University of New England
College of Arts and Sciences

21ST ANNUAL SPRING RESEARCH SYMPOSIUM

UNIVERSITY OF NEW ENGLAND
INNOVATION FOR A HEALTHIER PLANET

Friday • April 30, 2021

RESEARCH AT UNE

On behalf of the UNE College of Arts and Sciences (CAS) Dean's Office, welcome to the 2020-21 College of Arts and Sciences Spring Research Symposium! This event, now in its 21st year, showcases the scholarly and creative endeavors of our students through posters, displays of artwork, and oral discussions and represents the outcomes of over 100 talented students working under the direction of dedicated faculty.

Please join us in celebrating the hard work, enthusiasm, and creativity of our students and learning more about their fascinating projects. We hope you enjoy your day!

Amy Keirstead, Ph.D.
Associate Dean and Associate Professor of Chemistry
College of Arts and Sciences

SCHEDULE

April 26 through April 30
Posters viewable at various locations across the Biddeford Campus

Friday, April 30 | 9 a.m. – 12:30 p.m.

9 – 10 a.m. | Symposium Live Webinar | *une.edu/live*

Join us for an interactive broadcast hosted by CAS Dean Jonathan Millen, Ph.D., to preview some of the exciting projects that our students have been working on this year.

10 a.m. – 12:30 p.m. | Live Zoom Sessions with Students | *Concurrent Sessions*

Take a deeper dive into our students' research projects and engage in a virtual Q&A and discussion session.

PRESENTATIONS

LEGEND

2. Ecosystem Services of Seaweed Aquaculture off the Gulf of Maine

Student Author(s)

Emilly Schutt, M.S. '22, Hannah Korper '22, Elena Shippey '22, Salma Bezzat '23 | *Carrie Byron, Ph.D.*

Faculty Advisor(s)

Abstract

While natural kelp forests are declining in the Gulf of Maine due to climate change, there is also a decline in the ecosystem services they provide. Ecosystem services include material and non-material benefits people obtain from the environment. A possible way to assist in providing these services is through seaweed aquaculture. The supporting service habitat creation will be quantified to assess what large mobile commercially important fish and crustaceans are interacting with the kelp farms.

Poster Location

Ripich Commons

Presentation Time and URL

11:15 - 11:35 a.m. | https://une.zoom.us/j/5518577900

Funded by

The Nature Conservancy, Maine EPSCoR

PRESENTATIONS

1. Comprehensive analysis of microfiber concentration in different anatomical structures of the blue mussel (*Mytilus edulis*) over a long experimental duration

Liam McInerney '21, Julia Popson '23, Anna Sinclair '24 | *Steve Zeeman, Ph.D.*

This study is a comprehensive analysis of microplastic fiber (MPF) accumulation in the anatomical structures of the blue mussel, *Mytilus edulis*. During a two-week exposure duration, mussels were exposed to low (3 MPF per mL) and high (30 MPF per mL) fiber concentrations. After exposure, one replicate from low and high concentrations underwent immediate dissection. An additional replicate from each group underwent 24 hour depuration. Analysis between fiber concentrations and depuration periods were considered.

Ripich Commons
10:50 - 11:10 a.m. | https://une.zoom.us/j/8132900901

2. Ecosystem Services of Seaweed Aquaculture off the Gulf of Maine

Emilly Schutt, M.S. '22, Hannah Korper '22, Elena Shippey '22, Salma Bezzat '23 | *Carrie Byron, Ph.D.*

While natural kelp forests are declining in the Gulf of Maine due to climate change, there is also a decline in the ecosystem services they provide. Ecosystem services include material and non-material benefits people obtain from the environment. A possible way to assist in providing these services is through seaweed aquaculture. The supporting service habitat creation will be quantified to assess what large mobile commercially important fish and crustaceans are interacting with the kelp farms.

Ripich Commons
11:15 - 11:35 a.m. | https://une.zoom.us/j/5518577900

The Nature Conservancy, Maine EPSCoR

3. Vertebral chemistry distinguishes nursery habitats of juvenile shortfin mako sharks (*Isurus oxyrinchus*)

Benjamin LaFreniere '22 | *John Mohan, Ph.D.*

In the eastern North Pacific Ocean, juvenile shortfin mako sharks (*Isurus oxyrinchus*) utilize nearshore coastal areas as nurseries. This study analyzed vertebrae of juvenile mako sharks from two distinct sampling regions: Vizcaíno Bay Mexico and the Southern California Bight. Trace element concentrations in vertebrae edges showed regional variation for Strontium, Barium, and Zinc, likely due to environmental factors. These results may be applied in fisheries management to identify the nursery origin of mako sharks.

Ripich Commons

11:40 a.m. - 12 p.m. | https://une.zoom.us/j/4210153409

Funding was provided by the Texas A&M University CONACYT Collaborative Research Grant Program (Project 2016-026).

4. Elemental variation in the vertebrae cartilage of Round stingrays *Urobatis halleri*

Bethany Brodbeck '22 | *John Mohan, Ph.D.*

Elemental composition of Round stingray (*Urobatis halleri*) vertebrae has been shown to reflect environmental conditions during deposition. Here, round stingray were collected from multiple years in two distinct locations: Catalina Island and southern California coast. The trace element composition of vertebrae was quantified to compare spatial and temporal patterns of variation. Results indicate that sex may be a primary factor in elemental uptake, possibly due to behavioral formation of sex segregated groups.

Ripich Commons

11:15 - 11:35 a.m. | https://une.zoom.us/j/5063471383

5. A novel device for noxious thermostimulation of fruit fly larvae

Joshua Smestad '22, Calum Murray '24 | *Geoffrey Ganter, Ph.D., Julie Moulton, M.S.*

We have developed a novel device for delivering a contact-free noxious thermal stimulus to freely behaving fruit fly larvae. We demonstrate that our device is suitable for studying factors that control pain sensitivity in a genetically tractable model organism. Unlike previous methods, our novel platform is contactless, eliminating the confounding factor of mechanical pressure. The platform is suitable for future automation, combining behavior-tracking capabilities with artificial intelligence to completely remove operator bias and increase throughput.

Ripich Commons

10:25 - 10:45 a.m. | https://une.zoom.us/j/5267365931

NIH/NINDS: 1R15 NS095195-02A1, NIH/NIGMS: P20GM103643

6. Effect of post-harvest storage temperature and drying method on microbiological safety of edible seaweed

Jessica Vorse '22, Colleen Moody '22, Lyle Massoia '22 | *Kristin Burkholder, Ph.D., Carrie Byron, Ph.D.*

Seaweed samples will be inoculated with a known concentration of pathogen, subjected to specific storage temperatures or drying methods, then sampled to quantify pathogen load post-treatment. The goal is to identify the safest methods of post-harvest seaweed handling to mitigate pathogen risk and aid in industry expansion. Our team has spent recent months acclimating lab-reared pathogens to marine environments in order to successfully complete these storage temperature and drying trials.

Ripich Commons

11:15 - 11:35 a.m. | https://une.zoom.us/j/6261135690 ?pwd=eFF3M2tvaWVTNGJ4SFhmUWxYaXVlQT09

Maine Sea Grant

7. Effects of gut microbiome perturbation on inflammatory pain-related behaviors, alpha/beta diversity, and amino acid metabolites in female Fischer rats.

Hannah LaCourse '23, Emily Payne '19, Rebecca Brackin '19, Kylee Harrington '20, Ravin Davis '21, Francesca Asmus '22 | *Glenn Stevenson, Ph.D.*

Effects of the narrow-spectrum antibiotic vancomycin on inflammatory pain-related behaviors were assessed in rats. Two weeks of vancomycin administration attenuated Phase II formalin pain-stimulated behavior, and reversed formalin pain-depressed wheel running. Fecal microbiota transplantation showed a nonsignificant trend of reversing pain-stimulated behavior. Vancomycin treatment was associated with altered *Firmicutes*, *Bacteroidetes*, *Lactobacillus*, *Clostridiales*, and amino acid concentrations in the gut. Results suggest that vancomycin has therapeutic effects against persistent inflammatory pain conditions distal to the gut.

