. This issue represents the scholarship of students and faculty mentors in almost every department and in all four academic divisions.

Because of the diversity of programs and departments spanning YHC, the term "research" may not be preferred or may not encapsulate the work of all disciplines. Other terms such as "scholarship" or "inquiry" may be more applicable. The Council for Undergraduate Research (CUR) defines undergraduate research as "an inquiry or investigation conducted by an undergraduate student that makes an original, intellectual, or creative contribution to the discipline." Therefore, "research" is used to account for all efforts to develop new knowledge and ideas in a field of study, whether they use the scientific method, methods of textual analysis, creations of work of arts and artistic displays, or other methodologies. Undergraduate research at YHC is defined as "intellectual investigations by undergraduate students through faculty mentorship with the goal of generating new knowledge and/or original and creative contributions to a discipline through methods and skills consistent within the discipline." This definition is sufficiently broad to incorporate the diverse nature of scholarly activity and practice in most disciplines.

This issue contains descriptions of major components of the *Undergraduate Research for the Common Good* program but also addresses other forms of research and inquiry across campus. It highlights the accomplishments of a select group of students, Distinguished Undergraduate Research Scholars, who engaged deeply with undergraduate research throughout their career. It describes both course-based undergraduate research experiences (CUREs) that were designed by creative and scholarly faculty, as well as mentored research experiences (MREs) that were shepherded by faculty mentors who shared their research interests with students. These experiences benefit students by developing skills in inquiry and analysis, reading and understanding primary literature, analyzing data, problem-solving, and communicating and collaborating with others. Perhaps more importantly, undergraduate research develops the

"softer skills," such as responding to adversity, resilience, independence, self-confidence, self-efficacy, and grit.

We congratulate the hard work of student researchers and scholars on their accomplishments and acknowledge the difficult journey they took to pursue research. We also recognize the faculty who mentored, collaborated with, and dedicated time to students, thus creating a culture of research and inquiry at YHC. Lastly, many staff and administrators were critical this past year in supporting undergraduate research and made significant contributions.

Johnathan G. Davis, Ph.D.
Director of Undergraduate Research
Young Harris College *Undergraduate Research for the Common Good*

Mission Statement

Undergraduate Research for the Common Good is an initiative to enhance the educational experience at YHC and positively impact student skills in many areas, including critical thinking, problem-solving, communication, and information literacy. By tackling difficult issues, working to solve the complicated problems, and facing the challenges inherent in research, YHC students develop valuable life skills, becoming resilient to adversity, ready for rigorous challenge, and confident in their abilities.

Undergraduate Research Advisory Committee & Acknowledgements

Special thanks to the Undergraduate Research Journal editorial team—Jen Julian, Mary Brink, and Rosemary Royston—who dedicated special time to consolidate, organize, and edit the journal's first issue.

Additional thanks to those who supported and aided the committee in their efforts and made this publication possible:

Keith DeFoor, Ph.D., SACSCOC Accreditation Liaison, Associate Vice President for Academic Affairs
Theresa Spanella, Executive Director of Student Retention and Persistence
Debra March, Dean of Library Services

Lastly, a hearty thank you to all Young Harris faculty, students, and administrators campus-wide who contributed to YHC's undergraduate research efforts this past year.

Undergraduate Research Scholars

We at the Undergraduate Research Advisory Committee created the distinction of Distinguished Undergraduate Research Scholar to foster a culture of undergraduate research, encourage student engagement and participation, recognize students who successfully complete research, and reward students who demonstrate excellence.

This year, faculty members took the first step in nominating students for the distinction. The nominees then completed an application summarizing the content and value of their research accomplishments and submitted a recommendation letter from a faculty mentor. We determined whether candidates met the criteria for the distinction, while recognizing that disciplines have differing criteria and expectations of research and scholarly work. Awards were announced in a special ceremony on Undergraduate Research Day. We awarded the distinction to eleven students.

Indiana Ayers

Indiana is pursuing a B.A. in Creative Writing and a B.S. in Interdisciplinary Studies with an emphasis in astrophysics. She conducted undergraduate research through independent studies and course work in astronomy, physics, and creative writing, working with Drs. Steve Morgan, Arunava Roy, and Gale Thompson. Her research interests include the study of exoplanets and habitable zones for planets. Faculty describe Indiana as "an excellent problem solver with good analytical abilities and a great learner with excellent communication skills." Inspired by authors such as Ray Bradbury, who presented ideas once considered scientific impossibilities in science fiction, and Charles Darwin, whose theories were brought to the forefront of science because he was also a captivating writer, Indiana is passionate about communicating science to the public as a writer. She states that anything and everything to do with astronomy sparks passion and curiosity in her and that research allows her to further her knowledge and satiate her curiosity. She hopes to one day work at NASA to write about science and "write the stars onto pages." She presented her work at the 2022 YHC Undergraduate Research Day.

Guerin Brown

Guerin completed a B.S. in Biology. He conducted research in his courses, through independent studies, and through fellowships with the National Science Foundation's Research Experiences for Undergraduates. Guerin worked with several biology faculty but has worked most prominently in the YHC Predatory Beetle Lab with his faculty mentor, Dr. Paul Arnold, and completed research investigating the use of remote sensing in determining the effectiveness of biopredatory beetle release to control an invasive pest, the hemlock wooly adelgid, on eastern hemlock trees. According to his mentor, Guerin demonstrated problem-solving skills and maturity in handling adversity and developing solutions to various roadblocks. Guerin has become interested in computational entomology and its use in conservation. He believes that the combination of technology, statistical analyses, and knowledge of biological systems can produce high-quality research that will allow him to be an effective steward of science in the future. Guerin has presented his research at the REU Symposium, the 2021 and 2022 YHC Undergraduate Research Days, and the Georgia Academy of Science conference.

Brentney Clemmons

Brentney completed a B.S. in Psychology and is interested in pursuing a career as a counselor and clinical psychologist because she is passionate about helping people. She conducted research with her faculty mentor, Dr. Julie Delose, after writing a mock research proposal for her Environmental Psychology course and realizing her interest in testing her hypothesis. Her research studied the impact of plants in a patient waiting room on the counseling experience. She learned that research is "full of unexpected obstacles" and that there is "more to the research process than what is taught in textbooks." Research takes patience and persistence, and she thanks her mentors for their encouragement. Her mentors describe her as a "stellar student" with the strong characteristics of a researcher, being curious and unafraid to ask questions and seek answers. A student with an exceptional work-ethic who is authentically kind, she is described as a "bright and dedicated scholar." Brentney hopes to eventually earn a Ph.D. in psychology.

Hannah Cooper

Hannah completed a B.A. with a double major in Graphic Design and Fine Art and is constantly researching artists, artistic techniques, and more. She has explored specific works in depth and created her own art gallery proposal while working with Dr. Mary Brink. She was also a lead contributor in this year's Appalachian Teaching Project, working under Ted Whisenhunt and conducting research into informational signage as part of designing an interpretive trail for Cupids Fall. Hannah believes that art is "a highly intellectual and research-oriented field," contrary to popular perception, and that growth is "very difficult for artists...if they don't fuel their work with research and new information." As a result, she habitually seeks new challenges for herself and considers "love of knowledge to be something important and valuable to [her] learning." Faculty describe Hannah as a bold and dedicated student, always taking classes that "allow her to explore new areas, rather than ever choosing the easy options."

Kristen Grant

Kristen completed a B.S. in Outdoor Leadership and has pursued independent projects researching the connection between recreational spaces and community health and engagement. Her work in this discipline "has helped to increase [her] knowledge and understanding of the importance of outdoor spaces and how they can help us to serve the people and places around us." Working with Dr. Joseph Pate, she presented her research at two professional conferences: the ATP Virtual Conference and the Annual Adventure Education Conference, where she co-led a workshop. This past year, she was one of a team of students who participated in the Appalachian Teaching Project and conducted academic research in outdoor leadership in collaboration with Mayor Andrea Gibby and the City of Young Harris. Faculty mentors describe Kristen as a student who naturally seeks collaboration with others, proclaiming that in terms of the Teaching Project, her "presence, engagement, and creativity was an asset to this undertaking and contributed greatly to the educational community created to support the project."

Emma Hambrick

Emma is pursuing a B.S. in Psychology and is currently working with Dr. Benjamin Van Dyke to research the psychological impacts of pain and the effects of COVID-19 on mental, physical, and emotional health. Faculty describe Emma as a hard worker who is also highly organized, personable, creative, and reliable. "In fact, offhand," one mentor says, "I can't think of another student who I would trust as much as Emma to take every precaution to treat human research participants with respect *and* would be detail-oriented regarding data collection and management." Emma says that research has helped her become a better writer and gain confidence in analyzing and interpreting data. As she intends to pursue a career in clinical psychology, she knows "it is essential to be able to develop and interpret research" so that she can "provide a person with the best care possible."

Elizabeth Howell

Elizabeth completed a B.S. with a double major in Biology and Environmental Science. She states that she "never had any intention" to pursue undergraduate research when she arrived at YHC, but her experiences with faculty mentors changed her mind. Now she understands "the importance of communicating research, because no matter how good it is or what it means for the world, it all loses significance if it can't be communicated to other experts in the field or the general public." She has conducted research on a local fish species and has participated in two Appalachian Teaching Projects, where her dutiful and organized leadership style led a team of students to successfully complete the project and present the results in Washington, D.C. Elizabeth's faculty mentors speak proudly of her "strong intellectual ability" alongside her "hard work," "grit," and "ability to grasp concepts quickly." Overall, they are "impressed with Elizabeth's academic maturity as she looks to take the next step in pursuing opportunities beyond our program." Indeed, she will be attending vet school this fall and hopes to "contribute quality and meaningful research to the veterinary field."

Madeline Studebaker

Madeline completed a B.A. in Communication. Working with her faculty mentor, Dr. Joshua Guitar, she utilized research to learn about and apply abstruction theory, and "became more confident in engaging the political arena through an academic lens." She recently presented her work at the Southern States Communication and Association Conference. Faculty have been habitually impressed with Madeline's sense of ethics and critical intellect. One mentor states that he is "convinced her capstone manuscript could be published in a prominent academic journal" and has been encouraging her to submit. Additionally, she helped co-author "Congressional Hearings as a Public Spectacle," a grant-funded research project that was presented at the Center for C-SPAN Scholarship and Engagement Conference and will soon be published in the *Year in C-Span Archives Research*. Madeline's passion for her research subject persists, as she has spent hours analyzing the rhetoric of congressional hearings in the C-SPAN video library. Her research experience has affirmed her plans to pursue a graduate education now that she has earned her degree.

Jenna Thomas

Jenna completed a B.A. in Communication Studies and also worked alongside Dr. Guitar to co-author "Congressional Hearings as a Public Spectacle," thereby achieving the impressive feat of graduating YHC with both a presentation *and* a publication as third author under her belt. Faculty mentors describe Jenna as a dedicated student and say that her work has "exceeded the expectations of undergraduate research." Her Senior Capstone, a Feminist psychoanalytical rhetorical analysis of the phallocentric imagery associated with alt-right vaccine resistance, demonstrates her commitment to the advanced application of academic theoretical frameworks. Jenna describes her research experiences positively, saying that they "helped [her] gain more insight on what research is like when it is not for a grade." She would like to carry on with her own research "outside of [her] academic career."

Henrik Timgren

Henrik is pursuing a B.S. in Psychology and has conducted research with his mentor, Dr. Benjamin Van Dyke, on the psychology of pain, which he describes, ironically, as "very pleasant." Recently, the Psychology Division of the Council on Undergraduate Research presented him with a $400 undergraduate student research award to support his project, though for Henrik, who exhibits an exceptional level of drive and curiosity, this is "only the beginning." "I already have an idea of how I want to expand this study in the future," he says. He has come to "really love and appreciate this side of psychology" and is amazed to see how a simple idea from a class can manifest into a full study and line of research, speaking to how one class can change everything for a student. A faculty mentor says that Henrik "continues to impress me with his ability to think like a scientist and thoughtfully consider complex research design questions." Henrik hopes to pursue graduate study in health psychology.

Jacob Welmaker

Jacob completed a B.S. in Outdoor Leadership and has spent his time at YHC producing independent research that applies "theories around place-making, sense of belonging, and leadership." He, too, was one of a team of students participating in the Appalachian Teaching Project and conducted academic research in outdoor leadership in collaboration with the City of Young Harris. This past year, he presented his research at the Adventure Education Conference, which bolstered his skills in qualitative inquiry and professional communication. His most recent work culminated in an on-campus workshop on questioning and leadership that he designed and moderated. Faculty describe Jacob as an exceptional student that has "steeped himself in the learning philosophy of science, theoretical and conceptual frameworks around self and identity, and diverse qualitative inquiry approaches." Jacob says that "having [his] research experience has prepared [him] to pursue a graduate degree" and has even considered becoming a professor of Outdoor Leadership.

The Importance of Information Literacy and Library Services in an Undergraduate Research Program

Kyle DeBell, MLIS
Debra March, MLS
Zell and Shirley Miller Library
Young Harris College
Research Program

> *In the nonstop tsunami of global information, librarians provide us floaties and teach us to swim.*
>
> –Linton Weeks

Information Literacy has become quite the buzzword in academia in recent years, and it's easy to see why: the sheer scale of information made available by the internet that would have been unfathomable a generation ago, and the consequences that come along with unedited, unverified production. It is easier than ever to spread disinformation, regardless of the potential harm that can come from it. While these factors serve as fodder for ginning up support for information literacy initiatives in colleges across the country, the rhetoric surrounding these concepts does little to get to the fundamental skills that students need to develop to not only obtain success in college, but throughout their lives.

At its core, information literacy is the ability to locate, analyze, and use information (ACRL, Information Literacy Glossary). At the end of the day, we in the Library should start with that most basic definition. Ultimately, students are *already* information literate. They just don't know it yet.

Young Harris College students are overwhelmingly of the "Gen Z" cohort. Gen Z are the first true digital natives, so their experiences with information are somewhat different from millennials, and vastly different from the Gen X and baby boomer faculty. Overall, Gen Z prefer to learn through intrapersonal learning, which is the practice of learning by themselves, and through demonstration, which is mainly in the form of watching online videos. (Seemiller and Grace, 2017, pp. 22 - 23). Why is this important? Gen Z students have grown up being almost fully online. Whenever they needed to locate information, they learned to Google and find what they need. Whenever they wanted to learn a new skill or hobby, they went to YouTube to see these hobbies and skills demonstrated. And now with social media platforms like TikTok and Instagram, they can easily find accounts that appeal to their interests. So the ultimate question then becomes, "How do we as instructors fine tune students'

information literacy skills to find credible, appropriate information that will enhance their abilities as undergraduate researchers?"

One great advantage in the Undergraduate Research Program at YHC is that students are free to pursue any topic they are interested in. The program is multidisciplinary, so inquiry and experimentation are not limited to the "hard" sciences. Once fueled by a passion for the topic, the Gen Z researcher needs help with context for their findings.

At this point, librarians can introduce topics such as credibility, scholarship, and authority. We can then shift focus to open discussions on what makes a source reliable, credible, and authoritative. Throughout all of this, we must keep in mind that these students know how to find information; they just need to know how to find the *right* kind of information. This is where we can start to dig into all the complex ideas that make up information literacy, such as how authority is determined (and what makes someone an authority) what makes information valuable and how it can create value, and the factors that we need to consider when we are assessing a source of information's credibility. Faculty mentors are helpful here, but student engagement with the Library as well makes for a stronger end result of the inquiry.

Stamatoplos (2009, p.242) points out that students involved in undergraduate research projects have patterns of library use different from students seeking information in a course-specific framework. They approach their research more closely with their mentoring faculty and rely on faculty suggestions for information gathering. For us at YHC, this leads us to a concern that our faculty be updated and aware of the services and resources that can assist the student, or the willingness for library staff to work closely with them as well. This is area for us to strengthen in the next academic year.

Once students are equipped with these fundamental concepts, they can then move on to the practical skills they will need to find the right kinds of sources for their research projects. At this point, they will learn about databases, keywords, searching through the library's online catalog, citations, and how to narrow and refine their search results. This is where students learn the art of locating and retrieving sources, which is where theory turns into action. Of course, many of our students will not search in an academic context again after graduating from college. This doesn't matter as much if they have learned the fundamentals of locating and effectively utilizing credible, nuanced, and clear sources of information.

At first look, it is easy to assume that the only contribution the academic library makes to undergraduate research is the bibliography. It is easy for librarians to equate research with information searching and access, and to overlook the complexities of the original research conception, design, implementation, analysis, and dissemination.

As an example, a faculty member seeking clarification of a copyright question led to a conversation with the researcher about visual materials and educational use rights versus the licensing that goes with a privately paid streaming service. The Library was able to purchase the needed materials for the research project and eliminate the question of how to get around a personal streaming license. All parties came away with a stronger understanding of the ethical use of information. This is the type of support that is hard to advertise and hard to assess but is a concrete example of the partnership the library provides to the Undergraduate Research Program.

The Zell and Shirley Miller Library has a long history of providing support for our students beyond traditional reference exchange. Office supplies ranging from a glue stick to colored markers are always available. We can solve formatting issues when moving between documents and can outsmart a document to make it print in color and the right size. Information literacy in this sense starts to take on more dynamic characteristics, which unveils the complexities of the term itself. It's not just about finding the right kind of information but providing the necessary tools for completing the tasks at hand.

It goes deeper still when you consider an under recognized skill that many library professionals have, which is the ability to think on their feet. To do this, librarians must become generalists in the best possible way, meaning that they must have a working knowledge of computers, printers, software, citation style guidelines, shelving locations, and, most importantly, how to help a student narrow their research scope to a workable, captivating, but realistic thesis or research question. Day in and day out, librarians demonstrate what it means to be truly information literate, and they do so in such a seamless way that almost no one notices. In this context, the librarians at the Miller Library turn Information Literacy into a verb, an action that, when performed well, can enhance its facilitation and, in turn, better equip faculty and students alike with foundational research skills.

Information literacy is comparable to a language in that one must engage with it on a regular basis to maintain proficiency. When learning a language, it's important to remember that the true purpose of its learning is to be able to communicate in a much different way than you are used to. Locating, retrieving, and analyzing information requires the ability to recognize patterns and vocabulary that are different from just summarizing and disseminating information. If librarians can teach students the value of learning this language, their ability to conduct exceptional research and analysis will increase dramatically. The Zell and Shirley Miller Library staff is fluent in this language and would like to ensure that students at Young Harris College become fluent as well.

