2019 ABSTRACTS

Navigate by Department/Specialty*

*Note: Visual and performance arts presenters may major in a different discipline. Visit their session pages to review all artistic presentations and abstracts together.

Accounting
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School of Hotel, Restaurant, & Tourism
School of Naval Architecture & Marine Engineering
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School of the Arts: Music
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Accounting

E-Central Assessor

Ms. Dahlia Daniel
Mentor: Cherie Trumbach

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #102

This product will periodically collect data from each municipal assessor's office, organize, filter and verify the data and then populate an internal proprietary database through API integration or web crawlers. Here, the database will hold the Master Files and be the centralized collection of data from all sources. This data will then be analyzed and reported in a standardized format compatible with an internally managed Geographic Information System (GIS). This allows mapping of attribute data onto geographic layers through a user portal (centralized portal). Customers with a username and password can access the information through mapping and search query functionality. The database will be housed and accessible through third-party server networks, such as Amazon Web Services. The software will be created by a team of developers who will use the Agile methodology to create sprints. This way we will have testable, deliverable products along the way.

This product focuses on providing clear, correct and useful data for commercial real estate property ownership and specific property details to consumers across municipal boundaries and market areas. Some states within the United States, do not require local governing bodies to provide accurate and accessible property ownership and property detail information to the public. The lack of transparent information causes inefficiencies in the free-market process which drive real estate and private-industry businesses. This software will be independent of any professional trade association, real estate brokerage or appraisal company, or municipal government authority.

Budgeting for Small Non-Profit Organizations: A Year Long Field Study of Budgeting Techniques for University Organization

Miss Chloe Krake
Mentor: Gina Rosa

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #238

The purpose of this thesis is to explore the different styles of budgeting techniques for the Delta Epsilon chapter of Alpha Xi Delta on the University of New Orleans campus. A literature review combined with a calendar year long field study as the Finance and Operations Vice President of the sorority is used to determine the most effective form of budgeting. This study was created to develop an effective budgeting technique for small nonprofit organizations on university campuses.

People vs Place

Ms. Jessy Mogren with Gaige Hargrave
Mentor: Steven Mumford

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #237

the purpose of our research was to determine if mixed income housing projects under the HUD HOPE VI initiative provide adequate people and place based outcomes for low income residents. Mixed income housing under P3s have become a common tool for urban redevelopment within the US, but the complicated nature of such partnerships has produced varying outcomes in the country. We look at three similar case studies to compare management flaws that contributed to the projects people and place based results. the mismanagement of these projects needs to be addressed to ensure low income residents benefit from HOPE VI redevelopments for years to come.

BACK TO FINDER

Anthropology & Sociology

2019 Summer Archeological Field School: Exploring the Relevance of Context and Provenience in Excavating Human Remains on a Military Aircraft Crash site

Ms. Misty Begnaud
Mentor: D. Ryan Gray

November 19 at 9:00 AM
LIB 407

In July 1944, The United States Army Air Force conducted B17 bombing raids over the German Alps that targeted an aircraft production line in Memmingen, Germany. This past summer, under the direction of University of New Orleans' associate professor of anthropology Dr. Ryan Gray and, in partnership with the Defense POW/MIA Accounting Agency (DPAA), the Anthropology Department hosted an archeological field school focused on excavating an associated crash site in Bavaria and recovering the remains of U.S. Airmen who perished at the site. In this presentation I will briefly review the historical circumstances surrounding the B17 crash. The unique mission of the DPAA prioritizes the expeditious yet thorough recovery of human remains through forensic archeology. Such an emphasis yields nuanced methodologies that differ from standard archeological approaches. In addition to highlighting specific methods and challenges of the DPAA mission, this presentation will illustrate the important role that provenience and historical context plays in accomplishing the objective of identifying location specificity with the highest probability of recovering the remains of long-lost military service members.

The Analysis of Data of Animal Remains from the Passebon Cottage

Ms. Skylar McCrea with Ryan Kennedy
Mentor: D. Ryan Gray

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #233

In my research, I examine animal remains recovered from a midden deposit at the Passebon Cottage site (16OR142), an archaeological site in Tremé. Passebon Cottage served as a local store in the late 19th century, and the site is the subject of ongoing research by Dr. Ryan Gray of the University of New Orleans. The identified skeletal remains include a variety of mammals, birds, and fish, including common domestic species like pigs and cattle as well as a range of wild animals from local environments. The data I collected give insight into the kinds of animal products that were sold at this site in the 19th century, as well as the kinds of animals that were frequently consumed in this area at the time. These remains also give evidence about domestic and wild animals that were possibly living on or near this site, including rabbits and birds. I discuss what the data I collected tell us about 19th-century food practices and food supply in Tremé, and I suggest further analyses that can give additional insights into the local economy at the time and what meats were being imported from other places and what was raised or hunted locally.

How Chefs of Color Are Represented in the Media

Ms. Dorian Reardon
Mentor: David Beriss

November 19 at 9:15 AM
LIB 407

Objectives:

- To explore how restaurants are spaces where we work out social controversies.

- To define how race of chefs and cooks in New Orleans dining are represented.

- To consider if mere representation in media is an acceptable salve when bias and selective narratives paint an inaccurate portrait.

- To understand how the lens of media perpetuates stereotypes of people of color as opposed to recognizing the innovation and solidarity their white counterparts in the industry have been celebrated for.

- To discover policy changes that include diversity, representation, and transparency within the restaurant industry and how they are being implemented.

Summary: Most chefs that speak for New Orleans cuisine are not racially diverse. This presentation will focus on insights surrounding how chefs of color are represented, how improved national recognition is not equitably reflected in New Orleans, the steps being taken to bridge this gap, and the media-centric narrative that needs to be redefined.

Food Norms and Customs in Modern Day Japan and What It Says About the Gender Roles in the United States

Ms. Johari Reynolds
Mentor: David Beriss

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #235

Statement of Objectives:

- To evaluate the purpose of food advertisement.

- To study the effects of advertisement in social constructionism.

- To provide insight of how impactful behavioral roles are on advertisement in contemporary society.

Advertisement with reference to food indirectly reinforces gender roles in Japan. Roles are often assigned to females and males as a way to predict how they should behave. Gender roles also vary because every culture has a different norm and that causes the assigned gender roles to indirectly regulate members of society. In Japan, food advertisement concerning the assignment of roles within certain genders is not necessarily negative, however, is something to be mindful of when studying food culture in this society as being influential. Gender roles characterize and provide a foundation for the food customs and norms which causes advertisement surrounding food to strengthen certain gender roles in Japan in modern society. Historically and contemporarily, this research focuses on how food in advertisement plays a role in the theory of social constructionism.

Peer Pressure Amongst Teens

Ms. Jordyn Wilson with Steward Aime, Christiaan Robinson
Mentor: Andre Varnado, Sr.

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #245

Over the past 6 weeks, the researchers explored Peer Pressure among teenagers. While studying this challenging topic, the group began to wonder about peer pressure and smoking. The group then later came up with a null hypothesis and an alternative hypothesis asking about peer pressure when it came to smoking. After making a hypothesis, the group conducted an experiment using Survey Monkey. On Survey Monkey the group asked questions about friends who smoked and if the individual smoked also. The group began to analyze the results and realized that teens smoked because of three main reasons: The high, they are addicted to it, and they are influenced by their friends who do it. Since a majority of the answers showed that teens smoke because their friends do it; the group was able to come to the conclusion that many teenagers smoked weed because they felt the pressure to do it from their friends.

BACK TO FINDER

Biological Science

Bite force influences intersexual conflict and sexual selection in the house cricket (Achaeta domesticus)

Miss Fadeke Adeola
Mentor: Simon Lailvaux

November 20 at 1:45 PM
LIB 407

Mating interactions are rife with conflict because the evolutionary interests of males and females seldom coincide. Intersexual conflict modifies the opportunity, form, and intensity of sexual selection, yet the proximate factors affecting male coercive ability and female resistance are poorly understood. Male combat outcomes are often influenced by bite force, with superior biters being more likely to achieve victory over poorer biters in a range of species, including crickets. If good performers also achieve mating success through sexual coercion, then bite force might play a role in intersexual conflict as well. We tested the capacity of bite force to influence mating interactions in house crickets by altering male bite capacity through neuropharmacological manipulation. The invertebrate neurotransmitter octopamine both mediates aggression and underlies motivation to bite in male house crickets. By blocking octopamine receptors through application of an antagonist, epinastine, we tested the effects of reduced bite force on male mating success relative to either control males or males treated with excess octopamine. We show, using formal selection analysis, that male bite capacity influences sexual selection resulting from intersexual conflict in house crickets.

Niche differentiation among four common orb-weaving spider species at Jean Lafitte National Park

Mr. Abdel Alkhatib with Kenatte Cannon, Katelyn Cauley, Gabrielle Marcel
Mentor: Jerome Howard

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #170

The ecological niche is the suite of requirements and tolerances that permit a species to survive and reproduce in nature. In ecology, the competitive exclusion principle states that species can coexist only if their niches differ in one or more important ways. Orb-weaving spiders feed opportunistically on insects, and reveal the characteristics of their feeding niches through the locations and characteristics of their webs. We studied the height, diameter, orientation, and distance from vegetation of webs of four common orb-weaving spiders at Jean Lafitte National Park to determine how their feeding niches differ. We predicted that each spider species would differ from all others in at least one way. Over a five year period, our class measured the webs of 235 different spiders: 11 Argiope aurantia, 55 Gasteracantha cancriformis, 122 Leucauge venusta, and 47 Nephila clavipes. Each of the four species differed significantly from all others in at least one web characteristic. Gasteracantha and Nephila built webs significantly higher than Argiope and Leucauge. Gasteracantha built significantly smaller webs than Nephila, while Leucauge built webs that were smaller, closer to vegetation, and more horizontal in orientation than Argiope.

Hello, can you hear me? Effects of engine noise from large boats on wild populations of sound producing fishes in the Gulf of Mexico

Ms. Ariel Alonso with Nicole Cheramie
Mentor: Kelly Boyle

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #232

Continued human population growth is creating more noise on land and in sea, which is a potential problem for many animals, including marine species. The goal of this research project is to get an understanding about whether sound producing fish species are affected by engine noise from large boats and vessels. This project involves the analysis of underwater sound data collected with a hydrophone in the Gulf of Mexico off Dauphin Island, Alabama over regular intervals throughout a 1.5 year period. Hydrophone recordings were made around the early evening beginning before sunset and captured the sounds of spawning fishes as well as noise from passing vessels. For the current project, these data have been transferred to a computer for detailed observation and analysis. To test our hypothesis, our approach was to listen to these sound data and use spectrographic analysis around time periods associated with intense vessel noise. We are quantifying fish sound events before vessel noise (five minutes prior), during passing vessel noise, and after (five minutes after). In addition, we are identifying species based on published accounts of fish sounds of the Gulf of Mexico. This analysis will test whether fish change their rate of sound production after loud vessels pass and may provide knowledge of whether fish are affected by such noise. The results and analysis are still in progress. We have observed fish sounds from several species occurring before, during and after vessel noise events.

A global phylogeny and chromosomal evolution in wild onions (Allium, Amaryllidaceae)

Mrs. Courtney Babin
Mentor: Charles Bell

November 20 at 1:30 PM
LIB 407

Polyploidy, the event of increasing nuclear chromosomes, is believed to be a significant driver of diversification among land plants. In addition to whole-genome duplication, other common mechanisms of chromosome number evolution include half-genome increases (demi-polyploidy), gains or losses of single chromosomes that alter the DNA content of an organism (aneuploidy), or chromosome fission or fusion (ascending dysploidy or descending dysploidy, respectively). Considering the high variability in chromosome number transitions across multiple clades within angiosperms and the ancient genome duplication events responsible for their diversity, studies of non-model systems are necessary to close the gaps in our understanding of chromosomal evolution with respect to polyploid plants. Allium (Amaryllidaceae) is an ideal candidate for polyploid research because it is the largest genus in its family and includes numerous natural populations of diploid and polyploid species. Plants in this genus mainly occupy temperate climates in the Northern Hemisphere and include economically important ornamentals and cultivated crops such as leeks, garlic, chives, and onion varieties. Here, we present a global molecular phylogeny of Allium comprising 429 of approximately 800 species. We examined chromosomal evolution with chromEvol v. 2.0 (Glick and Mayrose, 2014) which uses likelihood-based methods for inferring the pattern of chromosome number change across a phylogeny. The best-fit model of chromosomal evolution indicated that chromosome transitions occurred through the constant gains and losses of single chromosomes as well as demi-polyploidization events, with the rate of chromosome gain events being approximately four to five times more likely to occur than half-duplication and loss events.

Prevalence of Type II Diabetes Mellitus (T2DM) in the United States

Ms. Laura Brailsford with Cydney Martin
Mentor: Edmond Kabagambe

November 20 at 1:15 PM
LIB 407

Type II diabetes mellitus is a chronic, debilitating health condition that affects the metabolism of glucose and the regulation of the hormone insulin in the human body. Previous studies have established a linked between Type II diabetes mellitus and the following conditions: heart disease, stroke, vision loss, limb amputation, kidney disease, and a 10-year shorter life span. Over the past two decades, the national averages of type II diabetes mellitus have increased resulting in the need to evaluate factors influencing this trend. This study compared national and state averages of type II diabetes mellitus with other related conditions to determine common trends. The method used for this study was a survey of publish data from the Center for Disease Control and peer reviewed articles from PubMed. The results from the data showed in 2016, Louisiana's average for type II diabetes mellitus was 11.1% while the national

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average was 8.8%. Averages for American Indians or Alaskan Natives were the highest at 15.7%. It was concluded the prevalence of type II diabetes mellitus had a higher association in populations that primarily consist of American Indians or Alaskan Native, Native Hawaiian or other Pacific Islanders, and African Americans that are 65+ in age and have below a high school level of education.

MpeV is the PEB lyase-isomerase for the doubly linked bilin on the β-subunit of phycoerythrin I & II

Mrs. Lyndsay Carrigee
Mentor: Wendy Schluchter

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #106

Marine cyanobacteria in the genus Synechococcus are found ubiquitously around the world due to their ability to utilize various wavelengths of light for photosynthesis. The phycobilisome (PBS) in Synechococcus sp. RS9916 (hereafter, RS9916) contains two types of phycoerythrin (PEI and PEII) as the phycobiliproteins most distal on the rods. In RS9916, specialized lyases called lyase-isomerases, attach phycoerythrobilin (PEB) and simultaneously isomerize it to phycourobilin (PUB). MpeV is a putative lyase-isomerase in RS9916 which isomerizes PEB to PUB at Cys-50 and Cys 61 on the beta subunit of PEI (CpeB). MpeV is similar to CpeF from Fremyella diplosiphon (Fd) which attaches PEB to CpeB [1]. Using a protein expression system in E. coli, purified recombinant CpeB expressed with MpeV and bilin synthesis genes was analyzed by absorbance and fluorescence spectroscopy followed by SDS-PAGE and LC-MS-MS. Results show MpeV covalently attaches PUB to Cys-50, 61 of CpeB. This activity increases when CpeB is partially chromophorylated by CpeS, a lyase that adds PEB to Cys-82, with a further increase in efficiency when coexpressed with CpeZ, a homolog of a chaperone-like protein in Fd [2]. Activity of MpeV on the beta subunit of PEII (MpeB) was similarly analyzed, and PUB ligation is also detected at the Cys-50, 61 residues. MpeV showed no detectable lyase activity on the alpha subunits of PEI or PEII.

[1] Kronfel et al., 2019. J. Biol. Chem. 2019, 294, 3987-3999.
[2] Biswas et al., 2011, J. Biol. Chem. 2011, 286 (41), 35509–35521.

Effects of elevation on woody plant communities and species distributions in Jean Lafitte National Park

Ms. Myla Dapremont with Gianni Millan
Mentor: Jerome Howard

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #215

Broadleaved wetland forests of south Louisiana grow in areas of low vertical relief, but still experience variation in moisture availability across elevation gradients. We studied two areas in the Big Woods of Jean Lafitte National Park to determine if plant community characteristics and the distributions of individual species of woody plants differ according to elevation and thus moisture availability. Over a period of five years our class sampled five 100m2 quadrats at 4-5 m in elevation and at 1-2 m in elevation, and compared mean stem density, species richness (number of species in a sample) and the Shannon diversity index (species richness adjusted for relative abundance of each species) at the two elevations. We identified a total of 18 species of trees, shrubs, vines, and palmettoes in our samples. Density, richness, and Shannon diversity did not differ significantly between high and low elevation sites. However, Sweet Gum (Liquidambar styraciflua) was significantly more common at low elevations and several other species showed a bias toward either high or low elevation. We conclude that although the bottomland hardwood forest community as a whole does not exhibit strong responses to elevation (and thus moisture availability), some species may be better adapted to wetter or drier conditions.

Investigating for the presence of marine oomycete pathogens in submerged aquatic vegetation habitat within Lake Pontchartrain (Gulf of Mexico, Louisiana)

Miss Paula Dinh with Esra Ozturk Yigit, Anastasia Konefal, Amanda Kirkland
Mentor: T. Erin Cox

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #228

Submerged aquatic vegetation (SAV) beds are known to provide ecological services beneficial for humans. A recent study discovered that marine oomycetes Phytophthora and Halophytophthora infect seeds of a temperate SAV species, Zostera marina, in the North Atlantic and Mediterranean Sea which reduce germination six-fold. Subsequently, these pathogens have the potential to negatively impact restoration efforts and decimate SAV populations. We are interested in investigating the possible presence of Phytophthora and

Halophytophthora spp. in SAV habitat within the GOM and if they negatively affect seeds of SAV species outside of Z. marina. As a first step in this process, our objective was to identify the presence and spatial extent of Phytophthora and Halophytophthora spp. in SAV habitat within Lake Pontchartrain. We placed oomycete "baits" which consisted of 10 bags of apples (2 per bag) around the north and south shores of the lake. These locations are monitored weekly for water quality and are located near SAV beds. Visible signs of spotting, or bruising, on apples determines the presence of oomycetes followed by verification of identity with DNA sequencing. Prior to deployment, each apple was washed and marked for existing spots as to not confuse the existing spots with potential spots of infection. Baits were left over a two-day period. We are in the process of collecting and analyzing baits. Preliminary results will be presented.