Ripich Commons

10:50 - 11:10 a.m. | https://une.zoom.us/j/5683217764

This research was supported by a National Institutes of Health COBRE grant (P20GM1036434) to Dr. Ian Meng, a COBRE pilot-project grant to Glenn Stevenson, and a COBRE animal behavior core facility.

8. Delta/mu opioid and dopamine D1/mu opioid receptor interactions in the central nervous system. Using dose addition analysis in rodent models to facilitate the design of more effective and/or safer drugs to treat pain.

Francesca Asmus '22, Ravin Davis '21, Hannah LaCourse '23, Meghan Smith '23, Madison Henderson '24, Emmerson Cahill '24 | *Glenn Stevenson, Ph.D.*

A mult-cycle FR10 operant schedule was utilized in the presence (nociception) and in the absence (sedation) of a lactic acid inflammatory pain-like manipulation. SNC80 (delta agonist) and methadone (mu agonist) alone produced dose-dependent restoration of pain-depressed responding and response rate suppression. Fixed-ratio delta/mu opioid mixtures with lower amounts of SNC80 produced synergistic pain relief with additive sedation. Preliminary data with SKF82958 (D1 agonist) extend these findings to determine the nature of dopamine – opioid receptor interactions.

Ripich Commons

11:40 a.m. - 12 p.m. | https://une.zoom.us/j/2271487212

This research was supported by a National Institutes of Health (NIAMS) R15 AREA grant (AR054975-02A1) and UNE faculty mini-grant to Glenn Stevenson. A portion of this work was supported by the National Institute on Drug Abuse drug supply program.

9. The Effects of Light Irradiance and Temperature on Sea Anemone-Algal Symbiosis

Laura Romanovich '21 | *Jeri Fox, Ph.D.*

Exaiptasia pallida, a common tropical sea anemone, hosts photosynthetic dinoflagellates (family=Symbiodiniacaea). Under light and/or temperature stress, the algae reduces photosynthesis and may be expelled in a process called bleaching. This project examines interactions between light irradiance and temperature-induced bleaching rates, as indicated by changes in photochemistry and fluorescent appearance. Under two low irradiance levels and high temperature, no bleaching was observed, however high irradiance with the high temperature has elicited the bleaching response.

Ripich Commons

10:50 - 11:10 a.m. | https://une.zoom.us/j/4660447542

10. Validating the use of tethered accelerometry data loggers to study white shark predatory behavior in the Western North Atlantic

Samantha McPherson '21 | *Gregory Skomal, Ph.D., Kathryn Ono, Ph.D., John Mohan, Ph.D., James Sulikowski, Ph.D.*

Biologging data from free-ranging sharks can provide insight on predatory behavior of white sharks at the Cape Cod seasonal feeding aggregation. Tag packages towed via tether from a dart attachment can be deployed with minimal stress to the animal, but the accuracy of motion and body posture data they provide remains unverified. Here we validate estimates of tailbeat frequency derived from animal-borne accelerometer and gyroscope data against visual observations of swimming behavior from CATScam footage.

Ripich Commons
12:05 - 12:25 p.m. | https://une.zoom.us/j/4557119915
Save Our Seas Foundation

11. Amygdalar Corticotropin-Releasing Factor Signaling is Required for Later-Life Behavioral Dysfunction Following Neonatal Pain

Mariah Berchulski '21 | *Seth Davis, Ph.D., Jared Zuke, B.S., Michael Burman, Ph.D.*

Neonatal pain is known to produce later-life dysfunction including heightened pain sensitivity. The CRF system, specifically within the Amygdala, is hypothesized to play a key role in this dysfunction. To examine this, subjects were administered antagonists of CRF-receptor 1 or 2 prior to fear conditioning and somatosensory testing, while others had tissue assessed for CRF using florescent in-situ hybridization. Resulting data confirms the amygdalar-CRF system as a target for alleviating dysfunction produced by early-life trauma.

Ripich Commons
10:50 - 11:10 a.m. | https://une.zoom.us/j/9769394557

12. Differences in Rejection Sensitivity and Self Esteem in Response to LGBTQ+ Discrimination

Emily Williams '22, Brianna Jewett '21 | *Julie Longua Peterson, Ph.D.*

Research suggests that high rejection sensitivity (RS) is a significant predictor of rejection-based proximal stress and negative mood for sexual-minority women (Calhoun, 2018; Dyar, Feinstein, Eaton, & London, 2018). Research has also shown high RS to be linked to greater self-blame attributions, suggesting a connection between rejection sensitivity and self-esteem (Breines & Ayduk 2013). We hypothesize participants high (vs. low) in RS will report lower self-esteem and greater negative mood in response to discrimination.

Ripich Commons
11:40 a.m. - 12 p.m. | https://une.zoom.us/j/4908849252

13. A Comparison of the therapeutic process between POC and White SGM individuals

Mary Lavallee '23, Hannah Luscomb '23, Sophia Simeone '23 | *Hillary Powell, Ph.D.*

This study analyzes cultural competence among mental health services as perceived by people of color (POC) who are sexual and gender minorities (SGM). We hypothesize that POC SGM will report poorer perceptions of providers' cultural competence relative to their white counterparts, and that race will impact perceptions of cultural competence as well as the quality of the therapeutic process. This research will offer directions for improving affirmative mental health practices for SGM POC.

Ripich Commons
11:15 - 11:35 a.m. | https://une.zoom.us/j/8086239591

14. Negative Gossip and Self-Esteem

Sara Authier '22 | *Julie Longua Peterson, Ph.D.*

Receivers of negative gossip hold negative impressions toward the targets of that gossip (Hauke & Abele, 2019). Given that downward social comparison can increase self-esteem (Crocker & Miller, 2000), the current study explored whether people who compare themselves to the targets of negative gossip experience increases in their own self-worth. We hypothesized that participants who recall negative gossip about a third party will report higher levels of self-esteem compared to participants in the control condition.

Ripich Commons
12:05 - 12:25 p.m. | https://une.zoom.us/j/96625867149

15. Proposed Analysis of Academic Policy related to Post Concussion experience of College Athletes

Shannon Upton '21 | *Kiernan Gordon, Ph.D.*

I will be researching Division 1, 2 and 3 colleges and universities to see how they manage concussions amongst their student athletes. I am exploring return to play policies, concussion management plans, and return to academic protocols. I hope to bring more awareness to the severity of concussions, if not 100% healed, and handled correctly.

Ripich Commons
12:05 - 12:25 p.m. | https://une.zoom.us/j/6657579698

16. The psychology of Zoom: How lecture delivery and COVID related stress impacts student learning

Nicole Martin '21, Grace Bernatchez '21, Haley Swartz-Enos '23, Aubrey Sahouria '22 | *Jennifer Stiegler-Balfour, Ph.D.*

This study investigates the ways in which Zoom lecture delivery format as well as personal factors such as mind wandering, fatigue and cognitive load can affect the ability to retain information. The study also explored whether COVID-19 related worry, perceived social presence and exhaustion could alter learning outcomes. This research will create a better understanding of how learning outcomes have been affected by the current pandemic and inform best practices for online delivery of material.

Ripich Commons

10:25 - 10:45 a.m. | https://une.zoom.us/j/92055189812

This project was supported by an APS grant for Teaching and Public Understanding of Psychological Sciences awarded to Jennifer Stiegler-Balfour.

17. The problem with noise: How frequency variability in humpback whale song might predict the severity of impacts of vessel noise on communication

Ashley Johnston '21, Madison Dolan '20 | *Christina Perazio, ABD Ph.D.*

Humpback whales need to communicate across distances but this ability is limited by masking due to anthropogenic noise. Previous studies have established that humpbacks do not use frequency randomly but rather concentrate sound energy within frequency bands. It was predicted that frequency bands would be evident and vary little across recordings of different background noise levels (low-high). The results of this study might provide insight into how flexible humpbacks are in response to vessel noise.