We teach swimming.

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Profile in Research

Community Research and Service in Appalachia: Young Harris College's Appalachian Teaching Project at Cupid Falls Park

Jacob Welmaker
Joseph Pate
Paul Arnold
Kevin Geyer
Ted Whisenhunt

When a place looks cared for, it sends a message to the rest of the world that we have this, it's ours, and we are proud to be here.

—Lynne McCormack

As one of the many innovative experiences during the inaugural year of Young Harris College's new Quality Enhancement Plan focused on Undergraduate Research, students and faculty from diverse disciplines participated in an Appalachian Teaching Project (ATP), an applied research experience titled *An Interpretive Trail to Highlight the Natural and Cultural Significance of Cupid Falls*. Appalachian Teaching Projects, established by the Appalachian Regional Commission, offer exciting opportunities for students to explore beyond the classroom by investing in their local communities to address regional challenges. Through these experiences, students design, research, and implement unique and innovative projects that address community needs, while developing their leadership and civic skills.

Young Harris College students from majors including Biology, Environmental Science, Art, and Outdoor Leadership participated in an interdisciplinary collaboration to accomplish this project. Students worked with the City of Young Harris to design interpretive trail signage that incorporates place-based and culturally relevant artwork and materials depicting the natural and cultural heritage assets of Cupids Falls Park and the region. Further, through this project, meaningful and innovative educational outreach was explored, using art to communicate the value of the park.

A guiding principle used as a foundational framework for this project was the theory of placemaking. Placemaking is defined as "the process of creating quality places that people want to live, work, play and learn in." (Wyckoff, 2014). This can be done through short- and long-term projects and/or activities. Placemaking highlights unique attributes of areas to encourage a stronger sense of belonging and pride in cultural, historical, and natural resources and landscapes. With the theoretical framework of placemaking, students began this project by consulting with the Mayor of Young Harris, Andrea Gibby, and attending meetings held by the Placemaking Group of Young Harris and Economic Development for the County. In these meetings, it was identified that outdoor trails could be a significant medium to develop placemaking, and these spaces could introduce others to the unique qualities of Cupid Falls Park at Corn Creek Preserve. After these meetings, students carried the theme of placemaking forward to identify the cultural, natural, and historical assets at Cupid Falls Park. Desired outcomes through the identification of these assets were the promotion of health and wellness opportunities, as well as growth in tourism, which could lead to economic and developmental advancement for the community.

This innovative project represented a true collaboration and partnership among multiple and diverse disciplines. To identify the natural assets at Cupid Falls Park, students from Biology and Environmental Science surveyed a variety of tree, invertebrate, and vertebrate diversity. Outdoor Leadership students conducted research around community health and wellness and met with a local historian who shared the cultural and historical significance of the park and the region it is located in. Art students visited the Tennessee Aquarium to learn about engaging signage and how to make information visually interesting and educational. Art students also met with the Reflection Riding Arboretum to further research outdoor signage and the durability and sustainability of different materials and signage displays. All the information gathered was then used by Art students in the design of signage to educate park visitors about the biodiversity and significance of Cupid Falls Park. Ultimately, the design aspect of this project was to present the information in an easily understood, visually engaging, and meaningful way to build a more intrinsic connection between community members and the natural area. One outcome of providing information in a visually inviting way is to encourage community members to look deeper into all a place has to offer, as well as to promote a

stronger and more meaningful sense of connection to natural spaces through a memorable, informative, educational, and inspirational experience for park users.

The interpretive trail educates users of the park by highlighting the natural and cultural heritage assets of the area. It represents the eclectic tapestry of Appalachian culture by weaving together aspects of art, history, and native flora and fauna. Creative design of the interpretive trail attracts more visitors to the park and the city, capitalizing on ecotourism and recreation to stimulate local economic development. Furthermore, this project demonstrated how collaborative partnerships can be implemented across disciplines and with local leaders to drive community initiatives. Specifically, this project connected biodiversity, artistic depiction of natural assets, historical investigations, and passive educational displays such that southern Appalachia is displayed in an engaging and representative manner. It also leveraged the influence and ability of the arts to shape culture, engage community leaders, and educate the next generation. Lastly, it highlighted the need for collaboration among diverse groups, disciplines, and stakeholders to achieve community goals and support Appalachian communities and culture.

The Appalachian Teaching Project gave students an opportunity for real-world experience in research and collaboration among multiple disciplines and community groups and culminated in formal research presentations. This included YHC's 10th Annual Undergraduate Research Day, the 28th Annual Adventure Education Conference, the 45th Annual Appalachian Studies Conference, and the Appalachian Regional Commission in Washington D.C. Ultimately, the ATP was about engaging the Young Harris community and how college students can use their skills and abilities for the development of the special place in which they live. This project was about celebrating the community surrounding Young Harris College and to inspire wonder of our natural world. Cupid Falls is a gift, and the City of Young Harris and community members created a space to further explore the deeper meaning and hidden value of this location and region. The work accomplished serves as a foundation for potential further collaborations to explore future needs and initiatives at Cupid Falls Park at Corn Creek Preserve.

Research News

Dr. Jen Julian, Director of Undergraduate Research, and **Dr. Amy Boggan**, Director of Undergraduate Research Day, presented at the 2022 Appalachian College Association Summit in September. Their presentation, "Improving Student Learning Outcomes through Undergraduate Research," summarized the first-year rollout of the new QEP, the success of Undergraduate Research Day, and the further development of student research at YHC.

Recent Outdoor Leadership graduate **Jacob Welmaker** had a proposal accepted for the 30th Anniversary Environmental Education Alliance (EEA) / 10th Annual SEEA Conference and Research Symposium. His session is titled "Working Together: Examining How Partnerships Among Diverse Constituent Groups Can Advance Community Environmental and Outdoor Education Opportunities" and was presented in late September/early October 2022.

Henrik Timgren, a Psychology major, received a $400 award from the Psychology Division of the Council on Undergraduate Research to help support his ongoing empirical research project with Dr. Benjamin Van Dyke.

Communication scholars **Jenna Thomas**, **Madeline Studebaker**, and **Matthew George** worked on a research team led by Dr. Joshua Guitar. Using genre analysis, they researched how congressional committee hearings elevate to public spectacle. They presented their work at the annual Center for C-SPAN Scholarship and Engagement conference at Purdue University, and their findings will be published in a corresponding publication. Look for their project, "Congressional Committee Hearings as Public Spectacle," in Volume 8 of *The Year in C-SPAN Archives Research.*

Honors Program Capstone Projects

Nine students graduated from the Young Harris College Honors Program this year, earning an Honors distinction on their transcripts. In addition to their Senior Capstones, these high-achieving scholars completed the following Honors Capstone projects, representing multiple disciplines and all four YHC divisions.

Students in the Honors Program enjoy numerous opportunities for their academic efforts, including access to research support, priority registration, academic scholarships, and courses abroad. Every semester, YHC offers Honors-only seminars in a wide range of multidisciplinary special topics. If you are a student with further questions about the Honors Program requirements or the opportunities it could offer, please contact Dr. Kevin Geyer (kmgeyer@yhc.edu).

Art-as-therapy: An Investigation of the Benefits of Art Creation

Hannah Cooper

Hannah, a double major in Art and Graphic Design, explored the history and criticism of art therapy and considered its possibilities within and beyond clinical settings. Upon surveying art students at YHC, she determined that artistic creation could be a healthy, accessible means for college-aged individuals to practice positive, preventative self-care and alleviate mental health struggles.

Does Bitcoin Have the Potential to Be Used as a Legal Tender in the U.S.?

Christopher Cuppini

Completing his degree in both Finance and Management, Christopher applied his studies to investigate what Bitcoin might look like as legal tender in the U.S. His research considers the decentralized nature of Bitcoin exchange and the importance of new technologies such as the blockchain, while at the same time recognizing Bitcoin's inherent challenges. Ultimately, Christopher argues that thorough and accurate knowledge of Bitcoin can significantly assist future investment decisions.

Examining the Physiological and Psychological Influence of Crowd Noise on Collegiate Athletes

Morgan Curley

A Biology major with a Psychology minor, Morgan investigated the effects of crowd noise on the performance of YHC athletes, discovering that both negative and positive crowd noise had a significant effect on the focus and emotional state of her participants. Morgan's research contributes to a growing and increasingly relevant discussion about the links between athletic performance and mental health. She shared her findings as a poster on Undergraduate Research Day.

An Investigation into Native American Historical and Modern Use of Medicinal Plants with a Focus on the Cherokee Tribe

Jillian Dixon

Jillian, a Biology major, researched the use of medicinal plants with an eye toward Native American practices and the effects of European colonialism and displacement. Using the Cherokee tribe as a case study, she highlights several medicinal plants native to Appalachia that are still widely used today. Her research tracks the evolution of medicinal plant use in Cherokee communities and reflects on the ecological connectivity of health, environment, and broader cultural well-being.

The Analysis of Love Songs within Musical Theater

Emily Gray

Majoring in Musical Theatre, Emily investigated the role and portrayal of women, particularly that of the ingénue, in the pre- and post- classical eras of musical theater. Her research identifies a shift in the depiction of women characters from one-note stereotypes to independent, strong-willed individuals. As an actress herself, Emily calls for the theater industry to continue progress in their treatment and involvement of women, both on and behind the stage.

Remnants of Rome: A Crusade-era Historical Fiction Piece Focused on the Byzantine Empire

Brianna Klein

Brianna, a Creative Writing major and History minor, combined her creative and academic interests in a work of historical fiction set in Rome during the Byzantine Empire, at the time of the First Crusade. Brianna's story explores an oft-overlooked segment of history, investigates the role of women in Byzantine society, and demonstrates the intersection of research and narrative technique. She read excerpts from her project as part of an oral presentation on Undergraduate Research Day.

Women, Romance, and Heartbreak in Musical Theater

Suzanne Mishkin

Susie, a Musical Theatre Major, analyzed the portrayal of women in classical and contemporary stage musicals. Using love songs as a point of focus, her nuanced analysis tracks the way women characters express their emotions regarding romantic love, noting how more recent musicals make room for greater emotional depth and complexity and challenge norms and audience assumptions. In the future, Susie hopes to see more musicals created by women and written from their perspective.

Native Garden Spaces: Coordination and Implementation of Native Ornamental Gardens on Young Harris College Campus

Brianna Ross

A double major in Biology and Environmental Science, Brianna proposed an environmentally conscious, cost-effective plan to remove invasive plants on YHC's campus and replace them with native ornamentals. She argues that using native plants would support the local ecosystem and ensure its biodiversity, as well as distinguish YHC as an institution that recognizes and protects the natural beauty of the area. Brianna shared her work as an oral presentation on Undergraduate Research Day.

Picturing the Global South through a Western Lens: A Postcolonial Critique of Modern Missionary Visual Rhetoric

Madeline Studebaker

Madeline, a Communication Studies major and one of this year's Distinguished Undergraduate Research Scholars, composed a postcolonial critique of the visual rhetoric published by Western Christian missionary organizations. Her argument illuminates the way colonialist imagery has evolved and become more covert in the wake of postcolonial criticism. Madeline presented her article on Undergraduate Research Day.

Undergraduate Research Projects

This journal is excited to present highlights of student research projects from throughout the academic year. This past year, it is estimated that over four hundred YHC students across every academic department participated in undergraduate research, which is more than half our student body.

Undergraduate Research Day

YHC's 10th annual Undergraduate Research Day (URD) was held on Apr 12, 2022. The event featured eight oral presentation sessions, a planetarium presentation, a musical performance, and one poster session. Around 130 students participated, delivering a total of thirty-nine oral presentations and forty poster presentations, our busiest URD yet! Students from across a wide variety of disciplines submitted abstracts, which outlined their research questions, methodologies, and approaches.

URD is an exciting opportunity to recognize the research, inquiry, and creative production that students generate, and to celebrate and support each other as an academic community.

Course-based Undergraduate Research Projects

Course-based research experiences (CUREs) introduce students to discipline-specific research methods and help instill a sense of ownership in their research projects. They provide students with the opportunity to make discoveries, generate new knowledge, and create works of interest to their academic field and the community at large. CUREs can also serve as a gateway to mentored research experiences (MREs), wherein students can deepen their research interests and develop an enduring rapport with a faculty mentor.

This past year, twenty-three faculty members across twelve departments implemented CUREs in their courses, which allowed for hundreds of students to engage in collaborative or independent research, some for the very first time. The Undergraduate Research Committee is thrilled about the wide range of multidisciplinary research YHC offers, as well as the enthusiasm we have seen from the campus community broadly.

Mentored Undergraduate Research Projects

Mentored research experiences (MREs) entail discipline-specific, discovery-oriented research completed outside the bounds of a typical classroom. Under the direct supervision of a faculty research mentor, students explore the questions and problems that fascinate them, independently or collaboratively, in academic, creative, or professional pursuits. By the end of the semester, students present their findings as self-motivated scholars with newly found confidence in their field.

This past year, seventeen faculty members from eight different departments offered MREs and over forty students participated.

Several of the following CUREs and MREs received financial support from the institution, covering lab equipment, textbooks, visiting speakers, conference travel, and other special expenses.

Art

Research Papers on Artworks by Female Artists (CURE)

ARTS 2100: Women and Art
Faculty Mentor: Dr. Mary Brink, Associate Professor of Art History

Ten students in ARTS 2100 each selected an artwork of their choice from any time period, made by a woman, and wrote a 6-8 page paper about the work. They turned in a series of assignments building up to the paper over the course of the semester—a list of potential paper topics, a bibliography with major questions, and an outline. They then engaged in a collaborative process with their peers when they peer edited their rough drafts. Students focused on a wide range of artists, including Kara Walker, Georgia O'Keefe, Hannah Wilke, Florine Stettheimer, and Camille Claudel. Each student developed their research question while considering available information about the artist, as well as their art theories and style, their time period, and their influences. Thus, one student focused on personal and cultural symbolism in Frida Kahlo's *Self Portrait with Thorn Necklace and Hummingbird,* while another argued that Suzanne Valadon's *The Acrobat* serves as a self-portrait where the artist depicts herself as a younger performer, rejecting social norms and serving as her own muse.

Analysis of Georgia O'Keeffe's Evaluating the Effects of her Marriage on her Artwork and Success through a Feminist Lens (CURE)

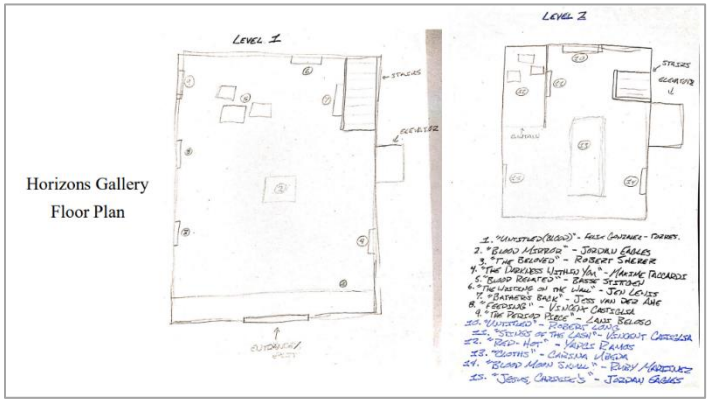
Oral Presentation at URD
Elizabeth Sigmon
Faculty Mentor: Dr. Mary Brink, Associate Professor of Art History

Georgia O'Keeffe is one of the most iconic American female painters of the 20th century and has become a lasting symbol of the American Modernism zeitgeist, even deemed by many as the "Mother of American Modernism." While many working female artists from the same time as O'Keeffe struggled against pervasive sexism for recognition in the art world, O'Keeffe and her artistic achievements flourished. She seemed to break through effortlessly into a culture that excluded women or at least sought to keep their achievements separate from the artistic achievements of their male counterparts. Many believe her photographer husband, Alfred Stieglitz, who managed her career, was the key to her success. In addition to Stieglitz providing commercial success to O'Keeffe's work by taking control of her career decisions, he also controlled the interpretations of her art. His prescribed interpretations have had lasting effects on how modern audiences view and interpret O'Keeffe's paintings. For example, O'Keeffe's flower paintings are still commonly interpreted as symbols for female genitalia. Therefore, O'Keeffe's success was at the cost of the sexualization of the work; her artistic legacy and her feminine sexuality were intertwined by her husband's marketing choices. I believe that the marriage and business partnership between Stieglitz and O'Keeffe affected every aspect of the latter's career and legacy. The nuances and challenges of this relationship and how they affected O'Keeffe's art I believed affected the creation of her artwork and have had an impact on her legacy.

Thematic Art Exhibition Proposal and Presentation (CURE)
ARTS 3310: Issues in Contemporary Art
Faculty Mentor: Dr. Mary Brink, Associate Professor of Art History

Nine students in ARTS 3310 each developed a proposal for a thematic exhibition of contemporary art. The students submitted ideas for three possible shows, discussed their concepts in class, and selected one topic to develop further. Each topic had to be narrow enough to be addressed with fifteen artworks, but it could not be a solo show. Some students focused on a particular medium—like blood or bread—finding a range of artworks that used the medium in various ways and developing subthemes that they wanted viewers to consider. Other examples included exhibits focusing on insects and ties to humanity, on racism and photography in the South, and on clothing and women's rights. Each student brought their wall text rough drafts and peer edited those in class one day. Several weeks later, they brought the rough draft for their entire project and also peer edited those. Their final written projects included a one-page proposal, a four-page curatorial essay, a bibliography, and 15 wall texts for their chosen works. Finally, students each gave a twenty-minute PowerPoint presentation—including a floor plan—selling their show as they would present it to a gallery committee.

Part of a Thematic Art Exhibition Presentation that focused on handmade cowboy gear.



Part of a Thematic Art Exhibition Presentation that focused on blood.

