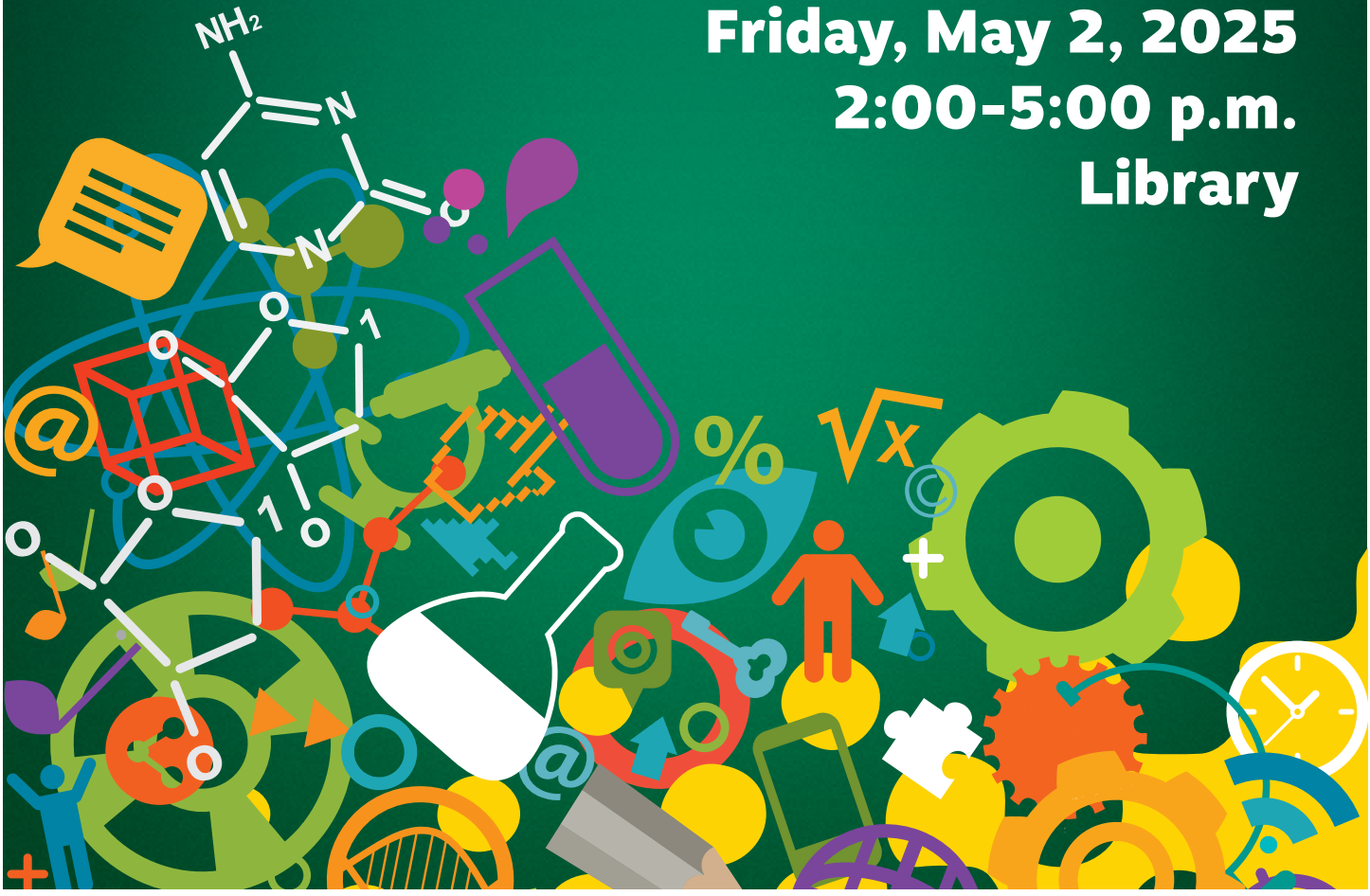
Cal Poly Humboldt.

PROGRAM AVAILABLE ONLINE

ideaFest

A Showcase of Research and Creative Projects

Friday, May 2, 2025
2:00–5:00 p.m.
Library



ideaFest

Humboldt Sculpture Walk

Tours depart from 1st Floor, Main Lobby • 12:00 pm, 5:00pm

Senior Art Show

Tours depart from 1st Floor, Main Lobby, guided to Reese Bullen Gallery
2:00 pm, 2:30 pm, 3:00 pm, 3:30 pm

Dance Performances

2nd Floor, West Windows • 2:00–2:30 pm

Musical Performances

1st Floor, Main Lobby • 2:00–4:00 pm

Marching Lumberjacks

Library Entrance • 2:30 pm

Theatre Performances

2nd Floor, West Windows • 3:00–3:30 pm

Maker & New Media Showcase

2nd Floor, Room 205: Makerspace • 3:00–4:00 pm

Reception & Poster Symposium

2nd & 3rd Floors, Grouped by Department • 3:00–5:00 pm

Pelican Bay Communication Student Presentations

3rd Floor, Room 317: CTL Classroom • 3:00–5:00 pm

CIRM Bridges Scholars Lightning Talks

2nd Floor, Room 209: Fishbowl • 3:00–5:00 pm

Simulation Demos

2nd Floor, Hall of Simulation • 3:00–5:00 pm
Digital Dissection Table • 3D Digital Herbarium • AR Sandbox • Fire Sim Table • Flight Simulator

Transfer Student Panel Showcase

3rd Floor, Room 308: Learning Lab • 4:00–5:00 pm

Film Screenings

1st Floor, Room 120: The Studio • 4:00–5:00 pm

Research Presentations

2nd & 3rd Floors • Grouped by Department

Listed here in alphabetical order by poster title

A Big Impact in Mentoring

Miguel Saavedra, College Corps, Undergraduate Student;
Kimberly Silva, College Corps, Undergraduate Student

Humboldt College Corps

Big Brothers Big Sisters is a mentoring non-profit that fosters one-to-one relationships between local youth and adult volunteers, supporting academic success and emotional well-being. Drawing from our academic backgrounds in kinesiology and business, we contributed by organizing mentorship events and leading community outreach efforts, which strengthened youth-adult connections. This experience highlights the importance of consistent support and positive role models. Through kinesiology, we explored the vital role of physical and mental health in fostering well-rounded growth, while business principles illuminated ways to create sustainable and impactful programs that serve the community.

A Novel Interactive Web Map for Campus Accessibility

Astra Mattingly, Environmental Science & Management, Undergraduate Student;
Kyra Kranyak-Schwartz, Department of Geography, Environment & Spatial Analysis, Undergraduate Student;
Aster Espinosa, Mathematics, Undergraduate Student;
Kalin Dyn, School of Engineering, Undergraduate Student;
Mikayla Weinmann, Environmental Science & Management;
Jim Graham, Environmental Science & Management, Faculty

College of Natural Resources & Sciences

Individuals with physical disabilities have found that the Cal Poly Humboldt campus is difficult to navigate due to topography, aging infrastructure, and more. In order to make improvements to our campus, we need to have data on barriers that prevent physical accessibility. This map seeks to be a simple way to display physical accessibility data online to both aid navigation and promote physical and social change regarding accessibility.

A PICC Dislodgement and Securement Solution

Judah O'Shaughnessy, School of Applied Health, Undergraduate Student

College of Professional Studies

This research project introduces a quality improvement initiative aimed at reducing or eliminating the risks associated with peripherally inserted central catheter (PICC) dislodgement. While PICCs are a valuable and useful tool at providing safe and effective intravenous medication administration, they do have the vulnerability of dislodgement which can have catastrophic consequences resulting in patient harm or death. Nurse-led implementation of the subcutaneously anchored securement system and interventions at the patient, department, and policy level can reduce or eliminate PICC dislodgement and the risk associated with inadequate PICC securement.

A Survey of Passerine Diversity on Cal Poly Humboldt Campus in Relation to Noise Pollution

Dee Naranjo, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

Point count survey of passerine birds on Cal Poly Humboldt campus. Sites revisited multiple times to create a site occupancy model and examine species diversity, abundance, in relation to anthropogenic noise pollution on a landscape. As well, examine detection efficacy of other covariate factors.

Adapting to Autism-Friendly Care in a Rural Hospital

Kelly Wheelock, School of Applied Health, Undergraduate Student

College of Professional Studies

This evidence-based quality improvement project reviews solutions for enhancing safety and outcomes in patients with autism spectrum disorder (ASD) within rural hospital settings. Through the application of the Revised Iowa Model and systematically reviewing peer-reviewed articles and professional guidelines, the project aims at addressing key challenges and proposing evidence-based solutions. Solutions include patient-tailored care, staff training, and hospital-level policy actions. A SMART goal aims at measurable enhancement in patient safety and satisfaction through a systematic multi-level process for autism-informed care.

Addressing the Full Spectrum of ACL Injury

Delilah Kimble-Gray, School of Applied Health, Undergraduate Student

College of Professional Studies

Having torn my own ACL, I understand firsthand the physical, emotional, and psychological challenges athletes face in recovery. Through this research, I aim to shed light on the often-overlooked aspects of ACL treatment. This includes the need for gender-specific prevention programs and the mental resilience required for healing. While advances in surgery and rehabilitation offer hope, there is still much to be done, particularly in supporting non-elite

athletes and integrating innovative technologies. In conclusion, my goal is to create a more holistic approach to ACL injury prevention and recovery, addressing both the body and the mind.

Agent-based Modeling of Microglia Metabolic Pathways: Implications in Alzheimer's Disease

Abigail Penland, Computer Science, Undergraduate Student;
Cheyenne Ty, Computer Science, Undergraduate Student;
Megan Pratt, Mathematics, Undergraduate Student;
Martin Mendoza-Ceja, Mathematics, Undergraduate Student;
John Gerving, Mathematics, Undergraduate Student;
Kamila Larripa, Mathematics, Faculty

College of Natural Resources & Sciences

Alzheimer's Disease (AD) is a neurological disorder that destroys memory and other cognitive functions. Several scientific findings have connected dysfunctional microglia, a type of immune cell, to AD progression. We created an agent-based model to simulate the interactions between microglia and their environment, addressing dysfunctional microglia's effect on AD. Our model represents a two-dimensional slice of the hippocampus, depicting microglia's ability to move, metabolize glucose, and interact with the blood brain barrier and amyloid beta plaques. We applied treatments of metabolic boosting and exercise to our model to study how varying treatment intensities can impede AD progression.

Aiding in First Grade - My Experience at Union Street

Kimberly Duck, College Corps, Undergraduate Student

Humboldt College Corps

Through Humboldt College Corps, I was allowed to work three days a week at a local charter elementary school. Once placed, I quickly connected with the principal, Rae, my host teacher, Katie May, and the 17 students who make up the first-grade classroom at Union Street. As an aspiring educator, I believe this quickly became an invaluable experience. I learned about classroom management, social emotional behavioral techniques, and I got hands-on experiences for the concepts I have been learning about in my classes as a Liberal Studies Elementary Education Major.

Alcohol Use Disorder in Humboldt County

Emily Monahan, School of Applied Health, Undergraduate Student

College of Professional Studies

Residents of Humboldt County have a higher-than-average incidence of Alcohol Use Disorder (AUD) when compared to the rest of California and the US. Local youth report drinking alcohol at a younger age, and more frequently than average. Alcohol related hospital admissions are frequent for those who have AUD. Addressing the problem starts at early intervention in adolescents and continues through adulthood. Humboldt county lacks resources for those suffering from AUD and a specialized detox facility would decrease the amount of hospital admissions for alcohol related diagnoses. Making these resources and facilities available to Humboldt County residents could help reduce Alcohol Use Disorder.

Alder Grove Charter School: Advancing Equity Through the CEI Community Schools Grant

Ivory Rose, College Corps, Undergraduate Student

Humboldt College Corps

Connected to Alder Grove Charter School through the College Corps program, Fellow Ivory Rose B. serves as a secondary support specialist for high school students. As a hybrid homeschool, Alder Grove blends class support with personalized learning, empowering both families and students. Ivory's role led her to join the Community Engagement Initiative (CEI), which aims to transform education from the inside out. Through CEI, Alder Grove involves leadership, students, and community members in shared decision-making. Ivory supports this work as both a chaperone and active community member, helping students raise their voices and shape their learning environment.

Analyzing Food Insecurity at Cal Poly Humboldt: Prevalence, Barriers, and Institutional Neglect

Alex Neel, Social Work, Undergraduate Student

College of Professional Studies

An analysis into the different aspects of food insecurity we face on campus, from privatization of our food systems, administrative apathy, and consequences of food insecurity for students.

Analyzing Soil Quality & Forage Potential of Solar Microhabitats in Coastal Grasslands

Claudia Alfaro Hernandez, Forestry, Fire & Rangeland Management, Undergraduate Student

College of Natural Resources & Sciences

As the global population grows, ensuring sustainable food and energy systems becomes increasingly important. While solar panels support clean energy goals, they can displace prime agricultural land and critical habitat for native grazers in coastal grasslands. Agrovoltaics—integrating solar infrastructure with land used for agriculture or grazing—offers a promising compromise. However, research on solar microgrids in coastal grassland ecosystems remains limited. This study examines how solar microgrids impact soil quality and forage potential in these sensitive landscapes.

Anatidae Feeding Behavior During Different Tides in a Managed Marsh

Javier Vizcardo, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

My research was focused on observing dabbling ducks at the Arcata Marsh. My question was whether tide height was a significant factor in determining feeding behavior.

Anthropogenic Noise and Song Variation in the American Robin

Trent Townsend, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This project explores how American Robins change their songs in response to human-made noise. I recorded robin songs across urban and quiet areas in Humboldt County to see if louder environments caused them to sing at higher pitches or volumes. Using sound analysis tools, I compared changes in song frequency and amplitude with background noise levels. This research helps us understand how noise pollution affects bird communication and can guide efforts to make urban spaces more wildlife-friendly.

Arcata Elementary School - College Corps

Kaya Murillo, College Corps, Undergraduate Student

Humboldt College Corps

My poster highlights my College Corps host site, Arcata Elementary. It outlines what I have learned since being there and why I encourage others to join College Corps to expand their experience to ready them for their future career.