CRISPR-mediated mutagenesis of a transcription factor binding site in yeast

Ms. Chelsea Duplantis with Megan Kuckro
Mentor: Mary Clancy

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #225

Objective: To understand the regulation of the IME4 sense/antisense gene pair in yeast.

Methods: CRISPR genome editing will be used to create mutations in DNA sequences governing the alternative expression of the protein-coding IME4 gene and its antisense regulatory RNA. The CRISPR DNA nuclease (Cas9) is targeted to specific locations in the genome by means of "guide" RNAs that lead to double-stranded DNA breaks at the complementary DNA sequence. In experimental systems, the breaks are then repaired (edited) by "homology repair" templates containing desired mutations. We are currently using this system to examine the role of a binding site for the general transcription factor, Reb1, that is believed to program a nucleosome-free region in the promoter region of the antisense RNA.

Results: We cloned guide oligonucleotides into a yeast plasmid that encodes the Cas9 nuclease to direct the nuclease to the vicinity of the Reb1 site. Yeast transformants expressing the nuclease alone were viable, but those that also express the targeting "guide" RNA were largely inviable, because the double-strand breaks created by the nuclease are repaired very inefficiently. To create the desired mutations, we transformed these cells with a combination of the nuclease, guide and homology repair templates. Two different repair templates were used, one a 120 bp double-stranded DNA oligonucleotide that lacks the Reb1 binding site. The second repair template was a PCR product also containing the desired mutation. Both templates rescued the lethality of the Cas9 guided DNA breaks, implying that the intended repair was successful. Characterization of the resulting transformants is in progress.

Summary and conclusions: The CRISPR system shows promise as an experimental means to explore the regulation of these genes.

Effects of Donor Macrosteatosis and Post-Transplant complement activation on Early Allograft Dysfunction

Mr. Mohammad Hamed
Mentor: Paul Thevenot

November 20 at 1:00 PM
LIB 407

Liver transplantation provides a curative option for patients with underlying cirrhosis. However, organ shortage continues to increase waitlist mortality. To combat this, less than optimal organs have been used for transplantation. These extended criteria donor grafts are accompanied by increased risk of both graft failure and decreased patient survival. Despite the risk, ECD grafts have led to reduced wait times and increased waitlist mortality. Designations for ECD include: donor age > 60, donation after cardiac death, viral infections, and steatosis. In this study, we investigated the impact of donor macrosteatosis on early allograft dysfunction, complement activation, and inflammatory mediators in recipients. Cohort consisted of patients who received a liver transplant at Ochsner Medical Center from November 2011 – April 2019. Clinical variables and donor macrosteatosis percentages were retrospectively extracted from the electronic medical record. Recipient blood samples were collected immediately following liver transplantation in a subset of cohort. Multiple indices to determine early allograft dysfunction were calculated. As expected, increases in donor macrosteatosis led to significant increases in liver enzymes, INR, and bilirubin, all measures of liver damage. Higher levels of early allograft dysfunction were also found in patients receiving donor grafts with > 20% macrosteatosis. These patients had increased complement activation of both C3a and C5a, and significantly higher levels of the alarmin IL-33. In conclusion, donors with > 20% macrosteatosis result in higher levels of liver damage, complement activation, and alarmin release. Proactive measures of lower complement activation may decrease presence of early allograft dysfunction.

Assembling the Scaptomyza anomala genome using the novel Oxford Nanopore sequencing Technology

Ms. Dana Karkoutli with Anna Rusnak, Mary Rinker
Mentor: Joel Atallah

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #227

The DNA from 75 female flies from the species Scaptomyza anomala was extracted using a phenol-free extraction protocol in order to obtain high-quality genome using the novel single-molecule sequencing technology. The conventional way of sequencing the flies genome is using the Illumina platform. However, the detection power of variation in the genomes is limited by the short reads when using Illumina. Theoretically, the unlimited length of a sequencing read offered by the new device of Oxford Nanopore allows for better genome assemblies. In addition, the data obtained from this long-read sequencing technique provides potential answers for many questions about the diversification of Scaptomyza flies. The nanopore row data was processed to sequence the genome using MinKNOW Interpretation and Amazon Web Services. The efficiency of this novel cost-efficient sequencing tool was investigated according to the quality of Scaptomyza anomala genome yielded.

The tradeoff between growth and reproduction in Chinese tallow tree (Triadica sebifera)

Ms. Rhys Kinchen with Gabrielle Bonck
Mentor: Jerome Howard

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #169

Organisms face tradeoffs when allocating energy to functions such as growth and reproduction. Nearly all organisms have a juvenile phase during which they allocate energy exclusively to growth and survival. Reproduction typically begins only after reaching some minimum age or size. We investigated this tradeoff in the invasive species Triadica sebifera (L.) Small (Euphorbiaceae), Chinese tallow tree. Specifically, we asked at what size trees typically begin reproducing by seed. We measured diameter at breast height (DBH, 1.3 m) of 105 trees at Bayou Sauvage National Wildlife Refuge, in New Orleans East, 58 bearing seeds and 47 without seeds. DBH of trees bearing seeds ranged from 1.3-52 cm, with a mean of 18.5 ±10.7 cm, while DBH of trees lacking seeds ranged from 1.1-36.2 cm, with a mean of 9.9 ±9.2 cm. Although these distributions showed broad overlap, logistic regression revealed a significant relationship between DBH and probability of reproduction by seeds. Odds ratios derived from the regression revealed that each increase in DBH of 1 cm increased the probability of reproduction by 11.6%. The inflection point of the logistic regression (probability of reproduction = 50%) occurred at a DBH of 11.7 cm. This diameter is relatively small for a tree and leads to early and abundant seed production, which contributes to the success of T. sebifera as an invasive species.

Editing the genome of the Hawaiian Drosophila, D. grimshawi, using CRISPR/Cas9

Miss Kristen Latour with Bronwyn Miller
Mentor: Joel Atallah

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #223

Approximately one quarter of Drosophila species are endemic to the islands of Hawaii. They have unique life histories and characteristics which make them difficult to study. We aim to edit the genome of the Hawaiian species, D. grimshawi, for the first time using CRISPR/Cas9. We double digested a pET28a plasmid containing a 6xHis tagged recombinant Cas9 protein and inserted the D. melanogaster yolk protein 1 (YP1) and mCherry. Thus creating a fusion protein which we refer to as Cas9-mCherry-YP1. Yolk proteins are synthesized in the fat bodies of the fly during egg production; they travel through the hemolymph and enter the ovaries by receptor mediated endocytosis. By injecting the fusion protein coupled with CRISPR guide RNA (gRNA) into the thorax of adult female flies, the YP1 gene will allow access to the ovaries to edit the eggs being produced prior to fertilization. Once injected, fluorescence in the ovaries indicates that our fusion protein has successfully entered the ovaries. Future directions of our study include conducting a time course evaluation to determine the most optimal time for injection post yeast feeding.

Editing the genome of the Hawaiian Drosophila, D. grimshawi using CRISPR-Cas9

Ms. Bronwyn Miller with Kristen Latour
Mentor: Joel Atallah

November 20 at 3:45 PM
LIB 407

Hawaiian Drosophila comprise 25% of Drosophila species worldwide. Studying this lineage has historically proven difficult due to their long generation times, specific host plants, and unique life histories. This study aims to edit the genome of a Hawaiian fly for the first time; Specifically, the Hawaiian picture-wing species, D. grimshawi, using CRISPR/Cas9. To do this, We double digested a pET28a plasmid containing a 6xHis tagged recombinant Cas9 protein and inserted the D. melanogaster yolk protein 1 (YP1) and mCherry. The YP1 gene is synthesized in the fat bodies of female flies during egg production and is able to enter the ovaries by receptor-mediated endocytosis. By injecting the protein complexed with CRISPR guide RNA into the thorax of the fly, we believe the YP1 gene will enable the CRISPR protein complexed with the gRNA to enter the ovaries and edit the eggs being synthesized prior to fertilization. After the first injections, ovaries will be dissected and visualized with fluorescent microscopy. fluorescence in the ovaries indicates that our fusion protein has successfully entered the ovaries. Future directions of our study include conducting a time course evaluation to determine optimal injection time post yeast feeding.

Does Hand Dominance Affect the Speed of Writing?

Ms. Tiyara Peters
Mentor: Andre Varnado, Sr.

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #246

Being left handed it always seems that it takes a little bit longer to write notes, or sign papers. This leads people to wonder if the dominate hand is the cause. People make comments on penmanship and blame it on me being left handed. So I've taken the time to conduct an experiment and put this thought to rest for good. After doing some research its known that you dominate hand is determined by the way your brain works. With that being said its definitely a possibility hand dominance can effect he speed of writing. I've test 100 people to find a answer with evidence.

Two Eyes Might Be Better Than One: Investigating Correlation in Size of Butterfly Hind Wing Eyespots

Ms. Dahlia Siprut
Mentor: Carla Penz

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #230

Eyespots have evolved independently in various animal groups such as birds, fish, and frogs, and in all cases, they perform a signaling function. In butterflies they function as attractiveness to the opposite sex and predator defense. Most Neotropical butterflies in the tribe Brassolini have two eyespots on the hind wing underside. Recent research suggests that two eyespots are better than one leading to our question: Is there a correspondence in size between the upper and lower eyespot?

The sample included 219 individuals of 28 species in 14 genera. Measurements were performed with ImageJ, and relative eyespot areas were calculated in Microsoft Excel. The most recent phylogeny was used to reconstruct ancestral character states in Mesquite. We found no perfect correspondence between sizes of the upper and lower eyespots and larger upper eyespots evolved independently multiple times. Future plans for this project include field study on reasons for evolution of larger upper eyespots and investigation of reasons for evolution of symmetrical eyespots.

DNA extraction, PCR amplification, and sequencing success of wild onions (Allium, Amaryllidaceae)

Ms. Foluke Uwaezuoke with Shantel Abraham, Charles Bell
Mentor: Courtney Babin

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #219

The purpose of this experiment was to analyze the success rate of DNA sequencing of wild onion plants (Allium, Amaryllidaceae) using two nuclear gene regions (ITS and ETS) and two chloroplast gene regions (trnL-F and rpL32-trnL) for future use in building a phylogeny. Previously collected leaf samples were placed in a bag filled with silica desiccant to completely dry them out before grinding the sample, reducing it to powder. We extracted DNA using DNEasy Plant Mini Kits and performed polymerase chain reaction (PCR) amplification prior to shipping the samples for sequencing. Our results showed sequencing of the ITS gene region among samples was more successful than the ETS region for nuclear markers, and the chloroplast gene region rpL32-trnL had a higher success rate of being sequenced than the trnL-F gene region.

Differences in patient-provider communication between smokers and nonsmokers

Mr. Brian Washington with Mirandy Li, Qingzhao Yu, Tyrunet Bryant, Michael Celestin, Jr.
Mentor: Michael Celestin

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #221

LSUHSC, Department of Public Health

Differences in patient-provider communication between smokers and nonsmokers Cigarette smoke causes cancer and increases one's risk of cancer-related mortality. People under the age of forty who quit smoking reduce their chances of dying from smoking-related diseases by 90%, and effective patient-provider communication aids in smoking cessation efforts. Patients that experience effective patient-provider communication have better recovery habits, mindsets, and health outcomes. This study examined differences in quality measures of patient-provider communication among smokers and nonsmokers.

Using a cross-sectional study design, we examined nationally represented data from the 2017 and 2018 Health Information National Trends Survey (HINTS). Measures of patient-provider communication included how often respondents reported providers: 1) gave patient enough time to ask questions, 2) gave attention needed to patient's feelings and emotions, 3) involved patient in decision making, 4) made sure you understood the your treatment options, and 5) explained things in a way patient could understand, 6) spent enough time, 7) help dealing with feeling of uncertainty about healthcare. Descriptive statistics included age, gender, race, income, education, and whether the patient ever had cancer. Chi-square analysis determined differences between respondents who reported current tobacco use and respondents who reported no tobacco use. Logistic regression determined the relationship between smoking status and patient-provider communication variables after adjusting for covariates.

The sample included 6,789 participants, of which 38% were current smokers. Chi-square analysis revealed a significant difference (p<0.05) between smokers and non-smokers for each measure of patient-provider communication except for "explain[ing] things in a way [they] could understand." After controlling for all variables, compared to non-smokers, smokers were more likely to report that a health care provider did not "give [them] the chance to ask all the health-related questions [they] had" (OR 0.744, 95% CI 0.562-0.933, p=0.041), "involve [them] in decisions about [their] health care as much as [they] wanted" (OR 0.666, 95% CI 0.523-0.853, p=0.001) nor "help [them] deal with feelings of uncertainty about [their] health or health care" (OR 0.777, 95% CI 0.630-0.963, p=0.019).

Our analysis revealed room for improvement in patient-provider communication for smokers. Future interventions that improve patient-provider communication among smokers may aid tobacco cessation efforts.

Investigation of the amino acids responsible for isomerase activity in the bilin lyase MpeW from Synechococcus sp. A15-62

Ms. Kourtney Weaver with Kes Lynn Joseph
Mentor: Wendy Schluchter

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #231

Synechococcus sp. A15-62 is a marine cyanobacterium that undergoes Type IV-B chromatic acclimation (CA4-B) by altering the bilin content of the phycobilisome (PBS). The PBS is a protein complex comprised of rods containing phycobiliproteins (PBP). In this species, PBPs phycoerythrin I and phycoerythrin II (PEI and PEII) are located on the distal ends of the rods. Bilin chromophores such as phycoerythrobilin (PEB) and phycourobilin (PUB) are bound to these PBPs by phycobilin lyases which enables absorption of photons of different wavelengths in the visible spectrum.

Lyases and lyase-isomerases within the MpeQWYZ sub-family of lyases are specific for attaching bilin to Cys-83 site of the α –subunit (MpeA) of PEII. The similarities between the enzymes in this family were investigated by aligning them with Geneious 6.1.8. The four positions 104, 331, 335 and 364 were identical or similar between isomerases, which suggests that they might be involved in the isomerase function. To investigate amino acids responsible for isomerase function, MpeW, the lyase responsible for attaching PEB to Cys 83 of MpeA was mutated by overlapping PCR to create: a quintuple mutant, triple mutant, and double mutants. After co-expressions with HT-MpeA using a heterologous co-expression system in E. coli, purified HT-MpeA was analyzed by zinc-enhanced fluorescence and fluorescence spectroscopy for bilin attachment. It was observed that MpeW(T110A,G319V,V320T,Q323Y,A352T), MpeW(G319V,V320T,Q323Y), and MpeW(G319V,V320T) attached both PEB and PUB. These results indicate that positions 319 and 320 are important for isomerase function.

Characterizing the class II major histocompatibility complex in wild mandrills

Ms. Anna Weber with Amour Guibinga Mickala, Jackie Lighten, Cock van Oosterhout, Katharine Abernethy, Stephan Ntie, Patrick Mickala, David Lehmann
Mentor: Nicola Anthony

November 20 at 2:15 PM
LIB 407

The major histocompatibility complex (MHC) plays an important role in adaptive immunity and mate choice in many vertebrate species. Studies in a captive group of mandrills (Mandrillus sphinx) have shown that female mate choice is influenced by the MHC, implying that MHC variability may have important fitness consequences. However, nothing is known about MHC variability in natural populations and how this may play a role in female mate choice. Here, we use next generation sequencing to characterize variation in the mandrill MHC class II DRB loci from 192 fecal samples collected from a wild population in Lopé National Park, Gabon. Our study revealed more than three times the allelic richness previously described in captive mandrills with variants forming two monophyletic clades. Variants in clade 1 (n=106 alleles) exhibit signals of balancing selection, as might be expected under parasite-mediated selection or disassortative mate choice. In contrast, variants in clade 2 (n=29) do not show such a signal and may represent a non-functional pseudogene that has not yet been described in non-human primates, although it has some similarity with the human pseudogene DRB9. We also observe trans-species polymorphism between mandrills and other primates, suggesting that balancing selection has maintained functional MHC lineages beyond speciation events. Future work will use these data to assess the role of the MHC in wild mandrill mate choice and fitness.

BACK TO FINDER

Chemistry

Solar Induced Emulsification of neat petroleum, petroleum on pure water and petroleum on sea water

Ms. C. Nacaya Brown with Camille Infante, Alexandria Cluen-Brown
Mentor: Matthew Tarr

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #108

The emulsion capabilities of Deepwater Horizon oil (Macondo well or DWHO), surrogate oil from a nearby well, and heavy fuel oil (NIST standard 2717a) were evaluated following exposure to simulated sunlight for up to 48 hours. The selected oil types ranged from light-sweet to heavy-sour crude oil. Emulsification capabilities of the oil itself exposed to sunlight (neat) and oil over pure water exposed to sunlight were assessed via a bottle test for emulsification. Dark controls and a heated (50C) neat control were included. Qualitative measures revealed a positive correlation between emulsion stability and irradiation time. As little as one hour of simulated sunlight exposure was enough to cause observable emulsification, although the stability of the emulsions at short irradiation times was less than that for longer irradiation times. Studies with varying oil volumes demonstrated the concentration dependence of emulsification ability. Although all oils showed increased emulsification capacity with solar exposure, the behavior or each oil was different. These results indicate that sunlight is an important factor in the emulsification of oil spilled in aquatic systems. Such emulsification has dramatic effects on the fate, transport, bioavailability, and toxicity of spilled oil. Consequently, sunlight has a major impact on oil spills.

Synthesis and anti-proliferative activity of small molecule inhibitor Moxonidine

Ms. Madhurima Das
Mentor: Mark Trudell

November 20 at 3:15 PM
LIB 407

In this study, the detailed synthesis of Moxonidine has been described starting from the readily available 2-Imidazolidinone. Anti-proliferative activity against breast cancer cells MCF7 and MDA MB 231 shows promising results. MCF7 cells responded very well to Moxonidine at 250 ▢M concentration. Moxinidine was subsequently biotinylated to study the affects of structure manipulation on tumor inhibition.

