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| **Monday December 5th** | | |
| **Time** | **Location** |  |
| 1pm | Atrium Conference room CMS  <https://uncw.zoom.us/j/85129196371?pwd=em9ScWQxbGVnVU9TTG5MeUk0L0tnQT09> | Student: Morgan Penrose  Major: Marine Biology  Faculty Supervisor: Troy Alphin  **Comparing historic and modern abundance and spatial distribution of Sciaenidae in the Cape Fear River Estuary**  Estuaries are important sites of suitable habitat for fish during their juvenile life stage. They can be a refuge from predators and supply food for juveniles. A Partnership for Sustainable Fishery Management, funded by the NCDMF Coastal Recreational Fishing License program, seeks to better understand the habitat utilization of juvenile fish species in the Cape Fear River Estuary. This study looks to compare historic and modern spatial distribution and abundance of two Sciaenidae species—Micropogonias undulatus (Atlantic croaker) and Leiostomus xanthurus (spot). The juvenile life stage is crucial as it can be a significant indicator for the overall health of the fisheries. Findings indicated a significant difference in abundance among the three sampled sites. Further analysis highlighted a low abundance of Sciaenids in upper, oligohaline estuarine waters, suggesting the distribution of Sciaenids in the CFRE is concentrated in the middle to lower regions of the estuary where salinity ranges from ~5-30‰. |
| 2pm | VH 3001 | Student: Scott Gere  Major: Chemistry and Computer Science  Faculty Supervisor: Dr. Antje Almeida  **Automation and Preliminary Validation of a Cost-Effective Langmuir Trough** A cost-effective Langmuir trough was developed in the Almeida lab at The University of North Carolina Wilmington. Preliminary validation of the device has shown that it can read the intermolecular pressure of a lipid monolayer between 0 and 80 mN/m with an R-squared of 0.9997. It is also capable of consistently compressing, or allowing for the expansion of, a lipid monolayer over the region necessary to produce a useful surface pressure isotherm. Isotherms produced by the device were found to closely match those from multiple literature sources. The computer application developed for the device allows for calibration of its components, user specification of important sampling parameters, and the automatic generation of data sets representing isotherm plots. |
| **Wednesday December 7th** | | |
| 1pm | [https://uncw.zoom.us/j/83097261927?pwd=VDFLekNJWDBjTHRyWWtsTGl1eFJFUT09](https://uncw.zoom.us/j/83097261927?pwd=VDFLekNJWDBjTHRyWWtsTGl1eFJFUT09%20%20)  Meeting ID: 830 9726 1927 Passcode: 972558 | Student: Tessa Rogers  Major: Biology  Faculty Supervisor: Dr. Larry Cahoon  **Analyzing the Application of Nuisance and Trespassing Laws to Pollution**  Common law concepts, such as nuisance and trespass, have been around since the early 1100s and many of their basic principles still hold true; one cannot interfere with another’s right to enjoy their property. Today, almost every person in America is subject to pollution. Pollution is the harmful and unwanted presence of discharges onto a person's land or into their water and air. So where is the disconnect? Why should we be subject to any company's pollution without our consent? While statutory law acts to protect citizens, there are still some great discrepancies; nuisance can fill that void. After examining the history of nuisance cases and precedents related to pollution, it is clear that nuisance has a place in the fight against pollution. |
| **Thursday December 8th** | | |
| 9am | [https://uncw.zoom.us/j/5474724711](https://uncw.zoom.us/j/5474724711%20%20)  Meeting ID: 547 472 4711 | Student: Zachary Feinmel  Major: Economics  Faculty Supervisor: Dr. Allison Witman  **Analyzing the Impact of Economic Fluctuations on the Prostitution Labor Market**  This paper analyzes the effects of various economic factors including Real State Gross Domestic Product, the State unemployment rate, and annual average State wages on the prostitution labor market as measured by the number of incidents between law enforcement officers and sex workers. I control for state-level economic and sociodemographic factors using control variables and a fixed effects regression model containing controls for both state and year effects. I found no significant relationship between either the unemployment rate or wage levels and prostitution incidents, however I found that a 1% increase in State GDP led to a 2% decrease in prostitution incidents, ceteris paribus. |
| 10:30am | CH 13 | Student: Michael Morell  Major: Business Administration; Concentration in Economics  Faculty Supervisor: Dr. Isaac Loh  **Private vs. Public: Which Type of Funding Produces More Economic Output from MLS Stadiums**  This project looks at the rapidly expanding MLS in the United States. With new teams joining the league, stadiums are designed and built in cities across the country. In order to develop these stadiums, ownership groups need to generate funds either privately or publicly to build the stadium. Within this paper, we take a look at which type of funding generates more economic output within the cities that these stadiums reside in. I utilized a panel linear model with an event study along with Synthetic Controls to determine the effects of building an MLS stadium with private and public funding. Ultimately the addition of stadiums failed to yield any significant change in real GDP per capita leading to the conclusion that neither form of funding produces a change in real GDP per capita. |