Ripich Commons

12:05 - 12:25 p.m. | https://une.zoom.us/j/5277590950

18. Investigating how text features affect a readers' performance on digital devices

Aubrey Sahouria '22, Emily Newborough '23, Isabella Martin '23, Nicole Martin '21 | *Jennifer Stiegler-Balfour, Ph.D.*

As more time is spent looking at digital screens, it is important to understand how text features on digital devices affect a person's ability to retain what they read and reading stamina. With previous studies showcasing mixed results when comparing serif and sans serif fonts, the current study is interested in examining how different font types affect reading speed, fatigue as well as recall for read material when reading on a Kindle Paper.

Ripich Commons

10:50 - 11:10 a.m. | https://une.zoom.us/j/4937603826

This project was supported by the University of New England Summer Undergraduate Research Experience Grant provided by UNE CAS

19. The role of GIS in developing an outreach tool for a long-term watershed restoration project.

Dean L. Hernandez '22 | *Mindee Goodrum, Marcia Moreno-Baez, Ph.D.*

Geographic information systems (GIS) has great applications in the development of scientific communication and outreach platforms due to its ability to effectively articulate data visually. Working with the York County Soil and Water Conservation District (YCSWCD), GIS was used to develop an outreach tool for the Thatcher Brook Watershed Restoration Project. This focused on the implementation of a watershed management plan to restore the watershed to Class B water quality standards of the Maine DEP.

Ripich Commons

10 - 10:20 a.m. | https://une.zoom.us/j/8407568685

Funding for this project, in part, was provided by the U.S. Environmental Protection Agency under Section 604(b) of the Clean Water Act. The funding is administered by the MDEP in partnership with EPA.

20. Health Workers and their Impact on WWII

Hunter Beausoleil '24 | *Elizabeth DeWolfe, Ph.D.*

This poster will discuss the many ways medical personnel helped during WWII. This touches on events happing on the front lines, events on military bases, and everything in-between.

Ripich Commons

10:25 - 10:45 a.m. | https://une.zoom.us/j/3160947526

21. American Chestnut Restoration: Transgenic Blight-Tolerant Pollen Production and Analysis

Kristina Genthner '21, Virginia May '24, Tyler Riendeau '21, M.S. '22, Chase Walter '22 | *Thomas Klak, Ph.D.*

UNE's American chestnut restoration project has met the great challenge of producing quantities of transgenic blight-tolerant pollen from seedlings in about one year. We do this through high-intensity speed-breeding. Outdoors in nature, chestnut saplings typically take five or more years to produce substantial pollen. However, our lab pollen production varies greatly per seedling and also over time following a roller coaster-like pattern. We attribute these marked variations to pest/pathogen outbreaks, and by each seedling's genetics.

Ripich Commons

12:05 - 12:25 p.m. | https://une.zoom.us/j/3606352859

Grant from The Quimby Family Foundation

22. The Use of Adeno-Associated Virus - Delivered Designer Receptors Exclusively Activated by Designer Drugs (DREADD) for Neuronal Inhibition: An Experimentation into how Corticotropin Releasing Factor (CRF) affects Hypersensitivity in Rats

Skyler McComas '22, Kayla Looper '20 | *Michael Burman, Ph.D.*

Neonatal pain causes anxiety and depression later in life. We have shown that CRF-containing cells in the amygdala are responsible for those changes. Rats experience neonatal paw pricks and adolescent fear conditioning, inducing a tactile hypersensitivity. We use a DREADD approach in transgenic rats, testing the hypothesis that silencing CRF cells will diminish that hypersensitivity. Previous results were inconclusive as the typical hypersensitivity wasn't observed. We are testing modifications of this experiment to determine why.

Ripich Commons
11:40 a.m. - 12 p.m. | https://une.zoom.us/j/3645458096

23. Extraction, Characterization and Analysis of Bioactives from Maine *Ulva lactuca*

Kayla Cerri '21, Amber Cusson, B.S.'18, M.S. '20 | *Amy Deveau, Ph.D., Kristin Burkholder, Ph.D.*

Cold-water algae are underexplored sources of natural products. Extracts of *Ulva lactuca*, a macroalgae from the Gulf of Maine, possess antibiotic activity against clinically relevant *Staphylococci* strains. In this preliminary investigation, post-harvest preservation methods of *U. lactuca* were compared. Upon finding no significant difference between antimicrobial activities of freeze and oven dried *U. lactuca* extracts, research was directed to fractionating extracts and characterizing bioactive compounds via spectroscopic analysis, disc diffusion assays, and antioxidant activity assessment.

Ripich Commons
10:50 - 11:10 a.m. | https://une.zoom.us/j/2323907107

National Science Foundation award #1355457 to Maine EPSCoR at the University of Maine

24. Pyrogallol impairs biofilm formation by inducing bacterial oxidative stress

Katharina Roese '21, Lauren Cooper '23, Christina Torlone '20 | *Kristin Burkholder, PhD.*

The risk of hospital-acquired bacterial infection is exacerbated by pathogens that can form biofilms on indwelling medical devices and host tissues. One strategy for developing novel antimicrobials is to use drugs that target biofilm fomation. The risk of hospital-acquired bacterial infection is exacerbated by pathogens that can form biofilms on indwelling medical devices and host tissues. One strategy for developing novel antimicrobials is to use drugs that target biofilm formation. Here, we show that the polyphenolic compound pyrogallol impairs biofilm formation in the major hospital-associated pathogens *Staphylococcus aureus*, *Staphylococcus epidermidis*, and *Pseudomonas aeruginosa*. Our findings suggest that pyrogallol-mediated biofilm reduction is caused by its pro-oxidant effects on the bacteria tested.

Ripich Commons

10:25 - 10:45 a.m. | https://une.zoom.us/j/3872910287

UNE Office of Research and Sponsored Programs Faculty Minigrant award to K. Burkholder

25. Plasma Levels of Collagen Triple Helix Repeat Containing 1 (CTHRC1) in an Interstitial Lung Disease Cohort

Willem Rijnbout St. James '21, | *Silvia E. Smith, Ph.D.*

Studying biomarkers relevant to the pathogenesis of lung fibrosis is key to developing new therapies. This study will be first in which the novel protein, CTHRC1, is assayed in an ILD cohort. CTHRC1 was assayed at Maine Medical Center in 171 plasma samples from ILD patients. Our study confirms that CTHRC1 is implicated in the pathogenesis of pulmonary fibrosis and is statistically significantly elevated in patients diagnosed with ILD as compared to unaffected controls.

Ripich Commons

11:40 a.m. - 12 p.m. | https://une.zoom.us/j/2629388733

26. Quantification and Identification of the Spectral Image of Fluorescing Proteins in Corals to Assess Overall Health

Grace Frohock '22 | *Jeri Fox, Ph.D.*

Corals form diverse ecosystems, supporting a diverse amount of life. Coral bleaching is an increasing issue due to climate change. It's important that the health of coral reefs are studied to prevent further loss of species diversity. One method used to measure coral health is through their fluorescence, however, existing techniques are expensive. Our prototype will reduce cost. A programmed Raspberry Pi camera takes RAW pictures of corals, after exposure to an LED causing fluorescence.

Ripich Commons

10 - 10:20 a.m. | https://une.zoom.us/j/97670152505

27. Trailblazers and Game changers: Black Women who paved the way for their modern counterparts

Maggie Miller '21 | *Stephen Burt, M.F.A.*

Black American women have never gotten the representation they deserve, whether it be in sports, politics, or getting their doctorate degree. They're forgotten and lost in history. My series brings those trailblazer names back into light and is compared next to another Black American woman in more recent times that's doing incredible work now, similar to the woman they're being compared with.

Ripich Commons
10:25 - 10:45 a.m. | https://une.zoom.us/j/4637153307

28. Biomolecular Visualization of the SARS-CoV-2 Spike Protein through Digital and Physical Media in an Upper Level Undergraduate Biochemistry Laboratory Course

Zahraa Alsilawi '22, Galen Arnold '22, Hunter St. Pierre '22, Benjamin Wheeler '22 | *Eva Rose M. Balog, Ph.D.*
CHE 350L Biochemistry I (Proteins) Lab

In Fall 2020, during the COVID-19 pandemic, students in CHE 350: Biochemistry I (Proteins) laboratory learned about the biochemistry of the SARS-CoV-2 Spike glycoprotein through weekly journal club-style discussions of the rapidly emerging literature. For our final project, we used bioinformatics resources, molecular visualization software, and the Makerspace laboratory to create multiple representations of Spike protein structure and function, including 3-D printed models, laser engraved art, and a poster display intended for peer educational outreach.