Shrimp Shell - Polylactic Acid Composites for Environmentally Sustainable Manufacturing

Mrs. Janelle Do
Mentor: Viktor Poltavets

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #120

This project is focused on the development of low-cost biodegradable plastic composites comprised of seafood waste (e.g. shrimp shells) and polylactic acid (PLA) with improved mechanical properties. The cost and mechanical performance of pure PLA is currently prohibitive for most product applications. By improving this material and lowering the overall production cost, the composites could provide a more environmentally sustainable alternative to that of traditional thermoplastic formulations that are typically used for products such as disposable cups, bowls, bottles, straws, and bags that are increasingly littering the planet. The preparation of nanosized shrimp particles was achieved through heat treatment at various temperatures and duration followed by extensive ball mill grinding. Composite mixing, filament extrusion, and mechanical properties such as tensile strength were analyzed to determine the influence of the composition and processing parameters on the material microstructure and its associated mechanical performance.

Examining Extraction Efficiency of Petroleum-Derived Dissolved Organic Matter (DOMHC)

Miss Rana Ghannam with Phoebe Zito, Barbara Bekins
Mentor: David Podgorski

November 20 at 2:45 PM
LIB 407

The purpose of the project was to examine the extraction efficiency of petroleum-derived dissolved organic matter (DOM) obtained from an aquifer at the National Crude Oil Spill Fate and Natural Attenuation Research Site located in Bemidji, Minnesota. Two different extraction methods were used to determine which method is best suited for the analysis of potentially toxic DOM. The two methods used were a liquid-liquid extraction (LLE) with dichloromethane (EPA method 3510C), and a solid-phase extraction (SPE) method used for extraction of polar analytes from water. For the LLE, that is selective for non-polar compounds, the extraction efficiency of DOM decreased down-gradient as the DOM matter became relatively polar due to biodegradation. On the other hand, the extraction efficiency by the SPE method was approximately 65% across the gradient. The results showed that SPE would be more efficient in extracting DOM at contaminated sites which is critical for understanding which partially-oxidized compounds may be toxic

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Studies directed toward the development of transition metal@halloysite nanocomposite materials for organic transformations

Ms. Jumanah Hamdi with John Wiley
Mentor: Mark Trudell

November 20 at 3:00 PM
LIB 407

Reliable methods for the encapsulation of transition metal nanoparticles (5-8 nm particles) in halloysite have been developed. The new transition metal@halloysite nanocomposite materials were employed in ligand free catalytic hydrogenation and cross-coupling reactions. The Pd@Hal nanocomposite catalyst was found to be a highly efficient room temperature catalyst for Suzuki-Miyaura cross-coupling reactions and hydrogenation reactions that gave high yields of a diverse array of coupling products in nPrOH:H2O (5:2) within 1 h. The Ir@Hal nanocomposite catalytic system was remarkably effective for reduction of carbonyl compounds to the corresponding alcohols. Further, both catalysts were easily recovered and recycled without significant loss of catalytic activity.

Photodegradation and Plume Characterization of Crude Oil

Ms. Katherine Humpal with Phoebe Zito, Barbra Bekins
Mentor: David Podgorski

November 20 at 2:30 PM
LIB 407

On August 20th, 1979, a pipeline rupture sprayed 440,000 gallons of crude oil over 10 acres of land near Bemidji, MN. Today, the spray zone area is still devoid of vegetation due to the spill and even after 40 years the oil still clings to the soil causing it to be hydrophobic. This study focused on the elevated dissolved organic carbon (DOC) concentrations that are observed in the aquifer around the National Crude Oil Spill Fate and Natural Attenuation Research Site. Oil-contaminated hydrophobic soils originating from the site of the spray zone were photo irradiated and analyzed by a total organic carbon analyzer and optical spectroscopic techniques, such as absorbance

and fluorescence, to determine if the elevated DOC concentrations detected in the aquifer beneath the spray zone are due to photosolubilization of the petroleum adsorbed to hydrophobic soils on the surface. A strong positive correlation between DOC concentration and irradiation time indicate that photooxidation enhances the solubility of the hydrophobic compounds that are adsorbed to the soil. Optical spectroscopy indicates that the composition of the DOC produced from the hydrophobic soils in the laboratory experiments is similar to that of the DOC collected from wells with elevated concentrations at the field site. Future studies will utilize ultrahigh resolution mass spectrometry to compare the molecular-level composition of the DOC produced from the laboratory experiments with that collected from the field. In addition, assays will be conducted to assess the potential ecotoxicity of the photosolubilized material from the hydrophobic soils.

Coarse-Grained Models for Constant pH Simulations of Carboxylic Acids

Ms. Naeyma Islam
Mentor: Steven Rick

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #110

A model for carboxylic acids, in both the protonated and deprotonated states, is developed in which hydrogen interaction sites are not used and all interactions are short-ranged. A method for constant pH simulations, which exploits these features of the model, is developed. The constant pH method samples protonation states by making discrete Monte Carlo steps and is able to efficiently move between states in two steps. The method is applied to the polymer poly(methacrylic acid), a pH-responsive polymer that undergoes structural changes as a function of pH. The model is able to reproduce the structural changes induced by pH.

Cross-Coupling of Acyl Chlorides Catalyzed by Palladium Encapsulated Halloysite

Mr. Robert Loveland
Mentor: Mark Trudell

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #217

Electrochemical water splitting using earth abundant copper-iron selenides for energy storage applications

Mr. Pramathesh Maji
Mentor: Weilie Zhou

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #118

Exploring hydrogen gas (H2) as a high-energy-density carrier is regarded as a clean and renewable substitute for fossil fuels such as coal, oil and natural gas and plays a vital role in promoting sustainable energy development for human society. Water electrolysis is deemed as a green, facile, and highly efficient technology for large-scale production of high-purity molecular hydrogen. Noble metal-based catalysts such as Pt, iridium dioxide (IrO2), and ruthenium dioxide (RuO2) are currently used state of the art materials for large scale water splitting applications. Here we discuss low cost transition metal based copper-iron selenides as promising electrocatalyst to achieve better electrocatalytic activity for overall water splitting by engineering the bandgaps and modifying the surface nanostructures. We show Synthesis, characterization and electrochemical measurements of copper iron selenides (CuxFe1-xSe2) [X=1, 0.8, 0.6, 0.4, 0.2]. Materials were synthesized by hydrothermal and/or solvothermal methods and characterized using powder X-ray diffraction (XRD) technique, scanning electron microscopy (SEM) and transmission electron microscopy (TEM). Electrochemical measurements including cyclic voltammetry (CV), linear sweep voltammetry (LSV), and chronopotentiometry were carried out using three-electrode method. Experimental results indicate the catalytic activity of water electrolysis for hydrogen evolution reaction (HER) and oxygen evolution reaction (OER). Iron doping on copper selenide improve the performance of electrocatalytic activity and Cu0.6Fe0.4Se2 exhibit superior performance among the investigated iron doped copper selenides.

Aerobic Oxidation of Alcohols via Novel Vanadate Nanoscroll Catalyst

Mr. George William Pappas
Mentor: Mark Trudell

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #122

Identification of water soluble oil photodegradation products containing N and O atoms

Mrs. Shaina Patil with Jeniffer Zeron, Phoebe Zito
Mentor: Matthew Tarr

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #114

Nitrogen-containing photoproducts were observed in the aqueous phase under oil exposed to simulated sunlight using dansyl chloride (DNS-Cl) and o-Phthalaldehyde (OPA) derivatization and electrospray ionization−tandem mass spectrometry (ESI−MS/MS). Oil samples were spread over water in a jacketed beaker at 27.0 °C and exposed to simulated sunlight. The aqueous phase was collected after irradiation and derivatized with DNS-Cl or OPA, which both selectively react with amines. Nitrogen-containing photoproducts were detected in the aqueous phase after irradiation but were not present in dark control samples. Total dissolved nitrogen analysis was performed to verify the amount of nitrogen present in the aqueous samples. Photooxidation of oil likely leads to the formation of these photoproducts. This study allows the easy identification nitrogen-containing photoproducts without interference from the immense number of other compounds in the oil. These results will provide an understanding of the affect photochemistry has on the fate of oil in the environment and will assist in decision-making for remediation efforts after an oil spill.

Collaborative Research and Development of Student Exchange Programs in France

Prof. David Podgorski with Phoebe Zito
Mentor: N/A

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #126

Here we present the outcomes from the 2019 Award for Building Research or Artistic Development (ABROAD) provided by the UNO Office of Research and Sponsored Programs. We completed activities aimed at gaining international exposure for UNO during the four-week trip to Europe. We obtained Ultrahigh-resolution mass spectra at Sorbonne University as part of an international collaboration. The collaborative project is comprised of PIs from 26 institutions. The goal pf the research is to standardize methods for analysis of natural organic matter by ultrahigh resolution mass spectrometry. The results from the project have been peer-reviewed and conditional accepted into Limnology & Oceanography: Methods. Another major objective of our trip was to build collaborations and opportunities for students. In addition to Sorbonne University, we visited colleagues and representatives from international program offices at the University of Lyon (France), University of Warwick (U.K.), and Uppsala University (Sweden). One of the major outcomes of these meetings was an invitation for UNO to join the Trans-Atlantic Science Student Exchange Program (TASSEP).

Synthesis of Inorganic-Organic Perovskite Hybrid Materials via a Microwave Assisted Method

Mrs. Anamika Poduval
Mentor: John Wiley

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #104

Topochemical modification of layered perovskites by microwave assisted methods allows for the rapid introduction of organic substituents. Dion-Jacobson double layered perovskites (e.g., $RbLaNb_2O_7$) can be used for the synthesis of various n-alkyl grafted perovskites. Following proton exchange of the layered perovskite, reactions can readily occur with organic precursors containing hydroxyl substituents where the organic grafts to apical oxygens within the perovskite interlayer. In this study a series of organics with combinations of hydroxyl, carboxylate, and aryl groups were investigated to gauge the influence of the carboxylate and aryl groups on both reaction and grafting orientation. Details on the synthesis and structures of various new inorganic-organic hybrids will be presented and the influence of the different molecular components discussed.

New transition metal@halloysite nanocomposite materials

Prof. Mark Trudell
Mentor: N/A

November 20 at 3:30 PM
LIB 407

Reliable methods for the encapsulation of transition metal nanoparticles in halloysite have been developed. The new transition metal@halloysite nanocomposite materials were employed in ligand free catalytic hydrogenation and cross-coupling reactions. Pd@Hal and Ir@Hall nanocomposite catalyst were found to be a highly efficient room temperature catalyst for Suzuki-Miyaura cross-coupling reactions and hydrogenation reactions. Further, both catalysts were easily recovered and recycled without significant loss of catalytic activity.

Identifying oxygen-containing photoproducts from Macondo oil spill

Miss Jeniffer Zeron with Shaina Patil
Mentor: Matthew Tarr

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #183

On April 20, 2010, 4.9 million gallons of oil were spilled from the BP Macondo well into the Gulf of Mexico, accounting for the largest marine oil spill in history. Oxygen containing phenol- like photoproducts were observed in Macondo oil and its surrogate oil. Oil samples were irradiated in water using a solar simulator for (1, 2, 4, 8, 16, and 32 hours), then the aqueous layer was derivatized with dansyl chloride to produce derivatives analyzable by fluorescence. Solid phase extraction was used to increase the photoproduct concentration in the oil samples. Phenol concentrations were determined using reverse phase high performance liquid chromatography paired with a fluorescence detector. All irradiated oil samples showed increased concentrations of phenolic photoproducts. The identity of oxygen containing compounds in the oil samples is important in order to understand the effects in the ecosystem surrounding the Macondo Oil Spill.

BACK TO FINDER

Civil & Environmental Engineering

Hydrodynamics and Erosion potential of Fine Grained Cohesive Sediment in riverine systems

Mr. Iaith Alshamaileh with John McCorquodale
Mentor: Malay Ghose Hajra

November 19 at 10:15 AM
LIB 424

Coastal property development, global climate change, sea level rise, increasing number and intensity of storms, oil and groundwater extraction, coastal land subsidence are putting people and property at risk along Louisiana's coast, with major implications for human safety and economic health of coastal areas. A major goal towards reestablishing a healthy and sustainable coastal ecosystem has been to rebuild Louisiana's disappearing wetlands with fine grained sediments that are dredged or diverted from nearby rivers, channels, and lakes to build land in open water areas. A thorough geo-hydrodynamic characterization of the deposited sediments is important in the correct design and a more realistic outcome assessment of the long-term performance measures for ongoing coastal restoration projects. This presentation will evaluate the effects of salinity and solid particle concentration on the sedimentation and erosion potential of fine-grained dredged sediments obtained from different geographic locations in south Louisiana.

Modeling Distributary Channels Formed by a Large Sediment Diversion in Broken Marshland

Mr. Dylan Blaskey
Mentor: Alex McCorquodale

November 19 at 9:15 AM
LIB 424

Every year one-hundred million tons of sediment flow down the Mississippi River into the Gulf of Mexico bypassing the deltaic plain that this sediment helped to create. A vast levee system channelizes the river preventing it from overtopping its banks and spreading into the surrounding marshland. This levee system that prevents the lateral flow of sediment and fresh water compounded with sea level rise and erosion of man-made channels have led to Louisiana experiencing some of the highest rates of coastal erosion on earth. With hopes to mitigate this problem, the State of Louisiana is designing the Mid-Barataria sediment diversion to replenish the area with sediment and fresh water, but more information is needed on the localized impacts of the diversion in the receiving basin. A model in DELFT3D was developed to address the morphological response of Barataria Bay, the sediment deposition rate as a function of distance from the outfall, and the impact on the existing distributary channels within the broken marsh system due to the proposed large scale diversion. The model had a maximum mesh size of 100 m to accurately represent the development of the distributary channels across the either basin and the localized flooding, erosion, and salinity levels in areas of near non-levee protected human populations to understand the impact the diversion will have to these communities.

Engineering with Nature

Dr. Gianna Cothren
Mentor: N/A

November 19 at 11:30 AM
LIB 424

The engineering design terms for "Engineering with Nature" are BMPs for Best Management Practices and GI for Green Infrastructure and LID for Low Impact Design. Designs of these types are meant to decrease the adverse hydrologic effects of construction and urbanization on a watershed in an effort to mimic the pre-development hydrology of the area. This type of engineering with nature is becoming more and more popular for managing urban runoff as a result of both an increase in public sentiment and demand as well as a rise in new levels of requirements from government entities. The realization of the benefits of sustainability and resiliency is leading the engineering community to a new generation of engineers. The practices range from structural and landscape designs for increasing infiltration, to treating runoff with various filtration practices, and modifying traditional engineering runoff conveyance practices.

In this presentation we will learn how delineation of topographic information leads to an understanding of the natural flow and processes of stormwater as well as the purpose of the 100-yr, 25-yr, 10-yr, etc. storm event and how engineers use this information. We will compare and contrast the Grey vs Green historical and recent trends used in engineering design. And finally, we will identify and reveal potential stormwater runoff increases and possible stormwater quality problems while exploring examples of green infrastructure projects that have been constructed to relieve these issues.

Applications of Drones in Science and Engineering

Dr. Malay Ghose Hajra
Mentor: N/A

November 19 at 11:45 AM
LIB 424

Small Unmanned Aircraft Systems (sUAS) or drone technology has been used by defense organizations and tech-savvy consumers for some time. However, in recent years, this new and innovative technology is being integrated well beyond the defense sectors. In addition to search and rescue operations and disaster recovery efforts, the sUAS technology is being used to perform (a) site surveys using imaging and LiDAR sensors, (b) construction site inspections, (c) infrastructure maintenance inspections, (d) aerial photography, (e) precision crop monitoring, (f) unmanned cargo transport, (g) storm tracking and forecasting, (h) levee, bridge, pipeline and powerline inspections. The science and engineering community must address the changing needs of a profession that will increasingly utilize sUAS and advanced sensor technology in design, construction, and operation of diverse infrastructure project. At the end of the proposed presentation, participants will be able to learn about (i) different types of drones, (ii) working components, systems, and flight controls of a drone, (iii) different sensors (imaging, LiDAR, thermal imaging, multispectral sensors) used with a drone, as well as (iv) applications of drones in various science and engineering projects.

Evaluation of Thermal Properties of Foundation Soils to Design Geothermal Energy Piles in South Louisiana

Mr. Patrick James
Mentor: Malay Ghose Hajra

November 20 at 2:15 PM
LIB 431

Geothermal energy pile HVAC systems are being developed as a viable alternative to traditional heat exchangers. Geothermal energy pile systems rely on the fact that, at a certain depth, the earth's temperature is constant year-round. They can, therefore, be utilized in any season as a means of stabilizing the temperature of a building. South Louisiana, and in particular, New Orleans, is well positioned to become a leader in advancing this emerging technology. Generally speaking, New Orleans has highly compressible, weak clayey soils which will not adequately support shallow foundations. So, most large residential and commercial buildings in this region must be pile-supported. Therefore, geothermal energy pile systems have the potential to become a sustainable, efficient, and economical choice in building construction. However, due to the size and complexity involved, much research needs to be conducted in order to determine how these systems will be constructed in local soils. In this study, the thermal conductivity of various soils, including those typically found in South Louisiana, is determined using the theory of infinite line heat source method outlined in ASTM D5334. Thermal conductivity, λ (W/m·k) is a measure of the rate at which heat travels through a given material. Determining the typical thermal conductivity of New Orleans area soils is a critical step in the development of design parameters for geothermal energy piles in this region. This project is, therefore, in support of a larger set of research projects which are currently being developed at UNO with its strong ties to industry.

Fly what you Solder

Mrs. Katie Kopcso
Mentor: Malay Ghose Hajra

November 19 at 9:30 AM
LIB 424

Self-Weight Consolidation of Dredged Sediments and their Applications in Louisiana Coastal Restoration

Mr. Christian Loving
Mentor: Malay Ghose Hajra

November 19 at 9:45 AM
LIB 424

Louisiana is home to approximately 3 million acres of wetland. Of which, roughly 75 square kilometers are lost annually. Although there are many proposed solutions, marsh creation is one that has shown promise in recent years. However, in order to implement any marsh creation project, a very obvious problem presents itself. Where does the material come from? One solution to this is the availability of dredged material from Louisiana's various dredging projects. Since a key factor in wetland erosion is the inability of the modern Mississippi river to deposit sediment to wetland areas, using sediment dredged from the river to nourish them shows promise. This is why Beneficial Use of Dredged Material or BUDMAT plays an important role in accomplishing the task of marsh creation today. This presentation will provide insight to the viability and efficiency of such measures by studying the material's consolidation properties. To do this a self-weight consolidation test is run using different samples of dredged materials. This test provides data concerning the in-situ behavior of soil while consolidating under its own weight. From this test we can further study a materials permeability, effective stress, and void ratio. These parameters will provide us with insight on how a dredged material will settle and contribute to marsh creation projects with as little adverse effects to the environment as possible. Using these realizations, we can improve on a technique already in use and continue to work toward preserving one of this nation's greatest natural resources.