Bauhaus Annotated Artwork Collaborative Posters (Poster Presentation at URD)
17 Student Pairings
Faculty Mentors: Dr. Mary Brink, Associate Professor of Art History; Mr.Kerry Jenkins, Associate Professor of Graphic Design

Students in the Women and Art class each picked a female artist who was a member of the Bauhaus, researched a single artwork by the artist, filled out a research form on the artwork, and then worked with a graphic design student to make a poster of the work. The overall goal was to make an informative, eye-catching, and creative poster that would introduce an intro student to this work, the time period, and the artist. All students worked on women artists associated with the Bauhaus, so they considered the movement as a whole and how each artist fits in.

Biology

Remote Sensing Analysis of Eastern Hemlock in Response to the Hemlock Wooly Adelgid and Biological Control in Three North Georgia Release Sites (MRE)

Oral Presentation at URD

Guerin Brown
Faculty Mentor/Collaborator: Dr. Paul T. Arnold, Professor of Biology

Introduction of the invasive insect, Adelgis tsugae (Hemlock Wooly Adelgid) has devastated the health of Tsuga canadensis (Eastern Hemlock). To control this damage and facilitate the recovery of T. canadensis, biological control organisms in the form of the predatory Coleopterans have been released in specified Hemlock Conservation Areas in the north Georgia mountains. The purpose of this study was to see if we could determine, through remote sensing techniques using satellite images, if biopredatory release has had positive benefits in the hemlock health. To understand the scope of T. canadensis recovery we chose to survey three biological control release sites, located at Davidson Creek (Habersham County), Boggs Creek (Lumpkin County) and Wolfpen Gap (Union County) using modified and simple remote sensing techniques through Google Earth satellite imagery and QGIS for a nine-year period. T. canadensis identifications were confirmed by field survey. Computational measurements of canopy cover for three randomly selected trees at each site were acquired by hand-drawing polygons around the visible perimeter in satellite imagery. Within a nine-year period, nonparametric repeated measures analysis found that canopy area did not change significantly. Canopy area and cumulative release of biological controls were found to have strong positive correlations ($p = <0.001$, $r2 = 0.88$). This study provides evidence of the likelihood that T. canadensis has reached levels of competitive plateau in forest systems and may attest to the efficacy of biopredatory releases. Future studies may focus on increasing sample size and comparing results with areas that have no treatments.

The "Evo-Devo" of Beetle Antennae Using Comparative Genomics

Poster Presentation at URD

Guerin Brown & Albert Eribes
Faculty Mentor: Dr. Paul T. Arnold, Professor of Biology

Insect appendages develop into legs, gills, wings, mouthparts, or antennae depending on their location on the anterior-posterior or dorsal-ventral body axes. The comparative study of antennae, highly specialized sensory appendages, from closely related species provides us with an ideal system for understanding the evolution of development. To understand the development and cell-fate decisions we chose to examine the order of Coleoptera, which exhibit heightened diversity of structure. Comprehensive study of gene regulatory sequences at key developmental genes will allow us to better understand the molecular mechanisms underlying antennal diversity. This involved bioinformatically analyzing two available genomes while collecting wild beetles for additional sequencing and evolutionary comparison. We

searched for regions targeted by Notch signaling via the Suppressor of Hairless DNA-binding motif along with a 400 base pair flank in either direction and conducted regulatory BLAST alignments to identify regions of conservation. We found several conserved Suppressor of Hairless regulatory belts in Serrate and Delta, which encode ligands for the Notch receptor and are known to be expressed in insect antennae. Our work sets the stage for building a comprehensive understanding of the regulatory lexicon underlying the development of antennal morphologies and their evolution.

Investigation of the Antifungal Effects of *Xanthorhiza simplicissima* Extract on *Candida Albicans* (MRE)

Oral Presentation at URD
Jillian Dixon
Faculty Mentor: Dr. Paul T. Arnold, Professor of Biology

Yellowroot (Xanthorhiza simplicissima) contains berberine, a yellow compound that has been shown to have potential antimicrobial properties. The objective of this experiment was to test the antifungal properties of the rhizome extract. Ground X. simplicissima rhizomes were mixed with 75% ethanol solution to make a tincture, and sterile disks were soaked with either the tincture or ethanol solution and placed on Sabouraud agar plates inoculated with Candida albicans. After incubation, the zones of inhibition were measured for both treatments, and it was found that yellowroot tincture significantly inhibited the growth of C. albicans when compared to the 75% ethanol control. The minimum inhibitory concentration (MIC) of the extract was determined by conducting a serial dilution of X. simplicissima tincture in Sabouraud broth inoculated with C. albicans cells. A serial dilution was also performed with the 75% ethanol control. The MIC of the tincture against C. albicans was 0.24 mg/mL, and for the ethanol control, the MIC was 0.15% ethanol. As more pathogenic organisms begin to evolve to be antibiotic or medicine-resistant, it is worthwhile to investigate historically used medicinal plants and examine their naturally occurring compounds to see if they exhibit antimicrobial properties.

A Population Assessment of Black Crappie in a Small West Tennessee Impoundment (CURE)

Oral Presentation at URD

ENVS 4205: Fisheries Science

Marie Ahern, Matthew Cowart, Miriam Foster, Roy Smith, Ayden Williams, & Erika Williams

Faculty Mentor: Dr. Johnathan Davis, Associate Professor of Biology

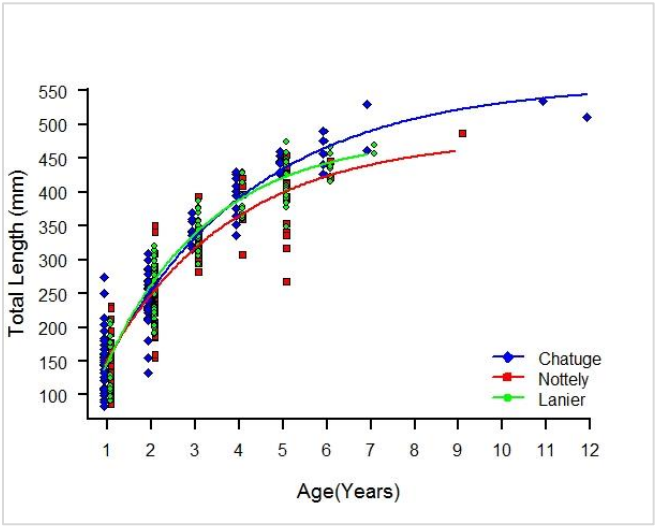
A population assessment of Black Crappie (P. Nigromaculatus) in Garner Reservoir, Tennessee was conducted. Eighty individuals were captured by angling and processed in the laboratory to obtain structures for age estimation (e.g. otoliths, scales, and dorsal fin spines) and additional data, such as the fish total length, weight, gonad weight, and sex. Otoliths were analyzed in whole and sectioned view to estimate age, and no significant difference was found between age assignments based upon the structure used. Annual growth increments on otoliths were measured using ImageJ and used to back-calculate the length-at-age for each individual to determine the mean growth rate of Black crappie in the reservoir. Fish ranged from 220 – 310 mm and were estimated to be five years old. Size structure was compared between male and females and was significantly different (P=0.009). Health (i.e., condition) will be calculated based on the total length-weight relationship of the population. Metrics of size structure, condition, and growth will be compared to other published studies on Black Crappie populations. These results will then be available to the anglers of Garner Reservoir to inform future management actions to support the Black Crappie fishery.

Erika Williams at work in the lab.

Comparison of Growth Rates of Alabama Bass *Micropterus henshalli* among Three North Georgia Reservoirs Across Two Sampling Years (MRE)

Student: Elizabeth Howell
Faculty Mentor: Dr. Johnathan Davis, Associate Professor of Biology

Alabama bass *Micropterus henshalli* are an introduced black bass that tends to dominate the sportfish community in many deep highland reservoirs in the southeastern United States. Because the quality of Alabama bass fisheries often vary by location and over time, this study compared the growth of black bass populations among Chatuge, Nottely, and Lanier Reservoirs in northeast Georgia from 2017 and 2020. Samples were collected in the spring via boat electrofishing, and otoliths were removed, processed, and analyzed to assign ages to each individual. Using estimated ages and total lengths, a von Bertalanffy growth model was fit for each reservoir and sampling year. A smaller sample size and lack of older individuals hindered model comparison for 2020, but significant differences ($P < 0.05$) were detected for 2017. Mean growth rates of populations differed between reservoirs with Nottely Reservoir consistently having smaller estimated growth rates and maximum sizes. Chatuge Reservoir is estimated to have Alabama bass reaching a larger maximum size. Observed growth rates were consistent between 2017 and 2020 for each reservoir. Differences in growth between populations might be explained due to composition of Alabama bass allele frequencies in each reservoir. Previous research documented a smaller frequency (30.3 – 87.5%) of Alabama Bass alleles in Nottely Reservoir compared to Chatuge and Lanier Reservoirs (85.7 – 99.8%). Thus, historical stockings of *M. henshalli* and the similar Spotted Bass *M. punctulatus* may influence current fisheries due to a reservoir's genetic legacy, impacting growth and maximum size.



Herbicide Effects on Beer Creek Microbial Community (CURE)
BIOL 4101: Ecology
Faculty Mentor: Dr. Kevin Geyer, Assistant Professor of Biology

Three students in the BIOL 4101 course were motivated to study the effects of herbicide treatment on local waterways after seeing TruGreen treatment on the lawns of the Young Harris Campus. These herbicides contain an active ingredient of glyphosate, which has been linked to invertebrate declines (e.g., honeybee colony collapse disorder). If leached into waterways, herbicides may have negative impacts on freshwater food webs. Students hypothesized that increased levels of herbicides would inhibit microbial growth because it has a similar mortality effect on microorganisms as it has been marketed for controlling (plant) weeds. A representative sample of sediment microorganisms was collected from Beer Creek on the YHC campus and cultured overnight in the laboratory at room temperature in the presence of a general nutrient broth. These cultures were divided among four treatments: no RoundUp herbicide addition, 0.22 mL herbicide/5 mL culture, 0.44 mL herbicide/5 mL culture, and 2.23 mL herbicide/5 mL culture. Culture growth was determined as spectrophotometric light absorbance. ANOVA results indicated a significant difference in microbial growth ($p < 0.001$). A post-hoc Tukey test indicated a significant decline in microbial growth with even the lowest herbicide concentration (~8% decline in growth), no difference in microbial growth between the two lowest herbicide treatments, and a dramatic decline with the highest herbicide treatment (~80% decline in growth). These results serve as a warning that RoundUp herbicides may impact aquatic foodwebs by limiting microbial growth and activity. Care should be used to limit the exposure of these sensitive ecosystems to residual herbicides.

James Mardell and Isabella Zamora collaborating.

Isopod Species Distribution around Young Harris College (CURE)

Poster Presentation at URD
Caleb Thompson
Faculty Mentor: Dr. Kevin Geyer, Assistant Professor of Biology

Isopods are small 3mm to 18 mm terrestrial crustaceans of the order Isopoda that play an important ecological role of decomposing organic matter. Despite their importance to the ecological community, the distribution of isopod species specifically in the Young Harris area is highly understudied. Most of the commonly found species of terrestrial isopods that people find are introduced from Europe. Non-native species are more commonly found in the areas around buildings and other manmade structures but can be found far into undisturbed areas. In contrast, the native species found in our area are extremely moisture dependent and live mostly in undisturbed habitats. Over the 3 years I have been at Young Harris College, I have extensively surveyed the areas within and surrounding YHC campus to determine which species are present. Locations where individuals or aggregates of isopods were found were posted to the iNaturalist app. This app is a helpful resource that provides GPS coordinates on a topographical map to easily geolocate sample sites. 10 species of terrestrial isopod have been documented through this survey work and only two of them native. In areas on the college campus around buildings only introduced species were found, but species found in forested areas around campus and away from buildings were primarily native species. This is crucial to understanding the role these small creatures play in detritus breakdown on YHC campus. Recognizing the interactions between native and introduced species is also critical to understanding the anthropogenic effects we have on our environment.

The Effect of Delta-9 Tetrahydrocannabinol on the Developmental Morphology of Zebrafish (CURE)

Poster Presentation at URD
Madison Smith
Faculty Mentor/Collaborator: Dr. Linda G. Jones, Associate Professor of Biology

The use of marijuana has been shown to have positive medical effects, e.g. in the treatment of migraines and epilepsy, but also negative effects, e.g. when exposure is during development. The cannabis plant has more than 60 cannabinoid components, thus it is not always clear which chemical is responsible for a given response. The primary psychoactive ingredient is delta-9-tetrahydrocannabinol (THC) which has been shown to alter behavioral and locomotor responses in zebrafish embryos. In this study, we are examining the effects of exposure to varying levels of THC (0, 0.625%, 1.25% and 2.5%) in developing zebrafish with respect to morphological alterations such as changes in jaw development and length and or axial curvature of the embryos. The stock THC solution is in methanol, thus we will maintain the same concentration of methanol in all treatment groups. We will expose embryos within four hours of fertilization to the different drug concentrations and maintain exposure until day four following fertilization (4 dpf). Treatment groups will be monitored daily to record the number and remove any dead embryos. At 4 dpf, we will anthesthetize the

embryos, fix in 4% paraformaldehyde and store in 100% methanol at 20° C until morphology is assessed. Jaw development will be examined following an alcian blue staining of cartilage.

Zebrafish as a Model for Developmental Toxicity (CURE)

Poster Presentation at URD

Gracie J. Hix, Markas A. Marston, Bryce T. Parrish, Brianna D. Ross, Trellis B. Whaley, & Cathren E. Whitley
Faculty Mentor: Dr. Linda G. Jones, Associate Professor of Biology

Birth defects caused by environmental influences are a focus of ongoing research around the world. These influences include voluntary exposure to agents such as drugs, alcohol, and cigarettes, and involuntary exposure to environmental pollutants or contaminated food sources. Zebrafish (Danio rerio) are a commonly used vertebrate model for studying birth defects caused by exposure to environmental toxins due to their rapid development, high reproduction rates and clear chorions making observation of the developing embryo possible. Zebrafish also have a simple craniofacial structure, which allows for easy observation into causes for one of the most common structural birth defects in humans around the world. Our Developmental Biology class conducted a course-based undergraduate research experience (CURE) and examined the effects of four agents (alcohol, caffeine, aluminum chloride and melatonin) on zebrafish embryo craniofacial development. Other possible endpoints examined include body length, heart rate, hatch rate, eye size, and spacing and pericardial effusions. The effects of the agents on development were compared to determine relative toxicities and possible insights into mechanisms of action.

Antimicrobial Effects of Eucalyptus and Lavender Essential Oils on Common Epidermal Bacterial and Fungal Strains (MRE)

Oral Presentation at URD

Savannah Poole & Bryce Parrish
Faculty Mentor/Collaborator: Dr. Andrea L. Kwiatkowski, Associate Professor of Biology

Pathogenic microorganisms constantly evolve to become more resistant to antimicrobials, necessitating a search for new agents. The results from this experiment show that lavender and eucalyptus essential oils have antimicrobial effects against Candida albicans, Corynebacterium xerosis, Staphylococcus aureus, and Staphylococcus epidermidis. Disk diffusion assays using 2 μl of oil or DMSO control were done on Mueller Hinton agar (bacteria) or Sabouraud agar (fungus). Minimum Inhibitory Concentration (MIC) assays were performed using oil and corresponding broth media. The MIC was the lowest concentration of oil that significantly inhibited growth compared to the no oil control. Minimum bacteriocidal concentration (MBC) assays were performed by plating microbes from the broth containing the potential MIC on an agar plate, growing overnight and checking for growth. One-way ANOVA and post hoc Tukey test were used to determine the statistical significance of all results obtained. Neither oil significantly inhibited microbial growth on the disk diffusion

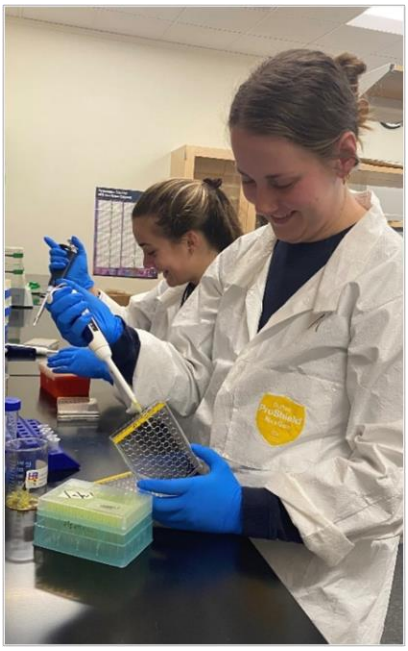
assay compared to the DMSO control. Lavender's MIC was 6.25% for S. aureus and S. epidermidis ($p<0.05$) and 3.125% for C. albicans ($p<0.01$). Eucalyptus's MIC was 1.56% for S. aureus ($p<0.05$) and C. albicans ($p<0.01$), 6.25% for S. epidermidis ($p<0.05$) and 0.391% for C. xerosis ($p<0.05$). Preliminary data indicates that lavender's MBC for S. aureus and S. epidermidis was of 12.5% and 6.25% for C. albicans. Eucalyptus may have an MBC of 1.56% for C. xerosis. Essential oils may be alternatives to traditional antimicrobials for skin bacterial and fungal pathogens.

Assessing the Antimicrobial Activity of Lemon and Lemongrass Essential Oils against Common Microbes Found in Skin Infections (MRE)

Oral Presentation at URD

Faith Reffitt & Bryce Parrish
Faculty Mentor/Collaborator: Dr. Andrea L. Kwiatkowski, Associate Professor of Biology

The antimicrobial properties of lemon and lemongrass essential oils were assessed against the skin microbes Corynebacterium xerosis, Staphylococcus aureus, Staphylococcus epidermidis, and Candida albicans. Disk diffusion assays using 2 μl of oil or DMSO control were done on Mueller Hinton agar (bacteria) or Sabouraud agar (fungus). Minimum Inhibitory Concentration (MIC) assays were performed using the oil and the corresponding broth media. The MIC was the lowest concentration of oil that significantly inhibited growth compared to the no oil control. Minimum bacteriocidal concentration (MBC) assays were performed by plating microbes from the broth containing the potential MIC on an agar plate, growing overnight and checking for growth. One-way ANOVA and post hoc Tukey test were used to determine the statistical significance of all results. There were no zones of inhibition when lemon essential oil or control DMSO were tested. Average lemongrass zones of inhibition were 25mm + 4.08 for C. albicans ($P<0.001$), 13mm + 1.62 for C. xerosis ($P<0.001$), 8mm + 5.04 for S. aureus ($P<0.05$), and 26mm + 6.35 for S. epidermidis ($P<0.001$). Lemon oil MICs were 6.25% ($p<0.01$) for C. albicans and 25% ($p<0.05$) for S. aureus. Lemongrass oil MICs were 1.56% ($p<0.01$) for C. albicans, 1.56% ($p<0.05$) for S. aureus, and 3.125% ($p<0.01$) for S. epidermidis; none were found for C. xerosis. The MBCs for lemongrass oil was 1.56% for C. albicans and 6.25% for S. aureus. Essential oils may be soon considered a viable, holistic option to treating infections.