Alfond Center for Health Sciences
10 - 10:20 a.m. | https://une.zoom.us/j/9962429141

29. Does vernal pool type affect spotted salamander (*Ambystoma maculatum*) and wood frog (*Lithobates sylvaticus*) breeding success?

Tyler Riendeau '21, M.S. '22 | *Pam Morgan, Ph.D.*
ENV 511 Ecological Monitoring

The University of New England's Biddeford location is situated within the Biddeford-Kennebunkport vernal pool complex. Vernal pools are integral breeding habitat for amphibian species like spotted-salamander, blue-spotted salamander, and wood frog. This research looks at spotted salamander and wood frog egg mass counts in natural and unnatural vernal pools on UNE's property between 2006 to 2021. Preliminary results indicate that spotted salamander and wood frog reproductive effort does not depend on vernal pool type.

Alfond Center for Health Sciences
10:25 - 10:45 a.m. | https://une.zoom.us/j/4156030319

30. Mail During World War II

Kasey Zuchlewski '24 | *Elizabeth DeWolfe, Ph.D.*
HIS 290 War Letters

Mail played a crucial role in the daily lives of individuals during World War II. For soldiers on the frontlines and loved ones on the homefront, mail gave aspects of hope and sustained morale during those uncertain years. From 1939 until 1945, up to 12 million letters were sent each week, the highest volume ever. To meet wartime challenges, new technology emerged, such as V-mail. Mail became a seemingly innocent weapon for winning the war.

Marcil Hall
10 - 10:20 a.m. | https://une.zoom.us/j/8938091233

31. Sustainability practices in the global seaweed aquaculture industry: comparison between Maine and the Republic of Korea

Caitlyn Irish '21 | *Susan Farady, J.D.*
MAR 400 Marine Affairs Capstone

The seaweed aquaculture industry has become the world's fastest growing animal-based food sector. Historically seaweed has been grown and harvested in Asian countries, such as the Republic of Korea. In the past decade this industry has found success in other regions of the world, such as Maine. While the scale of seaweed aquaculture in these areas differ, both can learn from one another how to remain economically and environmentally sustainable for the future.

Alfond Center for Health Sciences
10 - 10:20 a.m. | https://une.zoom.us/j/8951501211

32. COVID-19 Impact on Students Covered Under the IDEA and their Right for School Choice during a Pandemic.

Emily Thorndike '21 | *Brian Duff, Ph.D., James B. Roche, J.D., LL.M.*
PSC 491 Integrative Essay

As a nation we have experienced the first year that students are attending school through a hybrid/online learning curriculum due to COIVD 19. There has been heated and controversial debate on school choice, and during the pandemic of COVID-19 we see an increase in this discussion. Though most students have been affected students with disabilities are the most threatened and should have greater access to school choice during nation crises and emergencies.

Marcil Hall
12:05 - 12:25 p.m. | https://une.zoom.us/j/7475963497

33. The Efficacy and Reason of Protest

Jack Lamont '21 | *Brian Duff, Ph.D., Kenneth Courtney, Ph.D.*
PSC 491 Integrative Essay

Protest is the main form of social change. However, protest takes many different forms to suit the protesters' needs. It also isn't always effective. I will be examining what characteristics help ensure a protest's success as well as what dooms them to fail. I will be talking about things like violence or non-violence, characteristics of the leader of protest, environment of protest and a few others.

Marcil Hall
10 - 10:20 a.m. | https://une.zoom.us/j/96917147834

34. Actions Speak Louder Than Words: How Policies Can Reinstill Trust

Mikenzie Dwyer '21 | *Brian Duff, Ph.D.*
PSC 491 Integrative Essay

The percentage of people who say they can trust the Government has not surpassed 30% since 2007. On average, 17% of Americans stated they trust the government always or most of the time. Previous solutions suggested telling more optimistic stories or just electing "better" people. This thesis argues for something practical: the power of effective policy. Using a multi-method approach, we find direct and effective policy builds Government trust and could increase civic engagement through competition of policies.

Marcil Hall
11:40 a.m. - 12 p.m. | https://une.zoom.us/j/9531656999

35. Negative Ads: Breaking the Fever

Eric Gardner '21 | *Brian Duff, Ph.D.*
PSC 491 Integrative Essay

The November 2020 election broke the record for election spending by a wide margin. Over $14 billion was spent, more than double the previous record of $6.6 billion in 2016. Advertising consumed most of that budget, with many ads designed to attack opponents. Yet, there is considerable evidence that attack ads have little, if any, effect on persuading voters. This thesis explores why attack ads are ineffective, and discusses alternatives for reaching voters.

Marcil Hall
10:50 - 11:10 a.m. | https://une.zoom.us/j/7400484656

36. Mindset in Politics

Jesse Skowronski '21 | *Brian Duff, Ph.D.*
PSC 491 Integrative Essay

Throughout the last four years America has become extremely polarized in regards to political issues. This is apparent as many Americans have been increasingly considering everyone who disagrees with them to be the enemy or "the other". This thesis will propose that there is an untapped solution to this threat to the wellbeing of American society and politics: the interest in "wellness," "well-being," and personal growth demonstrated by a huge number of American citizens.

Marcil Hall
11:15 - 11:35 a.m. | https://une.zoom.us/j/7807147382

37. Black Lives Matter Truth or Trend

Michael Conry '21 | *Brian Duff, Ph.D.*
PSC 491 Integrative Essay

Today more than ever Americans hear all about the Black Lives Matter movement and other social movements but fail to understand a deeper meaning of the movements, as do some of the movements themselves. Discovering the truth/validity of these movements is imperative for our democracy.

Marcil Hall
10:25 - 10:45 a.m. | https://une.zoom.us/j/4184192544

38. The Effects of Occupation and Hours of Sleep on Stress Levels Using the Reeder Stress Inventory

Mary Lavallee '23, Morgan Lindsey '23 and Lindsay Smith '23 |
Christina Perazio, ABD Ph.D.
PSY 285 Research Methods

This study examined a possible relationship between occupation (full-time student vs. full-time job), average hours of sleep, and stress level using the Reeder Stress Inventory. We hypothesized that if a full-time student sleeps less than 50 hours on average a week, they will experience higher stress levels. This research will open doors into how we can better manage stress in college students and working adults in order to prevent the detrimental health consequences of stress.

Alfond Center for Health Sciences
12:05 - 12:25 p.m. | https://une.zoom.us/j/8305737436

39. Effects of Credit Load and Extracurricular Activities on College Student Stress Levels

Chloe Davis '23, Nick Vare '23 | *Christina Perazio, ABD Ph.D.*
PSY 285 Research Methods

Stress is an important issue to study among college students. Past studies investigated factors such as race, gender, and social impacts on stress. We examined the effects of extracurriculars and credit load on the amount of stress students experienced, and hypothesized that more credits taken and more hours spent in extracurriculars increases college student stress according to the School Stress Inventory (SSI). Future solutions allow for students to receive help with balancing stress from school.

Alfond Center for Health Sciences
11:15 - 11:35 a.m. | https://une.zoom.us/j/7958586849

40. Siblings and Effective Communication

Chloe Remillard '22, Nick Ettinger '22 | *Christina Perazio, ABD Ph.D.*
PSY 285 Research Methods

This study investigated whether having siblings affects the way individuals communicate with each other. We hypothesized that people with siblings will be more effective communicators than only children, and especially so when they are the eldest of their siblings. Communication efficiency was measured using the Effective Listening and Interactive Communication Scale. Knowing what factors affect communication can help provide strategies for increasing interpersonal communication skills, especially in college students and in the workplace.