Ecological Restoration Along Bayou St. John, New Orleans

Miss Miyra Rosa
Mentor: Malay Ghose Hajra

November 20 at 2:30 PM
LIB 431

Bayou St. John (BSJ) was vital for the settlement of New Orleans due to the ease of travel it provided from Lake Pontchartrain to an area near the Mississippi River. Although no longer used for water transportation, BSJ is still valued today for its historical importance, educational purposes, and recreational uses. Because the bayou has been constrained with levees and flood control structures, there has been growing movement to ensure the health of BSJ. In 2013 when the mouth of the bayou became clogged with sediment and disrupted flow, the Orleans Levee District planned to dredge the area. Lake Pontchartrain Basin Foundation (LPFB) pushed for this excess soil to be used in an urban marsh creation project. My research focuses on recommendations for other locations along BSJ to propose similar ecological restoration projects, including tree planting, marsh creation, and island creation. After meeting with members

of LPBF, screening criteria was set for possible locations including depth, physical access for construction vehicles, aesthetic value of area, legal access to public land, and enough space for a staging area. Site visits and drone images helped decide on five locations along BSJ. For recommending the type of vegetation to utilize, plant traits, soil characteristics, and average salinity levels were studied and considered. Finally, estimates for the costs were calculated based on the previous urban marsh creation project. Benefits of ecological restoration include increased wildlife habitat, better water quality, and greater use for education and recreation.

UNO Campus Rainworks Challenge 2019

Ms. Hannah Rubiano
Mentor: Gianna Cothren

November 20 at 2:45 PM
LIB 431

Each year the EPA puts on ""Campus Rainworks Challenge"" in which universities submit proposals for green infrastructure implementations on campus to mitigate/improve flooding on campus. This year, fellow students and I are working on the Engineering gravel parking lot as our are of interest. We are planning on integrating rain gardens and bio-retention areas near the parking lot to improve runoff and mitigate flooding problems.

Visible light active photocatalysis for water treatment

Mr. Ashraya Upadhyaya with Guillermo Rincon
Mentor: Guillermo Rincon

November 19 at 10:30 AM
LIB 424

The sanitary and environmental challenges posed by an ever growing economically and geographically diverse human population include the need for sustainable, inexpensive, scalable, and decentralized water treatment technologies that can supplement or replace conventional treatment methods. These challenges can be met by semiconductor photocatalysis, especially if the process is driven by visible light energy. Visible-light active (VLA) photocatalysis, as opposed to traditional energy-intensive and chemically driven disinfection methods such as ozonation, UV irradiation and chlorination, has the potential for achieving high disinfection efficiency with low energy consumption and no harmful by-products. This technology generates in-situ reactive oxygen species (ROS) such as H_2O_2, and , without the need for chemicals addition. In turn, ROS are capable of penetrating cell walls and membranes of microorganisms, effectively inactivating them. Although multiple types of VLA photocatalysts have been used experimentally for disinfection of water, noble-metal-based photocatalysts have gained the most interest due to their surface plasma resonance (SPR) effect, which acts synergistically to increase the disinfection potential of the photocatalytic process. This presentation is a review of the different types of noble-metal-based VLA photo catalysts used for water disinfection in different experimental settings, their synthesis procedures and disinfection mechanisms. It also discusses innovative approaches to overcome a major hurdle in photocatalysis, that is, the rapid recombination of the electron and hole pair, by including specific dopants into the structure of the photocatalyst.

   BACK TO FINDER

Computer Science

A ballad of ""mal-ads"": End-to-end analysis of malvertisements that lead to social engineering attacks

Mr. Bhupendra Acharya
Mentor: Krishna Phani Vadrevu

November 19 at 9:15 AM
LIB 431

Over the past several years, malicious advertising (malvertising) is being used by cyber criminal to inflict harm on internet users. The ability of online advertising tools to target users by age, geolocation, type of machine and software being used makes digital advertising an attractive vehicle for criminals to distribute malicious content. For example, criminals often use geolocation capabilities of advertising to explicitly target users in more economically attractive areas such as the US, Germany, Japan and the U.K. In our past research work, we have identified a few low-tier advertising networks that distribute a lot of malicious advertisements from questionable advertisers.

These advertisements were targeting technically inept internet users and launching social engineering attacks such as them. These attacks are leading the users to download malicious software, fall for telephony scams or expose their credit card information by signing up with scam websites.

In this research, we plan to do an in-depth study of 8 such low-tier ad networks. After creating a custom website, we signed up as a website publisher with these 8 ad networks. This allows us to receive a number of advertisements that launch social engineering attacks. We will study how these social engineering attacks are exploiting some subtle bugs in various modern day web browsers to make their attacks effective. We will also study the attitude of browser developers towards these bugs and try to highlight how this attitude is delaying the fixing of these browser bugs. Further, we also plan to study how these ad networks are using a dynamic domain name infrastructure to evade being blocked by modern day ad blockers. We hope the results from our study, will enable both web developers and ad block developers to take timely and appropriate measures to better block these malvertisements and protect internet users from social engineering attacks.

Reproducibility in Scientific Computing with a Parallel Focus

Mr. Josh Aiken
Mentor: Shaikh Arifuzzaman

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #144

Reproducibility of scientific papers has become a well discussed topic. In this work, we will present an analysis of multiple papers, and detail efforts to reproduce the results of the original. First, a survey of the subject papers will be presented. Second, specific instances of attempts to reproduce the results of selected papers will be presented in detail. Third, a broad aggregation of the results of all reproductions will be presented, summarized, and analyzed. The evaluation will demonstrate the challenges & successes inherent in reproducing results of scientific computing literature with a focus on parallel computing projects. The intention is to show the process and provide recommendations for the authoring of scientific literature with a focus on more easily making results reproducible. It is expected that any conjecture about how to improve reproducibility will have broader implications than simply in scientific computing with a parallel focus.

Detection and classification of Brain Hemorrhage using Genetic Algorithm and Stacking

Mrs. Duaa Alawad
Mentor: Md Tamjidul Hoque

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #130

Brain hemorrhage is a type of stroke which is caused due to ruptured artery resulting in localized bleeding in or around the brain tissues. Among a variety of imaging tests, computerized tomography (CT) scan of the brain enables the accurate detection and diagnosis of the brain hemorrhage. In this work, we developed an effective approach to detect the existence and type of brain hemorrhage in a CT scans image of the brain, called AIBH. The proposed approach consists of several steps that include image preprocessing, image segmentation, feature extraction, feature selection and design of an advanced classification framework. The image preprocessing and segmentation steps involved removing the skull region from the image and finding out the region of interest (ROI) using Otsu's method, respectively. Subsequently, feature extraction involved the collection of a comprehensive set of features from the ROI such as the size of the ROI, centroid of the ROI, perimeter of the ROI, the distance between the ROI and the skull and more. Furthermore, a Genetic Algorithm (GA) based feature selection algorithm is utilized to select relevant features for improved performance. These features are then used to train the stacking-based machine learning framework to predict different types of a brain hemorrhage. Finally, the evaluation results indicate that the proposed predictor achieves a 10-fold cross-validation (CV) accuracy (ACC), precision (PR), Recall, F1-score and Mathews Correlation Coefficient (MCC) of 99%, 99%, 0.99, 0.99 and 0.99.

Scalable Algorithmic Methods for Mining Time-varying Graphs

Mr. Md Abdul Motaleb Faysal for Dr. Shaikh Arifuzzaman
Mentor: N/A

November 19 at 10:15 AM
LIB 431

Graph (network) mining is of great importance in solving real-world problems in many application domains. Community detection in graphs is a computationally challenging problem and can be solved efficiently with Louvain Algorithm. However, due to the emergence of large network data, sequential methods become inadequate. Parallel algorithms are necessary to solve such problems utilizing modern high performance computing platforms. We design several parallel algorithms for the community detection problem. Our shared-memory based algorithm using Open MultiProcessing(OpenMP) shows 4x speedup but is only limited to the physical cores available to system. Our Message Passing Interface(MPI) based distributed-memory parallel algorithm demonstrates scalability to a moderate number of processors. Our Hybrid Algorithm using both MPI and OpenMP strikes a balance between both systems. Our final implementation DPLAL (Distributed Parallel Louvain Algorithm with Loadbalancing) overcomes the performance bottleneck of the previous algorithms and shows around 12-fold speedup scaling to a larger number of processors. Next, we will present a brief overview of our work on temporal (dynamic) graphs. Mining dynamic graphs is more challenging as it takes temporal information of occurrence and duration of each link into account. Defining and computing various temporal network metrics are still open-ended and thus the research has drawn considerable attention recently.

Inverse RPG: Evoking Empathy Through Battle

Ms. Brittany Bergeron with Extell Farve
Mentor: Benjamin Samuel

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #209

Objective: The objective of this project was to create a game environment that uses artificial intelligence to create empathy in players. Summary: Though many games center around power-fantasies, conquest, and acquisition, playable media has the power to explore other emotions as well. This poster details a core research component of a larger system which focuses on altering traditional game play mechanics (rules) to evoke empathy in the player. The project involves advances in AI to develop an agent in filling the traditional player role, while giving the player the capacity for greater self expression than traditional single-role bounds. The goal of research was to implement a system that made the player desire to nurture the artificially intelligent "hero", as opposed to wanting to defeat them. This problem can be handled through prototyping. Rough drafts of the game were created, and gradually tweaked to filter out the versions that had the most enjoyable experience.

Building more efficient deep learning techniques with FFT

Mr. Shekhar Chalise with Pujan Pokhrel
Mentor: Shaikh Arifuzzaman

November 19 at 11:15 AM
LIB 431

Behavior-based Detection of Patrolling Bots on the Web

Mr. Anish Chand with Bhupendra Acharya
Mentor: Krishna Phani Vadrevu

November 20 at 1:45 PM
LIB 431

Over the years, the Internet has become a home to billions of users. Interestingly, this doesn't just include humans but also various kinds of internet bots. One of the uses of these internet bots is that they can detect harmful pages on the web (patrolling bots). However, for these patrolling bots to be effective, they should always be undetectable. Otherwise, a website that knows a patrolling bot is visiting it can maneuver this knowledge to its advantage and dynamically hide its malicious content from the patrolling bot eliminating the chances of it being flagged by the bot. This research work aims to study the possibility of detecting these patrolling bots. The research work involves gathering and analysis of different types of behavioral data obtained when a user (either a bot or a human) visits our custom designed website. We plan to use features from varied data sources such as mouse movement patterns, typing patterns and the capabilities of the users' web browsers in order to fingerprint the users visiting our website. The goal of the research is to be able to gauge the possibility of using a machine learning approach to differentiate between patrolling bots and other users such as humans and search bots. If successful, we would like to responsibly disclose this information to the organizations who run these

patrol bots and recommend them to change these behavioral patterns of these bots in order to make them more resilient to evasive attempts by harmful websites. Our results will thus be able to serve guidelines for future designers of patrolling bots in order to make them more effective.

Modeling Social Physics in Artificial Intelligence

Mr. Daniel DeKerlegand
Mentor: Benjamin Samuel

November 19 at 11:45 AM
LIB 431

Human interactions involve a complicated web of personal histories, relationships, needs, desires, beliefs, and actions. Realistically modeling social interactions requires accounting for all of these factors, while also processing and responding to user input; this work is called social physics, and the artificial intelligence systems that make it possible are called social physics engines, like the subject of our current work, a social physics engine called Ensemble. Our work on the Ensemble engine will be applied in the VESPACE project, a joint project between researchers at UNO, LSU, and other US universities, as well as researchers from the University of Nantes and other universities in France. The project seeks to recreate an 18th century Paris Fair theatre in virtual reality, and it involves researchers from numerous fields, including computer science, acoustics, history, and theatre. Our work will make realistic social modeling possible within a virtual space and will be the first application of an advanced social physics engine in virtual reality.

Distributed Community Detection in Large Networks Using An Information-Theoretic Approach

Mr. Md Abdul Motaleb Faysal
Mentor: Shaikh Arifuzzaman

November 19 at 9:00 AM
LIB 431

Network (Graph) is a powerful abstraction for representing structures in large complex socio-technological systems. Community detection reveals important patterns and structural organizations in a network. This has numerous applications in the fields of social networking, computer security, bioinformatics, business, marketing, etc. An information theoretic approach for community detection, named as Infomap method, is a sequential algorithm capable of providing high-quality solutions. However, the emergence of massive networks, often with millions of edges and beyond, makes the problem of discovering communities technically challenging. Sequential algorithms fail to process such networks. Therefore, a scalable parallel execution model of Infomap algorithm is needed. In this paper, we design a distributed-memory parallel algorithm for community detection based on Infomap method. We balance the workload among the processing units carefully and keep communication among processes minimal. We empirically show that our distributed solution produces excellent quality of communities similar to that of sequential Infomap. In terms of minimum description length (MDL), our distributed results is over 99.5% in alignment with that of sequential version. Our algorithm also demonstrates good scalability with hundreds of processors while processing large-scale social and information networks.

Fast Stochastic Block Partitioning

Mr. Md Abdul Motaleb Faysal
Mentor: Shaikh Arifuzzaman

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #124

Network (graph) is a powerful way of representing the relationship among different kinds of entities in a socio-technical system. Network partitioning is a problem that has its applications in social networking, traffic and communication networks, biological science networks, etc. Exact partitioning of a network is an NP-hard problem. There exist different state-of-the-art relaxation techniques for approximating network partitioning with varying accuracy. However, with the exponential growth of information technology and social media, the sizes of real-world networks now reached millions to billions of vertices and edges. Processing such massive networks require fast and efficient algorithms. A small improvement in the execution time of an algorithm can make a big difference in effective sense-making from network data. Stochastic Block Partitioning (SBP) is one of the state-of-the-art relaxation techniques that combines a stochastic model and an information-theoretic approach for network partitioning. An SBP algorithm of sub-quadratic run time complexity is given as the baseline algorithm for MIT Graph Challenge competition, which uses OpenMP based parallelism for scaling.

In this work, we improve the performance of the baseline algorithm to several folds for a single (multi-core) commodity machine. We incorporate a refinement of the greedy agglomerative heuristic and modify the OpenMP based parallelism with more programmer-level control to gain up to 10-fold speedup over the baseline algorithm.

What's a God to a King?

Ms. Courtney Harris
Mentor: Anish Chand

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #121

We live in a beautiful world, surrounded by beautiful people, and we study at a beautiful campus. However, that seems to be forgotten at times. My goals as a photographer are to be a reminder to people that life is beautiful and that they are beautiful. The models shown in the photos are of various UNO students and represent the diversity here on campus. From the color tone, to the lighting, to the models themselves, the two sets of photos are in contrast with each other, yet they both give off a powerful feeling of majesty. Like a king and a queen, a god and a goddess. But with them being so different, which one is which?

Entity Based Aspect-Oriented Opinion Mining in Software Engineering

Mr. Md Rakibul Islam
Mentor: Minhaz Zibran

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #128

Software engineering social content, such as question-answering discussions on Stack Overflow, has become a wealth of information for software engineering activities. This textual content is centered around software-specific entities (e.g., tools, libraries, and APIs) where developers provide their valuable opinions on the various aspects (e.g., bug, performance, documentation, and security) of the entities. Such opinions often sentimentally polarized (i.e., positive or negative) that play a pivotal role to a considerable degree on the perceptions of other developers about those entities that influence the choices they make about whether and how they should use those entities.

However, given the plethora of information in the social forums, it is a challenging task for a developer to mine those opinions manually and make informed decisions about entities. In this work, we envision a tool that will automatically mine the developers' discussions from the unstructured content of social forums and generate opinions on the various aspects of the entities.

A stacking-based machine learning method for the effective prediction of Disordered Proteins

Mr. Md Wasi Ul Kabir
Mentor: Md Tamjidul Hoque

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #132

Proteins and protein regions without fixed or ordered three-dimensional structures can often be found in all organisms, typically play vital roles in various biological processes. Thus, accurate prediction of these disordered regions has significant implications in the proper annotation of function and drug design for critical diseases. The goal of this research is to use new protein features and apply a stacking-based machine learning method to predict disordered proteins. Stacking is an ensemble learning technique that combines multiple classifications via a meta-classifier. Our proposed method consists of three main steps -feature extraction, feature selection, and stacking-based classification. The structural properties of proteins, i.e., secondary structures information, backbone angles, half-sphere exposure, contact numbers, and solvent Accessible Surface Area (ASA), provide useful information about disordered proteins. We also incorporate other features, i.e., Position-Specific Scoring Matrix (PSSM), Close Neighbor Correlation Coefficients, etc. Feature selection techniques are used to find the best subset of features, which can improve the performance of the machine learning method. We studied Genetic Algorithm, minimum Redundancy Maximum Relevance (mRMR), and Maximum Relevance Maximum Distance (MRMD) feature selection techniques. We explored some well-known classifiers, i.e., Logistic Regression, Extra Tree Classifier, eXtreme Gradient Boosting, Support Vector Machine, to create a stacking-based machine learning method. Finally, we will evaluate our proposed method in a benchmark dataset with 10-fold cross-validation and compare the results using the following performance metrics, i.e., Sensitivity, Specificity, Accuracy, Balanced Accuracy, Precision, F1-Score, Matthews correlation coefficient.

Parallel Shellsort Performance Analysis

Mr. Aaron Lafont
Mentor: Christopher Summa

November 19 at 11:30 AM
LIB 431

My presentation will focus on the design, implementation, and performance of aspects of parallelizing the Shellsort algorithm using several industry standard frameworks and targeting multiple computing environments. I am working towards providing Shellsort implementations written in the C programming language that use the Posix Threads, OpenMP, Open MPI, OpenCL, and CUDA libraries. Unlike the Posix Threads, OpenMP, and Open MPI libraries, which primarily target similar types of processing units (ie: CPUs), the OpenCL and CUDA libraries target a combination of processing units (ie: CPUs and GPUs). Respectively, these approaches are divided into homogeneous and heterogeneous computational models. Ultimately, my goal is to expand my research to cover multiple sorting algorithms across the most widely used multi-threaded programming languages (C, C++, Java, and Go) and to develop a sorting network to test my designs.