Arcata High School FFA Chapter

Leslie Mendoza-Avila, College Corps, Undergraduate Student

Humboldt College Corps

With my College Corps worksite placement, I was placed in Arcata High School working with 2 AG teachers who are part of a national agricultural program called Future Farmers of America. They have heavy positive influences on the students in the chapter, where many pursue entrepreneurships or higher education opportunities to return home to contribute their knowledge in their former chapter or the Humboldt community. The chapter relies a lot on community support, as its resources are limited. The chapter continues to grow by giving back to the community whether it be helping with floral arrangements at events or even participating in community events.

Arcata House Partnership

Grey Hildebrand, College Corps, Undergraduate Student;
Juli-Ann Johnson, College Corps, Undergraduate Student;
Jacquelyn Perez, College Corps, Undergraduate Student;
Emma Wilson, College Corps, Undergraduate Student;
Mariana Lara, College Corps, Undergraduate Student;
Vanessa Luis, College Corps, Undergraduate Student

Humboldt College Corps

Arcata House provides resources and housing for the houseless population in Arcata and Eureka. They are considered the "lowest barrier" service provider in the area. This means that they do not require folks to be sober to receive services. They have three sites: an apartment complex in Eureka and two in Arcata. Fellows have spent most of our time at the Annex located in downtown Arcata. This center provides basic necessities such as clothing, showers, and lunches to any individual. The Grove, which houses the main office for management and apartments for clients, is located in north Arcata. We have two food banks that happen weekly: Wednesday at the Annex and Friday at the Grove. Attendance fluctuates, but each food bank usually serves at least 30 people.

Assessing the Tourism Potential of Orick, California

Zac Claus, School of Applied Health, Undergraduate Student;
Sophie Collins, School of Applied Health, Undergraduate Student;
Lavender Deng, School of Applied Health, Undergraduate Student;
Keegan Henry, School of Applied Health, Undergraduate Student;
Nancy Nazario, School of Applied Health, Undergraduate Student;
Mikel Ash, School of Applied Health, Undergraduate Student;
Mike Sanchez, School of Applied Health, Undergraduate Student;
Teddy Goyette, School of Applied Health, Undergraduate Student;
Matt Cherovsky, School of Applied Health, Undergraduate Student;
Ara Pachmayer, School of Applied Health, Faculty

College of Professional Studies

The purpose of this project is to better understand the current state and potential for growth in recreation and tourism in Orick, California, with the ultimate goal of driving economic development, improving quality of life for residents, and ensuring sustainable stewardship of natural and cultural resources.

Assessing Uncertainties in a Flow Injection Analysis Method for Trace Concentrations of Iron in Seawater

Elijah Vestal, Geology, Undergraduate Student;
Brooke Stafford, Geology, Undergraduate Student;
Liam Hodgson, Physics & Astronomy, Undergraduate Student;
Noah Schuhmann, Biological Sciences, Undergraduate Student

College of Natural Resources & Sciences

Iron is an essential nutrient in biological systems, and is the limiting nutrient in about of the surface ocean. We investigate the flow injection method of Lohan et al., 2006, with modifications described in Biller et al., 2013 to analyze nanomolar concentrations of iron in seawater. In this work we focus on quantifying and understanding the uncertainties in the measurements and the signal of the blank by adjusting the method in four distinct ways.

Basque Cultural Exploration

Adam Ibarra, Psychology, Undergraduate Student

College of Arts, Humanities & Social Sciences

This project is a Cultural Exploration that I completed in 2024 as part of my Cultural Psychology class at the University of Alaska-Fairbanks. I wanted to immerse myself in Basque Culture as I am a Basque Diaspora born in the U.S. but have grown up largely disconnected from Basque Culture. I attended Palm Sunday at the Notre Dame Des Victoires in San Francisco, CA, participating in the events preceding Easter. I also visited the Basque Cultural Center on Palm Sunday and interviewed Alain Camou, the manager at the restaurant in the Cultural Center, about Basque Culture. I hope that presenting this work at ideaFest will help to share Basque Culture with others and help further this research.

Being a role model at the Morris School

Arthur Frye, College Corps, Undergraduate Student

Humboldt College Corps

This poster explores the various strategies that I have been using in order to help develop the students' level of respect and empathy, as well as appreciation for one another. I also will be including a couple of pictures, and an in depth statement regarding how nice this collective experience is working with the other teachers at this school.

Beyond The Five Finger Discount: Monetary Motivations Behind Shoplifting

Emma Frerichs, Psychology, Undergraduate Student

College of Arts, Humanities & Social Sciences

Social media has been used to share individual hauls of shoplifted items. Research suggests an evolutionary perspective for this behavior, suggesting mate-relevance. Images were collected using Tumblr search tags to examine the cost of stolen mate-relevant verses non-mate-relevant items posted online. The results demonstrate that mating-relevant items are significantly more expensive than non-mating-relevant items. Although the average prices of the stolen items were not significantly high for either category, the differences suggest a mating-relevant strategy for displaying shoplifted items.

Bird Diversity and Habitat Preferences: A Comparative Analysis of Humboldt Campus and Arcata Community Forest

Edwin Ramirez, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This study will look at the abundance and richness of birds on the Cal Poly Humboldt campus and in the Arcata Community Forest. The primary objective is to understand how various environmental factors could influence bird population in these two locations. Studying the abundance and richness of birds in urban environments, forest edges, and forest interiors could provide important insights into conservation and management strategies.

BLACK HUMBOLDT An Impactful Mission

Nauselle Gleglaud, Business, Undergraduate Student

Humboldt College Corps

As a College Corps Fellow, I supported Black Humboldt, a nonprofit uplifting Black and Brown communities in Humboldt County. I focused on behind-the-scenes work designing flyers, managing outreach, organizing files, and tracking expenses which gave me insight into the thoughtful planning behind inclusive, community-rooted spaces. This experience showed me that even administrative tasks can meaningfully support grassroots work. Black Humboldt's mission highlights how intentional care fosters belonging, amplifies underrepresented voices, and redefines solidarity in rural areas.

Boys & Girls Club of the Redwoods: Combatting Juvenile Delinquency

Heidi Brust, College Corps, Undergraduate Student;
Avery McIntire, College Corps, Undergraduate Student

Humboldt College Corps

Our site is the Boys and Girls Club in Eureka. We work with underprivileged children and provide them a safe space to come after school. Some of them need to be cared for and loved outside of their home lives, and this is something we are able to give them. I am in charge of leading activities for the kids, being there to listen to them when they need me, and guiding them in their everyday lives. These children have been through more than most adults have, and making each day better for them is so important to me. For PitchFest, we wanted to implement a field trip program so the kids can experience places they would not get to otherwise.

Bridging Gaps in Rural Diabetes Care

Ashley Sciple Cron, School of Applied Health, Undergraduate Student

College of Professional Studies

This quality improvement project aims to reduce disparities in diabetes care by improving access to Tirzepatide through individual, community, and policy-level interventions. Set in a rural clinic, the project focuses on providing culturally tailored telehealth education, peer mentorship, and advocacy for expanded medication coverage. The goal is to improve patient outcomes by increasing diabetes knowledge, medication adherence, and access to evidence-based treatment. Guided by the Iowa Model of Evidence-Based Practice, this approach supports safe, equitable care and long-term sustainability through data-driven evaluation and community engagement.

Brown Pelican Relative Abundance and Predation Frequency in Humboldt County Habitats

Gavin Lahr, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

I conducted point-count surveys for Brown Pelicans in three different Humboldt County Habitats: Beaches, Bays, and Lagoons. Across nine survey sites I compared Brown Pelican relative abundance and predation frequency to determine what habitat type in Humboldt County was more important to Brown Pelican survival and conservation. Since 2009 Brown Pelicans were delisted from the Endangered Species Act, a momentous achievement for Brown Pelicans and conservationists. However, I believe it is important to continue monitoring species that have been delisted to ensure they remain healthy.

Building Community Through Academic Support: My College Corps Experience

Leighanna Jake, College Corps, Undergraduate Student

Humboldt College Corps

This work highlights my experience as a College Corps Fellow serving at Arcata High School. Being present in an academic setting allowed me to reflect on the importance of community support and mentorship. Through this experience, I gained a deeper understanding of how showing up for students, especially those from underrepresented backgrounds, can create a sense of belonging and motivation. Inspired by this, I plan to support my tribal community and Native students interested in higher education.

Cal Poly Humboldt GIS Data Archive

Luis Gomez, Undergraduate Student;
Milo Tom, Undergraduate Student

Library

The Geospatial Data Archive is a collection of useful GIS datasets, with an emphasis on Humboldt and Arcata, meant for students and community members as a whole to preserve and simplify the access of important geospatial data. We are also aiming to archive and display student and faculty projects. Data submission will be open to anyone with a registered account, once proper metadata has been filled out. Creating and maintaining useful metadata is another focus of the archive, as many datasets available online lack the necessary information to contact creators or to be fully understood by the average viewer.

California at a Crossroads: Saving the Trinity's Water Future

Chris Koier, Interdisciplinary Studies, Undergraduate Student

Individualized Degree Plan (IDP)

California's Trinity River faces rising threats from outdated infrastructure, federal overreach, and climate change. This poster distills key findings from the California in the Crosshairs public policy series, analyzing infrastructure failures, collapsing salmon runs, and misguided federal water releases. It proposes local solutions—groundwater recharge, urban water independence, and Sites reform—to secure California's rivers, ecosystems, and tribal rights before irreversible damage occurs.

Can Changes in Daily Routines Reduce the Risk of Periprosthetic Joint Infection?

Madolin O'Rourke, School of Applied Health, Undergraduate Student

College of Professional Studies

Exploring reduction of periprosthetic joint infection through small changes in daily routines and cost-effective strategies.

Cannabis Use and Mental Health: A Double-Edged Leaf

Lanna Moore, Psychology, Undergraduate Student;
Hannah Lyons, Psychology, Undergraduate Student;
Izzy Tetzlaff, Psychology, Undergraduate Student;
Adriana Cluver, Psychology, Undergraduate Student

College of Professional Studies

Our project entails researching the effects of cannabis on various mental illnesses. We are investigating whether cannabis use impacts mental health disorders—exacerbating them, providing relief, or having no effect—aiming to better understand its role and clinical implications. Using OneSearch through Cal Poly Humboldt Library, we reviewed 12 papers utilizing keywords like "mental illness," "cannabis," "anxiety," and "depression." Findings

show cannabis may worsen symptoms depending on usage patterns and individual conditions, suggesting the need for caution and increased research in clinical use and mental health policy.

Change in Snowmelt Timing and its Effects on the Green-up Timing of Mixed Conifer Forests

Tully Leonard, Computer Science, Undergraduate Student

College of Natural Resources & Sciences

Shifts in the timing of snow-pack melt influences the phenological cycles of evergreen forest in the Sierra Nevada mountain range; this can lead to potential alterations in the timing and duration of green-up in these forests. This can affect the forest's resilience to ecological disturbances, like wildfires or insect outbreaks. In order to investigate these patterns this study uses data from the National Ecological Observatory Network (NEON), which monitors the green-up of the forest and the snow depth. In addition, the snow water equivalent (SWE) data from the National Water and Climate Center (NWCC) was used to approximate the amount of snow-pack water available to the vegetation.

Characterization of a Novel Endocellulase to Optimize Biofuel Production

Layla Beck, Chemistry, Undergraduate Student;
Patrick Leonard, Chemistry, Undergraduate Student;
Sienna Mills, Biological Sciences, Undergraduate Student;
Jenny Cappuccio, Chemistry, Faculty

College of Natural Resources & Sciences

Bioethanol is a biofuel already prevalent throughout industry as a gasoline additive. It is widely considered carbon neutral since the carbon released upon combustion was taken from the CO2 in the air and made into cellulose during photosynthesis. Starchy or sugary food crops are used in bioethanol production when plant waste cellulose could be used instead. Efficient and scalable cellulase enzymes are limiting this switch. We sought to characterize a novel cellulase identified by metagenomic analysis of bovine rumen by the JGI and Hess et al. We performed protein expression and characterization by SDS-PAGE, CMC and DNS activity assays to compare this enzyme's efficacy to commercial ones.

Characterization of Anabaena Sensory Rhodopsin Bound Nanodiscs via Western Blotting

Celeste Diepenbrock, Chemistry, Undergraduate Student;
Mason Menna, Chemistry, Undergraduate Student;
Raul Pacheco, Chemistry, Undergraduate Student;
Aidan Childs, Chemistry, Undergraduate Student;
Jenny Cappuccio, Chemistry, Faculty

College of Natural Resources & Sciences

Anabaena sensory rhodopsin (ASR) is a light-sensitive transmembrane protein found in the cyanobacterium Anabaena Nostoc. Membrane proteins have proven difficult to study due to their insolubility and tendency to form aggregates in aqueous environments. Nanodiscs are small protein structures that assist in the study of insoluble proteins. In this experiment, self-assembled ASR-bound nanodiscs were purified by Ni-NTA Immobilized Metal Affinity Chromatography (IMAC). Native gel electrophoresis, SDS-PAGE, western blotting, and absorption spectroscopy were used to detect Anabaena sensory rhodopsin and the scaffolding protein, ApoAI, in the prepared nanodisc sample.

Climate Anxiety: What Are The Effects Of Climate Change On Young People's Development?

Benjamin Romo, Psychology, Undergraduate Student;
Makayla Millea, Psychology, Undergraduate Student;
Sami Alvarez, Child Development, Undergraduate Student

College of Professional Studies

We reviewed nine peer-reviewed empirical articles on the effects of climate change on young people's development. The problem is that climate change is so rapid that not many people know its severity and how it can affect us, our children, and our daily lives. We aim to shed light on the psychological side of climate change and present solutions we have found through the various articles listed.

College Corps: Blue Lake Rancheria Daluviwi' Field Restoration Project

Bella Evenson, College Corps, Undergraduate Student;
Keith Flores, College Corps, Undergraduate Student;
Austin McAskill, College Corps, Undergraduate Student

Humboldt College Corps

Blue Lake Rancheria's community garden, Daluviwi', is dedicated to providing produce for tribal communities across Humboldt County. Tribal employees and College Corps fellows at Daluviwi' are remediating an acre of field space to increase food production. The project is being completed by hand to ensure sustainable development of the land.

College Corps: Finding Community at Potawot Food Garden

Lulu Voss, College Corps, Undergraduate Student

Humboldt College Corps

My site is the Potawot Community Garden with the United Indian Health Center. At Potawat, we practice organic sustainable agriculture techniques to provide affordable fresh produce for the native community, specifically clients of the hospital. We also attend and donate our sprouts, plants, and seeds in giveaways to native tribes. We put on community volunteer events and bring people together through gardening. We also educate people in sustainable farming practices, and host many tours for students and organizations. My responsibilities include gardening, tabling events, and leading volunteers in the garden. Potawat has taught me the importance and healing of community.