| 11am | DOBO 1017  [https://uncw.zoom.us/j/83504612394?pwd=K0k0enoxU2lxc3pJbXM1OUJVVWFqdz09](https://uncw.zoom.us/j/83504612394?pwd=K0k0enoxU2lxc3pJbXM1OUJVVWFqdz09%20)  Meeting ID: 835 0461 2394 Passcode: 1234 | Student: Emily Krasic  Major: Biology  Faculty Supervisor: Dr. Michael Tift  **Expression of Genes Related to the Carbon Monoxide and Antioxidant Pathways in Elephant Seal and Human Arterial Endothelial Primary Cells**  Ischemia/reperfusion (I/R) causes tissue damage by increasing cellular oxidative stress. However, tissues of marine mammals routinely experience I/R while diving without damage. Carbon monoxide (CO) is naturally produced via heme oxygenase (HO) enzymes and has anti-oxidative properties in moderate concentrations. Interestingly, elephant seals have high CO concentrations in their blood that may help resist I/R injuries. This study compares gene expression of the HO/CO pathway in human and elephant seal endothelial cells exposed to oxidative stress. Gene expression was measured for HMOX1, HMOX2, Nrf2, BVR, and GPx4 from cells exposed to increasing heme treatments. HMOX1, BVR, Nrf2, and GPx4 gene expression was higher in seals compared to humans at 10uM heme, suggesting the genetic response of the HO/CO pathway is more sensitive to oxidative stress in seals. These mechanisms may explain why certain marine mammals tolerate routine I/R. |
| 1:30pm | VH 1503 | Student: Claire Ostadi  Major: Exercise Science Allied Health  Faculty Supervisor: Dr. Yea-Jyh Chen  **Biofeedback Responses between Reiki and Sound Therapies in Breast Cancer Survivors**  The purpose of this pilot study was to investigate the stress related biofeedback responses in breast cancer survivors using Reiki and Sound Healing (RH & SH) therapies as a complementary health approach. RH and SH therapies are known to reduce stress and improve overall health; however, the most effective complementary modality remains inconclusive in breast cancer care. This perspective, randomized control trial was conducted to enroll breast cancer survivors to either the RH group (n=6) or the SH group (n=7). The before-and-after biofeedback outcomes measured included heart rate variability (HRV) and body energy levels. Compared to the SH group, the RH participants who had higher baseline stress showed a positive increase in HRV and body energy post-Reiki. Overall, RH has a potential positive effect on HRV and energy levels in comparison to SH. This preliminary data provides initial insight into biofeedback changes, but further research is needed. |
| 3pm | Teaching Lab 1011  [https://us04web.zoom.us/j/2408732886?pwd=YnczT1hhNmszaUtIalBUVTJSem81Zz09](https://us04web.zoom.us/j/2408732886?pwd=YnczT1hhNmszaUtIalBUVTJSem81Zz09%20%20)  Meeting ID: 240 873 2886 Passcode: 143177 | Student: Nora Smahi  Major: Biology and International Studies  Faculty Supervisor: Dr. Julia Morris  **Politics of the Veil: A More Inclusive Feminism**  The political controversies surrounding the veil has turned Muslim women into symbols representing anything but themselves. From enlisting women to justify American involvement in the Middle East to making them a case for the “war on terror,” the West has turned Muslim women into this symbol of oppression, dismissing their culture, beliefs, and history. So too, for Muslim women residing on American territory, societal perceptions, misconceptions, and attitudes toward them affect their daily lives.  Proponents of post-colonial feminism have pointed out how the white middle-class heterosexual feminism movement has dominated the politics of feminism with a universal claim for validity. This paper argues the need for a more inclusive definition of “feminism” that ensures Muslim women, too, are afforded the same rights and protections guaranteed to all Americans regardless of race, ethnicity, and religious belief. |
| 3pm | VH 3007 | Student: Liezel Koellner  Major: Chemistry with Biochemistry Concentration  Faculty Supervisor: Dr. Christopher Halkides  **Synthesis of covalent inhibitors and Trojan horses against aspartate beta-semialdehyde dehydrogenase**  The synthesis of vinyl sulfones and vinyl acrylamides that will target the enzyme aspartate β-semialdehyde dehydrogenase (ASADH) that is present in bacterial or fungal species was initially developed due to docking studies that predicted an irreversible inactivation of the enzyme. The vinyl sulfones have been tested against CalASADH resulting in an irreversible enzyme inhibition. Syntheses were performed to alter the substituent of the inhibitor to resemble the substrate - aspartyl phosphate, to increase the rate of inactivation and specificity of the inhibitor against ASADH. Transport molecules in the form of glycosides or galactosides were coupled to the vinyl sulfones to determine whether the inhibitors will access the cell membrane through biological transport versus simple diffusion. |
| **Monday December 12th** | | |
| 10am | EB 337 | Student: Camille Bayer  Major: Elementary Education  Faculty Supervisor: Dr. James Stocker  **A Comparison of Strategic Incremental Rehearsal and Frequency Building on Learning Rate of Sight Words**  Beginning readers often require efficient and effective instructional sequences to achieve and maintain grade-level proficiency. The present study compares two evidence-based interventions, explicit instruction plus frequency building and strategic incremental rehearsal, on the acquisition and fluent expression of unknown sight words. Participants included three kindergarten students from an urban elementary school in the southeastern United States. The students received 7-10 minutes of intensive intervention per day over nine school days, with equal practice time allocated to each intervention condition. Although both interventions had a significant effect on word reading performance, results suggest all three students exhibited more favorable outcomes from the explicit instruction plus frequency-building intervention. |