Alfond Center for Health Sciences
10:25 - 10:45 a.m. | https://une.zoom.us/j/5426746306

41. The Effects of Social Media Use and Age on Overall Life Satisfaction Levels

Kamy Pooler '23, Maggy Aube '23 | *Christina Perazio, ABD Ph.D.*
PSY 285 Research Methods

This study examines the influence of social media use and age on life satisfaction levels. We hypothesize that participants under the age of 30 who spend over 1 hour daily on social media will show lower scores of life satisfaction. Social media is an everyday practice among people of all ages, therefore if negative effects from high social media usage are significant, steps should be made to lower the daily use of the ages most impacted.

Alfond Center for Health Sciences
12:05 - 12:25 p.m. | https://une.zoom.us/j/6974127411

42. The Effect of the Number of Extracurricular Activities and Post-Graduation Career Aspirations on Student Academic Motivation

Danielle Bairrington '23, Sara Poll '23 | *Christina Perazio, ABD Ph.D.*
PSY 285 Research Methods

This study investigates the possible influence of activity participation and career goals on academic motivation. It is hypothesized that involvement in more than three extracurricular activities and having career aspirations leads to higher academic motivation, according to the Academic Motivation Scale. Knowledge of the many factors that influence motivation levels can help students increase their motivation. This is important for college students because it could help them succeed in all aspects of their lives.

Alfond Center for Health Sciences
10:50 - 11:10 a.m. | https://une.zoom.us/j/6808268392

43. Gifted Kid Burnout: Early Childhood Academic Pressure on Self Esteem

Jessica Minieri '23, Marley Cloutier '23 | *Christina Perazio, ABD Ph.D.*
PSY 285 Research Methods

Children experience stress in their educational environments that bleed into their home lives, making it difficult for them to compartmentalize and develop properly. We hypothesized that when these children enter college, greater academic pressure from their youth, in combination with greater perceived difficulty of their major, will predict lower self-esteem scores (Rosenberg Self Esteem Scale). This research may be influential on the way children are treated at home and in school.

Alfond Center for Health Sciences
11:40 a.m. - 12 p.m. | https://une.zoom.us/j/5694714857

44. Possible moderating effects of participant gender on attractiveness halo strength

Sophia Simeone '23, Emily Ramsey '22, Mia Morgan '23, Mason Lagassé '22 | *Julie Peterson, Ph.D.*
PSY 285 Research Methods

This study explored whether participant gender moderated the attractiveness halo, a psychological phenomenon wherein physically attractive (vs. less attractive) individuals are judged to possess higher rates of positive characteristics. Participants reported their gender and were tasked with rating pictures of women who were high (vs. low) in attractiveness on a series of positive traits. We hypothesized that male participants would rate highly attractive women more positively than female participants.

Alfond Center for Health Sciences
10 - 10:20 a.m. | https://une.zoom.us/j/6764869666

45. Influence of extracurricular involvement and employment on perceived career preparedness in UNE undergraduate students

Casey Wood '23, Matthew DeMers '23 | *Christina Perazio, ABD Ph.D.*
PSY 285 Research Methods

This research investigated the influence of extracurricular activities and employment on the perceived career preparedness of undergraduate students at the University of New England. We hypothesized that students who were both employed and participated in extracurricular activities for more than six hours per week score highest on the Strada-Gallup Alumni Survey. This research helps us to understand the importance of different parts of the college experience, not just time spent in the classroom.

Alfond Center for Health Sciences
10 - 10:20 a.m. | https://une.zoom.us/j/2097450904

46. Music Era and Mode of Transportation Influence on Class Mood in Undergraduate Students

Haley Swartz-Enos '23 , Aubrie Osgood '23, Brett Miller '22 | *Christina Perazio, ABD Ph.D.*
PSY 285 Research Methods

We investigated the possible influence of music era and form of transportation on student mood during class. We hypothesize that students who listen to music created after 2010 who also commute via non-motorized transportation will have the highest self-reported in-class mood. Prior theories suggest that music has the ability to regulate mood, and that long commutes may have negative effects on mood. We hope to understand how these factors impact mood specifically in the classroom.

Alfond Center for Health Sciences
11:15 - 11:35 a.m. | https://une.zoom.us/j/6099533336

47. A purposed study of National Hockey League teams' use of social media for brand growth and fan engagement

Brett Mecrones '21 | *Kiernan Gordon, Ph.D.*
SPT 420 Research Methods

A purposed study of National Hockey League teams' use of social media for brand growth and fan engagement.

Alfond Forum
10:25 - 10:45 a.m. | https://une.zoom.us/j/2579415302

48. Social/Gender Stratification in Sports: A Study of why certain Sports are Associated with Certain Genders

Joseph Kucky '21 | *Kiernan Gordon, Ph.D.*
SPT 420 Research Methods

This poster will display the study of sports and social/gender stratification. It will explain why we associate certain genders with certain sports, and why are certain sports associated with certain social layers.

Alfond Forum
11:15 - 11:35 a.m. | https://une.zoom.us/j/3968231360

49. Myth or reality? A proposed cross-sectional study of NCAA Division III athletes to determine the value of single sport specialization at the youth level

Alex Kravchuk '21 | *Kiernan Gordon, Ph.D.*
SPT 420 Research Methods

Parents, coaches and athletes speculate that to gain an edge, secure a spot on a college team or be labeled "elite" that youth must specialize in one sport at an early age. This research is aimed to find the value of limiting experiences to only one sport risking burnout or injury while also looking at other factors that would bolster success at the NCAA Division III level such as genetics and personal drive.

Alfond Forum
12:05 - 12:25 p.m. | https://une.zoom.us/j/7127434408

50. A Proposed Study on How Pay to Play Impacts U.S Soccer

Wesley Bryan '21 | *Kiernan Gordon, Ph.D.*
SPT 420 Research Methods

In this research project I looked into the effects of pay to play on soccer in the United States. I dove into how requiring any and all potential players to pay before they are allowed access to proper coaching, equipment, and facilities is setting back the United States in their attempt to grow the sport outside of non U.S countries.

Alfond Forum
10:50 - 11:10 a.m. | https://une.zoom.us/j/8298546863

51. College and Professional Sports: The Effects They Have On Their Local Economies

Brandon Narciso '21 | *Kiernan Gordon, Ph.D.*
SPT 420 Research Methods

In this research project, I looked to see how both college and professional sports teams can impact their local economies. I wanted to see both the positive and negative impacts it can have in terms of finances (tax increase), city revenue, and job market impact.

Alfond Forum
11:15 - 11:35 a.m. | https://une.zoom.us/j/6751886222

52. eSports: The Growth and the Future Opportunities

Anthony Langella '21 | *Kiernan Gordan, Ph.D*
SPT 420 Research Methods

This project focuses on the growth and future opportunities of eSports by analyzing varying articles, studies, and literature.

Alfond Forum
10:25 - 10:45 a.m. | https://une.zoom.us/j/9157309515

53. The proposed study of the effectiveness of social media sports marketing for the Olympic games

Derek Mecrones '21 | *Kiernan Gordon, Ph.D.*
SPT 420 Research Methods

My poster display will show the whole overview of my research study for the effectiveness of social media sports marketing for the Olympic games.

Alfond Forum
12:05 - 12:25 p.m. | https://une.zoom.us/j/7999047597

54. Soccer in the United States: Is Major League Soccer the next English Premier League?

Zachary Spicer '21 | *Kiernan Gordon, Ph.D*
SPT 420 Research Methods

Examining the past and present state of Major League Soccer to predict if it can surpass the English Premier League, which is considered the world's best soccer league.

Alfond Forum
11:40 a.m. - 12 p.m. | https://une.zoom.us/j/3108665044

55. A Proposed Study of the Spending Habits and Tendencies of a Collegiate Athletic Director

Alexander Morganti '21 | *Kiernan Gordon, Ph.D.*
SPT 420 Research Methods

This poster will be taking a look at how a college AD gets the money for the department and what they prioritize in their spending. It will go in depth on the details of profiting collegiate sports and how much it affects funding.