College of the Redwoods Athletic Hub

Zac Claus, School of Applied Health, Undergraduate Student

College of Professional Studies

My project, CR Student-Athlete Hub, is a centralized website that was designed to support student-athletes at College of the Redwoods and their transition after CR. It focuses on five sections, providing key resources and information on recruiting, financial aid, eligibility rules, mental health, and success stories of alumni. The goal of this project is to collect and simplify the vast amount of information on these five topics in order to promote equity, access, and opportunity.

Community and Inclusion at Fuente Nueva

Bella Tarlton, College Corps, Undergraduate Student

Humboldt College Corps

Fuente Nueva is a spanish-immersion charter school where multilingualism is prioritized, aiding students into fostering or becoming bilingual whether their first language is Spanish or English. All main subjects beyond English are taught in Spanish. I am an English classroom aide, and I help with classroom management and organization, project design and preparation, work one on one with students, complete the grading of tests and projects, and help to ensure students are fostering growth in the English language as well. Fuente Nueva is an amazing resource to the community of Humboldt County because it provides a safe place to learn and creates a unique environment of multilingualism.

Comparative Analysis of Wildlife Abundance and Diversity in Humboldt County: Historical Baselines vs Modern Observations

Nathaniel Davidson, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This study compares historical and modern records of wildlife abundance and diversity in Humboldt County to evaluate long-term ecological change. Using a standardized scoring system based on historical quotes, field surveys, and species data, I've quantified shifts in species richness, abundance, and ecosystem services. Results highlight significant declines in native species abundance and diversity, revealing patterns of biodiversity loss and degradation since precolonial times.

Comparing Mammalian Presence and Biodiversity Between Different Units of Humboldt Bay National Wildlife Refuge

Erin Konefal, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

Comparing mammalian presence and diversity between different units of the Humboldt Wildlife Refuge

Compassion, Community, Creativity as Centro De Communidad!

Naomi Garcia Martinez, College Corps, Undergraduate Student

Humboldt College Corps

Do Cultural Centers benefit a community as a whole and not just those who identify with the culture? Because of existing literature, it may seem the obvious response is yes, but in recent years there have been many exceptions of exclusion, superiority and elimination made throughout our country regarding the true role Cultural Centers service in enriching the lives of all - not just those who specifically fall into the category. This has made Cultural Centers of any sort a sensitive topic, easy targets, and susceptible to closure. From my experience serving in a Cultural Center, I explored this question this year.

Consistent Insect Abundance Across Temperature, Humidity, and Vegetation Gradient in the Arcata Marsh and Wildlife Sanctuary

Shahin Mokhtari, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

I measured insect abundance in response to various levels of temperature, humidity, and vegetation density.

Corridor Proximity and Habitat Influence on Mammal Rescue Call Frequency

Fernando Herrera, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This project spatially analyzes mammal wildlife rescue call data in McKinleyville, Arcata, and Eureka, CA, to understand how wildlife corridors influence the location and frequency wildlife are brought in for rehabilitation.

Creativity and Wellness at Winship Middle School

MelissaMack Barker, College Corps, Undergraduate Student

Humboldt College Corps

My creative project at Winship was collaborating with the Wellness Center staff to create groups for students. One group is meditative in nature, playing some soothing live instruments for students while they relax and take notes on how the instruments affect them. I also teach them about the instruments and about sound in general. In the other group, students create characters and shape a world in which they go on a quest together. This allows them freedom of expression while building community.

Cultivating Connection and Community Outreach through Local Food

Robyn Stallman, College Corps, Undergraduate Student;
Azariah Mohr, College Corps, Undergraduate Student;
Olivia Aldinger, College Corps, Undergraduate Student

Humboldt College Corps

As College Corps interns at Potawot Community Food Garden and the North Coast Growers Association, we have all grown in our connection to local food and community. NCGA works to support farmers, provide CSA boxes, and create farmers' markets across Humboldt County to access local food. Potawat Community Garden grows food, medicinal herbs, and hosts farmers markets for community members and United Indian Health Service (UIHS) clients. Both organizations provide EBT Calfresh to make sustainable and local food accessible to all. Our poster includes a discussion on why access to local food is important to our community. We will showcase how local food and programs like farmers markets, EBT, WIC, and us as College Corps interns support the growth of local connections.

Culvert and Bridge Features Influencing Mammal Crossing Frequency on California U.S. Route 101

Patricia Garrett, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

An analysis of the biotic and abiotic factors that influence mammal crossing rates through culverts and bridges on a Northern segment of California U.S. Route 101. This study analyzes mammal crossing rates in relation to structure openness, and proximate vegetation density across forty-six remote camera sites.

Curating an Art Gallery "For The Sake of Leisure"

Mila Turner-Morgan, School of Applied Health, Undergraduate Student

College of Professional Studies

I was interested in exploring the connection between art and leisure. To explore this topic, I showcased the work of many students from a variety of majors in an art exhibition in the Student Access Gallery. I designed the space with the artwork, and the Student Access Gallery coordinators installed the artwork. The gallery was open to the public for 2 weeks.

Diversity in Geoscience: Impact of Project-based Curriculum

Vermilion Walls, Geology, Undergraduate Student;
Michelle Selvans, Geology, Faculty

College of Natural Resources & Sciences

An analysis of survey data collected from students in introductory college geoscience courses with heavily project-based curriculum. Pre and post surveys were taken to determine changes in student outlook on altruistic and environmentalist attitudes towards geology content and careers and how this change is different among demographics, which potentially can be used to promote higher racial and gender diversity in the field of geoscience.

Do Shorebirds Exhibit Mixed-Species Flocking Preferences?

Mason Levy, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This study analyzed flocking behavior of shorebirds present at the Arcata Marsh and Wildlife Sanctuary, examining if any two (or more) species significantly selected to flock with each other over other species, and what may have led to such a flocking preference (similarities in size, foraging behavior, etc.).

Does Having Siblings Affect The Recognition of Children's Emotional Displays?

Jasper Toledo, Psychology, Undergraduate Student

College of Arts, Humanities & Social Sciences

This research study looks into whether participants with siblings are able to understand the emotional display in images of children more so than participants without siblings. We hypothesized that participants with younger siblings will have a greater likelihood to notice emotional responses in children due to alloparental caregiving behavior. Sixty images of children expressing six emotional displays were shown to participants. Overall, there was no difference in emotional recognition accuracy between participant groups. Specific emotional displays were recognized more than others for all groups, with the most recognized emotional display being happiness.

Ecological Interactions in Indigenous-Managed Landscapes: Avian and Arthropod Predation on Artificial Caterpillars

Jaime Lara, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

Indigenous knowledge systems have long supported biodiversity and ecosystem health. As environmental challenges grow, Traditional Ecological Knowledge (TEK) is recognized in restorative land management. Colonial expansion has altered habitats, pushing wildlife into agroecosystems. Indigenous-managed spaces, such as cultural gardens and restoration areas, offer critical habitat and influence ecological interactions like predation. This study explores avian and arthropod predation in these areas at United Indian Health Services Potawot Village and Blue Lake Rancheria, California, using simulated prey to assess predator-prey dynamics and ecological functions.

Edge Effects on Salamander Morphology in the Arcata Community Forest

Blake Knapp, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This project examines how edge effects influence the weight and snout-to-vent length (SVL) salamanders (Order Caudata) in the Arcata Community Forest. Effects, caused by habitat fragmentation, can alter environmental conditions such as temperature, humidity, and soil composition, potentially affecting salamander physiology and well-being. The study aims to investigate whether salamanders living near forest edges exhibit different morphological characteristics compared to those in interior habitats. If salamanders in the Arcata Community Forest are impacted by edge effects, then there will be a significant correlation between snout to vent lengths (SVL) and weight and distance from the edge.

Effects of Anthropogenic Disturbance on Waterfowl at the Arcata Marsh

Joseph Meihak, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

A study was undertaken at the Arcata Marsh to determine how various anthropogenic disturbances affected waterfowl within ponds that have publicly accessible trails surrounding them. The disturbance types observed included walkers, walkers with dogs, bikers, and runners. A bird would be considered disturbed if it stopped its previous behavior to move away from a disturbance or become vigilant and observe the disturbance. The distance between the disturbance and the bird was then recorded to determine if a certain type of disturbance caused a disruption of behavior at further or closer distances. The type of waterfowl was recorded to determine if there was any difference in species or niche.

Effects of Cardiopulmonary Rehabilitation on Pulmonary Function and Quality of Life in Individuals with Chronic Asthma

Daisy Matias-Gutierrez, School of Applied Health, Undergraduate Student

College of Natural Resources & Sciences

Exploring several studies that have looked at the pulmonary function and quality of life effects of a variety of exercises on individuals with chronic asthma.

Effects of Fog on the Intensity and Behavioral Patterns of Ant (Hymenoptera: Formicidae) Foraging

Lucky Ng, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This project investigates how fog influences the foraging behavior and activity levels of ants (Hymenoptera: Formicidae) in coastal northern California. By observing changes in foraging intensity and specific behaviors during foggy versus non-foggy conditions, this research aims to better understand how microclimatic factors like fog affect ant ecology. Findings may inform broader ecological studies on climate adaptation and the role of fog in shaping invertebrate behavior.

Effects of High Screen Time Usage on Social-Emotional Development in Children Under Twelve

Morgan Lopez, Psychology, Undergraduate Student;
Khyla Bennett, Psychology, Undergraduate Student;
Elisah Cox, Psychology, Undergraduate Student;
Jacob Silva Sanchez, Psychology, Undergraduate Student

College of Arts, Humanities & Social Sciences

Analysis of 12 research articles about the developmental and psychological effects of high screen time usage in children under the age of 12.

Effects of Human Development on the Spatial and Temporal Behavior of a Neighborhood Mesocarnivore Guild

Amanda Kanaly, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This study researches how urbanization affects the spatial and temporal behavior of mesocarnivore species in the small city of Arcata, California. Specifically, the study tests whether different levels of urban development influence spatio-temporal interactions and the co-occurrence (or lack thereof) of two or more mesocarnivore species, and how habitat characteristics mediate these effects. By analyzing the correlation between habitat features and co-detection events, this research aims to shed light on the dynamics of mesocarnivore coexistence in urban and rural environments, and inform strategies to mitigate the impacts of urbanization on wildlife.

Effects of Non-Invasive Rehabilitation for Baseball Players Recovering from Tommy John Surgery: Optimizing Safe & Efficient Return to Play

Lexanee Inzunza, Undergraduate Student

College of Professional Studies

Baseball pitchers often suffer ulnar collateral ligament (UCL) tears due to repetitive, high-velocity throws. These injuries are commonly treated with Tommy John Surgery (TJS), which requires a 12–18 month recovery. While TJS is effective, its long rehab has led to rising interest in non-invasive options like physical therapy, PRP, stem cells, and biomechanical training. These methods show promise for moderate injuries, offering shorter recovery and fewer risks. More research is needed, but individualized non-surgical care may support a safer, more efficient return to play.

Effects of Physical Education on Improving Social and Emotional Learning in Physical Education

Edgar Juarez, Education, Undergraduate Student

College of Professional Studies

This research focuses on how physical education can benefit student behavior, social cooperation, and interactions with peers and teachers.

Effects of Running Shoe Stack Height On The Prevalence of Ankle Injuries

Roberto Davila, School of Applied Health, Undergraduate Student

Library

The purpose of this research analysis is to (1) examine the effects on a runner's foot and ankle biomechanics when transitioning to a minimal style shoe and to (2) find an approach to transitioning to minimalist shoes that minimized risks of injuries.

Effects of Sea-level Rise on Marsh Bird Population

Alondra Cardona, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

The study focuses on the effects of tidal change on marsh bird communities. A positive trend in sea level rise has been detected for the past years with approximately 20 cm increase of sea level rise per century. This can affect bird populations on wetland habitats. This study will provide data on bird species diversity at the study site and determine what bird species are more susceptible to population decrease based on habitat loss from sea level rise. The study results can call more attention on the most vulnerable bird species to prevent species extinction in marsh habitats.

Effects of Strengthening Interventions for Oblique Tears of the Abdominal Muscles for Professional Baseball Players

Zheneida Alvarenga, School of Applied Health, Undergraduate Student

College of Professional Studies

This project explores targeted strengthening interventions for oblique muscle tears in professional baseball players. It aims to develop and evaluate evidence-based rehabilitation protocols focused on enhancing core stability, improving rotational power, and reducing re-injury rates. Through a combination of clinical assessment, biomechanical analysis, and sport-specific training, the study seeks to optimize recovery outcomes and support peak athletic performance

Elucidating the Relationship Between Water Quality and Antibiotic Resistance of Rainwater Microbes Across Western Humboldt County

Theo Murphy, Biological Sciences, Undergraduate Student

College of Natural Resources & Sciences

This study serves to address the question: Is there a correlation between water quality and antibiotic resistance in microbes isolated from rainwater throughout varying coastal environments? We hypothesize that there is a correlation between water quality and incidence of antibiotic resistance in rainwater isolates, measured by directly comparing fecal coliform concentration to the Minimum Inhibitory Concentration (MIC) of each rainwater isolate. We additionally expect to see higher concentrations of fecal coliforms in the rainwater than is safe to ingest as established by the United States Environmental Protection Agency drinking water standards.

Environmental Justice and the Inglewood Oil Field

Sarah Rendon, College Corps, Undergraduate Student

Humboldt College Corps

Through my experience at Cal Poly Humboldt as an Environmental Science major and College Corps fellow, I explored environmental injustices by researching the Inglewood Oil Field. This is one of the largest oil drilling sites in the U.S., located in predominantly Black and Latinx communities. Oil drilling brings harmful impacts to both the health of the environment and the people. Growing up in Inglewood, I witnessed how normalized these damaging practices became in our lives, unaware of the serious risks.