Currently, the focal point of my research is the Shellsort, which was initially published by Donald Shell in 1959. It was the first sorting algorithm proven to beat the quadratic performance barrier. Generally speaking, Shellsort can be described as an adaptive in-place comparison sort that is applied to a diminishing series of increments. It progressively combines characteristics from bubble sort and insertion sort to produce results that surpass the performance of both. Shellsort operates by sorting pairs of elements that are separated by large gaps. It incrementally shrinks these gaps with each pass over the list, collectively sorting interleaved sections of it until the list as whole is sorted.

Not surprisingly, Shellsort's performance is largely dependent on its gap sequence, which greatly affects the number of operations and passes required to sort a list. Shellsort is also affected by the initial order of the list relative to the sequence. Since these two characteristics are not mutually exclusive, a precise functional definition for Shellsort's performance remains unproven. A sub-optimal sequence coupled with a sub-optimal initial order will produce poor results, while a more favorable sequence coupled with a more favorable initial order will produce better results. Surprisingly, the initial sequence proposed by Shell (1, 2, 4, 8, 16, ...) was used to prove Shellsort's worst-case running time. In fact, any sequence that ends in 1, will work. The best sequences discovered so far decrease (roughly) geometrically. However, the sequence that will produce the best results on average irrespective of the initial order remains illusive, and while better sequences may improve efficiency, the net improvement, especially for a large lists, may not be statistically significant.

Nevertheless, Shellsort remains the algorithm of choice for medium-sized files, as it requires far less memory than more advanced sorting algorithms. Moreover, with minimal effort, a Shellsort sequence can be used to generate a sorting network. This makes Shellsort a prime target for study, as it lends itself to progressing the open problem of developing an optimal sorting network for practical applications.

Automated Setup of Replica Exchange with Dynamical Scaling in GROMACS

Mr. LePaul Love with Christopher Summa, Stephen Rick
Mentor: Christopher Summa

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #207

The technique of Replica Exchange with Dynamical Scaling is an advanced sampling technique for molecular dynamics that has not yet been widely adopted because of the difficulty of setup. We have developed a set of modular computer scripts that can be easily adopted by any researcher familiar with molecular dynamics for using this technique in the widely-used molecular dynamics package GROMACS. These scripts have been designed in a modular way so that they can be easily adapted to other molecular dynamics packages.

Classification of Prostate Cancer Patients into Indolent and Aggressive Using Machine Learning

Mr. Yashwanth Karthik Kumar Mamidi with Md Tamjidul Hoque, Tarun Karthik Kumar Mamidi, Jiande Wu, Dr. Hicks
Mentor: Md Tamjidul Hoque

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #136

Prostate cancer (PCa) is the most common solid tumor and the second most common cause of cancer death in the United States [RF]. To date, treatment decisions for PCa patients are guided by various risk stratification algorithms. Among the parameters used, the most potent predictor of PCa mortality is the Gleason grade (GG). The GG ranges from 6 to 10. The majority PCa present GG 6. These cancers are associated with very low cancer specific mortality rates even in the absence of therapy. Intermediated grade PCa presents GG 7. These cancers present a much more variable clinical course. Localized high grade (aggressive) with lethal potential PCa presents GG 8-10. These tumors are aggressive, progress rapidly to metastatic disease and are often lethal. Although current stratification protocols are moderately effective, significant challenges remain. A key knowledge gap and critical unmet medical need is distinguishing patients with truly indolent tumors from those with aggressive tumors.

PCa screening using the prostate specific antigen (PSA) has led to the earlier detection of PCa with fewer men to day presenting with metastatic disease. However, although PSA has led to reduction in mortality rate, it has also resulted in unintended consequences. The unintended consequences include over-diagnosis, which leads to overtreatment of patients indolent PCa [RF], and undertreatment of patients with aggressive disease. Concerns about PSA-based screening led to the issuing of a D grade recommendation of its use by the US Preventive Services Task Force in 2012 [5-6]. Crucially, a review of evidence for the U.S. Preventive Services Task Force, concluded that PSA-based screening results in small or no reduction in prostate cancer-specific mortality and is associated with harms related to subsequent evaluation and treatments, some of which may be unnecessary. These concerns have heightened the need for the development of novel risk stratification algorithms to identify patients at high risk of developing aggressive tumors who could be prioritized for treatment, and discovery of molecular markers distinguishing truly indolent from aggressive disease.

Here we propose the use of machine learning (ML) for classification of PC patients into two groups, those with truly indolent tumors and those with aggressive tumors using transcriptome data. Our working hypothesis is that genomic alterations in patients diagnosed with indolent and aggressive could led to measurable changes distinguishing the two patient groups, and that application of ML to genomics data would accurately distinguish the two patient groups. We addressed this hypothesis using transcriptome data on patients diagnosed with indolent and aggressive PCa from The Cancer Genome Atlas (TCGA).

Machine Learning Approaches in Parallel Architecture to Predict Effects of Mutations by SNV

Miss Manisha Panta
Mentor: Shaikh Arifuzzaman, Md Tamjidul Hoque

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #134

Single Nucleotide Variants or simply SNVs is a mutation occurs when a single nucleotide in a DNA sequence is altered. The study shows that mutation in the residue of the protein sequence caused by SNV can be responsible for various genetic diseases. Thus, the proper prediction of the phenotypic effect of protein single point mutation is very important in the study of human health specifically to identify the SNV associated with complex diseases. There are number of computations tools developed with the purpose of predicting phenotypic effect caused by single nucleotide variant. However, only few have implemented machine learning (ML) approaches to predict the effect with limited accuracy. So, in this study we will explore various machine learning algorithms, including stacked generalization and then propose a robust method for the prediction of phenotypic effect caused by SNVs in protein sequences. We will explore different techniques of data parallelism and task parallelism to aid the performance of machine learning algorithms on both CPUs and GPUs. Henceforth, implementing ML methods in a parallel architecture to achieve higher efficiency of the overall computation.

ClassifyTE: Stacking-Based Framework for Hierarchical Classification of Transposable Elements

Miss Manisha Panta
Mentor: Avdesh Mishra, Md Tamjidul Hoque, Joel Atallah

November 19 at 10:45 AM
LIB 431

Transposable Elements (TEs) or jumping genes are the DNA sequences that have intrinsic capability to move within a host genome from one genomic location to another - genomic location can be either same or different chromosomes. Studies show that TEs have a role in genome function and evolution as their presence can modify the functionality of genes and increase the size of the genome. Thus, proper classification of the identified jumping genes is important to understand their role in germline and somatic evolution. While there are computational methods that perform either binary classification or multi-label classification of TEs, few studies have focused on the hierarchical classification of the elements. The state-of-the-art method has used a neural network for hierarchically classifying TEs. In this regard, we explored augmented Stacking-based approach in Machine Learning, ClassifyTE. ClassifyTE outperforms all the existing machine learning approaches for hierarchical classification of TEs.

On turbulence in oceanic waters

Mr. Pujan Pokhrel
Mentor: Md Tamjidul Hoque

November 19 at 10:30 AM
LIB 431

It has been known for a long time now that the famous fluid equations like Navier-Stokes, Taylor ensemble, Heisenberg ensemble are incomplete. They point towards nonlinear effects but don't exactly quantify the effects since the equations were built on the assumption that waves and their interference can only produce linear patterns. In this paper, we revist the formula for calculating rogue waves in ocean which are one of the non-linear phenomenon. The theory of higher order fourier spaces has also been explored. Furthermore, we get the real data from the buoys and use various physics and machine learning methods to forecast rogue waves in future. Likewise, William Unruh proposed in 1981 that the hawking radiation should be observed in fluid systems like sound, water and einstein-bose condensate. The framework can be used to predict various instabilities arising due to free-wave interactions/turbulence in oceanic conditions.

A Machine-Learning Approach to Predicting the Multivariate Performance Phenotype

Ms. Pooja Pun with Avdesh Mishra
Mentor: Md Tamjidul Hoque, Simon Lailvaux

November 20 at 1:00 PM
LIB 431

Morphology performance relationships are well understood for individual performance traits, particularly in species that are highly specialized for conducting specific ecological tasks. However, those relationships are complicated by trade-offs among multiple performance traits that are dependent on the same underlying morphology. Measuring the multivariate performance phenotype is logistically challenging, and consequently our ability to predict multiple performance traits from a given morphology is poor. We developed a machine learning model to accurately impute missing multivariate performance data from morphology alone and trained it on a large lizard morphology performance dataset. Our final, stacked model accurately predicts missing performance data even for sparsely sampled traits. This approach has the potential to greatly increase our understanding of performance evolution and to act as a bridge to incorporate performance into future work on phenomics.

Online Feature Selection for Streaming Features in a Distributed Spark Network

Mr. Rishav Rajendra
Mentor: Mahdi Abdelguerfi, Md Tamjidul Hoque

November 20 at 1:30 PM
LIB 431

Feature selection is an important process used in pattern recognition where you manually or automatically select features that contribute to improving our prediction accuracy. Having irrelevant features in our data often decreases the model accuracy and will make the models learn in irrelevant features. In this project, we propose a state-of-the-art online feature selection algorithm for streaming features where the knowledge of the full feature space is unknown in advance.

Current state-of-the-art online feature selection with streaming features algorithms include alpha −investing, online streaming feature selection (OSFS), and scalable and accurate online approach (SAOLA) for feature selection. Our cascading algorithm adopts a sliding-window sampling with a self-adaption strategy distributed over a multi-node Apache Spark cluster for faster performance. Our algorithm obtains an approximate Markov Blanket with high prediction accuracy and also reducing the number of selected features. Through the extensive experiment results, we demonstrate our algorithm to significantly achieve higher prediction accuracy and have a smaller number of features selected than alpha-investing, OSFS, and SAOLA.

The MetaNet

Mr. Mason Robertson
Mentor: Satoshi Nakamoto

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #211

The MetaNet is a protocol for structuring on-chain content data in a way that facilitates the use of blockchain as the base-layer for a distributed peer internet.

Recommender System to Detect Web Spams in Webgraphs with Predictive Model Analysis

Ms. Naw Safrin Sattar with Minhaz Zibran, Md Mohiuddin Sakib
Mentor: Shaikh Arifuzzaman

November 19 at 11:00 AM
LIB 431

Web spam is a serious threat for both end-users and search engines (w.r.t., query cost). Webgraphs can be exploited in detecting spams. In the past, several graph mining techniques were applied to measure metrics for pages and hyperlinks. In this paper, we justify the importance of webgraph to distinguish spam websites from non-spams based on several graph based metrics computed for a labelled dataset (WEBSPAM-UK2007). This dataset includes 114,529 different hosts and four kinds of feature sets: Obvious, Link, Transformed Link and Content. We use five prominent machine learning (ML) techniques (i.e., Support Vector Machine (SVM), K-Nearest Neighbor (KNN), Logistic Regression, Na¨ıve Bayes and Random Forest) to build a ML-based classifier. To measure the performance of our classifier, we measure accuracy, F-1 score and perform 10-fold cross validation. We also compare graph based features with content based textual features and find that graph properties are similar or better than text properties. We achieve around 99% accuracy for most of our machine learning models.

Airplane as Sensor Network for Wind Forecasting

Ms. Astha Sharma
Mentor: Mahdi Abdelguerfi, Md Tamjidul Hoque

November 19 at 9:45 AM
LIB 431

Statement of Objective: Using data from airplanes in flight to predict wind

Summary: The research explores the possibility of using aircrafts as sensor networks for observing future winds. Here, the data is collected from a NASA project where two airplanes are used to extract information on various environmental attributes, including wind speed, across Eastern and Central America. The data is studied in detail to analyze the change in weather phenomenon. Machine learning approach is applied to understand the relationship between each of the features and the observed wind and only those with the highest relevance are filtered to extract further information on future winds.

Machine learning applications in detecting rip channels from images

Mr. Michael Sinegar
Mentor: Elias Ioup, Md Tamjidul Hoque

November 19 at 9:30 AM
LIB 431

Images containing rip channels are used in oceanographic studies and can be preprocessed for these studies by identifying which regions of the image contain rip channels. For thousands of images, this process can become cumbersome. In recent years, object detection has become a successful approach for identifying regions of an image. There are several different algorithms for detecting objects from images, however, there is no guidance as to which algorithm works well for detecting rip channels. This paper aims to compare and explore state-of-the-art machine learning algorithms, including the Viola–Jones algorithm, convolution neural networks, and a meta-learner on a dataset of rip channel images. Along with the comparison, another objective is to find suitable features for rip channels and to implement the meta-classifier for competition with the state of the art. The comparison suggests the meta-classifier is the most promising detection model. In addition, five new Haar features are found to successfully supplement the original Haar feature set. The final comparison of these models will help guide researchers when choosing an appropriate model for rip channel detection, the new Haar features provide researchers with valuable data for detecting rip channels, and the meta-classifier provides a method for increasing the accuracy of a detector through classifier stacking.

Feature selection for classification of disordered proteins using parallel Genetic Algorithm

Mrs. Priyanka Velamala with Md Wasi Ul Kabir
Mentor: Shaikh Arifuzzaman, Md Tamjidul Hoque

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #138

A disordered protein is a protein that lacks a fixed or ordered three-dimensional structure. A protein molecule is made from a long chain of amino acids. Disordered regions of proteins provide essential information about the biological functions of proteins. The prediction of disordered regions using a machine learning method is a challenging task as the feature dimension is enormous. One way to reduce dimension is to use feature selection techniques. The objective of feature selection is to find the best subset of features among the feature set and reduce the feature dimension. Feature selection is one of the important techniques in the machine learning algorithm which hugely impacts the performance of the model. The objective of this research is to develop a parallel architecture to find the best subset of features in less time. Several tools are available in the literature for feature selection, i.e. Minimum-redundancy-maximum-relevance (mRMR), genetic algorithm. In genetic algorithm, the most time-consuming task is the fitness calculation. The idea is to incorporate a parallel genetic algorithm for feature selection by dividing the fitness calculation task into several processes to achieve parallelism. We developed a parallel architecture in a distributed memory system using the message passing interface (MPI). We evaluated our proposed algorithm using speedup, parallel efficiency, and workload balance and compare it with serial and parallel architecture. The best of our knowledge the feature selection using parallel genetic algorithm approach for prediction of disordered proteins has never been used. Our proposed method able to achieve higher utilization of computational resources and reduces computational time.

A Machine Learning Approach to Predict the Sediment Transport Under Oscillating Sheet Flow Conditions

Mr. Huy Vu
Mentor: Mahdi Abdelguerfi, Md Tamjidul Hoque

November 20 at 1:15 PM
LIB 431

the coastal areas are susceptible to change dramatically due to climate change that induces the sea-level rising, wave-induced currents, and wind stress. They all can constitute the transportation of alongshore sediment. The stress caused by the currents' movement can increase erosion at the coastline in a long term. Coastal erosion happens worldwide, but it can become a hazard when it swallows the land forcing people to move to the interior regions and dismantle the balance of the coastal ecosystem. To study the rate of the coastal erosion due to the unsteady wave-induced currents, the SedFoam model derives the idea from the two-phase model to include the closures of particle stresses and fluid-particle interactions. Inspired by the SedFoam model, this research proposes that Machine Learning (ML) algorithms can improve this model.

BACK TO FINDER

Earth & Environmental Sciences

An Analysis of Whether the Deep-Seated Magnolia Growth Fault in South Louisiana has Affected Holocene Stratigraphy and Geomorphology

Mr. Jared Bullock
Mentor: Mark Kulp

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #148

Growth faults in southern Louisiana are a fundamental structural element of the northern Gulf of Mexico Salt Basin and subsurface data shows that they have been locally active through much of the Cenozoic. The Magnolia fault is a down-to-the-south, deep-seated listric fault that terminates into salt diapirs at both ends. Previous work has suggested that the fault has been recently active and caused rapid local subsidence and land loss in the Lake Hermitage area west of the Mississippi River in Plaquemines Parish. Evidence from industry 3D seismic data, well logs, and biostratigraphy indicates the fault has slipped intermittently since the Miocene with a clear increase in fault throw with depth as well as an expansion of stratigraphic intervals from the footwall to the hanging wall. Similar to some other regional growth faults in southern Louisiana the projected surface trace of the Magnolia fault spatially coincides with an abrupt, linear boundary between emergent wetlands and open water. To investigate whether a correlation exists between deep-seated growth faults and subsidence at this location, high-resolution near-surface data was collected and analyzed in combination with existing

deep subsurface data. Thirteen vibracores and 10, 2D Chirp lines were acquired across the projected trace to examine whether stratigraphic evidence exists indicating recent (Holocene) motion. Each vibracore was stratigraphically described in detail and a shallow chronostratigraphic framework is being constructed using radiocarbon dated materials. A shallow litho- and chronostratigraphic framework should provide a clear indication of whether Holocene sedimentation patterns were affected by slip along the fault.

Windy Williams: Hurricane Strength and Damaging

Ms. Paris Dupre with Tia Calderon, Tiyanna Doss
Mentor: Andre Varnado, Sr.

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #247

This experiment was conducted to test the theory of wind speed and temperature having an effect on a hurricane's strength or monetary damage. As a means of answering such theory, data were collected through online research, which was then compared and contrasted as well as made charts and notations of. Throughout this experiment, data gathered from sources continued to support the null hypothesis which claimed that temperature and wind speed does not have any effect on the strength of a hurricane nor its monetary damage. However, research data collected from scientists prove that both temperature and wind speed are major contributors to hurricane strength and monetary damage.