Alfond Forum
10 - 10:20 a.m. | https://une.zoom.us/j/9451181304

56. Can PED's save Baseball?

D'Andre James '21 | *Kiernan Gordon, Ph.D.*
SPT 420 Research Methods

I've gathered and analyzed research from several scholarly articles triangulating my own conclusion that proves permitting the use of PED's could stop the recent decline in Baseball's (MLB) overall viewership. If conducted correctly, introducing monitored and observed amounts of PED's may raise the interest in the sport without necessarily jeopardizing the leagues competitive nature.

Alfond Forum
10 - 10:20 a.m. | https://une.zoom.us/my/djames225

57. Student Athletes and Time Management: How can we Help Athletes ... Help Athletes?

Paul Guglietta '21 | *Kiernan Gordon, Ph.D.*
SPT 420 Research Methods

This presentation will address the issues that student-athletes at the Division III level face with time management, and how the importance of schedule making can make a major impact.

Alfond Forum
10:25 - 10:45 a.m. | https://une.zoom.us/j/2590874534

58. Of CORSI and the impact of regular season games in the National Hockey League.

James Schweizer '21 | *Kiernan Gordan, Ph.D.*

SPT 420 Research Methods

In this research I will looking over how CORSI an advanced statistic in hockey changes the impact to the game at hand. There is so many ways a shot can be determined by a player or by a team and with my research I researched on teams that use CORSI in the playoffs and in regular season games..

Alfond Forum

10:50 - 11:10 a.m. | https://une.zoom.us/j/4612541562

59. Sport Stadiums as a Sensoryscape: A Study Proposal for the Effect of Stadium Anthems

Curtis Shepard '22 | *Keirnan Gordon, Ph.D*

SPT 420 Research Methods

A study proposal for future research on the effects of stadium anthems on fan experience at live sporting events.

Alfond Forum

10 - 10:20 a.m. | https://une.zoom.us/j/4144675780

60. Full Ride: What Combined Numbers You Need to get a Scholarship

Andrew Progin '21 | *Kiernan Gordon, Ph.D.*

SPT 420 Research Methods

Looking at combined test numbers form high school recruits and NFL players to determine what combine scores you need to get a scholarship for college football.

Alfond Forum

11:15 - 11:35 a.m. | https://une.zoom.us/j/4359698517

61. The Evolution of the Black Quarterback - WITHDRAWN

Cobey Johnson '22 | *Kiernan Gordon, Ph.D.*

SPT 420 Research Methods

My independent research is based on the evolution of how the African-American Quarterback is perceived and ultimately the effects of which these Quarterbacks have had on the sport.

Alfond Forum

11:40 a.m. - 12 p.m. | https://une.zoom.us/j/2061712212

ZOOM SCHEDULE

10 - 10:20 A.M.

19. The role of GIS in developing an outreach tool for a long-term watershed restoration project.
Dean L. Hernandez '22 | *Mindee Goodrum, Marcia Moreno-Baez, Ph.D.*
https://une.zoom.us/j/8407568685

26. Quantification and Identification of the Spectral Image of Fluorescing Proteins in Corals to Assess Overall Health
Grace Frohock '22 | *Jeri Fox, Ph.D.*
https://une.zoom.us/j/97670152505

28. Biomolecular Visualization of the SARS-CoV-2 Spike Protein through Digital and Physical Media in an Upper Level Undergraduate Biochemistry Laboratory Course
Zahraa Alsilawi '22, Galen Arnold '22, Hunter St. Pierre '22, Benjamin Wheeler '22 | *Eva Rose M. Balog, Ph.D.*
https://une.zoom.us/j/9962429141

30. Mail During World War II
Kasey Zuchlewski '24 | *Elizabeth DeWolfe, Ph.D."*
https://une.zoom.us/j/8938091233

31. Sustainability practices in the global seaweed aquaculture industry: comparison between Maine and the Republic of Korea
Caitlyn Irish '21 | *Susan Farady, J.D.*
https://une.zoom.us/j/8951501211

33. The Efficacy and Reason of Protest - WITHDRAWN
Jack Lamont '21 | *Brian Duff, Ph.D., Kenneth Courtney, Ph.D.*
https://une.zoom.us/j/96917147834

44. Possible moderating effects of participant gender on attractiveness halo strength
Sophia Simeone '23, Emily Ramsey '22, Mia Morgan '23, Mason Lagassé '22 | *Julie Peterson, Ph.D.*
https://une.zoom.us/j/6764869666

45. Influence of extracurricular involvement and employment on perceived career preparedness in UNE undergraduate students
Casey Wood '23, Matthew DeMers '23 | *Christina Perazio, ABD Ph.D.*
https://une.zoom.us/j/2097450904

55. A Proposed Study of the Spending Habits and Tendencies of a Collegiate Athletic Director
Alexander Morganti '21 | *Kiernan Gordon, Ph.D.*
https://une.zoom.us/j/9451181304

56. Can PED's save Baseball?
D'Andre James '21 | *Kiernan Gordon, Ph.D.*
https://une.zoom.us/my/djames225

59. Sport Stadiums as a Sensoryscape: A Study Proposal for the Effect of Stadium Anthems
Curtis Shepard '22 | *Keirnan Gordon, Ph.D*
https://une.zoom.us/j/4114675780

10:25 - 10:45 A.M.

5. A novel device for noxious thermostimulation of fruit fly larvae
Joshua Smestad '22, Calum Murray '24 | *Geoffrey Ganter, Ph.D., Julie Moulton, M.S.*
https://une.zoom.us/j/5267365931

16. The psychology of Zoom: How lecture delivery and COVID related stress impacts student learning
Nicole Martin '21, Grace Bernatchez '21, Haley Swartz-Enos '23, Aubrey Sahouria '22 | *Jennifer Stiegler-Balfour, Ph.D.*
https://une.zoom.us/j/92055189812

20. Health Workers and their Impact on WWII
Hunter Beausoleil '24 | *Elizabeth DeWolfe, Ph.D.*
https://une.zoom.us/j/3160947526

24. Pyrogallol impairs biofilm formation by inducing bacterial oxidative stress
Katharina Roese '21, Lauren Cooper '23, Christina Torlone '20 | *Kristin Burkholder, PhD.*
https://une.zoom.us/j/3872910287

27. Trailblazers and Game changers: Black Women who paved the way for their modern counterparts
Maggie Miller '21 | *Stephen Burt, M.F.A.*
https://une.zoom.us/j/4637153307

29. Does vernal pool type affect spotted salamander (*Ambystoma maculatum*) and wood frog (*Lithobates sylvaticus*) breeding success?
Tyler Riendeau '21, M.S. '22 | *Pam Morgan, Ph.D.*
https://une.zoom.us/j/4156030319

37. Black Lives Matter Truth or Trend
Michael Conry '21 | *Brian Duff, Ph.D.*
https://une.zoom.us/j/4184192544

40. Siblings and Effective Communication
Chloe Remillard '22, Nick Ettinger '22 | *Christina Perazio, ABD Ph.D.*
https://une.zoom.us/j/5426746306

47. A purposed study of National Hockey League teams' use of social media for brand growth and fan engagement
Brett Mecrones '21 | *Kiernan Gordon, Ph.D.*
https://une.zoom.us/j/2579415302

52. eSports: The Growth and the Future Opportunities
Anthony Langella '21 | *Kiernan Gordan, Ph.D*
https://une.zoom.us/j/9157309515

57. Student Athletes and Time Management: How can we Help Athletes ... Help Athletes?
Paul Guglietta '21 | *Kiernan Gordon, Ph.D.*
https://une.zoom.us/j/2590874534

10:50 - 11:10 A.M.