Enzyme Kinetics to Determine How Sugar Interferes with Alcohol Metabolism

Dylan Harrison, Chemistry, Undergraduate Student

College of Natural Resources & Sciences

Northern Kentucky University conducted a study in which alcoholic drinks mixed with soda & diet soda were drunk, then participants had their BAC measured with a breathalyzer. When the diet soda mixer was used, a higher BAC was measured, indicating faster metabolism. The enzyme, alcohol dehydrogenase, breaks down ethanol, turning it into acetaldehyde with the use of NAD+. If biochemical pathways such as glycolysis are active, the NAD+/NADH ratio will be offset and will limit the process. Since sugar substitutes don't activate glycolysis like sugar, they are essentially inert. I am in the process of determining if the sugar interacts directly with the enzyme to cause this inhibition.

Equitable Self-Assessment and Intervention Practices in Supplemental Instruction

Isabella Donato, Biological Sciences, Undergraduate Student

College of Natural Resources & Sciences

To promote equitable learning and assessment practices in Supplemental Instruction classrooms, weekly surveys were conducted in a BIOL 198 SI course linked to a Genetics (BIOL 340) core class. These weekly surveys provided opportunities for students to reflect on the effectiveness of their learning strategies. The Supplemental Instruction Leader then implemented activities during class to focus on reading comprehension and test preparation, the two areas indicated by students as their areas of least confidence. Quantitative and qualitative data demonstrated improvement in SI student reflections of self-efficacy throughout a non-consecutive six-week period.

Eschscholzia Californica Shows Evidence of Fitness Based Local and Home-site Advantage Regardless of Morphological Patterns

Sage Brislen, Forestry, Fire & Rangeland Management, Undergraduate Student;
Soren Biel, Biological Sciences, Undergraduate Student

College of Natural Resources & Sciences

California poppy (Eschscholzia californica), the state flower, varies in lifespan and phenotype across its range. It's widely used in restoration, yet local adaptation is poorly understood. We conducted two common garden studies in coastal and inland California using seeds from seven locations. After greenhouse germination, plants were grown in Santa Cruz and Davis. We measured survival, growth, reproduction, and leaf traits. Results show evidence of local adaptation in fitness (survival and seed production), though not always in morphology. This suggests local seed sourcing is crucial for maintaining genetic diversity in restoration amid climate change.

Evaluating Approaches to changing visitor behavior with the B.A.R.K. Ranger Program

Nizhoni Kears, College Corps, Undergraduate Student

Humboldt College Corps

Headwaters Forest Reserve, located in Southern Eureka, protects over 7,400 acres of old-growth and second-growth redwood forest, sensitive riparian habitat, and threatened species. As recreation use increases, managing the impacts of pets — especially dogs — has become a growing challenge for both resource protection and visitor experience. In partnership with the College Corps program, the Bureau of Land Management (BLM) launched the B.A.R.K. Ranger Program at Headwaters following a successful student pitch that won funding. This national visitor education initiative promotes responsible pet recreation through positive messaging and public engagement.

Evaluating Samsung SmartTags as a Low-Cost Wildlife Tracking Tool

Daniel Meng, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

Samsung smart tags are used as a tool for tracking the location of mule deer and assessing their use in different environments with levels of urbanisation.

Examining Foraging Patterns Between Great and Snowy Egrets

Riyanna De La Rosa, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

Examining foraging behavior of Great and Snowy Egrets in wetland environments. Two study sites, the Arcata Bay and the Salt Marsh, were examined in the Arcata Marsh and Wildlife Sanctuary. Comparisons were made examining their strike rates, success, rates, movement patterns, and location preferences while taking into consideration the wetland composition of the two study sites.

Exercise is Medicine On Campus

Jason Dyck, School of Applied Health, Undergraduate Student;
Danielle Lositzki, School of Applied Health, Undergraduate Student;
Brendan Yoder, School of Applied Health, Undergraduate Student;
Lexanee Inzunza, School of Applied Health, Undergraduate Student;
Jacob Allen, School of Applied Health, Undergraduate Student;
Luis Medina, School of Applied Health, Undergraduate Student;
Ali Dougish, School of Applied Health, Undergraduate Student;
Young Kwon, School of Applied Health, Faculty

College of Professional Studies

Exercise is Medicine® (EIM), led by the American College of Sports Medicine (ACSM), promotes physical activity as a key part of healthcare. Its campus initiative, Exercise is Medicine On Campus (EIM-OC), encourages colleges to make movement a daily part of student life. Cal Poly Humboldt is one of only 149 institutions worldwide recognized by EIM® with a Gold Level designation for its efforts, including the Daily 5K and other activities that promote campus wellness and student well-being.

Exploring Public Engagement with the Arcata Marsh and Wildlife Sanctuary as a Third Place

Emry Yount, Department of Geography, Environment & Spatial Analysis, Undergraduate Student

College of Arts, Humanities & Social Sciences

This project examines how the Arcata Marsh and Wildlife Sanctuary in Arcata, CA, serves as a "third place" for the local community. A "third place" refers to social spaces where people gather outside their homes and workplaces, fostering community interaction

and well-being. This study uses semi-structured interviews and observational surveys to assess who uses the Marsh and how the site facilitates this role. The free, outdoor nature of the sanctuary makes it particularly accessible to a wide range of individuals, encouraging community engagement. The project highlights the significance of the Arcata Marsh as a welcoming, open space where people connect, relax, and engage in recreation.

Facilitation and Spatial Association of Common Murres and Brandt's Cormorants in Northern California

Nathan Simpson, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This project set out to examine the hypothesis that Brandt's Cormorants act as a facilitator species to Common Murres. Drone images were taken of the study system during the breeding season of each year to accurately represent the space used by each species. Spatial analysis was conducted on both species to determine if non-random spatial associated occurred at several scales. Additionally, an analysis was conducted to examine how the number of Murres associated with Cormorants changed over time.

Facility Needs Assessment At Prasch Hall Community Center

Matthew Cherovsky, Undergraduate Student

College of Professional Studies

My senior project is a facility needs assessment of Prasch Hall Community Center in Blue Lake, California. It gathers feedback from community members and facility users regarding their overall satisfaction with the facility, and its programs. The surveys were given out to the public both physically and digitally to ensure accessibility. I then summarized the results in a report with charts, summaries for each of the questions, and both short-term (1-year) and long-term (5+ year) improvement plans. The goal is to help inform the City of Blue Lake's Parks and Recreation Master Plan while strengthening community engagement and facility operations.

Factors Influencing Extended Periods of Inactivity in Barred Owls

Emily Mora, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This study aimed to understand the factors influencing extended periods of inactivity in barred owls. We analyzed environmental factors, such as temperature and seasonal variations, along with individual characteristics like sex, to better understand their activity patterns. The findings could aid in developing more effective management strategies for barred owls through targeted removal programs, ultimately improving conservation efforts for the threatened northern spotted owl.

Factors Influencing River Otter Diel Activity in Areas of Varying Human Activity

Marley Vulker, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This research investigates the factors influencing river otter (Lontra canadensis) diel activity along two contrasting study sites. Using camera traps from summer to fall 2023, I compare otter activity in two locations: the Eel River Estuary Reserve, an area of low human activity, and the Arcata Marsh, an area of high human activity. I explore whether otters exhibit different activity patterns depending on tidal phase and lunar phase. By comparing otter behavior in these contrasting environments, this study aims to understand how human activity and environmental conditions shape otter behavior, overall contributing to more effective conservation and habitat management strategies.

Fantastic Fiber Production at Brunner Family Farm

Malcolm Ridings, College Corps, Undergraduate Student**;**
Lindsey Gaspers, College Corps, Undergraduate Student

Humboldt College Corps

This project showcases Brunner Family Farm and the fantastic fiber production we do there. Discover the process of yarn production with our friendly Angora goats. We are able to shear, spin, and dye our yarn all within 200 miles.

Fawn Awareness - A Health Education Initiative

Jessica de Laguna, Interdisciplinary Studies, Undergraduate Student

Individualized Degree Plan (IDP)

"Fawn Awareness" is a year-long health education initiative highlighting the often-overlooked fourth stress response: Fawn, or the "Submit" response. Seen across the animal kingdom, submission can be just as vital for survival as fight, flight, or freeze. In humans, Fawn often develops in childhood as a way to maintain a sense of security with inconsistent caregivers, later manifesting as difficulty setting boundaries and chronic people-pleasing. This project includes a YouTube video, news article, and research paper featuring expert insight and real-life anecdotes to raise awareness and promote mental health through understanding this misidentified trauma response.

Following the Menstrual Tide: A Counter Culture's Conception of the Womb

Stella Rose Gallagher, Department of Geography, Environment & Spatial Analysis, Undergraduate Student

College of Arts, Humanities & Social Sciences

Menstrual practices sanction how menstruators engage with public and private spaces. Informed by the sociocultural factors of menstrual health today, I conducted several ethnographic in-

terviews to further explore how menstruators mediate their own personal needs and the demands of their community throughout menses. Finally, I will integrate these interviews within the broader discourse of Critical Menstrual Studies.

Forage Site Selection of Woodpecker in Relation to Tree Species and Stage of Decay

Jeffrey Soltero, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

The main objectives of this study are to determine the variation in forage habitat selection of each of these species located in the Arcata Community Forest, and to see what might influence their forage site selection. I hypothesize that forage site selection for woodpeckers will be influenced by their prey choosing certain tree species and trees in moderate to high stages of decay. The data collected and used to complete my objectives was gathered by surveying multiple trails throughout the Arcata Community Forest, taking note of any woodpeckers engaging in foraging activity along with the species of woodpecker, the species of tree, and the stage of decay the tree was in.

Forest Edge Effects on Insects in Coastal Redwoods

Sebastian Mendoza, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

When it comes to coastal redwood forests, there aren't many studies that focus on insect abundance being affected by edge effects. The focus of this study is to see what species of insects are being affected by the forest edge. I will assess this question using pitfalls and sticky traps to trap ground insects and flying insects, respectively. I hypothesize that the closer distance from the edge habitat will positively influence insect diversity. This study will allow future researchers to see if there's a correlation between insect abundance and other species that use insects as a food source.

Gender, Colonialism, and the Epistemology of Mycology

Toni Sardelis, Biological Sciences/Botany, Undergraduate Student

College of Natural Resources & Sciences

This paper critically examines the exclusion of Indigenous women and early women scientists from the field of mycology. It highlights how their ecological, medicinal, and ceremonial knowledge was appropriated by men who received institutional credit, authorship, and economic gain. Case studies include María Sabina, Mary Elizabeth Banning, Mapuche women, and more, whose work has been essential yet erased. It also critiques how contemporary myco-capitalism and tourism commodify their knowledge and cultural practices without consent, often disrupting local economies and ecosystems. The paper calls for accountability in attribution, citation, representation, and benefit-sharing.

Genome Compartmentalization of Effector Genes in Phytophthora

Charlie Deible, Biological Sciences, Undergraduate Student; **Oscar Vargas**, Biological Sciences, Faculty

College of Natural Resources & Sciences

Plants and their pathogens are often described as being in an "evolutionary arms race" that allows them to continue their survival. Effector molecules, which are what pathogens use to combat plant defenses, are encoded by genes that have often been observed to be located in more dense parts of the genome, providing a potential mechanism to accumulate more mutations than other genes. In this project, I used several statistical models to quantify the compartmentalization of effector genes. Understanding the genomes of some of the world's most devastating pathogens can inform the development of mitigation strategies that target stable characters which will not evolve rapidly.

Great Blue Herons and Feeding Ecology

Thalia Contreras, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

How successful great blue herons are with their feeding strategies and how anthropogenic factors may influence behavior in the ardeids.

Habitat Edge Impacts on Predators in the Arcata Community Forest

Megan Singer, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

Predators play a crucial role in ecosystem processes within various habitat types. My study aimed to analyze the impact of habitat edges on predators in the Arcata Community Forest by using remote camera traps to document predator presence in edge versus interior habitat sites. I also conducted supplemental vegetation surveys to compare the mean vegetation density at edge versus interior habitat sites. I predicted that if predator presence is influenced by habitat type and vegetation density, then predator presence would be higher at edge habitat sites than interior habitat sites, and there would be a negative correlation between predator presence and vegetation density.

Habitat Variation and Shorebird Roosting Flocks: Examining Species Composition Across Arcata Marsh

Karl Vanuska, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This research project looks at how species composition in shorebird roosting flocks varies across different locations within Arcata Marsh. This research assesses how environmental factors, such as substrate type, vegetation cover, proximity to foraging areas,

and tidal conditions, influence species richness and diversity at roosting sites. As well as if behavior may change due to species composition within roosting flocks.

Harmonic Analysis of Currents within Humboldt Bay

Caitlin Williams, Oceanography, Undergraduate Student;
Ula Brucker, Oceanography, Undergraduate Student;
Jayden McCarthy, Oceanography, Undergraduate Student;
Tamara Barriquand, Oceanography, Faculty

College of Natural Resources & Sciences

Multiyear time series of current data measured by 2 horizontal SonTek/YSI ADCPs placed mid-depth in the water column at 2 different locations in Humboldt Bay, CA, a shallow, tidally-driven estuary in northern California, were analyzed to determine the contributions of different harmonic frequencies within the bay. Spectral analysis of the time series revealed that the currents are dominated by several tidal harmonics. The 3 dominant frequencies include M2, K1, and O1, but their contribution varies spatially between the two station locations. Additional frequencies in the data indicate overtides, as well as potential interference with topography and the more variable wind-induced currents.

Hericium Erinaceus (Lion's mane) Effects on Neurogenesis, Synaptic Plasticity, and Memory Retention in Alzheimer's Patients

David Christal, School of Applied Health, Undergraduate Student

College of Professional Studies

This research aims to investigate the neuroprotective potential of Hericium erinaceus (Lion's mane mushroom), focusing on its effects on neurogenesis, synaptic plasticity, and memory retention in Alzheimer's patients. Hericium erinaceus is rich in bioactive compounds such as erinacines and hericenones, which have been shown to stimulate nerve growth factor (NGF) synthesis, reduce oxidative stress, and protect neurons from apoptosis and inflammation. These properties of Hericium erinaceus suggest a potential role in enhancing the treatment and management of Alzheimer's disease.

How Do Anthropogenic Disturbances Affect Marbled Godwits in Humboldt Bay

Emma Leininger, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

How Do Anthropogenic Disturbances Affect Marbled Godwits in Humboldt Bay? I looked into how different types of human disturbances affect responses and vigilance in marbled godwits.

How Does Habitat Ecological Resolution Affect Bat Population in Arcata, CA and Trinity, CA?

Katrina Maynez, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

Bat acoustic survey done in Arcata, CA and Trinity, CA across 6 different sites. How does habitat ecological resolutions affect bat population in Arcata, CA vs Trinity, CA?