Faith Reffitt and Bryce Parrish.

Conservation Assessments and Management Recommendations for the Young Harris College Campus (CURE)

BIOL 3201: Conservation Biology
Faculty Mentor: Dr. Jonathan P. Micancin, Assistant Professor of Biology

In fall 2021, ten students in the BIOL 3201 course conducted field studies of three related conservation issues on campus: location, abundance, and diversity of invasive ornamental plants; diversity and abundance of pollinating insects on native and invasive flowering plants; and location and extent of flooding and erosion along the Corn Creek riparian corridor due to Tropical Storm Fred. Students found 170 non-native ornamental plants intentionally placed in the campus core, including species listed by the Georgia Exotic Pest Plant Council as causing serious or moderate problems in natural areas. Students found significantly more abundance and diversity of butterflies, bees, and other pollinating insects on native flowering plants than on introduced plants, especially along the lower section of the Corn Creek riparian corridor where invasive plants have been removed and native plants have been reintroduced. Flooding and erosion due to Tropical Storm Fred was extensive and destructive in the upper section of the Corn Creek corridor with little or no buffer of native plant, and nonexistent in the lower corridor where a wider and more natural riparian buffer has been maintained and improved. In final papers, students made recommendations for campus management practices based on these findings. Subsequently, three students in BIOL 3201 extended these recommendations by presenting a map of invasive plants to the administration, pre-authorizing funds from the Students Government's Green Fund for replacement of invasive ornamental plants with native alternatives, and networking with the Coosa-North Georgia Water Planning Council and other stakeholders.

Survey of Plethodontid Salamanders on and around the Campus of Young Harris College (MRE)

Students: Ashlee Bell, Matthew Cowart, Trey LaPine, Brianna Ross, Rome Wallace,
Faculty Mentor: Dr. Jonathan P. Micancin, Assistant Professor of Biology

The Southern Appalachian Mountains are the global biodiversity hotspot for salamanders, mostly due to the high diversity and abundance of lungless salamanders (family Plethodontidae). However, the plethodontid diversity in northeast Georgia is poorly surveyed. In fall 2021, two students conducted nocturnal encounter surveys of aquatic plethodontid salamanders (*a.k.a.* "spring lizards") on the undeveloped section of the Young Harris College campus, and three students conducted nocturnal encounter surveys of terrestrial plethodontid salamanders (*a.k.a.* "wood lizards") on campus and nearby in the Chattahoochee National Forest. Some methods, locations, and results have implications for conservation and must be withheld from publication. However, these students documented twelve species of salamanders on or near campus, including three species listed as rare by the Georgia Department of Natural Resources (GADNR). Students identified higher diversity of aquatic plethodontid salamanders in the larger and less disturbed of two drainages on campus (H_1=1.15, H_2=1.58, p=0.023). Significant findings have been reported to GADNR and the US Forest Service and have informed wildlife management decisions in 2022.

Spring Salamander (Gyrinophilus porphyriticus) *handled by Jill Dixon. (Photo by Jonathan Micancin)*

Range Extension of Southern Gray-cheeked Salamander and Red-legged Salamander in the Blue Ridge of Georgia (MRE)

Oral Presentation at URD

Eugene "Trey" LaPine
Faculty Mentor/Collaborator: Dr. Jonathan P. Micancin, Assistant Professor of Biology

The Southern Appalachians are a global biodiversity hotspot for salamanders, in part because many species in the Plethodon jordani (Jordan's salamander) complex live only on mountainsides and ridgetops. However, such "sky island" plethodontid salamanders are not known to occur in most of the Blue Ridge of Georgia. In April 2021, YHC faculty and students identified the southern gray-cheeked salamander (P. metcalfi) on campus. In Fall 2021, research students surveyed campus and the Chattahoochee National Forest to locate more individuals and populations of P. metcalfi along with the related Chattahoochee slimy salamander (P. chattahoochee). We surveyed salamanders by catching, scoring, and releasing individuals at points along elevational transects. Most salamanders we observed exhibited spotted sides and pale tails consistent with P. chattahoochee, but some individuals exhibited little or no spots, pale sides, and gray cheeks consistent with P. metcalfi. Additionally, we identified gray-cheeked individuals with red pigmentation indicative of the red-legged salamander (P. shermani). These observations extend the known occurrences of P. shermani by over 40 km and P. metcalfi by over 65 km west-southwest and suggest that P. jordani complex salamanders might be found in other mountain enclaves in northeast Georgia. Climate change, habitat loss, and fungal diseases threaten these montane amphibians. To detect population changes, we must be able to identify, locate, and monitor these rare species among their more common siblings. This project is the first step toward conservation of these salamanders in Georgia.

DMSO, but not Water, Can Extract Compounds from the Turf Field Infill that Activate the Aryl Hydrocarbon Receptor (MRE)

Oral Presentation at URD

Veronica Pablo-Raymundo
Faculty Mentor/Collaborator: Dr. Jennifer C. Schroeder, Associate Professor of Biology

Using infill beads made of ground rubber for turf fields has raised concerns that exposure may increase cancer risk, especially for athletes who play on these fields. Vulcanized rubber, as found in tires, is known to contain polycyclic aromatic hydrocarbons (e.g., B[a]P) that promote DNA mutations. Exposure to Aryl Hydrocarbon Receptor (AHR) ligands activates CYP1A1 expression and subsequent metabolism of B[a]P to its highly mutagenic diol-epoxide form. Previous studies indicate increased AHR activity with DMSO extracts of ground tire infill. This study compares components of different field infills, one using only black ground tire rubber and another using a mixture of black ground tire rubber and green rubber beads. Mouse hepatocytes were treated with infill extracts made with water or DMSO. AHR activity was determined using a CYP1A1-promoter luciferase reporter assay. Some samples were co-treated with the bioflavonoid, quercetin, an inhibitor of the AHR. DMSO extracts made from black-rubber-only infill expressed a 14.1-fold increase ($p < 0.001$) in AHR activity.

The DMSO extracts made from black tire rubber in the mixed infill increased AHR activity 17.3-fold ($p < 0.001$), while the DMSO extracts made from the green rubber beads from the mixed infill increased 19.5-fold ($p < 0.001$). Quercetin treatments decreased AHR activation in all DMSO infill samples (74%, 75%, and 85%, respectively). No bead extracts made with water activated AHR activity. These data suggest that, while AHR agonists are present in the turf infill tested, water is less likely than DMSO to extract these compounds as a delivery pathway to people using these fields. Research for this MRE was supported by Gary Perdew, PhD., The Pennsylvania State University.

Luciferase Assays Suggest Increased CYP1A1 Expression in Hepatocytes (hepa1.1) Treated with Charcoal Prepared Chicken Tinctures (MRE)

Oral Presentation at URD

Andrew Wingate
Faculty Mentor: Dr. Jennifer C. Schroeder, Associate Professor of Biology

Benzo[a]pyrene (B[a]P), a polycyclic aromatic hydrocarbon and agonist of the aryl hydrocarbon receptor (AhR), is produced when meat is burnt. Over consumption of burnt meat can cause increased levels of B[a]P, thus increasing AhR activation and the likelihood of developing cancer. Certain bioflavonoids have been shown to inhibit AhR activation, thus preventing overexpression of down-stream gene products, like CYP1A1. Research suggests that B[a]P is still present even in meat not considered completely burnt. This prompted the examination of different cooking methods on levels of B[a]P present in cooked chicken samples. We further addressed the ability of epicatechin, a bioflavonoid found in dark chocolate, to reduce AhR activation. Mouse liver cells were exposed to ethanol extracts of charcoal-grilled or propane-grilled chicken. Epicatechin was tested over a range of concentrations (25, 50, 100, and 200μM). A CYP1A1-promoter luciferase reporter assay was used to determine AhR activity. Data indicate a significant difference in AhR activation between the charcoal grilled and propane grilled chicken ($P<0.001$), with samples prepared with charcoal exhibiting 10.1-fold higher levels than those prepared with propane. None of the concentrations of epicatechin examined showed a significant reduction of AhR activation in the presence of charcoal-grilled chicken; however, the 200 μM concentration of epicatechin alone activated the AhR 4.4-fold over the control ($P<0.001$). Together, these results suggest that propane-grilled chicken may be a safer alternative to charcoal-grilled chicken. We are unable to provide evidence that epicatechin inhibits the AhR to act as a method of chemoprevention.

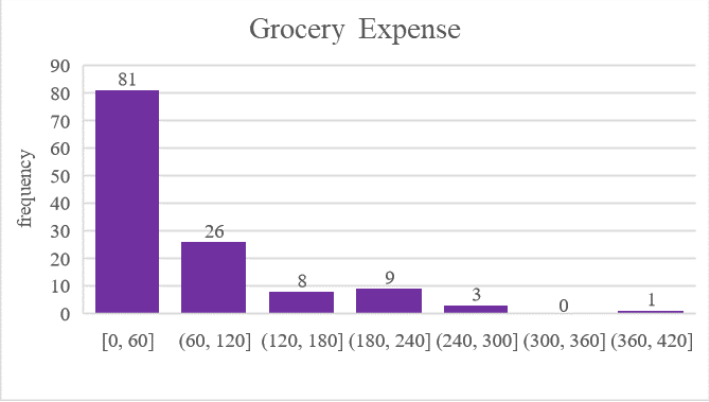
Business & Public Policy

Student Price Index of Young Harris College (MRE)
Poster Presentation at URD
Jing Dong
Faculty Mentor/Collaborator: Dr. Yang Jiao, Assistant Professor of Economics

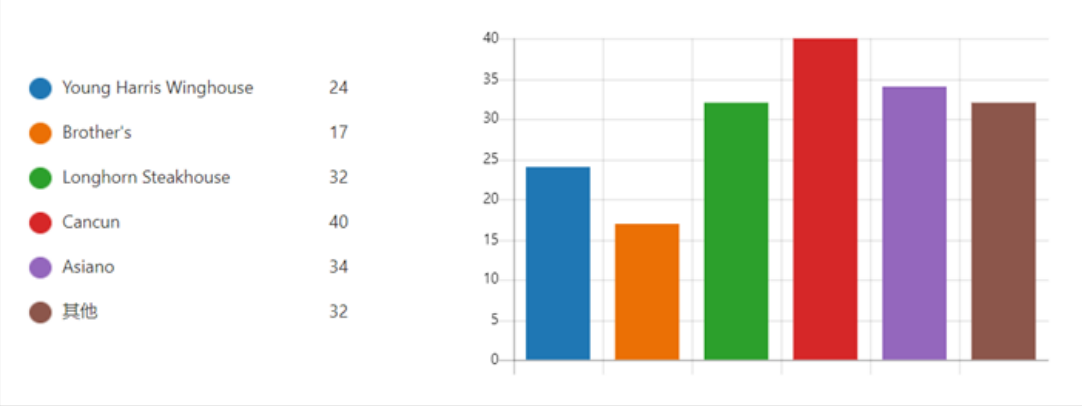
The purpose of this research is to develop a Student Price Index (SPI) for YHC students by tracking changes in the cost of living over time. SPI, like the Consumer Price Index published by the Bureau of Labor Statistics, is a measure of current expenditure for a typical YHC student on payments for housing, board, entertainment, and transportation. We then proceeded to perform a 51-question online survey. The questions were sent to all currently enrolled students over the age of 18. Basic information, food and housing costs, personal care and services, entertainment, and transportation are the four components of the survey. Commuters and students who live on campus each received their questionnaire. In total, 138 YHC students took part in the survey, with 87 percent of them completing all of the questions correctly. 90% of responders live on campus, with the remaining 10% commuting. The survey results led to several conclusions. 70% of those polled stated they eat off-campus at least once a week, on average spending $50 per month. More than half of students said they spent an average of $27 per month on activities like mini-golf, bowling, and watching movies. On-campus, three-quarters of students had a car and spent an average of $90 a month on gas. Only 33% of respondents said they never go to the local market or thrift store, while the rest indicated they go once to five times each month, spending an average of less than $100.

- Distribution of the survey takers:

- Grocery Expenses per month:



- Most visited restaurants:



Thriving or Not: A World Wide Flourishing Index (MRE)
Oral Presentation at URD
Romeo Luque Zanello
Faculty Mentor/Collaborator: Dr. Nathan. L Gray, Associate Professor of Business & Public Policy

Traditionally, countries believe one of the major goals of schooling is to create a thriving society. However, little work appears to be done in developing a definition of what flourishing means or producing a numerical reflection of a thriving society. The inspiration for this study stems from Tooley (2021), who proposed a rather rudimentary measure of flourishing by producing an index on a small number of factors to reflect a nation's schooling achievement. We used Tooley's idea to develop a more robust measure of flourishing. While we do not necessarily claim that this index represents a country's level of schooling achievement, we do believe this index captures many components of what many would consider a flourishing society. To that end, we employ principal component analysis (PCA) to produce a single index score per country to reflect its level of thriving. Variable categories include health, civics, economic prosperity, innovation, and democracy. The dataset contains 13 variables from 196 countries for which we have a complete data set of 71. We used multiple approaches to test if rankings are sensitive to variations of approaches. We report a country's score and rank for each method employed and discuss possible implications.

Modeling Air Resistance to Understand the Influence of Air Drag on Projectile Motion (CURE)
PHYS 1111: Introductory Physics
Department: Chemistry and Physical Sciences
Faculty Mentor: Dr. Arunava Roy, Associate Professor of Physics

Students explored the nature of a falling object's air resistance. It is critical to comprehend how air drag influences projectile motion. This is especially true in introductory physics classes where students are introduced to motion under gravity. The air resistance is affected by a variety of factors, but we focused on the effect of velocity and object shape. Students arrived with a working model for the dependency of drag force on velocity and shape after doing a literature review and going over the essential topics in class. Students created a simulation of a free-falling item using Microsoft Excel. Following this, they calculated the position and velocity of an object as it falls in this simulation. They then used computational modeling in Excel to simulate the fall of an item through the air by utilizing an appropriate model for the drag force. Students investigated the correctness of a computational approach by comparing the computational findings to an accurate analytical answer. They validated the model by comparing their findings to those of other groups and to existing literature. Finally, they addressed the computational correctness of the model in the absence of an analytical solution. At the end of the semester, students produced a final paper and presented project outcomes in class.

Life As We Knew It: Resetting the Known Habitable Zone of the Solar System
Planetarium Presentation at URD
Indiana Ayers
Faculty Mentor: Dr. Steve Morgan, Assistant Professor of Astronomy

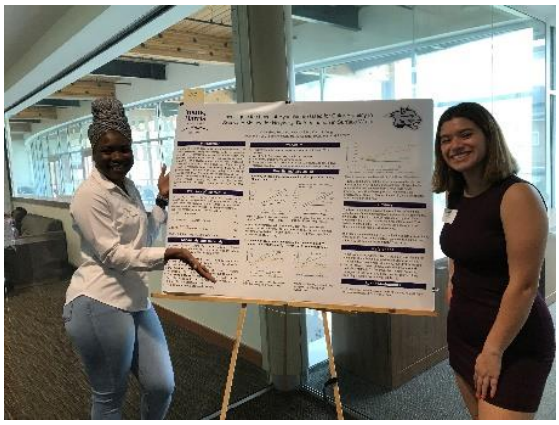
The habitable zone of Sol should not consider the known properties of Venus. Instead, astronomers must focus on the distance from the sun in astronomical units and the physical properties of H_2O within known atmosphere compositions and structures. I plan to present a guided tour, showing our solar system's current habitable zone in conjunction with my own calculated values. I will then describe the composition of Venus and how it could meet the "elixir of life" requirements for astronomers who are looking at exoplanetary systems for life like our own. Then I will briefly cover 55 Cnc f, an exoplanet I studied in previous research and that spurred my current research into action, before going into depth on an exoplanet that orbits within the new bandwidth of the habitable zone, around a main-sequence star like our Sun, and—most importantly—contains an emission spectrum from which the compounds needed for life like our own to exist can be looked for. Emission spectrums of exoplanets are hard to come by. 55 Cnc f has not been focused on enough to build an emission spectrum from gathered data. Hopefully, with the launch of the James Webb Telescope, astronomers and myself will be able to widen our lens to the possibility of planets like 55 Cnc f and others being habitable as proven by Venus, our lady of the solar system. Widening the habitable zone when looking for life like our own is imperative to the success of on-going and future exoplanet exploration.

Investigating Catalysts to Reduce Reaction Time for Measurement of NH_4^+ / NH_3 in Surface Water; Investigate the Level of Hypochlorite Used for Color Stability in Salicylate Method for NH_3/NH_4^+ Determination in Surface Water; Evaluation of Ion-Selective Electrode and Quantification of K^+ Interference (CURE)

CHEM 3325: Environmental Chemistry
Department: Chemistry
Faculty Mentor: Dr. Xianzhi Song, Associate Professor of Chemistry

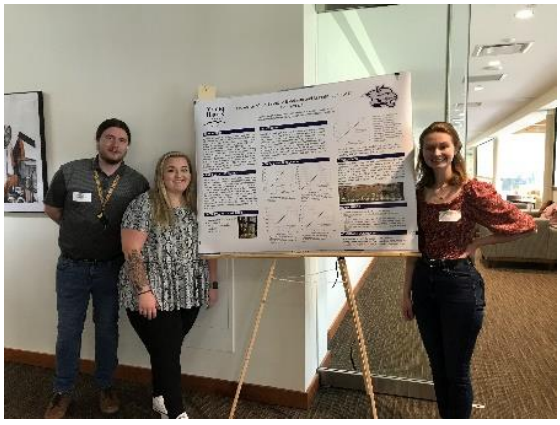
The previous inconsistent measured results on N's level in the form of NH_3 and NH_4^+ together as TAN in Lake Chatuge led seven students in the CHEM3325 course to explore the salicylate analytical method and NH_4^+ ion-selective electrode method. The salicylate method is a colorimetric method in which the added salicylate and alkaline hypochlorite react with TAN in a water sample solution forming a colorful product in the presence of nitroprusside catalyst. As one group, Helen Hudgins and Natisha John investigated the optimal level of alkaline hypochlorite used, aiming to improve product color stability over time and its linearity. In the second group, Bethany Smith and Ayden Williams worked on catalysts to reduce the reaction time required. They examined the effect of manganese sulfate, nitroprusside, and combinations of the two as the catalyst on the formation rate of color product. In the third group, Lucy Dawkins, Benjamin Edwards, and Brianna Ross investigated the interference of K^+ on the measurement of TAN in the NH_4^+ ion-selective electrode method. All the students completed their research and presented their tentative results on Undergraduate Research Day.