1. **Comprehensive analysis of microfiber concentration in different anatomical structures of the blue mussel (*Mytilus edulis*) over a long experimental duration**
   Liam McInerney '21, Julia Popson '23, Anna Sinclair '24 | *Steve Zeeman, Ph.D.*
   https://une.zoom.us/j/8132900901

7. **Effects of gut microbiome perturbation on inflammatory pain-related behaviors, alpha/beta diversity, and amino acid metabolites in female Fischer rats**
   Hannah LaCourse '23, Emily Payne '19, Rebecca Brackin '19, Kylee Harrington '20, Ravin Davis '21, Francesca Asmus '22 | *Glenn Stevenson, Ph.D.*
   https://une.zoom.us/j/5683217764

9. **The Effects of Light Irradiance and Temperature on Sea Anemone-Algal Symbiosis**
   Laura Romanovich '21 | *Jeri Fox, Ph.D.*
   https://une.zoom.us/j/4660447542

11. **Amygdalar Corticotropin-Releasing Factor Signaling is Required for Later-Life Behavioral Dysfunction Following Neonatal Pain**
    Mariah Berchulski '21 | *Seth Davis, Ph.D., Jared Zuke, B.S., Michael Burman, Ph.D.*
    https://une.zoom.us/j/9769394557

18. **Investigating how text features affect a readers' performance on digital devices**
    Aubrey Sahouria '22, Emily Newborough '23, Isabella Martin '23, Nicole Martin '21 | *Jennifer Stiegler-Balfour, Ph.D.*
    https://une.zoom.us/j/4937603826

23. **Extraction, Characterization and Analysis of Bioactives from Maine *Ulva lactuca***
    Kayla Cerri '21, Amber Cusson, B.S.'18, M.S. '20 | *Amy Deveau, Ph.D., Kristin Burkholder, Ph.D.*
    https://une.zoom.us/j/2323907107

35. **Negative Ads: Breaking the Fever**
    Eric Gardner '21 | *Brian Duff, Ph.D.*
    https://une.zoom.us/j/7400484656

42. **The Effect of the Number of Extracurricular Activities and Post-Graduation Career Aspirations on Student Academic Motivation**
    Danielle Bairrington '23, Sara Poll '23 | *Christina Perazio, ABD Ph.D.*
    https://une.zoom.us/j/6808268392

50. **A Proposed Study on How Pay to Play Impacts U.S Soccer**
    Wesley Bryan '21 | *Kiernan Gordon, Ph.D.*
    https://une.zoom.us/j/8298546863

58. **Of CORSI and the impact of regular season games in the National Hockey League**
    James Schweizer '21 | *Kiernan Gordan, Ph.D.*
    https://une.zoom.us/j/4612541562

11:15 - 11:35 A.M.

2. Ecosystem Services of Seaweed Aquaculture off the Gulf of Maine
Emilly Schutt, M.S. '22, Hannah Korper '22, Elena Shippey '22, Salma Bezzat '23 | *Carrie Byron, Ph.D.*
https://une.zoom.us/j/5518577900

4. Elemental variation in the vertebrae cartilage of Round stingrays *Urobatis halleri*
Bethany Brodbeck '22 | *John Mohan, Ph.D.*
https://une.zoom.us/j/5063471383

6. Effect of post-harvest storage temperature and drying method on microbiological safety of edible seaweed
Jessica Vorse '22, Colleen Moody '22, Lyle Massoia '22 | *Kristin Burkholder, Ph.D., Carrie Byron, Ph.D.*
https://une.zoom.us/j/6261135690?pwd=eFF3M2tvaWVTNGJ4SFhmUWxYaXVIQT09

13. A Comparison of the therapeutic process between POC and White SGM individuals
Mary Lavallee '23, Hannah Luscomb '23, Sophia Simeone '23 | *Hillary Powell, Ph.D.*
https://une.zoom.us/j/8086239591

36. Mindset in Politics
Jesse Skowronski '21 | *Brian Duff, Ph.D.*
https://une.zoom.us/j/7807147382

39. Effects of Credit Load and Extracurricular Activities on College Student Stress Levels
Chloe Davis '23, Nick Vare '23 | *Christina Perazio, ABD Ph.D.*
https://une.zoom.us/j/7958586849

46. Music Era and Mode of Transportation Influence on Class Mood in Undergraduate Students
Haley Swartz-Enos '23 , Aubrie Osgood '23, Brett Miller '22 | *Christina Perazio, ABD Ph.D.*
https://une.zoom.us/j/6099533336

48. Social/Gender Stratification in Sports: A Study of why certain Sports are Associated with Certain Genders
Joseph Kucky '21 | *Kiernan Gordon, Ph.D.*
https://une.zoom.us/j/3968231360

51. College and Professional Sports: The Effects They Have On Their Local Economies
Brandon Narciso '21 | *Kiernan Gordon, Ph.D.*
https://une.zoom.us/j/6751886222

60. Full Ride: What Combined Numbers You Need to get a Scholarship
Andrew Progin '21 | *Kiernan Gordon, Ph.D.*
https://une.zoom.us/j/4359698517

11:40 A.M. - 12 P.M.

3. Vertebral chemistry distinguishes nursery habitats of juvenile shortfin mako sharks (*Isurus oxyrinchus*)
Benjamin LaFreniere '22 | *John Mohan, Ph.D.*
https://une.zoom.us/j/4210153409

8. Delta/mu opioid and dopamine D1/mu opioid receptor interactions in the central nervous system. Using dose addition analysis in rodent models to facilitate the design of more effective and/or safer drugs to treat pain.
Francesca Asmus '22, Ravin Davis '21, Hannah LaCourse '23, Meghan Smith '23, Madison Henderson '24, Emmerson Cahill '24 | *Glenn Stevenson, Ph.D.*
https://une.zoom.us/j/2271487212

12. Differences in Rejection Sensitivity and Self Esteem in Response to LGBTQ+ Discrimination
Emily Williams '22, Brianna Jewett '21 | *Julie Longua Peterson, Ph.D.*
https://une.zoom.us/j/4908849252

22. The Use of Adeno-Associated Virus - Delivered Designer Receptors Exclusively Activated by Designer Drugs (DREADD) for Neuronal Inhibition: An Experimentation into how Corticotropin Releasing Factor (CRF) affects Hypersensitivity in Rats
Skyler McComas '22, Kayla Looper '20 | *Michael Burman, Ph.D.*
https://une.zoom.us/j/3645458096

25. Plasma Levels of Collagen Triple Helix Repeat Containing 1 (CTHRC1) in an Interstitial Lung Disease Cohort
Willem Rijnbout St. James '21, | *Silvia E. Smith, Ph.D.*
https://une.zoom.us/j/2629388733

34. Actions Speak Louder Than Words: How Policies Can Reinstill Trust
Mikenzie Dwyer '21 | *Brian Duff, Ph.D.*
https://une.zoom.us/j/9531656999

43. Gifted Kid Burnout: Early Childhood Academic Pressure on Self Esteem
Jessica Minieri '23, Marley Cloutier '23 | *Christina Perazio, ABD Ph.D.*
https://une.zoom.us/j/5694714857

54. Soccer in the United States: Is Major League Soccer the next English Premier League?
Zachary Spicer '21 | *Kiernan Gordon, Ph.D*
https://une.zoom.us/j/3108665044

61. The Evolution of the Black Quarterback - WITHDRAWN
Cobey Johnson '22 | *Kiernan Gordon, Ph.D.*
https://une.zoom.us/j/2061712212

12:05 - 12:25 P.M.