How Does Restoration Affect Food Web Dynamics Within Quail Populations in the McKinleyville Land Trust Dow's Prairie Educational Wetland?

Zen Godinez, Biological Sciences/INRSEP, Undergraduate Student;
Lorilynn Acosta, Biological Sciences, Undergraduate Student;
Jesika Gonzalez, Environmental Science & Management, Undergraduate Student;
Taylor Shaw, Environmental Science & Management, Undergraduate Student;
Logan Blank, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

The McKinleyville Land Trust's Dow's Prairie Educational Wetland is a 2.55-acre endangered coastal prairie wetland in California, conserved in 2009. Restoration efforts with the Wiyot Tribe and U.S. Fish & Wildlife removed invasives and reintroduced native plants, but coincided with declining California quail (Callipepla californica) populations. This study establishes the first baseline conditions, using wildlife cameras and botanical surveys to assess quail habitat suitability, examining invasive removal, predation, and fragmentation impacts. Findings will guide adaptive management to balance biodiversity and restoration, while honoring the Baduwa't Wiyot's ancestral homeland.

How Ecological Restoration Affects Mammalian Species Diversity and Evenness in Coastal Dune Systems

Samantha Lieburn, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

I tested the effects of differing landscape management practices at two different coastal dune systems in Humboldt County, California. I did this to see how ecological restoration of native plant compositions affected mammalian species richness and evenness.

How Parenting Styles Relate to Attachment Styles in North and South America

Naomi Huerta-Vazquez, Psychology, Undergraduate Student;
Kelly Vega, Psychology, Undergraduate Student;
Lilia Horne, Undergraduate Student;
Emily O'Keefe, Psychology, Undergraduate Student

College of Arts, Humanities & Social Sciences

This review explores how parenting styles in North and South America influence children later in life. By examining a range of studies from both regions, we analyzed the long-term effects of different parenting approaches on individuals as they grow into adulthood. Parenting styles explored in our research include authoritarian, authoritative, permissive, and uninvolved. Studies also evaluated additional influences on parenting such as overprotectiveness and patriachal influence. The goal is to understand better how cultural and regional differences in parenting can shape emotional, social, and psychological development over time.

How to Stop Chronic Kidney Disease (CKD)

RoAnna Petty, School of Applied Health, Undergraduate Student

College of Professional Studies

Chronic kidney disease (CKD) is the ninth leading cause of death in the United States. Kidney damage is not reversible, but CKD can be stopped or its progression can be slowed. Diabetes and hypertension are the two main causes of CKD. Medical directors, nurse leaders, home care providers, and public health officials must be aware of the risks and take action to screen patients and educate them on how to prevent or manage CKD. Exercise lowers blood glucose and blood pressure and can prevent CKD. Smartwatches can be used by patients and monitored by healthcare providers to adjust physical activity, which can help stop or slow the progression of CKD.

Human Disturbance and Foraging Behavior of Aleutian Geese

Molly Smialkowski, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

Interested in the effect of human presence on foraging behavior of geese, I conducted an observational study of Aleutian geese where I compared their behavior between two sites. Individual geese were chosen at random and observed for 5 minutes as average sound in decibels and human count was recorded. During this period the behaviors displayed were also recorded. The analysis outcome highlights the impact that human presence has on the behavior of Aleutian geese.

Humboldt Forensics: Lumberjack Speech and Debate 1926 - 2025

Aaron Donaldson, Communication, Faculty

College of Arts, Humanities & Social Sciences

A visual representation of the nearly 100 years of Intercollegiate Speech and Debate at Cal Poly Humboldt.

Hypertension in Incarcerated Adults

Jennifer Dreyer, School of Applied Health, Undergraduate Student

College of Professional Studies

The issue of high blood pressure in jails calls for innovative techniques to screen, intervene, and educate about cardiovascular health. There are many patients that arrive under duress, intoxicated, or have pre-existing hypertension. Most do not seek treatment for hypertension due to a lack of obvious symptoms. If a patient is found to be hypertensive, both pharmacological and non-pharmacological interventions must be implemented. It is important to distinguish individual risk factors and social needs to develop patient-centered care plans. High blood pressure management is a definitively complex issue in correctional healthcare, especially for those who experience health inequity.

Identifying Optimal Temperature Ranges that Support Juvenile Chinook Salmon (Oncorhynchus tshawytscha) Growth within the Klamath Basin

Isabelle Shirah, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This project looks at yearly temperature ranges and growth metrics for fish sampled at three sites along the Klamath basin.

Improving Cardiac Arrest Outcomes in Critical Access Emergency Departments Using the LUCAS Mechanical Compression Device

Casey Vitali, School of Applied Health, Undergraduate Student

College of Professional Studies

This quality improvement project, guided by the Iowa Model of Evidence-Based Practice, examines the potential impact of implementing the LUCAS mechanical chest compression device in rural hospitals. High mortality rates from cardiac arrest, partly due to inconsistent manual CPR and staffing limitations, have led to a review of the evidence supporting mechanical CPR. Proposed interventions include individual training, department-wide integration, and the development of institutional policies. The anticipated outcomes are increased rates of return of spontaneous circulation (ROSC), improved discharge survival rates, and enhanced staff competency in providing high-quality resuscitation.

James' Fabulous Mobile Dog Food Pantry: A Grassroots Initiative!

James Brother, Social Work, Graduate Student

College of Arts, Humanities & Social Sciences

I developed a mobile dog food pantry to meet the needs of unsheltered pets across Humboldt County. Using donations from various sources and implementing similar models used by local nonprofits, I developed access to pet food in areas with an unmet need.

La vida en el Centro del Pueblo

Brigitte Vega, College Corps, Undergraduate Student

Humboldt College Corps

This year I was able to work with Centro del Pueblo, a non-profit organization which helps its community members through providing a space for the community to garden. Centro del Pueblo also supports its latino community by advocating and providing any type of support. During my time at Centro del Pueblo, I was able to meet many new people. I was excited to be able to work alongside other latinos. This especially meant a lot to me due to the change of environment I experienced coming from Los Angeles. As a part of the organization helping out in the garden became essential to being fully involved with the people.

Light and Dark Assay Comparison of Selected Strains of Anabaena Sensory Rhodopsin

Miles Guillot, Chemistry, Undergraduate Student;
Riley Webb, Chemistry, Undergraduate Student;
Andrew Jenkins-Cruz, Chemistry, Undergraduate Student;
Jenny Cappuccio, Chemistry, Faculty

College of Natural Resources & Sciences

Anabaena Sensory Rhodopsin (ASR) is a retinal containing membrane protein from the cyanobacteria, Anabaena (Nostoc) PCC 7120. The ASR protein undergoes a conformational change upon absorption of orange light, which causes the all-trans-retinal to be converted to 13-cis retinal and the release of the associated transducer protein (ASRT). In order to facilitate future nanolipoprotein studies we examined the efficacy of the production of ASR in several selected recombinant strains of E. Coli through a light and dark spetrophotometric analysis of the purified ASR protein.

Local Bat Activity in an Urban Context

BreeLynn Butler, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

Several bat species can be observed in Humboldt County, including the Mexican free-tailed bat (Tadarida brasiliensis), hoary bat (Lasiurus cinereus), and big brown bat (Eptesicus fuscus). The objectives of this study were to investigate what bat species occur on campus and how variables such as artificial light, weather, and lunar phase might influence bat activity. Ultrasonic acoustic recorders were deployed on the Cal Poly Humboldt campus to capture recordings of bat vocalizations. Additional data from the Arcata Community Forest during a previous year was used to compare the detected species in the forest in Spring 2019 to the detected species on campus in Spring 2025.

Look Both Ways: Reflections from a Future Teacher

Kaelyn Trapsi, College Corps, Undergraduate Student

Humboldt College Corps

Over the past two years I have had the privilege of working in high school environments with students from all walks of life. To sweeten the deal, they were high schools in two different countries. Through College Corps I have been able to work with students at Six Rivers Charter High School for the past two academic years. While helping in classes across many different subjects and electives, I have found ways to connect to students in a way that I appreciated teachers connecting to me when I was in high school. Through an international service learning program to the Philippines, I spent my spring breaks in my ancestral land, not only learning about local history, but also teaching.

Making Sense of Dyspraxic Senses using Exercise, the Effects of Bodyweight Exercises on Proprioception in Individuals with Developmental Coordination Disorder

Evan Jackson, School of Applied Health, Undergraduate Student

College of Professional Studies

People with Developmental Coordination Disorder (DCD) have poor motor coordination which interferes with daily activities of living. One potential reason for the impairment of motor skills that people with DCD have is a decreased sense of proprioception. Proprioception is the sense of where your body is in space and where body parts are in relation to one another. Exercise can increase proprioception. The purpose of this project is to investigate the effects of bodyweight exercise (BWE) on proprioception in people with DCD. BWE have been found to increase proprioception, static and dynamic balance, and motor function.

Male Grouping Behavior in Giant Chacoan peccary

Finley Gralian, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

A behavioral observation of captive male Chacoan peccaries at Sequoia Park Zoo to identify whether the males group by age, genetic relatedness, or personality.

Map of Low and No-Cost Outdoor Recreation Near Cal Poly Humboldt

Teddy Goyette, School of Applied Health, Undergraduate Student

College of Professional Studies

This project was part of a senior seminar course credit in pursuit of a Recreation Administration degree, and stemmed from a deep devotion and love of outdoor recreation. With a core focus around financial accessiblity and engagement with local outdoor recreation, I wanted to create a visually appealing and readily available map displaying these locations in relativity to the Cal Poly Humboldt campus. All locations allow students, visitors, and community members to engage with nature-based activities without the burden of high costs or extensive travel. This project not only reflects my passion for equitable outdoor access but also represents a personal and professional growth experience.

Measuring Success of Adaptive Management of European Soaring Birds

Nick Salgado-Stanley, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

While there has been an expansion of investment into renewable energy sources, less research has emerged concerning how to balance the economic benefit and conservation costs of new developments. One of the most economically productive wind developments in Europe rests to the north of the Strait of Gibraltar, in Tarifa, Spain. This is also one of the largest annual migration points for migratory birds traveling between Africa and Europe. Using historical data of bird collisions and employee reports of turbine stops, this study investigates the success of human observers protocol in preventing avian fatalities across a decade of migration seasons.

Modeling Peak Photosynthesis in The Great Smoky Mountains

Crystal Diaz, Environmental Science & Management, Undergraduate Student

College of Natural Resources & Sciences

This study examines how climate change is affecting plant phenology—the timing of seasonal growth—in the Great Smoky Mountains (GSM), a deciduous forest located between North Carolina and Tennessee. The research focuses on how variations in spring temperature and winter precipitation influence the timing of peak vegetation growth, measured using the Green Chromatic Coordinate (GCC). GCC is a spectral index that tracks the greenness of vegetation from RGB images, indicating leaf development and peak photosynthesis. Using data from the National Ecological Observatory Network (NEON), the project aims to predict when peak GCC occurs each year.

Moonlights Effect on Mesopredators Use of Trails in the Arcata Community Forest

Miranda Jones, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

A camera trap study of mesopredator trail use in relation to moonlight in the Arcata Community Forest.

Morning Fuel: How Breakfast Timing and Composition Influence Cognitive Performance and Critical Thinking in College Students

Tyler Ruys, School of Applied Health, Undergraduate Student

College of Natural Resources & Sciences

This project explores how the timing and nutritional content of breakfast impacts cognitive performance in college students, with a focus on critical thinking and memory. Findings suggest that eating a balanced, protein-rich breakfast within 1–2 hours of waking significantly enhances mental clarity and task performance.

Native Bee Diversity and Floral Host Preferences

Annette Moulay, Environmental Studies, Undergraduate Student

College of Arts, Humanities & Social Sciences

Native bees provide crucial and efficient pollination services (Kremin, 2002). However, habitat fragmentation due to urban sprawl can contribute to native bee biodiversity loss (Hung, 2017). The College of the Canyons Buzz team used native bee diversity as a proxy for biodiversity and conducted research on native bee diversity on both of our college facilities and at nearby locations from April 2022 through July 2024. 213 bees across 5 families and 18 genera were collected from the Valencia campus, and floral hosts were documented. The goal was to attain an initial Shannon's H diversity Index for the Valencia campus with a plan to enrich the campus habitat to attract more diversity.

Nectar Sweetness Preference in Anna's Hummingbird (Calypte Anna)

Jeff Gartner, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

An investigation into the foraging preferences in Anna's Hummingbird

Nourishing Communities, One Meal at a Time

Petrita Rodriguez, College Corps, Undergraduate Student;
Rah Camacho Ruiz, College Corps, Undergraduate Student;
Hanna Valentin, College Corps, Undergraduate Student;
Ulises Godinez, College Corps, Undergraduate Student

Humboldt College Corps

Food banks around the country are working to alleviate hunger and improve food security for low-income families, seniors, and children through distribution programs and nutrition education. This poster explores the vital role that food banks play in our community and examines how federal budget cuts - especially to SNAP and TEFAP - threaten its ability to serve those in need. By highlighting both research and community data, this project underscores the urgent need to support local food systems and advocate for sustainable food assistance programs.

Nourishing Community Health

Levit Cantu, Biological Sciences, Undergraduate Student

College of Natural Resources & Sciences

Open Door Health Centers is a nonprofit community clinic that provides affordable, accessible healthcare to underserved populations. As a College Corps Fellow, I work with the Member Services department, specifically supporting gardens and food resources. My role focuses on increasing access to fresh, healthy food through community garden initiatives and resource navigation. This experience has allowed me to support food security efforts while gaining insight into the intersection of health, nutrition, and community service.

Novel Tests of Gravity Under 50 Microns

Abby Keltz, Physics & Astronomy, Undergraduate Student

College of Natural Resources & Sciences

Attempts to unify the Standard Model and General Relativity often include features that violate the Weak Equivalence Principle (WEP) and/or the gravitational Inverse-Square Law (ISL). A violation would question our understanding of gravity. To further understand this, undergraduate researchers and faculty at Humboldt are experimenting to measure gravitational interactions below 50 microns. The experiment uses a composition dipole torsion pendulum next to an oscillating mass. This creates torque on the pendulum, the magnitude of which may provide evidence for deviations in the WEP or ISL.