Bethany Smith & Ayden Williams



Helen Hudgins & Natisha John

Lucy Dawkins, Brianna Ross, and Benjamin Edwards



Evaluation of the Ion-selective Electrode Method and Quantification of K+ Interference (CURE)

Poster Presentation at URD
Lucy Dawkins, Brianna Ross, & Benjamin Edwards
Faculty Mentor: Dr. Xianzhi Song, Associate Professor of Chemistry

Ammonium-nitrogen, consisting of un-ionized ammonia (NH_3) and ionized ammonia (NH_4^+), can contribute to water pollution at a high concentration. Commonly used methods for accurately measuring the concentration of ammonium-nitrogen include Nessler, salicylate, indophenol blue, and ion-selective electrode methods. The ion-selective electrode method (ISE) has a wide range of linearity from 0.05 – 18000 ppm. It can be used to quantify the concentration of ammonium-nitrogen in drinking, ground and surface water, domestic and industrial waste, and biosolids without the addition of chemicals. Unfortunately, previous research has shown that K^+ ions can interfere with the accuracy of ammonia-nitrogen measurement with ISE. The purpose of this research was to quantify K^+ interference. The test was carried out with K^+ concentration at 6 and 12 ppm in NH_4^+ solutions with concentrations varying from 0.1 to 100 ppm. The level of interference from K^+ to NH_4^+ measurement will be discussed in the final presentation.

Investigating Catalysts to Shorten Reaction Time in the Calorimetry Method (CURE)

Poster Presentation at URD
Bethany Smith & Ayden Williams
Faculty Mentor/Collaborator: Dr. Xianzhi Song, Associate Professor of Chemistry

The colorimetric method is commonly used to determine ammonia and ammonium in an aqueous environment. But the color development of our analytes requires 45 minutes to reach their maximum absorbance under nitroprusside catalyst. This research aimed to investigate different combinations of two catalysts, nitroprusside and manganese, to shorten the time needed for color development. The process was monitored through absorbance measurement every 5 minutes until the reaction reached 50 minutes.

Investigate Hypochlorite Levels to Improve Color Stability in the Salicylate Method (CURE)

Poster Presentation at URD
Helen Hudgins & Natisha John
Faculty Mentor: Dr. Xianzhi Song, Associate Professor of Chemistry

Ammonia is toxic to aquatic life at an elevated level. It is critical to accurately and precisely measure the concentration level of TAN (ammonia and ammonium) in water. Several analytical methods are available, including the Nessler method, flow injection analysis, colorimetric pH detection, and electrochemical method. Our research was focused on the salicylate method, a modification of the colorimetric method. This method develops a color

when ammonia NH_3 reacts with sodium salicylate and sodium hypochlorite. The intensity of the color is measured through its absorbance. It was found that the color was not stable over time, leading to a nonlinear response with TAN. The objective of the research was to examine color stability and may improve the linearity of the method. The investigation was to optimize the concentration of the alkaline hypochlorite solution used in corresponding with the TAN level.

Assessment of the Algae Chlorella vulgaris Growth Rate in Water after Exposure to Microplastics (CURE)

Poster Presentation at URD

Alissa Miner, Hael Tucker, & Sloan Sutton
Faculty Mentor/Collaborator: Dr. Charles Swor, Associate Professor of Chemistry

Microplastics are small plastic pieces less than five millimeters long that come from a variety of sources and have been found to be harmful to our environment. The main source of microplastics is decomposition of plastics in the environment. Generally, microplastics have been known to negatively impact the growth rate of algae. In this study, we are going to expose algae samples of Chlorella vulgaris to four different microplastic pollutants. The pollutants being used in the experiment are 3-ply poly twine (polypropylene), a plastic grocery bag (low-density polyethylene), a red solo cup (polystyrene), and a plastic water bottle (polyethylene terephthalate). We will measure the growth of algae via fluorescence spectroscopy, which will reveal how much chlorophyll is present in the sample. These results will be compared to a control group in order to understand how microplastic pollution affects algae growth in water.

Effect of Common Micro Plastics on Bamboo Growth (CURE)

Poster Presentation at URD

Mitchell P. Parrino, Gracie C. Mize, Lily A. Buxton, and Kamar A. Hooker.
Faculty Mentor/Collaborator: Dr. Charles Swor, Associate Professor of Chemistry

Microplastics are tiny particles (< 5mm) of plastic which have become a concern of many environmental scientists. Research has been inconclusive regarding the effects of microplastics on plant growth. In our experiment, we looked at the effects of plastics #1 (PETE), #2 (HDPE), and #3 (PVC) on the growth of bamboo (Bambusoideae), a common invasive plant. Through the measurement of plant height and number of leaves grown, we were able to compare the growth of plants exposed to various microplastics and plants not exposed to plastics. This provided the ability for us to better understand the positive and/or negative effects of microplastics in the environment.

Analysis of Short-term Environmental Effects on Green Arrow Bush Peas *Pisum sativum* in the Presence of Microplastics Common in Construction (CURE)

Poster Presentation at URD

Raul JR Soto , David Garcia, Haley King, & Alex Buchanan
Faculty Mentor/Collaborator: Dr. Charles Swor, Associate Professor of Chemistry

Microplastics are fragments of plastic pollution that are currently in question among scientific communities as to what effects they may have upon the environment. This results from a breakdown of plastic waste, which produces particles less than 5mm (about 0.2 in) in length. In this project, we will examine the effects of microplastics commonly found in construction on Green Arrow Bush peas (Pisum Sativum) as they compare to growth without the presence of microplastics. When conducting our experiment, we grew 4 sets of Green Arrow Bush peas in soil with the presence of three microplastics: Polyvinyl Chloride, Silicone, and Polycarbonate, along with a control group where the presence of microplastics were absent. In this study, we will analyze our experiment to determine how these microplastics affect the growth of Green Arrow Bush peas; we will also determine to what extremity of affects each microplastic has on the growth of our peas.

Communication Studies

Novel Research Projects in Critical Media Studies (CURE)

COMM 4300: Senior Capstone
Faculty Mentor: Dr. Joshua Guitar, Assistant Professor of Communication Studies

Throughout the 2021 fall semester, Lindsey Caudell, Madeline Studebaker, and Jenna Thomas completed novel research projects in the field of critical media studies. They authored journal-length manuscripts, complete with relevant reviews of literature, analyses, and implications. They also defended their studies through oral presentations of their work in front of the students and professors of the Department of Communication Studies. Through queer critique, Lindsey reviewed the visual presentation of characters in television series listed under the LGBTQ+ genres on Netflix, Hulu, and Amazon Prime. Lindsey found that although the television series are marketed as progressive and inclusive, LGBTQ+ characters were still forced to "come out" to the audience through visual cues, thus perpetuating tired stereotypes. Madeline applied postcolonial analysis to the published marketing materials of prominent Christian missionary organizations. Madeline chose three organizations that, long criticized for colonizing the Global South, had publicly denounced their colonialist pasts. Yet, in reviewing the narrative components of these discourses, Madeline found that the colonialism endures quite strongly, just in a more covert manner. Jenna applied a Lacanian psychoanalysis to the visual rhetoric of vaccine resistance. In analyzing the social media posts of popular conservative voices, Jenna found that the images accompanying vaccine resistance rhetoric revealed an undergirding, yet quite visible, phallocentrism. As such, Jenna elucidated that, while these posts highlight vaccine resistance, the subtext connotes a deeper, unstable relationship with the phallus and its surrounding power dynamics.

Physical Appearance and Gender Stereotypes: An Analysis of LGBTQ Characters in Television Streaming Services (CURE)

Oral Presentation at URD
Lindsey A. Caudell
Faculty Mentor: Dr. Joshua L. Guitar, Assistant Professor of Communication Studies

The LGBTQ genre recently was created on three streaming services, Netflix, Hulu, and Amazon Prime. This paper explores LGBTQ representation on contemporary television under the LGBTQ genre. Representation for LGBTQ individuals has increased in television, but the depictions of these characters often perpetuate problematic stereotypes. A variety of themes are observed through the characters on each show, which are hair styles, tattoos, makeup and nails, as well as clothing. The findings suggested that LGBTQ characters on television are perpetuating false binaries. Characters are often coming out through their gendered or sexualized physical appearance. Despite increased representation, LGBTQ characters must "come out" in LGBTQ television shows through the depictions of their characters. This creates a normal/abnormal dichotomy. Thus, even in LGBTQ television shows, sexuality and gender are still being perpetuated through a heteronormative lens.

Picturing the Global South Through a Western Lens: A Postcolonial Critique of Modern Missionary Visual Rhetoric (CURE)

Oral Presentation at URD, Honors Capstone
Madeline Studebaker
Faculty Mentor: Dr. Joshua L. Guitar, Assistant Professor of Communication Studies; Dr. Kevin Geyer, Honors Program Director

This article constitutes a postcolonial critique of the visual rhetoric published by Christian missionary organizations following their responses to accusations of modern colonialism. Examining the Instagram presence of the International Mission Board (IMB), Operation Mobilization (OM), and the Assembly of God World Mission (AGWM), I argue that these mission boards have replaced overt manifestations of ideologies of Western superiority with more covert representations of a colonizer: colonized dynamic. In analyzing the visual imagery of these mission boards, I uncover white Western missionaries' self-elevation and the agency erasure of the peoples of the Global South, as well as their rhetorical configuration as peripheral. Through nondiscursive form, colonized peoples are decontextualized, obstructed from the position of the Western audience, and conveyed as visual components of colonized landscapes, among others. The images published by the mission boards present colonized bodies as sites of ideological attachment, perpetuating the colonizer: colonized power imbalance through internalization of Western superiority.

Rhetorical Analyses of Contemporary Speeches (CURE)

COMM 4000: Rhetoric and Public Address
Faculty Mentor: Dr. Joshua L. Guitar, Assistant Professor of Communication Studies

In fall 2021, our Rhetoric and Public Address course learned about methods of rhetorical analysis and how they can be applied to speeches. After reviewing prominent speeches throughout history, each student was tasked with authoring a novel rhetorical analysis of a contemporary speech using one of the methods discussed in class. Tess Aubry's Marxist critique of Steve Jobs' Stanford University commencement address showed how Jobs perpetuated a classist elitism that diminishes the worth of working-class citizens. Olivia Birkhead demonstrated how Ashton Kutcher's usage of pathos urged US Congress to address contemporary human trafficking. Lindsey Caudell's analysis of Blake Lively's speech on child pornography revealed how exceptional delivery techniques can help move an audience to care more deeply about an issue. Through a close reading of President Jimmy Carter's "Malaise" speech, Ben Eklund demonstrated how the speech, despite its initial success, helped doom Carter's presidency. Matthew George's critical narrative analysis of President Donald Trump's state of the union addresses revealed how Trump attempted to frame China and Mexico, but not Russia given their attempts to influence the 2016 election, as the new antagonists of America. Finally, through a Burkean pentadic analysis, Abigayle Miles argued that President Barack Obama's farewell speech transferred his agency back to the American public as he departed the presidency. In sum, these newly minted rhetoricians constructed well-defended arguments and helped us better understand the implications of these oratorical events.

Abstructing AOC: Reifying the Reactionary Rhetoric of Patriarchal Ideology

Oral Presentation at URD

Madeline A. Studebaker
Faculty Mentor/Collaborator: Dr. Joshua L. Guitar, Assistant Professor of Communication Studies

Few US representatives have captivated the public forum with the salience of Alexandria Ocasio-Cortez, known popularly as AOC. Despite her short tenure in the federal legislature, AOC has become central to public discourse in ways that transcend her political agency. Through abstruction analysis, we interrogate the rhetorical construction of AOC to help explain her transformation into a national spectacle, particularly for US conservatives, and how these processes reify patriarchal (d)evolution. As theorized, abstructions operate as rhetorical manifestations of ideology that center upon political figures attempting to exact political agency to contest present power relations. Read as threats, these political agents are subjected to the ideological processes of abstruction, which consists of three phases: abstraction, ruction, and obstruction. First, political agents, like AOC, endure the erasure of identity and agency through mediated campaigns of abstraction. Then, they are reconstructed as venues of political ructions, hosting largely inconsequential deliberations that avoid the substance of the political agent's ideas. These two processes obstruct substantive democratic discourse on the issues raised by the political agent. Our analysis demonstrates how AOC is rhetorically reappropriated as a venue of inconsequential, pseudo-democratic deliberations that obstruct the interrogation of agents and institutions of patriarchal power.

Caged Conflictions: Migrant Children as an Ideological Paradox (MRE)

Ben Eklund
Faculty Mentor: Dr. Joshua L. Guitar, Assistant Professor of Communication Studies

In fall 2021, English major and Communication Studies minor Ben Eklund worked with Dr. Joshua Guitar to analyze the discourse surrounding the recent "migrant kids in cages" crisis at the US-Mexico border. After examining the discourse, Ben and Dr. Guitar found that the "migrant kids in cages" functioned as a rhetorically constructed ideological confliction. Using a confluence of Lacan's psychoanalysis and Agamben's state of exception, Ben and Dr. Guitar revealed that the crisis, while abhorrent, is a probable manifestation of American ideology. Whereas "kids" signify innocence and purity, the qualifier "migrant" connotes criminality and impurity. As such, the "migrant kids in cages" crisis cannot be seriously addressed without the upheaval of the compounding ideological systems of whiteness and statism. Ben and Dr. Guitar presented their work at the 2022 Rhetoric Society of America conference and intend to publish their paper in an academic journal.

Decoding "Democracy" In CNN Articles: The Paradox of Profit-Centric News Networks Posturing as Left-Wing (MRE)

Oral Presentation at URD

Tess M. Aubry
Faculty Mentor: Dr. Joshua L. Guitar, Assistant Professor of Communication Studies

History will not soon forget the 2020 US presidential election. Exacerbated by unrelenting media coverage of President Donald Trump's misinformation campaign, the SARS-CoV-2 pandemic, and civil rights tensions, the 2020 election exposed a chasmic political division within the American public. Emboldened by Trump's crusade against "fake news," right-leaning Americans not only reiterated their support for FOX News, a decidedly right-leaning outlet, but they also flocked to newly formed far-right media such as One America News and Newsmax. Undoubtedly, these hyper-conservative media provide fodder for scholars interested in political propaganda and ideological reinforcement. Yet, critical scholars have long argued that, despite the ethical problems of right-wing media, the very existence of profit-centric news is counterintuitive to democracy. Recently, though, the loudness of hyper-conservatism has increasingly veiled the threats posed to democracy by "liberal" news media such as CNN. As critical rhetorical scholars of political discourse, we interrogate the hypocrisy of profit-centric news media rhetoricizing Trump as a "threat to democracy." In this study, we analyze CNN's construction of the term "democracy" in the months surrounding the 2020 election. Guided by the theoretical confluence of political economy and ideology critique, this project demonstrates how "liberal" media contort democratic ethics to fit their profiteering interests. Assuredly, our assessment is not to refute that Trumpism threatens democracy, but rather, to illuminate how the political rhetoric of CNN operates as the covert perpetuation of anti-democratic ideologies.

Congressional Hearings as Public Spectacle

Oral Presentation at URD

Matthew George, Madeline Studebaker, & Jenna Thomas
Faculty Mentors: Dr. Joshua L. Guitar, Assistant Professor of Communication Studies; Dr. Sheri Bleam, Chairperson and Professor of COMM Arts at Adrian College

In recent years, congressional hearings have captivated the attention of the American public within increasing regularity. Largely, the growing fascination with these oratorical events results from a co-constitutive relationship between news media and the rhetorical appeals of the present political actors. Within the present current political context, media coverage of congressional hearings often extends the rhetorical situations beyond the confines of the hearing and into the realm of public spectacle. Given this phenomenon and the general dearth of rhetorical scholarship regarding congressional hearings, we theorize the genre of congressional hearings as a public spectacle. In doing so, we identify three primary roles within congressional hearing settings: members of Congress, citizen respondents, and citizen advocates. We then postulate the generic components of these speech events relative to each speaking role. While we have identified and evaluated the rhetorical appeals unique to each category of rhetoric, in this article, we focus our attention on members of Congress. We

demonstrate that within this theorized genre, members of legislative committees generally labor to achieve five rhetorical goals: foster spectacle, affirm cultural values, empower Congress, establish ethical primacy, and affirm political values. Ensuring our analysis affords situational flexibility, we conclude that these rhetorical events, despite their causticity at times, urge the public to productively resituate and re-empower the legislature within the context of US politics.

Keeping up with the Congressperson: How Legislators use Media Appearances to Direct Public Attention towards Congress (MRE)

Oral Presentation at URD
Matthew George
Faculty Mentor: Dr. Joshua L. Guitar, Assistant Professor of Communication Studies

The recent proliferation of new media has afforded congressional happenings the platform to increasingly become media spectacle. These new technologies and broader media access to the United States government foster a newfound public entry into the inner functioning of government. However, previous research has demonstrated how this media attention disproportionately augments the power of the executive branch. Arguably in response to the centralization of power in the executive branch, the legislative branch exhibit has adopted celebrity behavior to elevate the legislature in mediated political discourse. In this essay, I explain the framework leading to the construction of media spectacle as it pertains to the US Congress. This study analyzes the rhetorical appeals of congresspersons during media interviews as the correlate to formal congressional activities. Focusing on three prominent members of Congress from both the Democratic and Republican parties, I demonstrate how the rhetorical appeals of legislators foster media spectacle and direct public attention more substantively toward the legislative branch.