10. Validating the use of tethered accelerometry data loggers to study white shark predatory behavior in the Western North Atlantic
Samantha McPherson '21 | *Gregory Skomal, Ph.D., Kathryn Ono, Ph.D., John Mohan, Ph.D., James Sulikowski, Ph.D.*
https://une.zoom.us/j/4557119915

14. Negative Gossip and Self-Esteem
Sara Authier '22 | *Julie Longua Peterson, Ph.D.*
https://une.zoom.us/j/96625867149

15. Proposed Analysis of Academic Policy related to Post Concussion experience of College Athletes
Shannon Upton '21 | *Kiernan Gordon, Ph.D.*
https://une.zoom.us/j/6657579698

17. The problem with noise: How frequency variability in humpback whale song might predict the severity of impacts of vessel noise on communication
Ashley Johnston '21, Madison Dolan '20 | *Christina Perazio, ABD Ph.D.*
https://une.zoom.us/j/5277590950

21. American Chestnut Restoration: Transgenic Blight-Tolerant Pollen Production and Analysis
Kristina Genthner '21, Virginia May '24, Tyler Riendeau '21, M.S. '22, Chase Walter '22 | *Thomas Klak, Ph.D.*
https://une.zoom.us/j/3606352859

32. COVID-19 Impact on Students Covered Under the IDEA and their Right for School Choice during a Pandemic.
Emily Thorndike '21 | *Brian Duff, Ph.D., James B. Roche, J.D., LL.M.*
https://une.zoom.us/j/7475963497

38. The Effects of Occupation and Hours of Sleep on Stress Levels Using the Reeder Stress Inventory
Mary Lavallee '23, Morgan Lindsey '23 and Lindsay Smith '23 | *Christina Perazio, ABD Ph.D.*
https://une.zoom.us/j/8305737436

41. The Effects of Social Media Use and Age on Overall Life Satisfaction Levels
Kamy Pooler '23, Maggy Aube '23 | *Christina Perazio, ABD Ph.D.*
https://une.zoom.us/j/6974127411

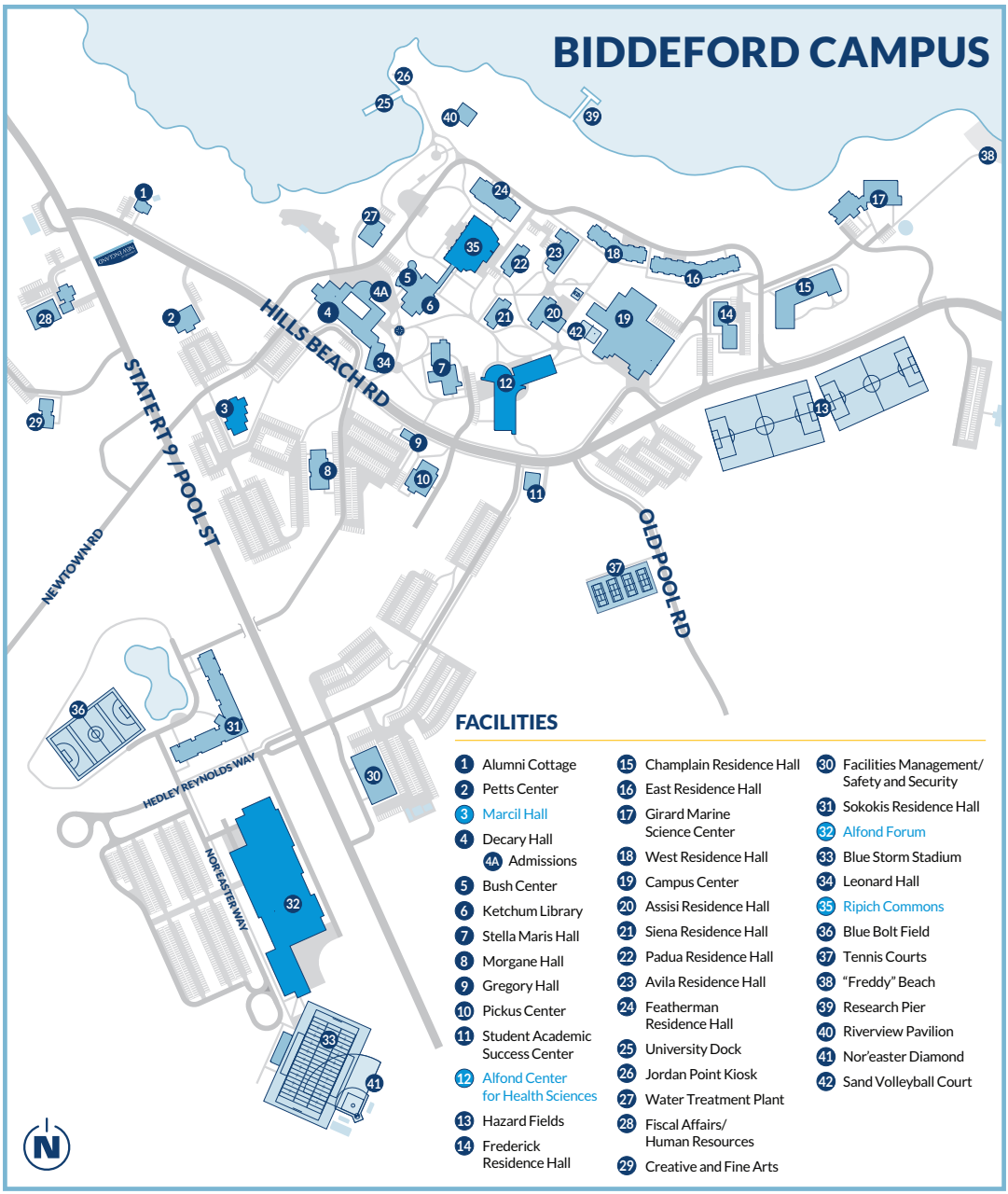
49. Myth or reality? A proposed cross-sectional study of NCAA Division III athletes to determine the value of single sport specialization at the youth level
Alex Kravchuk '21 | *Kiernan Gordon, Ph.D.*
https://une.zoom.us/j/7127434408

53. The proposed study of the effectiveness of social media sports marketing for the Olympic games
Derek Mecrones '21 | *Kiernan Gordon, Ph.D.*
https://une.zoom.us/j/7999047597

DIRECTORY

POSTERS BY AUTHOR

CAMPUS MAP


BIDDEFORD CAMPUS
HILLS BEACH RD
STATE RT 9 / POOL ST
NEWTOWN RD
OLD POOL RD
HEDLEY REYNOLDS WAY
NOR'EASTER WAY
FACILITIES
1 Alumni Cottage
2 Petts Center
3 Marcil Hall
4 Decary Hall
4A Admissions
5 Bush Center
6 Ketchum Library
7 Stella Maris Hall
8 Morgane Hall
9 Gregory Hall
10 Pickus Center
11 Student Academic Success Center
12 Alfond Center for Health Sciences
13 Hazard Fields
14 Frederick Residence Hall
15 Champlain Residence Hall
16 East Residence Hall
17 Girard Marine Science Center
18 West Residence Hall
19 Campus Center
20 Assisi Residence Hall
21 Siena Residence Hall
22 Padua Residence Hall
23 Avila Residence Hall
24 Featherman Residence Hall
25 University Dock
26 Jordan Point Kiosk
27 Water Treatment Plant
28 Fiscal Affairs/ Human Resources
29 Creative and Fine Arts
30 Facilities Management/ Safety and Security
31 Sokokis Residence Hall
32 Alfond Forum
33 Blue Storm Stadium
34 Leonard Hall
35 Ripich Commons
36 Blue Bolt Field
37 Tennis Courts
38 "Freddy" Beach
39 Research Pier
40 Riverview Pavilion
41 Nor'easter Diamond
42 Sand Volleyball Court

THANK YOU

THANK YOU!

The 21st Annual College of Arts and Sciences Spring Research Symposium would not be possible without the support of many individuals and organizations who each contribute in their own ways. That our students have been able to carry out such creative and high-quality work even during a global pandemic is a testament to the dedication of — and collaboration between — many parties.

First, a hearty **thank you** to the faculty and staff mentors who have supported the students in carrying out their research or class projects presented here today. Your generosity of time and effort has allowed the students to complete truly remarkable work.

Thank you also to the many faculty and professional staff members who have volunteered their time and expertise to assist with today's program. Appreciation is also extended to UNE Conference Services and the Communications team for their help in executing our event. A special note of thanks to the student Research Experience Club for their contributions.

Several agencies have sponsored the students' research through fellowships and grants, and funding information is listed individually with each project. Additionally, we thank the UNE Office of Research and Scholarship for their investment in our students.

Finally, a warm thank you to Erinn Stetson for her keen eye, organizational wizardry, general event planning savviness, and dedication to making this symposium a success.

—Dr. Amy Keirstead

UNIVERSITY OF
NEW ENGLAND

INNOVATION FOR A HEALTHIER PLANET