Nowhere 2 Go Humboldt

Jasmine Guerra, Social Work, Graduate Student

College of Professional Studies

Nowhere 2 Go Humboldt is a multi-media storytelling project which interviews and photographs people who are criminalized and displaced in Humboldt County.

Plant Traits Vary Across Microhabitats Under Solar Microgrids on Coastal Grasslands

Logan Holey, Forestry, Fire & Rangeland Management, Undergraduate Student

College of Natural Resources & Sciences

The development of photovoltaic systems is increasing with growing demand for clean energy. Plant functional traits can be used to understand what plants are establishing in different microhabitats because traits respond to environmental constraints and fluctuations. We sampled three solar microgrids in coastal grasslands in Humboldt County for plant community composition and leaf traits. We found that plant traits varied by microhabitat indicating that microgrids apply an environmental filter in plant community assembly. Results from this study can be used to inform plant selection for habitat enhancement or restoration.

Plethodontid Salamander Microhabitat Selection

Freya Prissberg, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

My research is done on Ensatina and California slender salamander microhabitat selection in the Arcata Community Forest. Soil moisture, canopy cover, soil temperature, cover object length/width, foliage cover and salamander length and weight were all recorded. This data was used to determine if Ensatina and California slender salamanders show microhabitat selection for certain soil temperature, soil moisture, canopy cover or foliage cover.

Potawot Community Garden Combating Malnutrition

Mariyah Weldy, Biological Sciences, Undergraduate Student

College of Natural Resources & Sciences

Research: The provision of organic produce to local community members via the Potawot garden

Potawot Community Garden: Moving Beyond Land Acknowledgements

Chrys Furrer, Undergraduate Student

Humboldt College Corps

Potawot Community Garden serves as an exemplary model of the environmental and social health impacts of returning Indigenous land to Indigenous hands. The College Corps program, with Potawot as a community partner, gives student fellows the opportunities to serve in support of Potawot's mission of enhancing Indigenous food sovereignty while mitigating food insecurity, restoring the land, and supporting the cultural healing of Indigenous community members as well as the broader community. This project invites readers to take action through volunteer involvement with organizations such as Potawot, making monetary donations to the Wiyot tribe, and advocating for Indigenous land rematriation.

Precision Measurement of the Universal Gravitational Constant

Frederick Kuster-Tabares, Physics & Astronomy, Undergraduate Student

College of Natural Resources & Sciences

In cooperation with Indiana University (formerly IUPUI), the Cal Poly Humboldt (formerly Humboldt State University) Gravity Lab is undertaking a project to more accurately measure the value of the Universal Gravitational Constant in terms of SI base units. Gravitational modifications to the torque on the pendulum will be obtained via two methods through sequential experiments with a common apparatus, with the goal to provide a window into the cause of previous discrepancies between the two methods of measurement, resulting in a more accurate determined value for G.

Preliminary Lupinus Nipomensis Surveys Convey Varying Plant Vigor Across Grazing Treatments

Trinity Edwards, Forestry, Fire & Rangeland Management, Undergraduate Student;
Wendy Kornberg, Forestry, Fire & Rangeland Management, Undergraduate Student

College of Natural Resources & Sciences

Lupinus nipomensis (Nipomo Lupine) is an endangered endemic species to the Nipomo-Guadalupe Dunes in San Luis Obispo County, California. Scientists have been researching this species for many years to better understand it. Ehrharta calycina (Veldt Grass) is an introduced perennial grass species that outcompetes Nipomo Lupine. Various groups have tried to aid Nipomo Lupine in its survival by manual pulling and herbicide treatment of Veldt grass. We are beginning to investigate grazing as an alternative management tool, which will hopefully prove to better aid this species in its survival.

Preparation and Evaluation of Polylactic Acid-Quinoa Composite Films

Rafael Bernard, Chemistry, Undergraduate Student;
Priscilla Gamez, Chemistry, Undergraduate Student;
David Schmitz;
Frank Cappuccio, Chemistry, Faculty;
Jenny Cappuccio, Chemistry, Faculty;
Christopher Harmon, Chemistry, Faculty

College of Natural Resources & Sciences

Biodegradable composites were developed by incorporating quinoa (Chenopodium quinoa Wild.) into polylactic acid (PLA), with varying ratios. The resulting films were characterized using melting points, bomb calorimetry, infrared (IR) spectroscopy, water uptake, water permeability, water contact angle, antioxidant assay and scanning electron microscopy (SEM). The incorporation of differing quantities of quinoa fiber affected the properties of the composites. These initial studies show quinoa/PLA composites have potential in the development of bio-renewable and biodegradable materials for active food packaging.

Preventing Falls in Hospitalized Elderly Patients

Rory Boeck, School of Applied Health, Undergraduate Student

College of Professional Studies

Falls among hospitalized elderly patients is a significant safety issue, with up to one million falls occurring annually in U.S. hospitals. With about 30% of the falls resulting in injury leading to increased hospital stays and increased healthcare costs. This project aimed to reduce fall rates on a medical-surgical unit by 25% over six months using individual interventions based on the Plan-Do-Study-Act (PDSA) framework.

Pyromania From a Forensic Psychology Perspective

Claudia Cress, Psychology, Undergraduate Student;
Olivia Beck, Psychology, Undergraduate Student;
Nix Helms, Psychology, Undergraduate Student;
Kaylee Walrath, Psychology, Undergraduate Student

College of Arts, Humanities & Social Sciences

Our research project is about pyromania from the perspective of forensic psychology. Ranging from the diagnosis to what could lead to diagnosis. We also talk about how there needs to be early intervention programs that can prevent those who suffer from pyromania from ending up in prisons or other facilities.

Queer Humboldt: Representation through Service

Galena Berger, College Corps, Undergraduate Student;
Angela Shumard, College Corps, Undergraduate Student;
Madison Verba, College Corps, Undergraduate Student

Humboldt College Corps

Queer Humboldt is very important during this time of struggle for LGBTQ+ folks; providing mental health services at low charge improves the lives of queer community members and the organization provides a great place to build community. The sense of community, joy, and belonging that this organization aims to foster is such a powerful form of resistance, especially in face of today's increasingly turbulent political climate.

Recess Club: Fostering Student Connection Through Physical Activity and Social Emotional Learning

Sydney Tabbert, Education, Undergraduate Student

College of Professional Studies

This year I've interned at Alder Grove Charter School, an independent study school that provides homeschooled students with individualized education. Although, due to the limited on-campus presence and the absence of shared recreational spaces, students have found it more difficult to connect with their peers. Recognizing the lack of opportunities for physical play and social interaction, I developed The Recess Club: a program designed to

engage students in physical activity, social-emotional learning, and community building. Informed by surveys and student interest, my goal was to create a consistent, inclusive space where students and their families could connect while staying active.

Recreation Administration Alumni Spotlight

Keegan Henry, Undergraduate Student

College of Professional Studies

This project aims to highlight several alumni of the Recreation Administration program at Cal Poly Humboldt. These interviews will introduce the alumni along with their history at Cal Poly Humboldt and their career experience. The interviews will be made into short form videos with use of AI for the imagery. The videos are targeted at prospective students along with current students and members of the community. The alumni careers range in order to showcase the variety in the field of Recreation. Once complete, these videos will be found on the Recreation Admin YouTube channel.

Redwood Community Action Agency

Hannah Siemer, College Corps, Undergraduate Student**;**
Matthew Coachman, Wildlife, Undergraduate Student

Humboldt College Corps,
College of Natural Resources & Sciences

Our ideaFest poster is about our College Corps site. We volunteered with three other fellows to maintain the garden. We have been giving our time here since August and have helped hundreds since then. Some of the things we learned about are the many gardening and carpentry tools. This has helped us to remove a plethora of invasive species. We have also built fences and done trail maintenance work. We partnered with local businesses to obtain hundreds of seeds to donate. This helped our community start more gardens around town. Overall, our site's main mission is to give back to the community one seed at a time.

Remote Sensing for Forest Health and Wildfire Mitigation

Jonathan Juarez, Environmental Science & Management, Undergraduate Student

College of Natural Resources & Sciences

Forest ecosystems are vital for maintaining biodiversity, stabilizing soil, and regulating water cycles. However, frequent wildfires, extended droughts, and declining vegetation health are placing these ecosystems at risk. This research will explore how remote sensing tools and available data such as soil moisture, vegetation indices, and phenology can be used to assess forest health and mitigate wildfire risks.

Resistance Training on Self-Concept to Improve Gender Affirmation and Community Belonging LGBTQ+ Individuals

Lauren Bankerd, School of Applied Health, Undergraduate Student

College of Professional Studies

Determining the effects of resistance training tailored to LGBTQ+ individuals with the purpose of increasing gender congruence, self-concept, and community belonging.

Restoration and Education of the Dunes through Kids Ocean Day

Melissa Flores, College Corps, Undergraduate Student

Humboldt College Corps

My work with Friends of the Dunes focuses on the education and restoration of the plants and wildlife who live at Ma-le'l Dunes. Schools across Humboldt County take guided walks with group leaders learning about the dunes. Fieldtrips took place every Friday where kids got to explore the different types of ecosystems that the dunes has to offer.

Revisiting the Fishes of the Beartooth Butte Formation

Patience Brennan, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This research aims to address the species composition of Devonian fossil fish species from a formation in Wyoming called the Beartooth Butte. This location has not received much, if any, attention from paleoichthyologists since the fossils within the formation were originally described in 1932. These fishes were overlooked for botanical fossils, and historically yielded fragmentary material. However, specimens from a Cal Poly Humboldt excavation in 2017, not only include the second articulated fossil from the formation, but also the first 3D fossil recorded.

Scavenger Interactions with Marine Mammal Carcasses along Humboldt County Coast

Keith Erickson, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

My research looked into how scavengers are using marine mammal carcasses and what is affecting this relationship. I worked with the Marine Mammal Education and Research Program to obtain carcasses ranging from Crescent City down to Cape Mendocino. I used game cameras placed on the beaches to monitor scavenging activity, responding to a total of 9 California Sea Lion and 2 Harbor Seal carcasses from October to April.

Selective Logging Impacts on Local Mammals: Evidence of Ecological Stability

Zach Case, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This study aimed to investigate the impact of selective harvest logging on mammal diversity and abundance in the Jacoby Creek Forest Tract in Humboldt County, California. The study compared two forest stands: one managed with selective harvest (recently harvested in October 2024) and one unmanaged (a 40-year-old even-aged forest). The goal was to assess how the recent selective harvest affects mammal diversity and abundance, and whether mammals are selective for certain habitat characteristics such as cover availability, understory vegetation, and forest structure.

Senior Project, Wildflower Rave: Spring Into the Arts

Lavender Deng, School of Applied Health, Undergraduate Student

College of Professional Studies

This event organized in collaboration with the Student Activity Center brought a platform for student and community members to share their passion and craft. DJs coming from the community and students played 5 hours of electronic music on a 360 stage, student artists showcased their painting skills live, clubs, and organizations from both on and off campus shared helpful harm reduction resources, as well as tips for safety to spread awareness within the rave culture, and merchandise. This event being free and on campus made it accessible for students who enjoy electronic music, art, or are looking for a leisurely activity to participate in on a Thursday evening.

Serving as a Classroom Aid at McKinleyville High School

Lorenzo Almond, College Corps, Undergraduate Student

Humboldt College Corps

My community partner is the Northern Humboldt Unified School District. Specifically, my job placement was at McKinleyville High School. My role there is to help out in a few specific English classrooms, essentially as a classroom aid. I move between three different classrooms throughout the week and sit in through the entirety of the classes, and if at any point any of the students or the teachers need assistance in anything, I am there to help. Some examples of things I have done for students are helping with assignments, grammar, MLA format help, brainstorming, writing assistance, etc. Examples of what I have done for instructors are homework grading, running errands, stapling, organizing, helping silence roudy teens, and anything related. I have learned a lot while at McKinleyville High. I have gained experience in fields that may assist my future career, and I have learned about the generation that precedes me. I am very grateful for this experience.

Shorebird Displacement in Response to Recreational Human Disturbance along the Humboldt County Coastline

Cindy Chavez, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This project focuses on the interaction between recreational use of local coastal beaches and shorebird disturbance patterns. Flight initiation distances and alert behaviors in relation to the proximity of humans, dogs, or other natural disturbances are observed to approximate recreational impact on shorebird foraging.

Shorebird Vigilance from Biological Influences

Ryan Abdilla, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

My research project involves researching two different species of wild shorebirds, Marbled Godwits and Eurasian Whimbrels, and studying which biological factors like predator abundance, tide height, foraging rates, and time of day play a role in vigilant behavior in these two shorebird species. We are looking to see how these rates and their factors differ between 5 different areas across the Arcata Marsh and if there are noteworthy changes in any of the listed factors between the two species and which ones play the biggest role in shorebird vigilance and which do not.

Should MDMA Be Used as Treatment for Psychological Disorders?

Ashley Erbeck, Psychology, Undergraduate Student;
Claire Gurries, Psychology, Undergraduate Student;
Derek Ray, Psychology, Undergraduate Student;
Emily Giandana, Psychology, Undergraduate Student;
Adam Ibarra, Philosophy, Undergraduate Student

College of Arts, Humanities & Social Sciences, College of Professional Studies

Our presentation is on whether or not MDMA should be used as a therapeutic tool in psychological disorders. If so, are they beneficial? Are they dangerous and pose potential risks, etc.? We compiled 15 separate articles to produce our findings and conclusions.

Silent Struggles: Addressing Postpartum Depression in Rural Public Health

Jamie Gormly, School of Applied Health, Undergraduate Student

College of Professional Studies

Postpartum depression (PPD) is the most common mental health condition affecting birthing persons and is more prevalent in rural communities with limited behavioral health services. This quality improvement project uses the Iowa Model of Evidence-Based Practice to reduce the impact of PPD in rural public health communities. Interventions include integrating social support into treatment plans, expanding home visiting programs, and implementing universal screening. Evaluation measures include

increased service engagement and overall symptom reduction. Target goals include a ≥20% decrease in depressive symptoms and a ≥25% increase in screenings among Medicaid-insured individuals.

Stream Flow Rate on the Jolly Giant Creek and the Strawberry Creek

Arthur Frye, Department of Geography, Environment & Spatial Analysis, Undergraduate Student

College of Natural Resources & Sciences

I decided to do scientific studies on the stream flow rate as well as water depth, width, and terrace height on two separate creeks in Humboldt county. The first creek is called the Jolly Giant creek which is located directly behind Founders Hall on campus, and the second creek that I decided to do my research on is the Strawberry creek, which is located directly behind my house. I used a measuring rod and measuring tape for my measurements, as well as three distinct objects to float down the creek which was a lemon, a kiwi, and a lacrosse ball.