Content Analyses of Music Genres' References to Sex, Drugs, and Wealth and of Athlete Response to Competitive Frustration (CURE)

COMM 3020: Empirical Research Methods
Faculty mentor: Dr. Jennifer Hallett, Professor of Communication Studies

Three students in the COMM 3020 course conducted multiple mini-projects by applying a variety of methods learned in the course. First, they conducted a content analysis of music lyrics in three different genres: country, pop, and rap. After creating a coding scheme, they analyzed lyrics in each genre for references to sex, substance use, and wealth. As predicted, they found that the genres had different proportions of references to wealth, sex, and substance use. These results were reported during class after our unit on content analysis. Second, they conducted a quasi-experiment to learn more about male athletes' responses to verbal aggression during athletics competition. This project incorporated a manipulated independent variable (verbal aggression) in the form of a vignette, and a dependent variable (response to verbal aggression) measured by The Verbal Aggressiveness Scale (VAS, Infante

& Wigley, 1986). After completing a literature review on verbal aggression in sport, approximately 50 male baseball and lacrosse players were asked to respond to one of two hypothetical competitive situations as though they had been either the perpetrator or target of either an aggressive or a neutral comment during play of their sport. They expected lacrosse players to respond to both aggressive and neutral comments more aggressively than baseball players because of the contact nature of the two sports. These findings were not statistically supported, but were in the expected direction. Results were presented in class at the end of the term. Finally, students determined the method and topic of their capstone projects (completed in COMM 4300 S22) on the basis of these inquiries.

Analysis of Athlete Response to Self-Identity (CURE)

Poster Presentation at URD
Joseph C. Curry
Faculty Mentor: Dr. Jennifer Hallett, Professor of Communication Studies

In this study, I will be conducting research using the "Social Identity Theory" to determine if "Imposter Syndrome" and/or the "Black Sheep Effect" occurs among student athletes at Young Harris College. I will be collecting data on student athletes and their responses to self-identity when participating in both athletics and academics. The student athletes will participate in a survey that will ask questions about how they identify themselves both on the playing field and in the classroom. I will be using the “Clance Imposter Phenomenon Test” and a semantic differential scale version survey to help determine which identity they lean towards. Once the student athletes have identified themselves, I will collect and analyze the data to determine if “Imposter Syndrome” and/or “Black Sheep Effect” occurs among student athletes at Young Harris College. This CURE is funded by the YHC Communication Department.

The Analysis of Social Media Use within College Aged Individuals (CURE)

Poster Presentation at URD
Abigayle Miles
Faculty Mentor: Dr. Jennifer Hallett, Professor of Communication Studies

Numerous studies have shown how social media have overwhelmed the current generation of undergraduate students. This study questions whether this is caused by the gratifications provided by social media platforms or an individual's need to belong. Using a survey informed by the Need To Belong theory and the Uses and Gratifications theory, the study tests whether the two theories influence an individual's use of social media. Given their current popularity, this study focuses on Instagram and YikYak and surveys the participants regarding their use of those platforms. The presentation will discuss the findings regarding each theory as it pertains to undergraduate use of social media to determine if the Need To Belong theory and Uses and Gratifications theory affect social media use.

Creative Writing

Black Lens

Oral Presentation at URD

Janerra L. Copeland
Faculty Mentor: Dr. Gale Thompson, Assistant Professor of Creative Writing

For a poet to create a new poem, inspiration must precede it. Poets read other works and will create imitations that follow the formula from the original. This method is a great way to unleash a new perspective while still shining a light on the original poet's creation. This method seems easy, until you see that often the experiences of people of color are not represented in the world of poetry. I will be presenting a selection of poems that take inspiration from contemporary Black poets such as Jericho Brown, Crystal Wilkinson, and Nate Marshall, who challenge the traditional perspective of the straight white male poet. Their poems have a wide range of topics from self-identity, heritage, AAVE, and racial divide. Jericho Brown expresses his struggle with being a gay Black man who does not meet the standards of White or Black Society. Crystal Wilkinson discusses generational trauma throughout the Black community but focuses on Black women and girls. Nate Marshall writes his poems using AAVE, also known as African American Vernacular English, showing that Black poets can embrace their identity and still be seen as worthy in the poetic tradition. The poems I will present take inspiration from the methods of these poets to highlight my Black lens on experience.

Lens: Disability, Science, and Poetry

Oral Presentation at URD

Indiana N. Ayers
Faculty Mentor: Dr. Gale Thompson, Assistant Professor of Creative Writing

Galileo Galilei was known for taking telescopes and pointing them to the stars. What most people are not aware of is that, by his middle age, Galileo was nearly blind. Records show that he possibly had a degenerative eye condition while observing most of the known constants in our solar system. I, too, want to pursue astronomical research, and, like Galileo, I have a degenerative eye condition. I wrote 'Lens' as a letter to Galileo, empathizing through our disability and connecting through our inquisitive love of the stars. These three topics are a key component to my craft as a poet and writer learning about the many forms the written word can take when viewed through the lens of social justice poetry. After spending the summer working on the language of universal accessibility and the fall on my craft as a poet, I feel confident that 'Lens' is a poem that reflects on people with visual disabilities working in STEM careers today and demonstrates the social justice poetry is capable of.

Senior Project in Creative Writing (MRE)
Students: Janerra Copeland, Zack Daily, Lakota Graham, & Brianna Klein
Faculty Mentors: Dr. Gale Thompson & Dr. Jen Julian, Assistant Professors of Creative Writing

Creative writing students completed a capstone project consisting of new and revised creative work (20-30 pages of poetry or 40-60 pages of prose) and a critical introduction that contextualized their work through the lens of a literary tradition. Students independently planned and executed their writing projects; they designed individualized lists of critical and creative sources through which to investigate and apply creative technique, revised according to their findings and the guidance of their capstone advisors, and gave and received feedback on their critical introductions in a workshop setting. By the end of the semester, poets Janerra Copeland and Zack Daily completed manuscripts motivated by the intersections of social justice and identity. Prose writers Lakota Graham and Brianna Klein composed a fantasy novella and a collection of Gothic short stories, respectively. Students then presented their final projects to a faculty committee, defending the content of their work, their creative approach, and the way they developed connections to broader literary traditions. Finally, to celebrate their capstones, all four students gave readings of their work at the release of *Artemas*, YHC's undergraduate literary journal.

Janerra Copeland reads her work at the release of Artemas

Brianna Klein, Lakota Graham, Dr. Jen Julian, Janerra Copeland, Zach Daily, and Dr. Gale Thompson

Education

Effective Teaching

Poster Presentation at URD
Rebecca Abernathy
Faculty Mentor: Dr. Rinnel Atherton, Assistant Professor of Education

Effective teaching in the classroom is composed of many different factors. Advocacy, rationale, knowledge, and inclusivity are four components that scaffold effective teaching. The role of advocacy in the classroom creates an environment that promotes change to best serve the learners, educators, stakeholders, and caregivers. A rationale acts as both an intrinsic and extrinsic motivator for the educator. The rationale behind the teacher drives their teaching philosophy, environment, lesson planning and overall purpose. The educator's knowledge of the learners, theorists, and community factors should be implemented in their day-to-day teachings. The educator's knowledge must be used appropriately to better serve their students. Inclusivity is another component of effective teaching. Inclusivity can be done by welcoming a variety of cultures and perspectives into the classroom. In this model, four crucial components of effective teaching were identified based on research and educational theorists.

The Effective Teacher

Poster Presentation at URD
Eryn Brown
Faculty Mentor: Dr. Rinnel Atherton, Assistant Professor of Education

An effective teacher is classified as an educator who is able to create cognitive learning opportunities while evaluating the needs for themselves and others. Effective teachers also consistently evaluate themselves, searching for opportunities to grow as educators. Such characteristics that follow these teachers include actively engaging their audience, accommodating the needs of others, creating a sense of belonging, being enthusiastic about the material being taught, creating a positive learning environment for all students, and much more. In my model, I included four main branches that play a major role in being an effective teacher, which is the trunk of the tree. These main roles include having a positive learning environment, including culture and climate in the classroom, the multiple intelligence theory, and collaborative learning. These major roles are demonstrated through branches in my model, along with stems, which are smaller roles that play a part in the words written on the branches. In conclusion, the roots, branches, and stems derive from the trunk of tree—being the overarching idea of an effective teacher. Everything that derives from the trunk of the tree is a characteristic and product of being an effective teacher.

The Characteristics of Being an Inspiring Teacher

Poster Presentation at URD

Zandra Churchill
Faculty Mentor: Dr. Rinnel Atherton, Assistant Professor of Education

This research project is based on what kind of educator you should aspire to be. Being an inspiring teacher means to having the ability to feel or do something creative. To be an inspiring teacher, there are several characteristics that are required: reflection, collaboration, flexibility, creative, positive learning environment, conceptual understanding, inclusiveness, and relationships. Relationships provide a foundation for student engagement, a sense of belonging, and learning. The student-teacher relationship, parent-teacher relationship, and the student-student relationship are important attributes. Collaboration is the next attribute that is necessary to be an outstanding teacher because there will be times to share ideas, work with others, create learning strategies together, and provide and receive constructive criticism. Inclusion is the next attribute that is necessary to be an outstanding teacher. Including all students in the classroom creates a space where all individuals feel they belong and creates an understanding that all students deserve an equal opportunity. The final attribute that I believe is necessary to be an outstanding teacher is flexibility. Students' learning abilities are always changing. There will be days when things arise and times a lesson does not go accordingly, and many more unplanned things will happen, but being flexible will create a modification to the plan.

The Purposeful Teacher

Poster Presentation at URD

Zoe Freke
Faculty Mentor: Dr. Rinnel Atherton, Assistant Professor of Education

As a future educator, having purpose is undeniably vital. Teachers have a unique opportunity to make a direct impact in students' lives. Not only do they guide them to discover the world around them, but they also impact their moral and ethical lives. This presentation and model dives into the different attributes of a purposeful teacher. Unlike many other professions, education is not stagnated. Ideas are always changing, evolving, and growing. There are multiple theories and ongoing research that support this idea. With the likes of Lawrence Kohlberg, Lev Vygotsky, Jean Piaget, and B.F. Skinner, education as a whole has developed and become more relevant over time. Teachers themselves never truly stop learning. Day by day, they are given new opportunities to reflect and grow as both professionals and humans. Purposeful teachers have both the freedom and responsibility to make pedagogical decisions in the best interest of their students. Many adjectives can be used to describe a teacher, but purposeful is one of the most meaningful.

An Effective Teacher

Poster Presentation at URD

Averi Rountree
Faculty Mentor: Dr. Rinnel Atherton, Assistant Professor of Education

There are different characteristics that make up what it means to be an effective teacher. The purpose of this model is to show the different components and skills I think a teacher must possess to be an effective one. When exploring what makes an effective teacher, it condenses down to how this educator affects their students' promotion of learning when they are instructing them. An effective teacher must consider the learning environment they are creating, what they promote and cultivate in their classroom, their sense of leadership, and their choice of good teaching practices. The learning environment is an important aspect to the students' learning and growth. The learning environment must promote a sense of belonging, good dialogue, and decentration. What the teacher promotes and cultivates in the classroom is important to the development of the students in the classroom. In the classroom, an effective teacher must promote self-regulation, learning, critical thinking, and autonomy within the students' learning and self. Promoting these will promote the students' sense of self and promote their ownership of learning. The good practices of an effective teacher include having reflective practice, good decision making, intentionality, and effective communication. To be an effective teacher, one must be a good leader instead of a good manager. This type of teacher must be able to lead alongside their students rather than facilitating learning with no connection to the students.

The Importance of Being an Honorable Teacher

Poster Presentation at URD

Kathryn Smallwood
Faculty Mentor: Dr. Rinnel Atherton, Assistant Professor of Education

This research study discusses the question: "What kind of Educator are you?". The opinion stated in this study is an honorable educator. As an educator, it is important to understand that every student has different learning needs and skills. It is our responsibility, as educators, to modify our instructional strategies to accommodate for our students' needs to learn successfully. Professional honor is an important attribute that an educator needs to teach every student effectively. The next portion of this study explains the characteristics that are aligned with being an honorable educator. There are five vital traits: Equity/Justice, Differentiation, Reflection, Passion, and Facilitation. It is also important, as teachers, to provide the appropriate instruction needed to meet each students' learning needs. Being equitable requires one to not provide the same materials for all students because every student has different learning needs and styles. This strategy helps increase the opportunity for every student's learning success. When creating lesson plans and instructional strategies, it is vital to differentiate instruction so that every student has the benefit of learning successfully. After differentiating lessons and instructional strategies, it is important to be reflective about our teaching strategies to understand how well students are comprehending the topic/subject being discussed. Passion and facilitation skills are important characteristics as well for being an honorable teacher. These traits allow every student to achieve academic success.

Needed Aspects of an Intentional Teacher

Poster Presentation at URD

Rachel Waddell
Faculty Mentor: Dr. Rinnel Atherton, Assistant Professor of Education

One aspect of intentional teachers is that they are creative. Being creative in the classroom means offering an inventive and effective presentation of the material for student learning. The next aspect of an intentional teacher is that they are understanding, knowing that their students come from different backgrounds as well. Students' brains are all completely different, and that is something that I have experienced. Being able to work with students who do not think in the same way as others is a task where you must be creative. The proactive teacher serves as a model for students to take ownership of their learning and, most importantly, engage in problem-solving. A proactive teacher is always looking for and learning new things that would or would not benefit student learning. To benefit student learning, reflection needs to be a large part of how I approach education. I may think that something is working great; however, students may not have created meaning. I want to create an immersive environment where students can learn. Creating an immersive environment involves becoming an actor. If I can create a memorable learning experience for my students, then I have done my job. Reading books in different voices to show students the differences between characters is one way of being an actor. When I walk into the classroom, my responsibility is what the students take with them. I am there for my students, and my attitude and actions will represent that.

The Ideal Teacher

Poster Presentation at URD

Quintavus N. Williams
Faculty Mentor: Dr. Rinnel Atherton, Assistant Professor of Education

The focus of this paper and poster presentation highlights the facets of being a good teacher. In line with this, my time at school, and my research, the paper and poster emphasize four qualities that all teachers should exemplify. The four categories include culturally responsive teaching, an equity and justice-based approach, effective communication, and having a growth mindset. There are a myriad of sub-categories under those listed. This paper and project will highlight those four categories and specific sub-components, exploring the crucial role they play in teacher practice. The paper will also address how these components impact students and the benefits to student development.

English

Haunted Spaces and Revenant Faces: Examining Generational Trauma and Spaces of Healing in the Works of Crystal Wilkinson

Oral Presentation at URD

Tina Hill
Faculty Mentor: Dr. Bethann Bowman, Assistant Professor of English

The works of Crystal Wilkinson represent the confluence of healing strategies and difficult memories, which coalesce into various spaces to process trauma. The main space that Crystal Wilkinson beckons her female characters to find significance in is the kitchen. She aims to prove that spaces such as the kitchen can hold onto energies from relatives that have passed on in the form of "kitchen ghosts." The kitchen and its ghosts become catalysts for Wilkinson's characters to process their trauma that is passed down from generations of Black women before them. The lens of literary trauma theory displays a person's emotional response to an overwhelming event or events that disrupts previous ideas of an individual's sense of identity and the standards that they evaluate society. Wilkinson displays this theory through her development of her complex characters and their relationships with each other, as well as the towns in which they reside. Wilkinson strategically uses candid language around the physical bodies of her characters, recontextualizes food as a healing mechanism, and juxtaposes how the townspeople view her heroines versus how they view themselves. She displays time as moving through her characters and being scattered into a million pieces that can land on them at any given moment. In Crystal Wilkinson's *The Birds of Opulence*, *Water Street*, *Blackberries, Blackberries*, and *Perfect Black*, she shows the effects of trauma that is unique to Black women. By observing the works of Wilkinson through the lens of literary trauma theory, the intergenerational passing down of trauma among Black women can be visible. The women of Wilkinson's works exist in liminality, in between the trauma of their ancestors and the healing of the self.

Mere Domestic Incidents: Masculinity, Femininity and Domesticity in Poe's "The Black Cat" and "Fall of The House of Usher"

Oral Presentation at URD

Joelle Philo
Faculty Mentor: Dr. Eloise Whisenhunt, Associate Professor of English

Edgar Allen Poe often discusses themes of gender identity and repression in his works, two prime examples being "The Black Cat" and "The Fall of The House of Usher." These stories both feature male characters who, feeling failed in their masculinity, resort to violence against the women in their lives to symbolically repress the female traits in themselves. Their actions drive them to further emotional distress, but they are unable to stop themselves, proving the dangers of toxic masculinity both on the female and the male psyche.

Agency in Utero: The Reclaiming of Feminine Power in *The Robber Bridegroom*

Oral Presentation at URD

MacKenzie Teal
Faculty Mentor: Dr. Eloise Whisenhunt, Associate Professor of English

The nineteenth and twentieth centuries saw a reemergence of the literary fairytale, a writing style historically utilized to set the foundation for how developing child minds understand societal structure, though the reemergence indicated influence of developing feminism. Eudora Welty's novella, *The Robber Bridegroom*, represents this reformation of the fairytale and exemplifies philosophies blending first and second-wave feminism. Throughout the novella, the protagonist, Rosamond, is subject to the decisions of the male authority around her, be it creating and maintaining a home for her bandit husband or completing errands for her stepmother, whose authority is awarded through her marriage to Rosamond's father. This inescapable reliance on male authority, defined by Sandra Gilbert and Susan Gubar as etymological and physiological barriers with which women writers are faced, is reflected in Rosamond's challenges to be free of male subjection. Referencing mid-twentieth century feminist literary theory as well as methodologies of women writers of the era, I will identify how Eudora Welty uses Rosamond's feminine nature, and specifically feminine ability to create life through reproduction, to reclaim literary authority and rescript the fairytale narrative.