Water and sediment fluxes along marsh edge boundaries

Prof. Ioannis Georgiou with Jessica Villers, Madeline Foster-Martinez
Mentor: N/A

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #166

Winter storms have long been considered a chief driver of geomorphic change on marshes. Waves and rapid water level fluctuations generated by these storms act as the main driver for erosion releasing unknown volumes of sediment that influence sediment exchange between marshes and proximal water bodies. Sediment released can be deposited proximal to the marsh edge and/or on the marsh platform, or dispersed to adjacent water bodies. Engineered structures have been proposed and placed in some areas to combat or reduce erosion. However, the long-term effects of these structures on sediment transport and delivery to the marsh platform are unknown and, could have unfavorable consequences on marsh health. We investigate various stabilization structures along marsh shorelines comparing them to adjacent natural counterparts using field measurements, previously collected data and predictive calculations. Through deployments of hydro acoustic sensor arrays along a cross shore transect from bay-to-marsh platform, coupled with short term sedimentation (e.g. sediment tiles) we compare and correlate sediment transport and water fluxes in restored shorelines and compare to proximal control sites that received no restoration. Our results show that water and sediment flux to the marsh platform is a function of the storm intensity, and directly proportional to the sub-tidal water level excursion and the local wave climate. Waves play a primary role in contributing to sediment onto the marsh when marsh inundation is low, and play a lesser role when inundation increases, at which point tidal and storm induced currents dominate sediment transport processes.

Geomorphologic changes of the Biloxi marsh platforms due to changes in the length and distribution of marsh-edge shell berms

Miss Riana Grout
Mentor: Mark Kulp

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #150

Wetlands in coastal Louisiana account for 37% of total wetlands in the United States, yet account for 90% of the total wetland loss. Recent research shows the percent of Louisiana's coastal wetland loss is decreasing, likely due to the lack of major hurricanes since 2008. The study area, Biloxi marsh, is located south of Lake Borgne and was formed by progradation of the St. Bernard delta complex. One unique geomorphologic feature of Biloxi marsh is the presence of oyster and clam shells, which wash onto the marsh platform and create shell berms. Crassotrea virginica is the most common shell found in the area. Shell berms can act as a buffer against erosion when immobile or suffocate marsh vegetation when mobile. Suffocation of vegetation can lead to the destabilization of the marsh platform. The proposed work will build off of existing work, examining how the berms have changed through time. Historic land loss data will be compared to total length and distribution of shell berms to see if there is a trend, such as historic storm activity. One

hypothesis is that intervals of heightened tropical storm activity will have a direct correlation to the increasing length and distribution of shell berms throughout Biloxi marsh. With this information the city of New Orleans and state of Louisiana will have a better understanding of the life expectancy of Biloxi marsh as it is the main buffer against storms.

Stable Isotope Analysis: A Comparative Study of Archaeological vs. Modern Day Fish Specimens to Examine Long-Term Environmental Changes in Southeastern Louisiana

Miss Danielle Mangipano with D. Ryan Gray, Ryan Kennedy
Mentor: Martin O'Connell

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #203

Stable isotope analysis of fossilized materials such as bone have become an increasingly important method for collecting both dietary and environmental data from species throughout various ecosystems. Through this analytical method we can investigate differences in ratios of Carbon and Nitrogen in organic materials to trace diet pathways. Significant differences in Carbon values can indicate differences in dietary sources or habitat, whereas differences in Nitrogen establish a link between trophic levels. The isotopic ratios of various marine species can be impacted by a variety of factors, including climate, oceanographic factors, and food sources. In this study, through a collaboration between the UNO Department of Earth and Environmental Sciences and the Department of Anthropology, we chose to investigate the isotopic ratios of 12 fish taxa, sourced from an archaeological site within the French Quarter of New Orleans, LA. Modern day specimens of the same taxa were collected from Lake Pontchartrain and other nearby estuaries, and their isotopic ratios were analyzed as well. By pairing stable isotope analysis with size estimation, we hope to discern if differences observed in stable isotope values in these fishes correlate with differences in age of individuals as determined by size, or if they instead likely relate to historical changes in local environments. The ability to compare isotopic data from archaeological specimens to a modern baseline will ultimately be invaluable in examining long-term environmental change.

Rates of displacement and lateral continuity of the Baton Rouge Fault System segments: Evidence of Holocene displacement near the East Orleans Land Bridge?

Mr. Robert Mohollen
Mentor: Mark Kulp

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #146

The Baton Rouge Fault System (BRFS) is a series of deep-seated, east-trending normal faults that define the present-day northern physiographic boundary of the Pontchartrain Basin. Analysis of a 2D industry seismic dataset in Lake Pontchartrain and two, 3D industry seismic datasets in Lake Borgne, revealed three faults (two identified as part of BRFS) that may show lateral continuity beneath the East Orleans Land Bridge with three Lake Borgne Fault System (LBFS) segments. The South Point Fault of the BRFS, partially visible in 2D data, is suggested to be actively displacing Holocene strata causing infrastructure damage to the Highway 11 Bridge. Shallow stratigraphic data was collected to determine displacement in Holocene strata across the deeper identified faults and to determine whether there is structural continuity between the BRFS and LBFS. Biostratigraphy from 33 oil/gas industry well logs, provided by SONRIS online database and Paleodata Inc., were used for correlation with deep seismic data. This data was also used in BasinMod software to represent the study area. BasinMod was used to generate a burial history of the Cenozoic strata within the study area and to calculate the effects of decompaction on displacement of shallow stratigraphy within the Pontchartrain Basin. A grid of shallow, high-resolution Chirp seismic lines and 22 shallow vibracores were collected for analysis of shallow strata. Stratigraphic cross sections may show displacement of the Pleistocene-Holocene contact when compared to Chirp seismic data. Dating of C14 in organics and shells from core samples will be used to correlate strata and contacts.

Prey naiveté: assessing anti predator responses of native poeciliids to invasive cichlids.

Mr. Bennett Price
Mentor: Martin O'Connell

November 20 at 3:00 PM
LIB 431

Our objective was to assess behavioral responses of native Western Mosquitofish (Gambusia affinis) to chemosensory cues of native, invasive, and novel predator fish species. It is hypothesized generational exposure to predation may influence the antipredator response of G. affinis in the presence of different predators. Specimens of G. affinis, native Largemouth Bass (Micropterus salmoides),

and non-native Rio Grande Cichlids (Herichthys cyanoguttatus) were collected from Bayou St. John. Another non-native species, Oscars (Astronotus ocellatus) were purchased from local pet shops as a novel predator. Predator species were isolated and water samples from aquaria they occupied were collected to be used as scent cues during experimental trials. All predators where weighed and volumetric displacement was calculated to create consistent levels of predator stimulus. Groups of 5 G. affinis were placed in 10 g aquaria and filmed for 7 min intervals, 2 min prior and 5 min post stimulus (10 ml predator sample) introduction. The behavior of the G. affinis was analyzed to count frequency and duration of predetermined antipredator responses. Distilled water (10 ml) was used as a control stimulus. Although experimental trials are ongoing, preliminary data indicate slightly stronger responses from G. affinis to M. salmoides than H. cyanoguttatus, A. ocellatus, or control stimulus. Several factors could account for this response including the fact that G. affinis has evolved alongside M. salmoides and may have instinctual responses to this predator. The native M. salmoides may represent a more significant threat due to its hunting methods or its more piscivorous nature.

Storm Induced Sediment Transport on the Louisiana Shoreface: Implications for the Morphodynamic Trajectory of Barrier Island Coastlines

Mr. Md Mohiuddin Sakib
Mentor: Ioannis Georgiou

November 19 at 10:45 AM
LIB 424

Barrier islands are long, narrow deposits of sand or sediments that parallel to the coast line. The islands are separated from the main land by a shallow sound, bay or lagoon and are fronted by the shoreface, which gradually slopes away from the barriers toward deeper water. Despite their ability to migrate, barrier islands are constantly threatened by storms, and with climate change, this threat will continue to grow as hurricane intensity and frequency is expected to rise. The onset of large waves and surge on the coast during storms, mobilize fine-grained sediments for the shoreface facilitating erosion and sediment dispersal.While there are numerous studies addressing sediment transport on the shelf, too few studies exist that directly address shoreface transport and determine where the sediment goes (offshore or inshore) during storm events. In this study, SWAN wave model has coupled with storm surge and morphology model within the Delft3D Modeling Suite, to evaluate sediment transport and exchange between barrier islands and the shoreface, assessing transport trends for short-term (event scale), near-term (~decadal scale), and longer-term (>20 year) timescales. This allows an assessment of key bypassing mechanisms of sediment along the shoreface and provides insight into regional sediment budgets along the central coast of Louisiana. Moreover, assessing event-scale sediment transport have additional implications on how sediment is exchanged between the shoreface and interior bays.

Flow and sediment dynamics through complex emergent vegetation

Ms. Leah Tevis
Mentor: Robert Mahon

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #205

Coastal regions are under increasing threat of land loss due to coastal erosion and sea-level rise. Mitigation strategies, including engineered sediment diversions, are currently under consideration and design in coastal Louisiana and elsewhere to combat this peril. A critical component in the design of these structures is robust modeling of coupled flow and sediment transport dynamics within the marshes to which these diversions will deliver sediment. Linking topographic evolution to particle scale descriptions of flow and sediment transport within complex, flexible emergent vegetation requires novel laboratory approaches. Using flume experiments, we intend to measure the influence of complex emergent vegetation structure and density on turbulent fluid structures and sediment diffusivity. We conducted experiments using a canopy of flexible model vegetation made from transparent polymers with equivalent refractive index to water. We measure fluid dynamic interactions using laser particle image velocimetry and sediment motions using fluorescent sediment particle tracking techniques. Vegetation structure influences the turbulent wakes, and therefore the sediment diffusivity through these elaborate marsh canopies. We plan further experiments to quantify sediment diffusivity as it relates to canopy density and complexity as well as to fluid dynamic conditions. Our future research will be advancing toward the goal of improving predictive models of the morphodynamic evolution of marshes under varying vegetation type and coverage

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Sediment transport trends along marsh-bay boundaries: Implications for marsh shoreline restoration

Ms. Jessica Villers with Madeline Foster-Martinez
Mentor: Ioannis Georgiou

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #152

Between October and April, Louisiana experiences frequent cold-fronts, increasing erosion rates along marsh shorelines. These systems cause large variations in wind speed and direction, inducing changes in sub-tidal water levels and wave heights. Storm generated waves and rapid water-level fluctuations act as the main driver for erosion releasing unknown volumes of sediment influencing local sediment fluxes. Sediment released can be deposited proximal to the marsh edge, on the marsh platform, or dispersed to adjacent water bodies, directly or indirectly through resuspension and reworking of bay-bottom sediment. Engineered structures have been placed in some areas to combat erosion. However, long-term effects of these structures on sediment transport and delivery to the marsh platform are unknown. In this study, we investigate revetments along the northwestern shoreline of Lake Borgne comparing them to adjacent natural counterparts using field measurements and prior data. Through deployments of hydro-acoustic sensors along a cross-shore transect from bay-to-marsh platform, coupled with short-term sedimentation (e.g. sediment tiles) and longer-term marsh accretion methods (e.g. 210Pb and 137Cs), we evaluate sediment transport and water fluxes in restored shorelines and compare them to control sites with no restoration. Our results show water and sediment flux to the marsh platform is a function of storm intensity, directly proportional to sub-tidal water level excursion and local wave climate. Ultimately, our study will contribute to a spatio-temporal framework that can be used to inform shoreline protection and mitigation efforts in coastal Louisiana, with transferable science to marshes in the Gulf coast and abroad.

BACK TO FINDER

Economics & Finance

Circular Economy, Sustainable Development and Islamic Finance

Mr. Ahmed Alam
Mentor: M. Kabir Hassan

November 19 at 10:45 AM
LIB 407

Following an extract-produce-waste approach, the traditional linear economy causes enormous extraction and wasteful production/consumption, resulting in a number of tribulations and threats to the earth's climate, such as mounting global warming due to greenhouse gas emissions, erosion of the ecosystem, diminution of natural resources, and release of toxic waste into human habitat. To meet these challenges and rescue the earth's climate from the devastation caused by the linear paradigm, the importance of introducing a circular economic model is second to none. A circular economic model uses a closed loop/cycle of production, facilitating limited use of materials and resources, minimal emission of hazardous elements into nature, and a highly efficient waste management system to ensure recycling and reuse of residuals into further production. The Islamic financial system, being a pioneer in the development and implementation of Sustainable Development Goals (SDG), can be a major driver in the transformation towards a circular economy. The principles of Islamic finance, accompanied with Shari'ah regulations and SDGs, will provide a solid guideline and framework for effective transition to the circular economy.

Corporate Pensions and Returns to Innovation

Mr. Mohammad Karim
Mentor: M. Kabir Hassan

November 19 at 10:30 AM
LIB 407

We examine the stock returns implications of the corporate defined benefit pension plans in R&D portfolio specifications. Pensions are one of the most significant off-balance-sheet items and liabilities arising from pensions are extensive. In our sample, firms with pension plans are 38% more levered when we integrate pension liabilities and assets into the firms' capital structure. Using a cross-section of US stock returns, we find that R&D-intensive firms that increase pension size subsequently underperform the benchmark returns. In six R&D-market capitalization portfolios, evidence suggests that pension size potentially drives statistically significant negative stock returns-pension liabilities relations for low market capitalization and high R&D-intensity firms. The negative benchmark adjusted returns remain significant only for the high R&D-intensive firms over a long horizon. Our findings support the hypothesis that investors under-react the firms' decisions to increase pension (off-balance-sheet) liabilities. This study provides a new evidence and quantifies the impact of information asymmetry in stock returns arising from off-balance-sheet items.

BACK TO FINDER

Electrical Engineering

Autonomous Navigation

Mr. Charles Escude with Matthew Owens, Michael Ceraso
Mentor: Jeffrey Gray

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #201

Autonomous navigation of a robot using a grassfire search algorithm.

N-Tupling of Bandwidth via RMMF Algorithm

Mr. Trevor McSwain
Mentor: N/A

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #191

The objectives of this presentation are as follows:

1. To impart upon the inquisitor a functional knowledge of orthogonality and basic wireless data transmission.
2. To convey, in plain language, how the RMMF algorithm functions.
3. To merge the preceding concepts and form a cohesive picture of the way in which the RMMF algorithm can improve upon wireless data transmission.

Data is transmitted wirelessly by using different frequencies of electromagnetic waves. In general, the higher the frequency, the more data can be transmitted. However, because of orthogonality, not all possible transmission bands can be used. The RMMF algorithm utilizes these unused band by n-tupling the input signal, which restores orthogonality, thereby allowing for an n-tupling of the data rate.

Copper Oxide Nanorod Synthesis by Cation Exchange Method for Photodetector Applications

Mr. Mikhail Morgan with Zhi Zheng
Mentor: Weilie Zhou

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #197

Several methods of synthesizing ZnO and CuO nanomaterials on the surface of various substrates were explored. The production of CuO nanorods upon the surface of ITO glass substrate was performed by a chemical vapor deposition method using ZnO nanorods as sacrificial templates. The similar atomic radii of Zn and Cu provided for a straightforward replacement, and the ratio of Cu and Zn was controlled by adjusting the heat of the reaction and the distance between the template and the copper. To produce the sacrificial templates, a ZnO seed layer was deposited onto ITO or Si substrates using a physical vapor deposition method. The seeded substrates were then placed into a hydrothermal oven in a solution of $Zn(NO)_3$, HMTA, and H_2O, creating ZnO nanorods uniformly and symmetrically distributed across the substrate.

However, this process is longer and more expensive than depositing ZnO directly onto a substrate. Thus the latter method was investigated: using a chemical vapor deposition furnace, Zn was heated in a ceramic combustion boat in the presence of flowing oxygen and substrates were placed downstream of the reaction. The parameters of the experiment included the type of Zn precursor (powder, foil, or shot), the temperature of the furnace, the ratio of reactive oxygen to innate argon, and the distance between the substrate and the precursor.

Aggregate Model of Single Phase Induction Motor

Mr. Bikrant Poudel
Mentor: Ebrahim Amiri

November 19 at 11:00 AM
LIB 424

This paper presents the aggregate model of single phase induction motors used in residential heat pump loads. The equivalent circuit parameters of the aggregated motor model are derived by performing no load and locked rotor tests. The proposed model captures the loads aggregated behavior (in steady state and transient regime) for any arbitrary number of loads at the distribution substation, which is beneficial for utilities' planning studies. The proposed load model is applied to the IEEE 39 bus system and subjected to a 3-phase line to ground (LG) fault to study the motor's recovery and potential system delayed voltage recovery. To verify the validity of the proposed load model, results are compared with the same case study connected to individual motor loads. The simulation results indicate that the motor will recover for 15 cycle 3-phase faults and not for delayed clearing faults such as 90 cycles faults.

   BACK TO FINDER

English & Foreign Languages

Poet for Hire: A 21st Century Troubadour

Mr. Benjamin Aleshire
Mentor: Elaine Brooks

November 19 at 9:30 AM
LIB 407

Whether or not we are students of literature, most of us have some familiarity with the troubadours: medieval poets wandering the countryside of southern France with lutes, hired by courts to compose lyrics.

But what if a 21st century poet were to attempt the same? In "Poet for Hire: A 21st Century Troubadour", poet and UNO Romance Languages major Benjamin Aleshire will present his decade-long research into making a living by writing poetry. Instead of a lute, Aleshire carries an Olivetti typewriter, roaming from the French Quarter to Barcelona, Paris, Rome, and Havana, composing poems for strangers in the street. Instead of the aristocracy, he writes for Wall St bankers, the homeless, and everyone in between—a quasi-Marxist approach which has earned him full-page features in several of the world's largest newspapers, and invitations to perform at institutions as varied as Princeton University, exclusive sex-orgies in New York, and the Edinburgh Fringe Festival.

As a first-generation student from a working-class family, these experiences dovetail into Aleshire's studies in the Romance Languages department at UNO, where he encountered the picaresco novels of Spain—inspiring him to pen his own account of his travels. Recently selected by Andrei Codrescu as the runner-up for the Faulkner-Wisdom Prize in Narrative Nonfiction, Poet for Hire describes a poetics spanning old and new technology, typewriters and Instagram, ancient and contemporary literary forms, and the power of poetry to defy the class barriers becoming more feudal every day.

Writing Jazz in Translation

Dr. Elaine Brooks
Mentor: N/A

November 20 at 3:00 PM
LIB 410

Statement of Objectives- This summer (June/July 2019) I spent a month in Heredia/Curridabat, Costa Rica completing the translation of the novel, Cierto Azul, which is titled in English as Blue Note. My objective was to complete the translation during summer 2019.