Strength and Agility Training Could Reduce the Likelihood of ACL Injuries in Women's Soccer

Nevaeh Batrez, School of Applied Health, Undergraduate Student

College of Professional Studies

ACL injuries are on the rise in women's soccer. I looked into determining the effect of strength and agility training on ACL injury prevention in female players.

Study of the Dietary Preferences of Collared-Doves Within an Expanded Range of Choices

Daniel Francois, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

The Eurasian collared-dove (Streptopelia decaocto) is an invasive columbiform that has spread across the continent of North America in under thirty years since its first introduction (Smith 1987, Romagosa and McEneaney 1999). Since then, it has competed with and dominated a variety of native passerines (Romagosa and McEneaney 1999, Romagosa and Labisky 2000). Our goal was to further discover its feeding habits and dietary preferences in order to gain a better understanding of its impact on native birds such as the mourning dove (Zenaida macroura). We hypothesized that collared-doves would prefer corn over millet seeds, and millet seeds over oats and sunflower seeds.

Temporal Habitat Usage of Columbian Black-tailed Deer Across Urban-wildland Interfaces in Arcata, California

Jaret Cross, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

In this study, we used motion-sensing camera traps to track deer's habitat use in and out of urban areas, measuring key explanatory abiotic factors influencing their occurrence. The study took place in the public parks and community forest in Arcata, California.

Temporal Patterns and Anatomical Locations of Hamstring Injuries in Track and Field Athletes: Identifying the High-Risk Phases of Sprinting Related Hamstring Injuries in Track and Field Athletes

Lucas Garin, School of Applied Health, Undergraduate Student

College of Professional Studies

Terror at Home: A 10 Minute Play Exploring History in an Intersectional Method

Starsong Brittain, Undergraduate Student

College of Professional Studies

This original 10 minute play was inspired by historical research on the early decades of the Soviet Union. Specifically, the "Great Terror" of the 1930s. The play tells experiences of real people but is portrayed as a nature documentary.

The Baby Stress Paradigm: A Preliminary Analysis of Stress Responses to Baby Doll Crying

Enza Zeppegno-Mendonca, Psychology, Undergraduate Student;
Christianne Ablan, Psychology, Undergraduate Student

College of Arts, Humanities & Social Sciences

Stress-inducing paradigms in research allow for a comprehensive understanding of the physiological and psychological effects of stress. Research consistently shows that infant crying triggers negative emotional responses, including heightened stress and negative affect in parents and women. Thus, we seek to develop a stress-inducing paradigm that uses baby crying sounds (with or without baby doll cues) to elicit both stress and cortisol responses in a broader population. To support this framework, we conduct a preliminary analysis comparing the self-report perceived stress responses before and after exposer to a baby doll crying.

The Betty Kwan Chinn Foundation

Dillon Hurley, College Corps, Undergraduate Student

Humboldt College Corps

The Betty Kwan Chinn Homeless Foundation is a non-profit outreach organization based in Eureka, California. The site provides medical respite, a women's shelter, family shelter, Betty's Blue Angel Village, and a Day Center. I joined people at the foundation who work long, hard hours to get to know each client personally and embrace the unhoused as equal, valuable members of our community.

The Case for Ungraded

Alexandria Rumbel, Education, Graduate Student

College of Professional Studies

We use grades to categorize student achievement and provide feedback, but is this really the best way to foster accountability, prompt meta-cognition, and instill students with an intrinsic love of learning? Despite the near ubiquitous acceptance of grading as a standard feature of secondary and post-secondary education, educational philosophers and educational practitioners have had reservations about grading–practically since its inception. If grading does not lead to the best outcomes for our students, what shall we do instead? "The Case for Ungraded" is a poster created and presented by Alexandria Rumbel, a graduate student in the Master's of Education program at Cal Poly Humboldt.

The Clarke Museum

Josue Bermudez, College Corps, Undergraduate Student

Humboldt College Corps

This year, I had the opportunity to work with the Clarke Historical Museum, one of the largest in Humboldt County. I helped set up exhibits, worked on projects, and participated in community events. Through this, I learned how a small community preserves and shares its history. Balancing this with college was challenging, but the support from Josh and the Clarke staff made it manageable. This experience deepened my appreciation for public history and inspired me to pursue future work that connects education, culture, and community engagement.

The Effect of Dynamic Balance & Muscular Strength on Fall Prevention in the Elderly

Tatum Carlin, School of Applied Health, Undergraduate Student

College of Professional Studies

Falls are a major risk for older adults, leading to injury and loss of independence. This research explores how age-related declines in dynamic balance and muscular strength increase fall risk. Evidence shows that combining balance and strength training significantly reduces falls, offering an effective strategy to support mobility and safety in the aging population.

The Effectiveness of Artificial Intelligence in Fall Risk Assessment for Older Adults

Ian Church, School of Applied Health, Undergraduate Student

College of Professional Studies

Falls in older adults are a leading cause of injury, hospitalization, and reduced independence, with significant healthcare costs and impacts on quality of life. Traditional fall risk assessments (e.g., clinical tests) are time-consuming, subjective, and may lack predictive accuracy. Advances in wearable sensors, AI, and machine learning offer real-time, objective, and scalable solutions for fall risk prediction and prevention. The purpose of this review is to synthesize current evidence on Artificial Intelligence-driven fall risk assessment tools and highlight gaps for future research.

The Effects of Aerobic Exercise on Preventing Ischemic Strokes in Postmenopausal Women

Riley Shopp, School of Applied Health, Undergraduate Student

College of Professional Studies

This research project examines the effects of aerobic exercise in reducing the risk of ischemic strokes among postmenopausal women. Across several studies, consistent moderate-intensity cardiovascular activity—such as walking, cycling, and swimming—was associated with improved blood pressure, lipid profiles, and overall heart health. Findings support aerobic exercise as an effective preventive strategy.

The Effects of an External Focus of Attention on Reaction Time and Execution of the 100m Dash

Ryan Castro, Undergraduate Student

College of Professional Studies

This research project investigates how an external focus of attention influences both reaction time and overall performance in the 100-meter dash. By analyzing and synthesizing findings from recent peer-reviewed studies, the project aims to clarify whether directing an athlete's attention toward external outcomes, rather than internal body mechanics, leads to more effective sprint execution and faster start times. The goal is to provide practical insights that can inform coaching strategies and improve competitive sprint performance.

The Effects of Microalbuminuria Testing for Providing Recommendations for Potential Treatments in Diabetic Patients with Kidney Damage

Danielle Lositzki, School of Applied Health, Undergraduate Student

College of Professional Studies

Microalbuminuria testing is crucial for early detection of kidney damage in diabetic patients, as it identifies levels of albumin in the urine, signaling potential nephropathy. Early identification enables timely interventions such as lifestyle modifications, blood sugar control, and the use of medications like ACE inhibitors or ARBs to slow disease progression and protect kidney function. Regular monitoring of microalbuminuria helps guide treatment adjustments, improving patient outcomes and preventing further kidney deterioration.

The Effects of Outdoor Physical Therapy Sessions on Depression and Overall Recovery Rate in Elderly Patients

Elizabeth Cameron, School of Applied Health, Undergraduate Student

College of Professional Studies

This research explores how integrating outdoor environments into elderly rehabilitation programs may improve patient outcomes. Traditional rehabilitation often occurs in clinical indoor settings, but growing evidence suggests natural environments can enhance physical recovery and mental health. This study investigates whether outdoor therapy positively influences mobility, endurance, mood, and stress levels in elderly patients, aiming to highlight the potential for nature-based rehabilitation practices.

The Effects of Social Media Usage on Mental Health in Adolescents and Young Adults

Melanie Aguilar, Psychology, Undergraduate Student;
Hannah Small, Psychology, Undergraduate Student;
Eddie Bacon, Psychology, Undergraduate Student

College of Professional Studies

This research explores the effects of social media and smartphone usage on the mental health of adolescents and young adults. It examines how factors such as screen time, social comparison, cyberbullying, and digital connectivity influence psychological well-being, including anxiety, depression, self-esteem, and sleep quality. This study aims to provide insights into both the risks and potential benefits of digital engagement among youth, contributing to strategies for healthier technology use.

The Gut Microbiome and the Influences on Emotional State

Sophia Hummel, Psychology, Undergraduate Student;
Sophia VanSlambrouck, Psychology, Undergraduate Student;
Payton Tausig, Psychology, Undergraduate Student;
Nathan Aguilar, Psychology, Undergraduate Student;
Angel Roca, School of Applied Health, Undergraduate Student

College of Professional Studies

We reviewed current research articles examining the complex relationship between gut microbiome and mood regulation in people. In order to collect our data, we completed a literature review on this topic. We found that there is a very strong relationship between the gut microbiome and mood in people. We observed mental health factors in relationship to mood such as stress, anxiety, and depression. As a result, worsened gut microbiome led to worsened mood factors. This topic has high importance due to how new the topic and research is, and how it affects human health, leading to future implications of treating gut microbiome issues more efficiently with the new knowledge on the topic.

The Impact of Autistic Traits on Student Evaluations of Professors of Different Genders

Matias Solorzano, Psychology, Graduate Student;
Jim Nguyen, Psychology, Graduate Student;
Phoenix Spoor, Psychology, Graduate Student;
Kauyumari Sanchez, Psychology, Faculty

College of Professional Studies

Instructor evaluations are critical to the tenure process but are known to be biased with respect to gender (e.g. males are rated higher than females) and other identities (e.g. autism). This study aims to address the following question: Are male and female professors evaluated differently by male and female students when the professor's autism identity is revealed compared to not revealed? This research highlights the impact of disclosing or failing to disclose one's autism identity and its impact on student evaluations.

The Impacts of Personal Narratives, Statistics Data, and Images on Attitudes and Actions

Olivia Ortiz, Psychology, Graduate Student;
Shairy Jimenez Delgado, Psychology, Graduate Student;
Miranda Connelly, Psychology, Graduate Student;
Jesse Benefiel, Psychology, Graduate Student;
Kauyumari Sanchez, Psychology, Faculty

College of Professional Studies

Personal narratives are powerful in garnering interest, empathy, and may improve attitudes on issues as compared to statistically oriented information, but have primarily been investigated in text-only formats. Little is known about the effects of visual information on individuals' attitudes. This study aims to investigate the efficacy of presenting data, narrative information, or a combination of information through verbal or visual channels on individuals' attitudes. The implica-

tions of this study enable us to understand the most effective information presentation methods when influencing individuals' attitudes and actions on controversial and emotionally charged topics.

The Importance of Community Service

Luis Reyes, College Corps, Undergraduate Student

Humboldt College Corps

This creative project reflects my two years of service through College Corps and my placement at Veterans Hall in Arcata. The project contains some descriptions and pictures of events that my community partner has been a part of throughout the year. Those events include North Coast Stand Down, Veterans Day at McKay, Haunt the Hall, Easter, and Sunday Brunch. Through this project, I reflect on my time at the Veterans Hall and my experience with College Corps, as well as describe the importance and benefits of providing community service. I end with a conclusion of how a program like College Corps is beneficial towards community outreach and how the program has benefited me during my time here at Cal Poly Humboldt.

The Redwood Curtain: How Humboldt's Geography Affects Junior College Athletics

Nathan Jensen, Department of Geography, Environment & Spatial Analysis, Undergraduate Student

College of Arts, Humanities & Social Sciences

Due to Humboldt County's geographical location, it is uniquely isolated from the rest of the country. This isolation can make recruiting new athletes for the College of the Redwoods Cross Country and Track and Field teams difficult. This research project will investigate which factors in Humboldt County lead to difficulty in recruiting, in the hope of gaining a better understanding of this area. My goal is to study and analyze what aspects of the area may impact the recruitment and retention of Track and Field athletes at CR.

The Sound of Coastal Grove

Jaelyn Flores, College Corps, Undergraduate Student;
Makena Martin, College Corps, Undergraduate Student;
Gia Gruenhagen, College Corps, Undergraduate Student;
Heather Geralde, College Corps, Undergraduate Student

Humboldt College Corps

For our creative project, the Coastal Grove Charter School fellows presented a 2025 Pitchfest proposal in collaboration with Coastal Grove, the Cal Poly Humboldt Music Department, and the broader school community. Our pitch aimed to support a more equitable and engaging learning environment for students in the music program. We proposed acquiring additional classroom supplies, organizing a dedicated classroom setup day, and fostering community involvement to help shape the future of music education at the school. The Coastal Grove staff and administration expressed deep gratitude for our support, noting how these efforts meaningfully enhance the music program and benefit the community.

Touch the Tides

Ashley Bowers, Undergraduate Student

College of Professional Studies

Touch the Tides is a free educational seminar developed to educate people on tidepool safety, etiquette, locations, and how to use them, rooted in connecting people with nature and making recreation accessible for all people.

Toward Automated Thesis Classification: Open-Sourced AI Foundations for Libraries

Courtney Rowe, Computer Science, Undergraduate Student

Library

University libraries often face challenges in making student research more accessible. Manual tagging of theses is time-consuming, while commercial AI tools can be costly and limit institutional control. This project, in collaboration with the Cal Poly Humboldt Press and the TIDE computing cluster, fine-tuned an open-source AI model, ModernBERT, to automatically classify theses using the UN Sustainable Development Goals. The model performed well, demonstrating a promising, cost-effective approach for libraries to enhance research discoverability while retaining ownership and flexibility.

Using Deep Learning Models to Map Homeless Encampments in Eureka, CA

Skyler Shipman, Environmental Science & Management, Undergraduate Student;
Myles Chrispeels, Department of Geography, Environment & Spatial Analysis, Undergraduate Student;
Ken Stewart, Department of Geography, Environment & Spatial Analysis, Undergraduate Student;
Nicholas Perdue, Department of Geography, Environment & Spatial Analysis, Faculty

College of Arts, Humanities & Social Sciences

This project explores the use of deep learning models to map homeless encampments in Eureka, CA, with a particular focus on areas within flood zones that may potentially impact the coastal ecosystem of Humboldt Bay. The project critically examines the ethical implications of using artificial intelligence in this context, particularly with respect to the privacy and dignity of homeless individuals. The study balances technological advancements in geospatial data analysis with the need for responsible and humane applications of AI, ensuring that the potential environmental impacts of encampments are addressed without stigmatizing vulnerable communities.