Environmental Science

Coordination and Implementation of Native Ornamental Gardens on Young Harris College Campus

Oral Presentation at URD, Honors Capstone

Brianna Ross
Faculty Mentor: Dr. Jonathan P. Micancin, Assistant Professor of Biology; Dr. Kevin Geyer, Honors Program Director

Loss of native plant species to more competitive invasive varieties is a global problem made worse by climate change. The disappearance of these plants is part of the sixth mass extinction, which is characterized by loss of plant and animal species from around the world. Community-level action by organizations and individuals can create lasting impact within local ecosystems and move toward global change. Young Harris College is located on a 500-acre campus adjoining the Brasstown Wilderness and Chattahoochee National Forest. Our location within a global biodiversity hot spot and the potential beauty of our landscape put us in a prime position to promote conservation through native ornamental landscaping. For my honors thesis, I am coordinating the implementation of native garden plantings on campus beginning in fall 2022. Removal of invasive plants and replacement with native ornamentals has several economic, ecological, and social benefits. Native plants are less expensive to acquire from many organizations, like the Georgia Native Plant Society, which provides access to affordable plants. These plants are also less expensive to maintain, requiring less maintenance and less human inputs like fertilizers. With the ability to mesh easily with the local ecosystem, these plants can control flooding and stabilize the banks of Corn Creek, while supporting wildlife without the potential for invasion onto federal lands. Use of native ornamental plants on campus will distinguish YHC by creating a space of beauty that shows we are proud of the natural beauty of the area we have chosen to call home.

Foreign Languages

Acceptability versus Adoptability: The Evolution of Gender Neutrality in Romance Languages

Oral Presentation at URD

Matthew George
Faculty Mentor: Dr. Diana Santiago, Professor of Spanish

Over the past decade, knowledge of how gendered language inhibits behavior has become pivotal to gender-equality movements around the world. Language is evolving to accommodate gender inclusivity. However, some languages are limited by inherent structures that dissuade the feasibility of adopting more inclusive language. Historically, an implicit assumption occurs by grammatical references to men or masculinity that perpetuate a male-dominated worldview. This essay examines how different Spanish dialects approach gender-neutral terminology and their path towards adopting gender inclusivity within language. More specifically, I survey current studies into the adoption of gender-neutral language and the acceptance of Latinx terminology in Spanish-speaking countries. Ultimately, I intend to focus on how Spanish is evolving to accommodate gender-neutral language and how each country continues to evolve with the social changes.

History

Historiography on the Causes for the Rise of Third Wave Abolitionism

Oral Presentation at URD
William Yeiser
Faculty Mentor: Dr. Thomas Stearns, Professor of History

After the 1675 Bacon's Rebellion, slavery gradually replaced the indentured servitude system within the United States. By 1705, the Royal African Trading Company's monopoly over the Transatlantic Slave Trade collapsed thus allowing for other slave trading companies to compete in the largest slave trade market in world history. As time progressed, the institution of slavery and the morality of owning another person was questioned and protested by disparate anti-slavery factions. The most prominent of these groups was a radical branch of the Antebellum United States anti-slavery movement known as the abolitionists. Nevertheless, the historical debate over what factors contributed the most to third wave abolitionism in the United States' Antebellum Period is one that has persisted since the mid-early 1900s up until present day. In answering this question, there have also been differences between historians' assertions on when, how quickly, within what groups, to what degree, and where the movement primarily established itself at the center of American politics.

Passive Resistance Civil Rights in the United States

Oral Presentation at URD
Catherine Thigpen
Faculty Mentor: Dr. Thomas Stearns, Professor of History

Following the end of World War II, the civil rights movement began taking its place in United States' history. Beginning as early as the 1940s, groups across the southern United States found themselves taking a stance against racism and segregation. Many of these movements were non-violent. In fact, non-violent movements, or passive resistance movements, were the most prominent responses to the long-endured segregation of the United States. Well-known activists like Rosa Parks and Martin Luther King Jr. took charge of these movements in hopes of providing a better life for not only their children but children across the nation as well. Activist groups, both young and old, also took pride in their part of the civil rights movement as it grew in an effort to end racial segregation once and for all. Those leading these passive resistance civil rights movements across the southern United States began the rough journey to the passing of the Civil Rights Act of 1964. However, even after the Civil Rights Act of 1964, passive resistance movements continued to ensure the equal treatment of Black people regardless of the end of segregation. This presentation will track examples of passive resistance civil rights across the southern United States and what they contributed.

The Southern Jewish Weekly Report on the Holocaust (CURE)

Oral Presentation at URD

Jill M. Davis, Eryk D. Sklba, William L. Tison, & Andrew O. Whitfill
Faculty Mentor: Dr. Larissa Stiglich, Assistant Professor of History

The persecution of Jewish people in Europe expanded past German borders after the start of the Second World War. The stories of this persecution were overlooked at the time because of the outbreak of war and the escalating conflict. We will be discussing how United States newspapers, specifically The Southern Jewish Weekly, covered the Holocaust and how American Jews viewed the escalation of the Second World War. We will present primary source research from three different periods, beginning with the immigration of Jewish refugees around 1939, then progressing into the escalation of war on September 1, 1939, next to the early stages of the Second World War, then with the implementation of the so-called "Final solution," and ending with how the Southern Jewish Weekly newspaper covered the Holocaust. We will provide information about the historical context, show visual evidence from the newspaper, and interpret the articles to answer the broader research question.

Music

YHC Flute Choir Performs the Classics
URD Musical Performance

Chloe Cantrell, Caroline Rigney, Sarah Carver, & Bella Rousseaux
Faculty Mentor/Collaborator: Ms. Cheryl Star, Adjunct Professor of Music

The YHC flute choir will perform *The Birds* by Herman Beeftink, "Argonaise" from Georges Bizet's *Carmen*, and W.A. Mozart's *Andante* in C, featuring soloist Chloe Cantrell.

Outdoor Studies

Finding the Leader Within: Exploring Questions that Matter (MRE)
Poster Presentation at URD
Jacob Welmaker
Faculty Mentor: Dr. Joseph Pate, Associate Professor of Outdoor Leadership

In the outdoor field, strong leaders are needed to meet the demands of the fast-growing societal desire for outdoor experiences. There are outdoor programs across the world that are teaching and developing students to become leaders in this field, and in time, these new leaders will enter into a world of recreation and education that is surrounded by risk. Strong leaders are needed to meet this fast-growing industry and to ensure the safety of those seeking to enjoy and grow through the wonders the outdoors can provide. John Maxwell wrote "Leadership is influence" and this definition of leadership has been used in this study as a beginning foundation. This research experience sought to give space to understanding how students can explore and find their own unique form of leadership. Specific themes that were examined included what leadership is, becoming a leader, different leadership styles, and leadership in practice. Qualitative inquiry methods such as interviews, case studies, leadership narratives, and textual analysis were used to examine this and other questions that matter. This research provides a foundation to help other searching young professionals enter into the wonders of the outdoor field.

This MRE was funded by a YHC Mentored Research Experience grant. Mr. Welmaker facilitated a YHC Undergraduate Research Workshop as part of this experience entitled "Conversation with Fellow Questioners."

Jacob Welmaker presenting his poster at Undergraduate Research Day.

Psychology

"Deep Dive" Music Research Literature Review (CURE)
PSYC 4310: The Psychology of Music
Department: Psychology
Faculty Mentor: Dr. Amy Boggan, Associate Professor of Psychology

Five students in the psychology of music course (PSYC 4310) prepared literature reviews of recent peer-reviewed studies in a topic not otherwise covered in the course. Students provided feedback for each other's research questions early in the semester. This helped each to clarify their research questions and the scope of their literature reviews. Students reviewed APA style and format, discussed database search strategies, and focused their searches primarily on studies from the past decade. They then submitted a formal proposal of their research questions and early emerging themes. Topics explored included the efficacy of music therapy in neonatal intensive care units (NICUs), music and meditative practice, impacts of music on driving, music and autism, and the impact of music on intensity of athletic performance. Students completed a paper focusing on cross-cutting theoretical and methodological approaches across the reviewed studies. They presented these findings to the class, and one student, Leanna Wood, presented her work on music and various aspects of exercise intensity at Undergraduate Research Day. Her review of empirical studies on music and exercise across different types of sports concluded that, generally speaking, high tempo music increased endurance and lowered perceived exertion; however, high tempo music did not increase the maximum strength of exercisers.

Leanna Wood stands next to her poster presentation on Undergraduate Research Day.

Examination of Musical Aspects' Impact on Exercise Intensity (CURE)

Poster Presentation at URD

Leanna M. Wood
Faculty Mentor: Dr. Amy Boggan, Associate Professor of Psychology

Physical activity has many benefits for both physical and mental health, and music has become an element of the average persons' workout routine. The use of music while exercising has become a common practice among both elite and non-elite athletes at fitness facilities. Many people use it as a way to make their workouts more enjoyable, but it could also impact their performance in other ways. There are still many questions about how and why music impacts exercise and learning the answers may benefit the fitness community. Understanding the relationship between music and physical activity could help improve the intensity and effectiveness of exercise. This literature review of empirical research focuses on aspects of music that impact individuals as they exercise.

An Analysis of the Relationships between Personality Traits, Self-perception Accuracy, and Defense Mechanism Usage (MRE)

Oral Presentation at URD

Morrighan R. Surrett
Faculty Mentor/Collaborator: Dr. Julie E. Delose, Assistant Professor of Psychology

Defense mechanisms are tools utilized by one's unconscious to protect the conscious mind from tension (e.g., reaction formation, splitting, introjection). The current study examined the relationship between various personality traits (e.g., humor styles, narcissism, use of social comparisons), self-perception accuracy, and usage of defense mechanisms. The primary researcher tested the following hypotheses: Participants who engage in affiliative humor will engage in reaction formation (H1), participants who score high on the narcissism scale will engage in splitting (H2), participants with high attention to social comparison will engage in introjection (H3), and participants who present highly accurate self-perception will engage in rationalization (H4) and sublimation (H5). Participants (N = 91; 62.64% female; 75.8% white) completed an online survey with previously established scales measuring various personality traits (e.g., Big Five, humor styles, etc.). The researchers developed an original instrument to measure defense mechanism usage consisting of four scenarios designed to induce slight tension (e.g., the passing of a family pet). The results did not support H1, H2, H3, or H4, but did support the hypothesis that highly accurate self-perception predicts engagement in sublimation (emotional stability: r= -0.25, p= .032; openness: r= -0.29, p= 0.013). Thus, results show that certain personality traits may not be related to the use of defense mechanisms, but individuals with accurate self-perceptions in terms of emotional stability and openness are more likely to relieve tension through physical or creative outlets. While several hypotheses were not supported, other correlations between defense mechanisms and personality traits and self-perception accuracy warrant further research.

Plants and their Effects on the Client's Stress in the Counseling Room (MRE)

Oral Presentation at URD

Brentney A. Clemmons
Faculty Mentor: Dr. Julie E. Delose, Assistant Professor of Psychology

Stress-Recovery Theory suggests that exposure to nature may relieve stress and decrease negative thoughts and emotions. Furthermore, live plants in clinical settings can reduce stress and help therapeutic outcomes. The research question is: Do plants in a counseling room decrease stress more than rooms without plants? We predicted: 1) plants (vs. no plants) will decrease client's negative mood (e.g., stressed) from the beginning of the session to the end of the session, and 2) plants (vs. no plants) will increase client's positive mood (e.g., interested) from the beginning of the session to the end of the session. Three plants of various sizes were rotated in and out of the counseling room on a weekly basis. The independent variable (plants) for each week was randomized. The dependent variables were the emotions of participants before and after their session. Some participants were in the study for more than one appointment. Data collection lasted nine continuous weeks in Fall 2021. Participants completed demographic questions at their first visit. Before their session, participants rated the extent to which they felt 12 emotions in the present moment. They completed this same questionnaire after their counseling session. If participants had future appointments, they were asked to complete the same 12-item questionnaire before and after each counseling appointment.

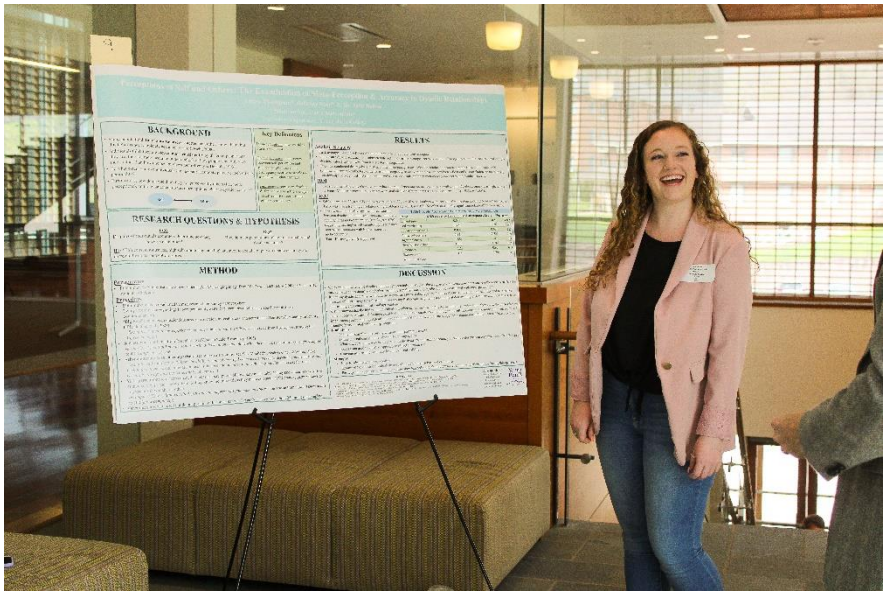
The Examination of Dyadic Accuracy and Meta-perception Accuracy among Dyadic Relationships (MRE)

Poster Presentation at URD

Ansley M. Thompson & Bethany L. Viar
Faculty Mentor: Dr. Julie E. Delose, Assistant Professor of Psychology

Do we know the impressions we make on others? And do others see us the same way we see ourselves? Meta-perceptions, or our thoughts about how we think others perceive us, are crucial to our understanding of ourselves and how we come across to others. We assessed dyadic accuracy, or the congruency between our self-perception and other-perception. Using an electronic survey, participants and their chosen survey partners both completed questions about the self and then, the same items about their survey partner, along with relationship and demographic items. The purpose of the study was to determine meta-perception accuracy and dyadic accuracy among personal relationships. We hypothesized (a) people are generally accurate in their meta-perceptions, (b) specific personality traits, such as: high conscientiousness, high self-monitoring, and high attention to social comparison, and the type of relationship are significantly correlated to meta-perception scores, and (c) dyadic meta-accuracy will be higher among survey partners who are friends or romantic partners. Results showed that participants were not generally accurate in their meta-perceptions but were fairly accurate regarding dyadic accuracy. Overall, the implications of this study suggest that personality may not predict meta-perception accuracy ability. Future research could examine the effect of nonverbal communication cues and their effect on meta-perceptions, as context

may be more salient in the formation of our meta-perceptions. Additionally, studies could examine where we obtain our self-perception accuracy from.

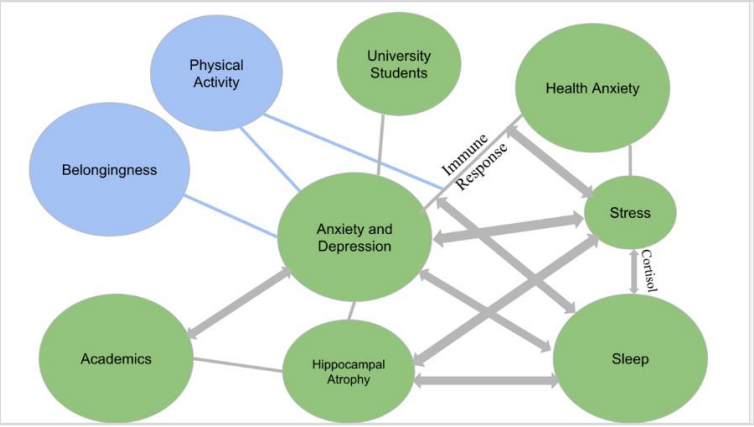


Bethany Viar and her URD poster presentation.

COVID-19 and University Students' Health: A Literature Review (MRE)

Oral Presentation at URD
Emma G. Hambrick
Faculty Mentor: Dr. Benjamin P. Van Dyke, Assistant Professor of Psychology

COVID-19 has affected various populations over the last two years; however, university students have felt some of the greatest impacts of this disease. This literature review aims to further explore the mental, physical, and emotional challenges that have affected university students since the pandemic began in March 2020. COVID-19 has impacted health anxiety, sleep, eating patterns, belongingness, depression, physical health, and academic anxiety and performance. University students are already an at-risk population for higher levels of stress, anxiety, and depression compared to the general population. This fact has been demonstrated through self-reports of increased stress levels. University students are uniquely impacted since prolonged stress on their brain can impair the development of the frontal lobe and lead to hippocampal atrophy. These brain structures are critical for planning, decision-making, and learning. Research shows that a sense of belonging positively impacts mental health. University students were isolated during the pandemic, and many relied on online learning, which decreased their sense of belonging and increased the negative effects on their mental health, further prolonging their stress response and impairing the development of the frontal lobe. This paper will discuss empirical evidence related to the impact of COVID-19 on the health and well-being of university students.



This figure depicts how COVID-19 has impacted various elements of university students' health. Risk factors are green, protective factors are blue, and arrows are used to indicate a bi-directional relationship. University students have the highest rates for developing anxiety and depression and COVID-19 only exacerbated these anxious and depressive symptoms.

Are Empathically Neutral Expressions Possible During Painful Experiences? (MRE)

Poster Presentation at URD

Henrik Timgren
Faculty Mentor/Collaborator: Dr. Benjamin Van Dyke, Assistant Professor of Psychology

When you experience pain, others may respond in ways that are perceived as empathic, unempathic, or neutral. Previous literature suggests that empathy is composed of two factors: cognitive and affective empathy. However, when a person engages in neutral expressions they may fail to recognize the others' feelings and painful experiences. The purpose of this study was to investigate how empathic, neutral, and unempathetic comments are perceived by an individual during a hypothetical painful stimulus. An online questionnaire was sent out by the researchers containing different empathetic, unempathetic, and neutral phrases. Participants were asked to rate these phrases on a scale from unempathetic to empathetic on how cognitively or affectively empathic they perceived the phrases. The data was then analyzed by the researchers and showed that "neutral" phrases were ranked as highly unempathetic on both the cognitive and affective dimensions. The results of this study seem to indicate that when a person is experiencing pain then there are no phrases that can be considered empathically neutral. Either a phrase cognitively or affectively acknowledges the experience of the individual in pain and is perceived as empathetic, or it fails to acknowledge one or both aspects and is then considered an unempathetic phrase by the individual. This project received financial support from an undergraduate research award from the Psychology Division of the Council on Undergraduate Research and the Young Harris College QEP, Undergraduate Research for the Common Good.