Summary- The novel takes place in an unnamed Latin American city and the narrative moves through the novel through variations on variations, as if it were a jazz composition. These kinds of jazz movements as rendered in Spanish were particularly challenging when translating them to English. At Innovate UNO I will describe how Fernando Contreras Castro crafted the novel and how particular passages were translated with the goal of maintaining the original intent: jazz in prose. Blue Note is now in the able hands of the publisher, Diálogos, with a publication date at the end of 2020.

Selections from Bad Beach

Mr. Henry Goldkamp
Mentor: Carolyn Hembree

November 20 at 1:00 PM
LIB 410

Spoken performance of three to five new poems.

The Most Unexpected Thing: Reflections on Aging

Mr. Richard Goodman
Mentor: N/A

November 20 at 3:15 PM
LIB 416

The talk will concern the manuscript I've been working on about aging. I am seventy-four years old. How am I going to contend with old age? How am I going to manage growing old, aging, being old? I am a traveler who has crossed a frontier into an unchartered country, a stranger in a strange land. Everything about this commonwealth of aging is new. What are the customs here? The culture? How can I be a good citizen? How can I be brave and good-natured and still contribute to the world? How will I deal with the inevitable assault and battery on my mind and body? I have been writing about this in a blog that has caught the imagination of readers. I have over 54,000 page views so far. Excerpts have been published in the Louisville Review. The subjects of my book range from living and dying alone, to absent-minded shaving to a letter to my future broken hip. I want to turn these ruminations—sad, funny, plaintive, full of longing, regret and hope—into a publishable manuscript, so that others may find understanding, solace and humor in this inevitable journey.

Gender-neutral Markers and Genderqueer Inclusivity in Spanish Language Classrooms

Mr. Dylan Sharkey
Mentor: Lisbeth Philip

November 19 at 9:45 AM
LIB 407

The purpose of this study is to examine attitudes of Spanish language educators, concerning incorporating newly created gender-neutral marker forms '-e', '-@', and '-x' to accommodate LGBTQ+/ gender-nonconforming students enrolled in Spanish classes. This study is part of an ongoing project began by Dr. Philip of the University of New Orleans who examined the attitudes and perceptions of 69 Spanish educators in Louisiana on the use and inclusion of these markers. This preliminary study surveyed educators of all grade levels in both private and public sectors. While the results did not prove to have a statistically significant value for most of the variables analyzed, it did show that despite positive attitudes concerning diversity support, participants were reluctant about the use of gender-neutral markers, especially in the classroom for fear of alienating students more than enlightening them.

Schools and universities are striving to protect individuals from discrimination and to value all students regardless of their identity. The essential question is whether this warrants a dramatic reform of the Spanish language to make it more inclusive for LGBTQ+/gender non-conforming students as part of the learning experience in a language that does not accommodate, for the most part, gender-neutral forms.

Broadening the study nationally seeks to understand how a larger and more diverse sample perceives these linguistic reforms. The obtained results will demonstrate their level of support for the inclusion of newly created, gender-neutral forms that will result in the disruption or recreation of long-held beliefs in the study of the Spanish language.

BACK TO FINDER

History & Philosophy

Problems with Allies and Detente (The Cold War)

Mr. Jose Lozano
Mentor: Marc Landry

November 19 at 10:00 AM
LIB 407

The United States and the Soviet Union where the two reigning superpowers that compteted during the Cold War. What happens when their allies start causing them problems and leads to the failures of detente?

BACK TO FINDER

Interdisciplinary Studies

The Longest I've Committed to a New Year's Resolution

Ms. Zenobia Zeno
Mentor: Ariya Martin

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #244

2019 will be different.I don't even attempt New Year's resolutions anymore, but late last year I received confirmation that this year I should resolve to finally release all that I've been holding on to in my life and in my personal space. I thought that something as simple as decluttering my room was not worthy of a prayer, but as the new year began it became apparent to me that changing some of my habits and creating new habits was not going to be easy and so I called on God for strength to help me with this transformation.

There was a lot of progress and regress in this transformation and at times seemed like I wouldn't be able to get rid of the things I've been hoarding.

The initial inspirations, which doubled as confirmations, for this book come from the Netflix series "Tidying Up With Marie Kondo", The Transformation Church sermon series titled "The Year of RELEASE", the commitment that my colleagues and I have made to our focus word of the year: DECLUTTER, and the opportunity to document this process in my class. I gave up on new year's resolutions, but I just got all these signs, and a strong feeling that I should complete this task, in 2019.

BACK TO FINDER

Management & Marketing

Insulated Backpack

Miss Marissa Alonso with Hadi Hawkash, Clarence Dyson, Symone Joseph
Mentor: Cherie Trumbach

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #149

The role of our innovation project is to bring ease and comfort to people's lives. We have all went on trips where we walked long distances and found that our water was hot or warm in our backpacks. We have decided on the idea to use cooling backpack pockets for this solution we have all went through. As we all know global warming is on the rise and temperatures around the world are increasing. Furthermore, providing cooling insulated backpack pockets will help many people not only nation wide, but worldwide. People around the world are suffering from not being able to access cool and healthy water to hydrate themselves through the harsh summer seasons. Americans bought more backpacks last year and according to the Travel Goods Association, 174 million of them were sold. How many people do you think would appreciate an extra add-in for a lifestyle with no difficulties. We can target many groups of backpack users such as military, students of all ages, hospitals, gyms, and basically anybody that wants to make their lives easier with an insulated backpack.

Netflix Advertisement Effectiveness

Mr. Blake Chalin with Kerry Tran, Veronica Corcoran, Victoria Corcoran
Mentor: Kyeong Sam Min

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #153

The purpose of this experiment was directed toward UNO student consumers. In today's world, many of us opt out of having cable and started using streaming networks like Netflix. We wanted to see which offer would be more effective by giving the option of two offers that are equal to the same amount. For starters, Netflix is normally priced at $15.99 per month which is $192 a year. A Saints or Pelicans game ticket is roughly $85 to $100+. With our offer, students will be able to save roughly $96 annually if they choose the $7.99 per month deal. However, there's also a free one time voucher for a Saint or Pelicans tickets of their choice.

We decided to use the UNO student body and will use surveys to present the idea. Each survey will present the Netflix advertisement along with a picture of the offering. For example, one will show dollar signs, and "SAVE NOW" ads. The other offer will have pictures of the saints and pelicans (of course mentioning to pick one of the other). By doing this, our goal is to increase the number of students who use Netflix and to make Netflix the most appealing streaming service. The surveys will also be equipped with other questions asking students about their preferences in the outlet's what they actually chose to watch.

Effects of Sales-Promotions on Brand Attitude

Ms. Alexis Cosse with Mahagony Keen, Alexis Cosse, Erin Leaman, Katie Mattio, Maggie Mattio
Mentor: Kyeong Sam Min

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #177

The purpose of this study is to assess the effects of sales-promotions on brand attitude. In the era of new technology, many start-up companies are using sales promotions as a strategy to enter the market. This use of sales promotions more than ever before has created a group of consumers prone to deals and discounts. Researchers have claimed that sales promotions affect the brand image and brand choice. If a brand repeatedly offers sales promotions then its brand perception will be negatively affected; because, sales promotions have negative effects on brand choice in the long term. Non-monetary promotions have more favorable effects on brand attitude than monetary promotions in the long run. According to Yi and Yoo, repeated monetary promotions might induce unexpected side effects to less deal-prone consumers. However, it is concluded that repeated sales promotions could induce a favorable brand attitude for highly deal-prone consumers. This particular consumer group maintains favorable brand attitude over time.

Therefore, marketing professionals must strategically plan a promotion and carefully consider its purpose in targeting consumers. It is proven that price promotions have an immediate positive effect but a less favorable effect on brand attitude for certain types of consumers in the long run. The problem of selecting the right type is important to successfully implement a sales promotion that builds equity. If a marketer is afraid of damaging the brand attitude they can consider non-monetary promotions because they're safe for every type of consumer. As with monetary promotions, non-monetary plans should be handled diligently. Things like free gifts should be considered with a target consumer in mind. The price should only be displayed if the gifts cost more than the original goods.

Class Project

Mr. Ray Davis
Mentor: Cherie Trumbach

November 20 at 1:45 PM
LIB 424

What I'm doing is a software that uses AI to track patterns in the markets and will be able to execute trades with a 85% green trade rate. Going through this process, the AI software will have to go through a lot of training by monitoring first a already good trader with a 65% and higher trading portfolio. After monitoring multiple traders for about 6 months, the software will be put on a simulation that has uses real time market data with level 3 charts where it will learn the each part of the charts on it's own. During the training, for the AI will know when it's doing bad and doing well, it will pay attention to the gross profit tab and know that red is bad and green is good. The higher the green number, the better but it also needs to learn about risk management as well.

Coffee Break

Mr. Avery Davis with Khadijha Woods, Daniel Honore, Ty Anderson
Mentor: Kyeong Sam Min

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #187

We predict that coffee shop customers, if given free coffee, will be more willing to spend more money on pastries, snacks, and other food items than if the customers had to purchase their coffee.

We will put together two questionnaires: One with the stimuli of an ad saying "Free Coffee!!" and saying "Free drip coffee" in fine print beneath. The second questionnaire will have the same ad minus the free coffee. The questionnaires will be identical; each asking customers to select items they would be willing to purchase upon visiting the coffee shop. The prices for each item will be included (ex: black coffee $2, sandwich $5, mocha $4, etc.).

We will conduct this survey by standing in the UNO library during populated times and giving randomized surveys to those who pass. The surveys will be shuffled so neither our team nor the respondents know which survey they are receiving. We will then collect all responses, analyze the data, and determine which ad correlates to greater food sales revenue.

P Tracker

Mrs. Kristina Dickerson with Danielle Harbor, Adam Newell
Mentor: Cherie Trumbach

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #163

Statement of Objectives: To combine widely used athletic performance electronics and apps into one interchangeable wearable device with app support.

Summary: This device will take the best aspects of all big brand fitness trackers and combine them into one functional wearable device. It will include heart rate tracking, heart rate variability, muscle fatigue and recovery as well as body fat/lean muscle analysis. The app will provide a graphical representation of data from past performances, as well as use predictive analytics to provide suggestions for overall performance enhancement.

What Makes People Just Do It

Miss Talia Haas with Bradley Feig, Justin Alexander, Kayla Jackson, Destinee Eugene
Mentor: Kyeong Sam Min

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #159

The research idea for our project is that if a celebrity promotes a product or brand, it will bring more awareness and be better received by the audience than if an ordinary person promotes it. It is widely accepted that the words of people with celebrity status, such as star athletes and actors, hold a tremendous amount of weight behind them. People tend to watch their every action through television and social media, and they are often seen as role models by the majority society at large. Our group is designing an experiment in which we utilize American professional tennis player and former world No. 1 Serena Williams to advertise a Nike product. We will construct two separate ads, one in which Serena Williams is holding the Nike product while encouraging viewers to buy it and another in which an unfamiliar face does the same. We will design the ads by using the computer software Adobe Photoshop. Our group will also construct a poll online and a physical copy which we hand out to people on campus and record the results. The poll itself will have the two ads placed side-by-side and simply ask the viewer which one would persuade them more to purchase the Nike product. After the experiment we will tally up the votes, analyze them, and then draw a conclusion either accepting or rejecting our hypothesis.

Managing Your Emotions in the Face External Pressures: How Social Marketing Can Help

Miss Rachel Hayes
Mentor: Elyria Kemp

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #165

Young adults are experiencing a marked increase in anxiety. Many young adults may feel the need to manage a social media identity in which their lives and experiences are documented online. This may contribute to increased anxiety due to individual perfectionism proclivities. Broadly defined, self-perfectionism involves very critical evaluations of the self. Perfectionism may also come from others

and may manifest as socially prescribed perfectionism (SPP). When perceived to come from others, individuals believe their social context is excessively demanding, that others judge them harshly, and that they must display perfection to obtain approval. As a result, socially prescribed perfectionism may account for increasing levels of anxiety. This research examines how social advertising/marketing tools can be used to encourage the use of emotion regulation strategies to help promote psychological well-being. Specifically, the efficacy of two emotion regulation strategies are investigated: cognitive reappraisal and expressive suppression. Results from an experimental study demonstrates that cognitive reappraisal is more effective than expressive suppression in mitigating the effects of anxiety. In addition, findings indicate that emotion regulation strategy and socially prescribed perfectionism interact such that individuals who reported high levels of socially prescribed perfectionism and were exposed to an advertisement promoting cognitive reappraisal exhibited better emotion management tendencies. Importantly, this research highlights how marketing mechanisms, especially social marketing and advertising, can help facilitate effective emotion regulation.

Theory of Knowledge: Perspective

Miss Galatia Jones
Mentor: Brent Rose

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #243

The objective of this piece is to visually explain my philosophy on epistemology, in the simplest way. Some aspects are stated directly while others are not. This philosophy can be stated as, how we as people receive, analyze, and respond to information. I chose this medium because, "a picture speaks a thousand words".

Receiving: Elements of Art (Background)
Highlight: Universal Shapes

Your mind takes mental snapshots and stores them into your memory. These mental images displays each element of art. These experiences shape your perspective. Therefore Art partially creates psychological conclusions that can be drawn from something although it is not explicitly stated.

Lines & Space- directly shown
Texture- displayed through the type of paint: spray, pencil, watercolor, and acrylic
Value- warm vs. cold, lightness vs. darkness
Shape- Universal Shapes –circles, squares, triangles, crosses, spirals (Signs of Life by Angeles Arrien explains each)
Color- primary colors for simplicity
Form- 2D aspects
Analyzing: Empiricism vs. Rationalism (Middle)
Highlight: Huey and Riley

A Boondocks reference. Huey shows traits of logical thinking followed by strategic action (rationalist) while Riley makes decisions through emotion (empiricist). People exhibit these two ways of thinking, neither wrong.

Responding: Positive vs. Negative (Foreground)
Highlight: Mouth

A form of communication. The flowers represent rebirth and growth and stems from the phrase "speak life into someone". This response is positive. The smoke/bullet stems from the phrase "shoot someone with your words" meaning to discredit or devalue the information being given. This represents the negative."

Class Project

Mr. Allan Joseph with Giuseppe Bongiorno, Emmett Power
Mentor: Cherie Trumbach

November 20 at 1:15 PM
LIB 424

We are doing the ultimate baseball coach's practice and game gear, The Baseball Caddy LE. The Baseball Caddy LE will be a batting practice L screen which will contain a baseball basket that holds upwards of 2 dozen baseballs. The L protector will be reversible for right and left handed pitchers. It will be mobile and light enough to pick up and put into a car. It will be made of light weight aluminum

with a padded front to absorb the hits of baseballs. It will also contain a baseball line-up board as well as helmet racks, bat holders, and a place for the warm-up balls. These features make the product usable during practice as well as before and during games.

Obstacles will be finding a manufacturer and being able to make a quality product at an affordable price. Funding could come from a family investor or

This product will be a must for all baseball teams. It can be distributed on Amazon or through any team sporting goods outlet.

Class Project

Mr. Mohammad Judeh with Nadir Hamdan, Jacquelynn Birk
Mentor: Cherie Trumbach

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #168

Consumers' Willingness to Change Buying Patterns for Social Cause

Ms. Madisyn Napoli with Wesley Robinson, Michael Taylor, Amer Sarmini
Mentor: Kyeong Sam Min

November 20 at 1:00 PM
LIB 424

The topic for research design is studying consumers buying habits between generic and branded medication. We are incorporating an added design on the package of the generic branded medicine to see the likelihood of consumers changing their preference. The concept is to add a social conscious promotion to the packaging stating "With each purchase, we will donate $1 to a boys and girls club". The key independent variable is the packaging/branding of the pill bottles. The dependent variables include consumer preference, attitude toward the package, purchase intention, and quality perception. Past studies show consumers are more likely to buy name brand medicine because of habit. Many consumers display normal decision making, which requires low involvement in the buying process. Our research is to see if the socially responsible message added to the generic branded medicine will draw consumers to change their purchase decision.

App for HIV Viral Load suppression

Mr. Louis Olguin with Jenny Nguyen, Emma Piazza
Mentor: Cherie Trumbach

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #147

I will present a prototype for the app that I am designing for my Innovation Management class. I will present a cardboard example and give a present a poster on how it works, what makes it a great product for the consumer, and what it would take to bring this product to market

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Do Perks Always Increase Prospective Customers' Interest Of Buying Season Tickets?

Ms. Dominique Poche with Justin Vlosich, Jon Pujol, Justin Untereiner
Mentor: Kyeong Sam Min

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #175

For events such as concerts, shows, and live sporting, it is the job of the company producing the event to put on as good of a show as possible. The event itself can be star-studded and exciting but there are ways to add value to this outside of the event itself. One way we believe that you can do this is by coupling or bundling added products as a way to entice prospective customers into purchasing tickets. We researched if adding various perks, such as free meet-and-greet events with players, to season and individual tickets for the New Orleans pelicans will increase ticket interest. Our team did a questionnaire and received 82 responses. There was a significant finding that people who have previously purchased Pelicans tickets, are more interested in purchasing tickets with bundling options.

Cabaret Performance

Mr. Seth Robichaux
Mentor: L. Kalo Gow

November 20 at 1:45 PM
LIB 410

I am currently studying cabaret and comedy stylings and will perform selections from my new solo act.

Wet Away

Mr. Seth Stackhouse with Alexis Guerra, Alan Karmazin, Ellie Songer
Mentor: Cherie Trumbach

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #179

MakeUNOGreatTogether App

Ms. Jennifer Taing with Oanh Nguyen
Mentor: Cherie Trumbach

November 20 at 1:30 PM
LIB 424

BACK TO FINDER

Mathematics

Decision Tree Methods to modeling data with zero inflated Poisson response.