Utilizing Interventions to Assist Collegiate Athletes through Sports Injury and Mental Health Adversities

Miguel Farias, School of Applied Health, Undergraduate Student

College of Professional Studies

Utilizing PCR to Test Oysters from the Humboldt Bay for Toxoplasma gondii

Porter Ellis, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

Toxoplasma gondii is an extremely ubiquitous parasite that can be found in most terrestrial species, with the potential to infect marine species as well. T. gondii has been found to encyst in bivalve species across the world, with some cases finding market oysters testing positive. This study tested 22 oysters, 11 from 2 different farms in the Humboldt Bay, for Toxoplasma gondii utilizing Polymerase Chain Reaction and Gel Electrophoresis.

Water Adsorption on Environmental Metal Oxides Determined by the Diffuse Reflectance Infrared Fourier Transform Spectroscopy (DRIFTS) Technique

Rachel Sechan, Chemistry, Undergraduate Student;
Shane McDemos, Chemistry, Undergraduate Student;
Skye Ludwig, Chemistry, Undergraduate Student;
Alden Walkley, Chemistry, Undergraduate Student;
Tobin Thorton, Chemistry, Undergraduate Student;
Chris Harmon, Chemistry, Faculty

College of Natural Resources & Sciences

Clouds are a critical component of the atmosphere, which predominantly cools the planet by scattering solar radiation back to space. Particulate matter (PM) are small solids suspended in the air that can initiate the seeding process for cloud formation, where environmental metal oxides (EMO) are one of the dominate types of PM. This process is directly related to the relative humidity (RH) above the PM surface and how much water it absorbs. PM collects sparingly small molecular layers of water before undergoing bulk scale water uptake. Details of water uptake at this level are still lacking in the literature, and we desire to quantify water uptake on atmospheric PM to enhance climate models.

Water Bears in the Wild: Seeing the Unseen in Moss and Lichen

Marcus Barela, Biological Sciences, Undergraduate Student

College of Natural Resources & Sciences

Water bears—known to science as tardigrades—are found from polar ice caps to tropical jungles, yet only about 90 researchers study them. With so much ground to cover, there's still so much to discover. Here in Humboldt's temperate rainforest, you'd expect documentation, but there's almost none. We set out to catalog the tardigrades of Cal Poly Humboldt, with plans to expand across the county. By studying their morphology, habitats, and behaviors, we hope to uncover new insights, and maybe even new species.

Weather Impacts on Insect and Arthropod Diversity and Abundance

Megan Solimine, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

This project examines the effects of weather on insect and arthropod diversity and abundance in Arcata, California. Data captured was keyed out to taxonomic family, then Jaccard's Index and beta diversity tests were used to identify differences between sites.

What are the Effects of Weight Management Techniques on Female Athletes' Mental Health in Weight-class Sports?

Paige Cato-Stahl, School of Applied Health, Undergraduate Student

College of Professional Studies

This project explored the psychological effects of weight management techniques on female athletes in weight-class sports. Drawing from personal experience in MMA and jiu-jitsu, I conducted a literature review to examine how weight cutting impacts mental health. Findings revealed high rates of anxiety, emotional burnout, disordered eating, and long-term distress. The research emphasizes the need for mental health support, athlete-centered interventions, and policy reform to protect female athletes from the unseen psychological costs of making weight.

What Determines Field Use by Shorebirds?

Samantha Bacon, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

What determines field use by shorebirds? Assessing habitat characteristics of fields used as supratidal feeding habitat by shorebirds.

What Frames A Life?

Marti "McFly" Smith, Undergraduate Student

College of Arts, Humanities & Social Sciences

My dad, Ricky Wayne Fischer, died on September 8th, 2024, after a lifetime struggle with addiction. An estimated 28.9 million Americans had an Alcohol Use Disorder in 2024 (NIAAA, 2024). Families who have a parent with a Substance Abuse Disorder are "characterized by an environment of secrecy, loss, conflict, violence or abuse, emotional chaos, role reversal, and fear." (Lander, 2013). To tackle the wicked problem of addiction, this paper focuses on the psychological, biological, sociological, economic disciplines, and my own primary source of having a parent with a Substance Abuse Disorder. Additionally explored, are the creative disciplines of photography and writing to honor his life.

Wheels of Change: Addressing Transportation Barriers for Native Youth in Eureka

Jessa Gomez, College Corps, Undergraduate Student**;**
Alyssa Huynh, College Corps, Undergraduate Student

Humboldt College Corps

The Northern California Indian Development Council (NCIDC), founded in 1976, is a nonprofit organization. They are dedicated to serving the needs of Native communities across Northern California, around 15,000 clients annually. Our youth-focused initiative aims to highlight the importance of transportation and accessibility in connecting Native youth to The Nest Youth Center and community events. We strive to improve engagement by offering culturally relevant activities that strengthen identity and connection to one another. By fostering leadership and providing essential tools and resources, we aim to empower Native youth to grow, thrive, and become strong leaders within their communities.

Wicked Problems

Sarah Peters Gonzalez, Interdisciplinary Studies, Faculty

Individualized Degree Plan (IDP)

Wicked problems are complex issues that resist straightforward solutions due to their interconnected nature, uncertainty, and ambiguity. These problems defy simple solutions, are shaped by countless variables and often lack clear boundaries. No single discipline holds the key to addressing them. By integrating diverse perspectives, knowledge, and methodologies, students in the Individualized Degree Program (IDP) explored a range of wicked problems, examining them from multiple disciplinary angles, drawing on insights from various fields: science, humanities, and more. The aim of the project is to showcase the power of interdisciplinary approaches in addressing the challenges of our time.

WLDF 495W Senior Project Spring 2025

Justin Packham, Wildlife, Undergraduate Student

College of Natural Resources & Sciences

Particular prey preferences observed from the feeding behavior of captive raptors

Women with Heart: Beating the Odds with Stronger Communities and Stronger Hearts

Sparrow Linderborg, School of Applied Health/Nursing, Undergraduate Student

College of Professional Studies

This project aims to increase CR participation among rural women, women of color, and Native American women in Humboldt County. The Johns Hopkins Evidence-Based Practice Model proposes hybrid and online continuing professional development (CR) programs that are culturally responsive and community-driven. Key interventions include peer mentoring, automatic electronic referrals, and collaboration with tribal and local health leaders. The goal is to reduce access barriers, enhance health equity, and improve cardiovascular outcomes through sustainable, patient-centered care.

Humboldt Sculpture Walk

All Floors • Guided Tours at 12:00 pm & 5:00 pm (meet in Lobby, 1st Floor)

The Cal Poly Humboldt Sculpture Walk will take you on a journey through the Library, with pieces displayed in various locations appropriate for each work. You'll discover an abundance of high-quality art created on our campus. This annual Cal Poly Humboldt Sculpture Walk, presented by the Associated Student Sculptors, showcases the wide variety of artwork produced by the Cal Poly Humboldt Sculpture program. It usually occurs from April to May, concluding with commencement.

Senior Art Show

Art B, Room 101: Reese Bullen Gallery

Guided walks at 2:00 pm, 2:30 pm, 3:00 pm, 3:30 pm (meet in Lobby, 1st Floor)

Held at the Reese Bullen Gallery, this exhibition showcases the achievements of Humboldt's graduating Art majors and minors. It features a broad range of forms and styles, reflecting students' diverse identities and influences, as well as the range of media concentrations - from painting, ceramics, photography, and printmaking to jewelry, sculpture, and media arts - within the Cal Poly Humboldt Art Department.

Dance Performances

2nd Floor, West Windows • 2:00–2:30 pm

The Cal Poly Humboldt Dance Program will showcase a diverse array of works created for both classes and concerts, featuring a range of styles including Danza Azteca, Contemporary, and Jazz.

Musical Performances

1st Floor, Main Lobby • 2:00–4:00 pm

Enjoy music student soloists and small ensembles performing a wide variety of music in the Library Lobby.

Quartet for 4 violins
Andante Tranquillo

Grazyna Bacewicz
(1909-1969)

Cindy Moyer, violin
Andrew Olson, violin
Claire Salmonson, violin
Karen Davy, violin

Suite in G, BWV 1007
Prelude

Johann Sebastian Bach
(1685-1750)

Claire Salmonson, violin

Space Signal

Jacob Cheng
(b.2004)

Fixed Media

Stardust

Hoagy Carmichael
(1899-1981)
arr. Robert Hughes

Musical Performances *continued*

Theme from *Lupin III '80* — Yuji Ohno (b. 1941), arr. unknown

Nate Heron, trombone
Raymond Endert, trombone
Lily Storseth, trombone
Evan Jackson, bass trombone

Serenade
Allegro — Rezso Sugar (1919-1988)

Cindy Moyer, violin
Karen Davy, violin
Silas Selkow, viola

Pause for Marching Lumberjacks Performance Library Steps

Whatever Brings You to the Mountain — Garrick Woods (b. 1983)

Fixed Media

The Offering — Michael Burritt (b. 1962)

Jude Royal, marimba

Untitled Samples — Naeem Alston (b. 2000)

Fixed media

Bolero — Julian Arcas (1832-1882)

Cesar Nunez, guitar

Electric Counterpoint — Steve Reich (b. 1936)
I.
II.

Logan Harriman, electric guitar and laptop

Waltz in a minor, B. 150 — Frederic Chopin (1810-1849)

Katie Ulrick, piano

For Paulo — Lu Cronin (b. 2002)

Fixed Media

Musical Performances *continued*

Prelude in C minor from the Well-Tempered Clavier I
Fugue in d minor from the Well-Tempered Clavier II
Johann Sebastian Bach (1685-1750)
Chara Boasso, piano

Like a Burden Too Heavy
Brian Blume (b. 1985)
Naeem Alston, marimba

Huff
Kieran Edward Specht (b. 1994)
Film Score for
Huff, directed by Caleb B. McCarthy

Sonata No. 11 in B-flat major, op. 22
Allegro con brio
Ludwig van Beethoven (1777-1827)
Bohan Chu, piano

Marching Lumberjacks

Library Entrance • 2:30–3:00 pm

The Marching Lumberjacks are a student run organization and have been so for 57 years. We accept and welcome everyone to join, regardless of musical background. The Marching Lumberjacks travel all throughout California for parades and events, always bringing a fun time to our fans.

Theatre Performances

2nd Floor, West Windows • 3:00–3:30 pm

Join student Hayden Hilscher for a captivating performance featuring two comedic classical monologues, accompanied by a glimpse into their audition journey at KCACTF.

The first piece, from Anton Chekhov's The Cherry Orchard, showcases the governess's poignant reflection on her identity and life's complexities. The second, from William Shakespeare's Twelfth Night, brings Viola's humorous struggle to life as she navigates the complications of disguise and relationships.

Each monologue is approximately one minute long and offers a snapshot of these timeless works, paired with Hayden's own personal insights.

Maker & New Media Showcase

2nd Floor, Room 205: Makerspace • 3:00–4:00 pm

The ideaFest Maker & New Media Showcase highlights a diverse array of projects from students across disciplines, working with a variety of media, including film, crafts or art with maker elements (e.g. knitting or sewing), digital media projects (video, audio, graphics, coding, etc.), 3D models/printed objects, Virtual Reality, Augmented Reality, and other physical and digital projects.

Presentations share the students' process, including their inspiration, research, how-tos, lessons learned, and their maker statements.

The showcase is hosted in and around the Makerspace, which provides space, resources, and support for students to make projects that connect with their coursework, hobbies, and creative self-expression. The Makerspace is also a place for collaboration and social learning, where varied interests and experiences intersect.

Pelican Bay Communication Student Presentations

3rd Floor, Room 317: CTL Classroom • 3:00–5:00 pm

These are the final presentations for the COMM 319W theory and research class from our students at Pelican Bay, a super maximum security prison. The topics will cover social science, rhetoric, persuasion, media, representation, and advocacy. Students will present live via Zoom. There will be time for audience discussion and feedback with these incarcerated scholars.

CIRM Bridges Scholars Lightning Talks

2nd Floor, Room 209: Fishbowl • 3:00–5:00 pm

CIRM Bridges Scholars in our Stem Cell Biology & Regenerative Medicine Certificate Program will present their research from their internships in 10 minute lightning talks on Regenerative Medicine.

Simulation Demos: Digital Dissection Table • 3D Digital Herbarium AR Sandbox • Fire Sim Table • Flight Simulator

2nd Floor, Hall of Simulation • 3:00–5:00 pm

Discover the Hall of Simulation, an exciting new space on the 2nd floor of the Library designed to ignite curiosity and inspire hands-on learning! Fly high in a cutting-edge FAA flight simulator, battle fires on a Simtable, or explore digital dissection tables featuring human and animal anatomy. Shape landscapes with the augmented reality sandbox and dive into immersive adventures that transform how we learn. Simulation-based learning enhances problem-solving, knowledge retention, and understanding of complex concepts. The Hall of Simulation also features a dynamic digital wall for exploring and visualizing data collaboratively. Step into a world of possibilities where simulation technology brings learning to life!

Transfer Student Panel Showcase

3rd Floor, Room 308: Learning Lab • 4:00–5:00 pm

The Transfer Student Showcase is an opportunity featuring successful transfer students who will share their research experiences, challenges, and successes. It will provide valuable insight and inspiration to incoming transfer students, empower transfer students to actively engage in research, and connect with faculty mentors..

Film Screenings

1st Floor, Room 120: The Studio • 4:00–5:00 pm

Experience a dynamic showcase of bold, thought-provoking, and visually stunning short films from Cal Poly Humboldt's Film Program. These works highlight the creative, technical, and storytelling talents of our emerging filmmakers as they progress through our rigorous Filmmaking I-IV courses and specialized Film electives.

Spanning narrative, documentary, social change, and experimental genres, these films explore personal visions, urgent social issues, and imaginative new worlds. Each piece is a testament to the passion, innovation, and dedication of our students—future filmmakers shaping the cinematic landscape. Don't miss this opportunity to witness the next generation of storytellers in action!

Notes

Notes

ideaFest

A Showcase of Research and Creative Projects

This year's ideaFest is sponsored by the Office of Research & Sponsored Programs, Marketing & Communications, and the Library in collaboration with the Colleges. We are all excited for the opportunity to support the development and dissemination of research & creative activities at Cal Poly Humboldt.