Theatre

The Art of Foam Prosthetics in Theatre (CURE)

Poster Presentation at URD
Grace A. Allen
Faculty Mentor: Mr. Zackary Vandever, Assistant Professor of Theatre and Technical Director

For my research project, I will be making a facial prosthetic using foam latex. Prosthetics are commonly used in the sfx arena of the entertainment industry, especially in theatrical productions. Through the use of prosthetics, we are able to manipulate as well as accentuate the way someone looks, warping them into how we want them to appear and be perceived by the audience. Whether these prosthetics are used to create realistic wounds, fantasy creatures and features, or simply to put a bigger nose on someone, prosthetics have been used in theatre and movies for years and have proven to be very reliable in standing the test of time. With how commonly they are used, this is a skillset that is easily transferrable to different places in the industry. Because of this, the ability to design and make facial prosthetics could broaden my future opportunities.

Creation of a Harry Potter Wand (CURE)

Poster Presentation at URD
Abigail L. Wilson
Faculty Mentor: Mr. Zackary Vandever, Assistant Professor of Theatre and Technical Director

For my research project I will be creating my personal wand from the world of Harry Potter. The wands are based on several factors: the witch or wizard's personality, the core used, the type of wood, the length, and the flexibility. Also, considering how a wand can look, wands can either be hand carved or spun. The wands would be designed and used as props such as in the play Harry Potter and the Cursed Child. The research strategies that I learn from this project will help me further my career in theatre in the future.

The Creation of Prop Weapons in the Percy Jackson Universe (CURE)

Poster Presentation at URD
Ashley Hope Smith
Faculty Mentor: Mr. Zackary Vandever, Assistant Professor of Theatre and Technical Director

For this research project, I am researching the different weapons used by Greek and Roman demigods in the Percy Jackson universe and the historical and background reasons for these being picked. I am also researching how each character's weapons are chosen for them. Using this information, I am going to design and create the weapon I would have if I were a character in the Percy Jackson universe. To create the physical weapon, I am researching the different methods used to create prop weapons and will create mine through my chosen method. As someone who would like to write screen plays and plays/musicals about magical worlds, this project will help me learn what research goes into developing props of this nature.

On-Stage Costume Changes in Theatre (CURE)

Poster Presentation at URD
Chris Say
Faculty Mentor: Mr. Zackary Vandever, Assistant Professor of Theatre and Technical Director

Costume changes are sometimes the turning point of a scene or show, and moments where characters transform on stage are often some of the most memorable moments that leave with audiences. In large stage productions such as *Frozen, Cinderella, Wizard of Oz, Beetlejuice, The Little Mermaid* and more, on-stage costume changes are timed transformations that need to be completed within just a few seconds to create the "magic" effect on stage. Most costume changes are separate costumes, where the costume change consists of the first layer being stripped off to reveal the second costume underneath. To keep the removal of the stripped costumes off stage to a minimum, a continuous one-piece would be preferred. The question of whether this is completely possible without weighing down a performer with layers of fabric will be tested. A trial-and-error process as well as concentrated details to connect two costumes, with maximum visual pleasure is the goal. This will be tested by combining Ariel from *The Little Mermaid* and Moana from *Moana* into one costume. If proven possible, more stage productions can benefit from on-stage costume changes as well as the knowledge that any costume is possible through careful creation and process.

Process of Creating Prop Weaponry (CURE)

Poster Presentation at URD

Ethan Brown

Faculty Mentor: Mr. Zackary Vandever, Assistant Professor of Theatre and Technical Director

For my project I am recreating Marceline's Ax Bass from the show Adventure Time. The weapon itself is a double headed battle axe that was repurposed into a bass. I have done research into different processes that have been commonly used to make prop weapons such as using pieces of cardboard and papier-mâché, 3D printing the pieces, and carving and shaping foam. First, I did research into prop weaponry and the process of not only creating the prop itself, but the research that goes into the creation, such as cultural background, time period, use of weapon, what parts are functional and what are purely for aesthetic purposes. I made the decision to use materials like 5 mm thick EVA foam, foam clay, hot glue, paint, and several carving tools to make it look battle worn and semi-realistic.

Ethan Brown at Undergraduate Research Day.

Puppetry (CURE)

Poster Presentation at URD

Ansley L. Phenix

Faculty Mentor: Mr. Zackary Vandever, Assistant Professor of Theatre and Technical Director

For my research project I am creating a rod puppet. Similar to Elmo, a rod puppet has 1 or 2 rods attached to their hands, which the puppeteer uses to control the arms. The puppeteer's other arm goes up through the puppet's back to control the mouth. For this project, I am creating a rod puppet and also conducting research on other kinds of puppets. You can see different kinds of puppets in other shows like *The Lion King* and *Little Shop of Horrors*. Learning how to create and use puppets can be helpful for me in the future because lots of shows use different kinds of puppets, like the ones I mentioned earlier.

Romeo and Juliet Costume Design (CURE)

Poster Presentation at URD

Vasia London
Faculty Mentor: Mr. Zackary Vandever, Assistant Professor of Theatre and Technical Director

For my project, I am designing and making costumes for a play. My chosen play is *Romeo and Juliet*. The characters I have chosen to design are Juliet and Mercutio. For this project, I have researched many aspects of Renaissance fashion. I have looked into what clothes were generally made of based on social class and time period. I have looked at different styles of Renaissance dresses that were available and the pieces that went into creating the look. I have also looked into different styles of men's wear, including different styles of clothes they wore based on marital status and the job they may have had. This project so far has taught me what goes into starting to form ideas for a costume. Costumers not only have to think about making the actors look good but also make the outfits accurate to the play itself. It takes a lot of background research to design costumes.

Religion as Fear: An Examination of the Use of Religious Symbols in Horror Films (CURE)

Poster Presentation at URD

Olivia L. Birkhead
Faculty Mentor: Mr. Zackary Vandever, Assistant Professor of Theatre and Technical Director

This study aims to determine how the use of religious symbols in horror films contributes to the overall fear viewers feel while watching them. Horror films have been a prominent genre in the film industry for decades and continue to scare audiences today. However, little literature has been written or published regarding how the religious symbols used in these films communicate fear. The collection and examination of data regarding predetermined fears and beliefs will be able to help explain how specific symbols communicate different and more severe fear responses. Two groups of voluntary participants will be randomly assigned to a preselected horror film. One film will contain elements of religion and the supernatural, while the other will depict elements of ferocity and gore. In order to judge how well and effectively each of these films communicates fear and how participants feel prior to and after viewing them, subjects will be given a survey before and after their specific viewing. These surveys will ultimately be compared in order to determine what symbols and depictions truly communicate and generate fear and why.

Whispers Among Us (CURE)

Poster Presentation at URD

Tymber Keaton
Faculty Mentor: Mr. Zackary Vandever, Assistant Professor of Theatre and Technical Director

For my undergraduate research project, I will be recreating *The Walking Dead*'s Whisperers mask, specifically a replica of Negan's mask. In order to recreate the mask, I will make a silicone mask by using the casting process. I chose this process compared to casting latex or resin because silicone is more durable and will last longer. Once the mask is made, I will then use an airbrush technique to make it look realistic. In order to give it a rotting zombie look I will also use items from nature such as moss, leaves, mud, and rocks. When adding hair to the mask I will attach half of a wig cap and glue hair strands sporadically. After graduation I plan to go into the SFX hair and makeup industry to advance my knowledge and skills within the field.

Honors Program

North Georgia Folklore Research Project (CURE)
HONR 2101: Folk Legends in Georgia
Faculty mentor: Dr. Jen Julian, Assistant Professor of Creative Writing

Five students in HONR 2101 investigated the narratives and/or practices of a folk group in North Georgia. Throughout this 1-hour course, students learned how to apply academic folklore studies frameworks (via Jan Harold Brunvand) and identify folk groups, particularly those overlooked by the mainstream. Students also took a trip to Expedition Bigfoot!: The Sasquatch Museum, a field work exercise in which they heard bigfoot stories and folk beliefs firsthand. For their final project, students developed a proposal that identified 1) a research question concerning a specific folk group, and 2) two members of that group they could interview as research informants. One student, for example, decided to research the nature of ghost stories as told by locals in the area. Another researched the practice of Southern foodways and chose informants within her own family. All students were required to consider ethical principles when engaging their informants, using interview tips they received from visiting folklorist and songcatcher Lee Knight. Toward the end of the semester, students completed an interview with at least one of their informants and gave a 15-minute presentation to the class, offering up their research progress for a peer Q&A. The final project included recorded interviews with their two informants, signed informant release forms, and a 1,500-word analysis of their findings.

McKayla Milam, Addisyn Clapp, and Kya Pennington stand with Dr. Jen Julian in front of a Bigfoot display at Expedition Bigfoot! in Blue Ridge, GA.

Interdisciplinary Projects

An Interpretive Trail to Highlight the Natural and Cultural Significance of Cupids Falls (CURE)

Poster Presentation at URD

Hannah Cooper, Kristen Grant, Elizabeth Howell, James Mardell, Summer Ribas, Brianna Ross, Caleb Thompson, Jacob Welmaker
Faculty Mentor: Dr. Johnathan Davis, Associate Professor of Biology

Through the Appalachian Teaching Project, Young Harris College (YHC) students collaborated with the City of Young Harris, Georgia to design an interpretive trail that incorporated place-based and culturally relevant artwork and signage to depict the natural and cultural heritage assets of a local park and the region. Students from different disciplines (i.e., art, biology, environmental science, Appalachian studies, and outdoor studies) participated in an interdisciplinary collaboration to accomplish this project. Students explored the theoretical frameworks of place attachment and sense of belonging research and practice to provide insights and guidance for the project, particularly around land management grants, community development and planning, economics of tourism, and environmental interpretation and stewardship initiatives. These theoretical frameworks afforded an opportunity to address issues of community health and wellness through recreational, artistic, and educational spaces through the celebration of local resources. Students documented the presence of flora and fauna in the space and identified regionally distinct and ecologically significant species, which informed the design and creation of artistic works and signage in the park. Students presented designs to the Young Harris City Council for feedback and approval with the goal of conducting the installation of interpretive pieces in Spring 2022. Connecting the natural biodiversity and historical significance of a space to the recreational experience can provide a richer experience and an impetus for users and local communities to value ecosystems in their natural state rather than for other extractive land uses.

The Physiological and Psychological Impact of Crowd Noise on Collegiate Athletes

Oral Presentation at URD, Honors Capstone

Morgan E. Curley
Faculty Mentors: Dr. Linda G Jones, Associate Professor of Biology; Dr. Benjamin Van Dyke, Assistant Professor of Psychology; Dr. Kevin Geyer, Honors Program Director

Crowd noise has been shown to aid in the "home team advantage," by both improving and hindering performance. This issue became especially significant with the COVID-19 pandemic limiting or removing crowds from athletic events and discussions of athletes' mental health on the rise. This project focused on examining the physiological and psychological impacts of crowd noise on reaction times (RT) in collegiate athletes at Young Harris College (YHC). It was hypothesized that individuals would have an increased RT in the trial with the negative crowd noise present, compared to that of the positive or no crowd noise trials. Additionally, it was believed that more positive emotions would be reported after the

positive crowd noise trial, and more negative emotions would be reported after the negative crowd noise trial. This was tested having participants use the iWORX software to respond to visual stimuli, approximately twelve times for each trial of crowd noise. After each trial participants answered a 20 question Positive and Negative Affect Survey (PANAS) questionnaire, as well as noting their thoughts during the trial and how focused they were on the crowd noise, when present. The effect of crowd noise was significant for positive emotions Wilks' l= 0.718, F (2, 36) = 7.055, p= 0.003, hp2= 0.282. The effect of crowd noise on negative emotions was also significant, Wilks' l= 0.840, F (2, 36) = 3.419, p= 0.044, hp2= 0.

Microbial Fermentation of Kudzu (*Pueraria montanta*): From Invasive Pest to Biofuel Feedstock (MRE)

Oral Presentation at URD

Jordan Pandolph & Suzanne Moore
Faculty Mentors/Collaborators: Dr. Charles Swor, Associate Professor of Chemistry;
Dr. Andrea Kwiatkowski, Associate Professor of Biology

The challenge of replacing petroleum-based fuels with something less environmentally damaging has been worked on extensively in recent decades. One of the first and most cost-effective steps toward a greener carbon footprint involves replacing light petroleum distillates used in gasoline with a bio-based fuel, such as ethanol. Production of ethanol from sustainable sources is directly dependent on their carbohydrate content. Cultivated crops such as maize, beets and sugarcane are currently used, but these rely heavily on unsustainable land use practices to produce the required fermentable compounds. Kudzu (*Pueraria montana*) is a fast-growing invasive in the United States, that often contains similar amounts of carbohydrates compared to today's biofuel crops. Our research is focused on directly and qualitatively producing ethanol from kudzu by microbial fermentation. We used leaves and roots as our carbohydrate source, both of which contain significant amounts of carbohydrates. We tested several common strains of Saccharomyces cerevisiae yeast, in combination with alpha-amylase and amyloglucosidase enzymes to break the starches into fermentable sugars. We also tested various pre-fermentation treatments of the plant material. Ethanol content was measured by 1H NMR spectroscopy. If possible, the production of ethanol from kudzu will not only make a more sustainable fuel but help to eliminate an invasive species in the process. This research was supported by the YHC Undergraduate Research initiative.

"Remnants of Rome," a Crusade-era Historical Fiction Piece Focused on the Byzantine Empire

Oral Presentation at URD, Honors Capstone
Brianna Klein
Faculty Mentor: Dr. Kevin Geyer, Honors Program Director

This project, presented in the form of a historical fiction piece, looks at the daily lives of those in the Byzantine Empire, the third main party that had an active role during the Crusades. "Remnants of Rome" uses several books and articles to reconstruct life in Constantinople during the 11th century, between the failure of the People's Crusade and the arrival of the true First Crusade. The remnants of the Roman Empire, the Byzantines are key players in the Crusades, as the First Crusade started when Emperor Alexios I requested the Church's aid in reclaiming the land that had been taken by the Seljuks. Despite their importance to the Crusades, the Byzantines are often overlooked in favor of discussing the conflicts between the Christians and the Muslims. Representing and displaying often-overlooked aspects of medieval society, "Remnants of Rome" follows the life of a widow who takes over her husband's shop upon his death. Women in Byzantine society held a surprising amount of power, being able to own property, run shops, and participate in politics, something nearly unheard of in many other countries and kingdoms during the medieval period. "Remnants of Rome" combines a historical, 11th century Constantinople with a fictional Byzantine widow to create an informative look into life in the Byzantine Empire.

Sunday Funday YHC (CURE)

Poster Presentation at URD
Tess Aubry, Kathryn Gilbert, Emma Hambrick, Zharia Johnson, Ansley Thompson, Delaney Thompson,
Faculty Mentor: Dr. Ambyre Ponivas, Assistant Professor of Communication Studies & Psychology

Sunday Funday YHC is a social campaign that is aimed at providing stress reduction tips for the community of Young Harris College. Both faculty and staff are included in this project. Throughout the semester, we will be creating a website, social media account, flyers, and a logo, as well as researching various tactics for effective persuasion for our campaign. We are also hosting events throughout the semester, and our goal is to have 150 Instagram followers and 75 signatures from people who pledge to implement stress reduction techniques in their own lives. Over the course of the semester, we are implementing various persuasion techniques such as audience targeting, and effective messaging, and applying those techniques to create an effective campaign that also helps the YHC community implement stress reduction tips.

Providing Paws (CURE)

Poster Presentation at URD

Malia C. Little, Olivia L. Birkhead, Joseph C. Curry, & Wes R. Glass.
Faculty Mentor: Dr. Ambyre Ponivas, Assistant Professor of Communication Studies & Psychology

Our semester long PSYC 3996 Persuasion prosocial persuasive campaign, Providing Paws, exists to raise donations to benefit the Humane Society's Mountain Shelter of Blairsville, GA and community members. The Mountain Shelter provides cruelty-free care for animals committed to the shelter and educates members of the community in conscientious care for animals. This campaign encourages those within the Young Harris College community to donate old, unwanted, and seldom used clothes to the Mountain Shelter Thrift Store. The proceeds from sales within the thrift store pay for necessary items in the shelter and therefore contribute to the larger community. The campaign's effectiveness will be measured through its objectives to obtain 50 individual items and a minimum of 100 followers, friends, and subscribers across all of its digital platforms, Facebook, Instagram, and a website page. To create personal and unique interactions between the campaign and members of the community, the campaign will also contribute physically through flyers and physical representation in populated areas on campus, including the Rollins Campus Center, residence halls, and classroom buildings. Using the three stages of knowledge, this campaign introduces and educates individuals to the need for funding shelters. Finally, this campaign hopes that the audience will understand how each donation helps and desire to donate. This campaign encourages YHC community members to donate and to continue donating. This campaign aims to inspire generosity.

K(NO)W MORE: A Sexual Assault Awareness Campaign (CURE)

Poster Presentation at URD

Jack D. Bruschetti, Madeline A. Studebaker, Jenna C. Thomas, Morganna E. Oberdorfer, & Rachel I. Tudorancea
Faculty Mentor: Dr. Ambyre Ponivas, Assistant Professor of Communication Studies & Psychology

Our social marketing campaign, K(NO)W MORE, which is part of a semester-long project for our Persuasion class, aimed at raising awareness of sexual assault on the Young Harris College campus. In order to raise awareness, we applied persuasion theory through visual ads, a website, and social media accounts, as well as providing information at a table educating YHC students about the prevalence of sexual assault and what resources are available to them if they need them. In order to gauge how much interaction there was with our campaign, we tracked various metrics, including website hits, video views, followers on social media, and signatures on an awareness petition. Our presentation at Undergraduate Research Day highlighted the successes and limitations of our persuasive social marketing campaign by presenting our theoretical information and data metrics.

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