Mr. Philip Amewudah
Mentor: Xueyan Liu

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #162

Poisson Regression models among others are classical statistical models for count data. When there are excess zeros in count data, the Zero Inflated Poisson (ZIP) regression (Lambert, 1992), a two-part model (one for modeling the regular counts and the other for modeling the prior probability for the subpopulation), is preferred. However, when an overall marginal effect is of interest, the Marginalized Zero Inflated Poisson (MZIP) regression which was recently proposed (Long, 2014) using the maximum log-likelihood estimation for a more straightforward interpretation, is preferred. In this presentation, we consider decision tree methods (CART) for count data with excess zeros using the maximum of MZIP likelihood as the slitting criterion. Simulated data is used. Trees can then be ensembled using random forests to improve the performance.

Momentum Based Statistical Arbitrage Methods

Mr. Wingate Jones
Mentor: Linxiong Li

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #143

Whilst working with The Tolmas Scholars Program, I have been doing research with Dr Linxiong Li, in the College of Mathematics. In its origins, my work was studying the different models and metrics used to describe Basketball C.S.V. data as a time series. I began to work more with the tools commonly used for computational data science, such as S.A.S., Python, and Pandas for example. The more I played with this data the more I wondered how I could apply these tools to financial data sets, so I began my journey by trying to find different data sets to analyze with my newfound skill set. As I began to feel more comfortable with not only working with data structures such as Pandas DataBases, I began to develop my own backtetsing engine, while engineering more complex strategies on more established software such as BackTrader and Quantopian. Such strategies include Heiken Ashi trend following techniques, which involves direct manipulation of candlestick sizes, statistical arbitrage methods, and other momentum trading and indicator based strategies. While creating my model for statistical arbitrage, I was even able to create my own technical indicator which detects when two stocks, which usually move with another, have deviated in their paths. This indicator allows me to find trading signals based off of traditional hypothesis testing techniques, which are automatically and systematically preformed by the algorithm on historical data.

A clustering method in spatial statistics

Dr. Xueyan Liu with Hui Zhang, Luhang Han
Mentor: N/A

November 19 at 11:45 AM
LIB 407

A clustering method in spatial statistics

On the Measurement of Non-Local Behavior in Quantum Mechanics: Tsirelson's Bound for Multiple Qubit

Mr. Soumyadip Patra
Mentor: Peter Bierhorst

November 19 at 11:00 AM
LIB 407

The profundity of Bell's 1964 theorem, which states that quantum predictions cannot be accounted for by any physical theory involving a natural notion of locality, has motivated extensive research in the area of quantum information science in the last two decades. Considering non-local behavior to be the norm in quantum mechanics, the Tsirelson's Bound is a classic result to bound the non-locality in quantum mechanical correlations. In this work we extend Tsirelson's 1980 result for a two qubit bipartite system to a multi-qubit bipartite system.

Continuous limits of random walks over point processes and Black-Scholes model

Dr. Navid Salehy
Mentor: N/A

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #178

Sex Ed 101

Mr. Sage Sigler
Mentor: Tony Campbell

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #157

Sex Ed 101 is a protest poster centered around the teachings (or lack thereof) of sex education in the United States, particularly here in Louisiana. The print consists of the words "withholding information is not sex education" along with several forms of contraception in the background including IUDs, NuvaRing, condom, birth control pills, and a birth control patch. The phrase "withholding information is not sex education" refers to the fact that many sex ed programs that are taught in Louisiana schools are abstinence only programs which emphasize abstinence as the only method to prevent unintended pregnancy and STIs. They do not discuss the effectiveness of condoms or contraception in preventing unintended pregnancy and STIs, which is what comprehensive or abstinence plus programs

do. Louisiana is also the state with one of the highest rates of teen pregnancies and STIs, specifically for syphilis, chlamydia, gonorrhea, and HIV and AIDS. Could not teaching teens about safe sex and only teaching them about abstinence play a factor in all of this? Should contraception and HIV education be mandated in Louisiana? Can abstinence only programs even constitute sexual education? These are all questions I attempt to explore in Sex Ed 101.

Still Life: A Self Portrait

Ms. Sage Sigler
Mentor: Kathy Rodriguez

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #158

Still Life: A Self Portrait incorporates objects from different parts of my life that represent who I am today. It contains some books, a playbill, a medal, a stuffed elephant, a boo sign, and a wooden pineapple. It may seem like a random assortment of objects, but each one holds some meaning or sentimental value to me. There are elements of whimsy and playfulness at hand as well as a bit of intrigue and mystery lying just below the surface, kind of like me.

BACK TO FINDER

Mechanical Engineering

Investigation of Two-Phase Flow inside Rotational Paper Dryers

Mr. Victor Barboza Pereira with Hamed Majeed
Mentor: Ting Wang

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #141

The paper industry uses cylinder dryers that employ steam to heat and dry the paper web moving over the cylinder outer walls. As steam condenses, the condensate is accumulated inside the cylinder dryers. The condensate is evacuated using either stationary or rotary siphons. The form of condensate motion occurring inside the cylinder can be ponding, cascading or rimming depending on the size of the cylinder dryer, the rotating speed, the amount of condensate, and the surface finish of the cylinder dryer inner wall with or without ribs or grooves. To achieve a higher yield of paper products, most modern paper machines operate at high speeds which cause the condensate into the rimming state. The behavior of the condensate inside the cylinder dryers affects the heat transfer through the cylinder wall, the torque and power requirements of the dryer, and the performance of the condensate evacuation via siphons. The siphons perform more efficiently when the condensate is rimming. However, the heat transfer through the cylinder dryer wall is adversely affected by the added thermal resistance of the rimming condensate layer. The objective of this study is to improve understanding of the fundamental thermoflow physics in a rotating dryer by investigating the dynamic two-phase flow and heat transfer behavior inside the rotational paper dryer at different rotational speeds with and without a rib.

The study is formulated in a transient, 2-D computational domain consisting of an air-water mixture, instead of steam and condensate, in order to compare the computational results with the available experimental results. This investigation will contribute to gaining a fundamental understanding of the two-phase flow behavior inside rotational dryers and providing insight for optimizing the design and operation of paper drying cylinders capable of achieving improved heat transfer.

Investigation of Condensation, Flashing, and Two-phase Flow Phenomena in Rotating Paper Dryer to Achieve Effective Heat Transfer with Low Energy Consumption

Mr. Hamed Abdul Majeed
Mentor: Ting Wang

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #161

Paper industry comprises of paper, tissue, paper board, and pulping. The papermaking process requires a lot of energy, in the form of steam, to dry the paper web. Conventionally, contact drying using steam-heated rotating paper cylinder dryers is used for paper drying. As steam condenses inside the paper dryers by releasing heat to the paper wall, the condensate is removed using either stationary or

rotary siphons. Since the condensate is usually at the saturated state, it flashes becoming two-phase flow along the siphon during the extraction process due to reduced pressure. When vapor accumulates too much in the siphon, it is difficult to flow out of the siphon, so the blow-through steam is used to push the condensate out while a thermocompressor or vacuum pump is used to create the suction to extract the condensation. This practice of employing push from the upstream and suction from the downstream requires excessively large amounts of high-grade steam by burning fuels. Motivated by the need to reduce energy consumption during the paper drying process, the objective of this research is to conduct experimental and computational investigation to understand the fundamental thermo-flow physics involved in the phenomena of vapor condensation, condensate flashing in the fluid removal siphon, and conjugate heat transfer through phase change in a rotational environment in order to reach the ultimate goal of minimizing or potentially eliminating the blow-through steam consumption as well as achieving uniform cooling of the paper web. To achieve this objective, the following specific goals are established. The investigation consists of three parts: (a) condensate removal through a rotary or stationary siphon, (b) Vapor condensation in a rotating cylinder, and (c) conjugate heat transfer through rotational dry wall and porous wet web with moisture vaporization.

Investigation of Flashing Flow in a Siphon to Extract Condensate in Paper Dryer Application

Mr. Hamed Abdul Majeed
Mentor: Ting Wang

November 19 at 9:00 AM
LIB 424

The paper industry uses steam to dry paper web through cylinder dryers. As steam condenses inside the cylinder dryer, the condensate is removed by means of either a stationary or a rotary siphon. However, during the siphoning process, flashing of the condensate occurs, which could cause backflow or discontinuity in the siphoning process. To resolve this flashing issue, two approaches have been employed: (a) increasing the amount of steam supplied (b) reducing the back pressure. This practice of employing push from the upstream and suction from the downstream requires excessively large amounts of high-grade steam: 10 to 15 %, 15 to 25%, and 40 to 90 % of blow-through steam for stationary siphons, rotary siphons, and Yankee dryers respectively. The objective of this poster is to investigate the flashing phenomena during condensate transport through the siphon and piping system in order to develop means to reduce this excessive steam consumption during the paper drying process. A computational fluid dynamics (CFD) simulation is performed that uses the Eulerian-Eulerian multiphase method by employing flashing and condensation models. The results show that the reduction of local pressure triggers flashing; however, flashing, in turn, reduces local temperature, and subsequently induces condensation, resulting in an alternating flashing and condensation behavior. To maintain continuity of the siphon flow, the inlet pressure fluctuates corresponding to the variation of total vapor volume ratio inside the siphon. The results will be used to modify the current siphon system design and operating practices to reduce steam consumption.

The Maurin Elfert-1 Hybrid Rocket Engine

Mr. Mitchell Maurin with Daniel Elfert
Mentor: Kim Jovanovich

November 20 at 3:30 PM
LIB 431

The Maurin Elfert-1 Hybrid (ME-1H) Rocket Engine is a student-designed, fabricated, and test-fired hybrid rocket engine utilizing Nitrous Oxide and Paraffin Wax. The ME-1H was endorsed by UNO and granted permission for testing at NASA's Stennis Space Center. The engine was a co-developed project by undergraduate students Mitchell Maurin and Daniel Elfert.

CLEP: Rate Design That Fosters Market Engagement That Addresses The Climate Crisis

Mr. Brendan Moore with Myron Katz
Mentor: Syed Adeel Ahmed

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #172

Objectives:

CLEP rewards customers who schedule or shift electricity purchases away from peak hours—when it costs the utility the most to provide electricity because that's when wholesale electricity prices are highest, or the delivery systems are most stressed. At no cost to ratepayers, subsidies or carbon taxes, CLEP provides an incentive that rapidly and fully pays customers to purchase and use devices

that reduce peak demand, such as timed control water heating, cloth dryers, electric vehicle charging and, starting to become common elsewhere, ice-making air conditioners.

And importantly, CLEP imposes no lifestyle changes to get most of these benefits.

CLEP is essentially a sophisticated time-of-use rate (e.g., price of electricity varies by time of day), which has proven successful in other states and countries for many decades. CLEP can be easily introduced in New Orleans because Smart Meters (that ENO calls "AMI", i.e., "my friend") will be fully deployed next year.

Experimental Study of the Effect of Void Fraction on Two-Phase Flow in a Siphon

Mr. Luis Velazquez
Mentor: Ting Wang

November 20 at 3:15 PM
LIB 431

The technology used in the paper drying industry relies in traditional equipment. In these plants, a series of rotating cylinders are fed with high temperature steam internally and the heat from the steam is used to dry the external paper web. After part of the heat is released, the steam condenses inside the cylinder and siphons remove the excess liquid that accumulates. As the saturated liquid condensate ascends the siphon against gravity a pressure drop develops and it is maximum at the top of the siphon, causing flashing and usually interruption of the flow. To resume the condensate extraction again, extra steam is used to blow through the two-phase flow. To make this process more efficient by minimizing or completely removing the blow-thorough steam, the objective of this study is to investigate what is the maximum void fraction that a natural siphon can sustain before the flow is interrupted. For the experiments, data was collected using an experimental test stand consisting of two water reservoirs and one siphon that has an air valve attached to introduce air bubbles. It was found that void fractions as high as 60 % can be sustained by the siphon without interruption of the natural siphon flow. Moreover, increasing the height of the siphon affects the air percentages in the flow. Relying in the natural siphoning process inside the paper drying cylinders could mean eliminating blow-through steam completely, greatly increasing efficiency and saving energy.

BACK TO FINDER

Physics

Clock Drift Correction Method for Oceanic Acoustic Data

Miss SydniCherise Austin
Mentor: Juliette Ioup

November 20 at 2:00 PM
LIB 431

Acoustic source monitoring poses a challenge for many areas of underwater experimentation. Source localization in three dimensions in underwater sound propagation has been studied and modeled using a cross correlation between receivers; this involves the approximate Green's function of the medium. Correlation accuracy of the approximate Green's functions from several days of data collection demonstrates the shift in time that occurs when instrumentation is unable to be regulated by internal GPS clocks. The trends in time shift drawn from the correlations can be modeled to produce an overall sampling clock drift error. Accounting for clock drift error is important for multipath propagation underwater due to dampening elements of the soundscape and Doppler drift. The method has been further modified in the area of seismology for bandwidth specific wave types or bandwidth specific sounds to produce better correlation. Applying cross correlations to hydrophone arrays receiving non-seismic signals allows for changes to the specifications of the previously developed methods. Specifically, moving source localization for tracking source movement is of interest in our marine mammal detections in the northern Gulf of Mexico. Current research focuses on code improvements for source localization using previously recorded underwater acoustic data. Correlation methods would be introduced to further study the patterns of marine mammal behavior present in the Gulf of Mexico.

Piezo-phototronic Effect Enhanced UV-Vis-NIR Photodetector Based on CdSe/CdTe Core/Shell Nanowire Array

Mrs. Jinling Luo
Mentor: Weilie Zhou

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #226

Cadmium selenide (CdSe) is an important II-VI semiconductor due to its distinct nonlinear optical properties, luminescent properties, quantum-size effect and the band gap in visible light range. As a wurtzite structure crystal with non-central symmetry, a piezoelectric potential is created in CdSe by applying a stress due to the polarization of ions. This piezopotential created in CdSe has a strong effect on the carrier transport at the interface/junction owing to the simultaneous possession of piezoelectricity and semiconductor properties, which is the origin of piezotronic and piezo-phototronic effects. The piezo-phototronic effect is thought to be a coupling effect due to the photo excitation, piezoelectricity and semiconductor properties of CdSe NW. A piezo-phototronic effect enhanced UV/visible/NIR photodetector has been fabricated based on vertically aligned CdSe/CdTe core/shell nanowire arrays, which were synthesized by CVD and PLD methods and characterized using XRD, FESEM, SEM and TEM. The photodetector performance under UV (385 nm), blue (465 nm), and near-IR (850 and 940 nm) illumination has been measured, which is enhanced by simultaneous application of compressive and illumination owing to the piezo-phototronic effect. This work proves that the performance of photodetector based on CdSe/CdTe core/shell nanowire arrays can be effectively enhanced by the piezo-phototronic effect and the light detection range can be extended to near infrared due to the heterojunction structure of CdSe/CdTe core/shell nanowire.

Improving CMB Cosmology with a Cryogenic Reflectometer

Ms. Julia Robe with Grace Chesmore, Jeff McMahon
Mentor: Juliette Ioup

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #137

The Cosmic Microwave Background (CMB) is remnant radiation that carries information from the origins of our universe through spacetime, enabling us to study properties of our universe. Simons Observatory (SO) is a new CMB experiment that will be the most sensitive instrument of its kind and is set to deploy in the Atacama Desert in Chile in 2021. SO intends to measure the relativistic species and the mass of neutrinos, characterize primordial perturbations, constrain the duration of reionization, and test for deviations from a cosmological constant. To achieve these science goals, SO requires highly sensitive instrumentation, improved calibration techniques, and very low dielectric loss.

To ensure low dielectric loss, proper materials must be used for absorption of reflected power. SO will contain four total telescopes, all of which will be housed in their own optics tube. The optics tubes will be kept very cold, from 100mK to 4 K. Material properties change with temperature, so we must ensure we use the most efficient material inside of the optics tubes and fully understand it before deployment. After designing and building a small-scale cryogenic reflectometer, we can test and characterize our materials at cryogenic temperatures. Using the computer-aided design program Inventor, I designed a reflectometer optimizing its' size based on optical considerations and the cryostat footprint. The next steps in the process include building the cryogenic reflectometer, testing materials, and analyzing the data.

An Introduction to Quantum Computing

Mr. Bradley Sciacca
Mentor: Juliette Ioup, Peter Bierhorst

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #174

Quantum Computing is an often-confusing topic, which involves ideas in physics, mathematics, and computer science. This poster examines the depth within each field which is required to get an entry level knowledge of the subject. Some basic terms and theories will be defined, including the Qubit, Quantum Circuits, and the Quantum Fourier Transform. The poster will display the analogous relationships between quantum and classical computing. The crux of the poster demonstrates how a quantum computer can factor a composite number using number theory and how this will affect future developments in cryptography.

Iron Phosphide Nanostructures as High-performance Supercapacitor Negative Electrodes

Dr. Zhi Zheng
Mentor: Weilie Zhou

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #216

Supercapacitors, owing to their fast charge-discharge rate, high power density, excellent stability and long cycle life, have shown great promise to meet the ever-increasing demand for sustainable and renewable energy. In spite of the great progress that has been accomplished on the positive electrode materials, the energy density of supercapacitor is still unsatisfactory due to the relatively low performance of the negative electrode materials. Here, we report our recent studies of iron phosphide nanostructures for supercapacitors applications. Both FeP nanotube and nanorod arrays have been successfully synthesized and demonstrated as high-performance negative electrode for supercapacitors, which exhibit high areal capacitance of 300.1 and 790.59 mF/cm, respectively. In addition, a FeP/PEDOT core/shell structure was designed to further boost the capacitance and improve the stability. This work demonstrates the feasibility of FeP as a promising negative electrode material for high-performance supercapacitor applications.

BACK TO FINDER

Planning & Urban Studies

DenCITY More or Less

Mr. Michael Billiot with Ryan Herring, Lada Egorova
Mentor: Marla Nelson

November 19 at 11:00 AM
LIB 416

Objectives:

- Define "density," "land use", "zoning", "affordable housing," and "urban planning" in a concise way that is relevant to citizens.

- Interview a broad spectrum of urban residents, surveying common conceptions of what a "high density city" means.

- Interview academic experts to survey the critical analysis of the impacts of high and low density.

- Demonstrate the impact of government and private controls on density on the affordability of housing.

Summary: Population density refers to the number of people living in a geographically defined area. In public discourse, density is often bifurcated into conceptions of "high" and "low", each with their own positive and negative connotations. Fears of decreased public safety and a lack of popular understanding of Urban Planning principals contribute to misperceptions about the effects of high and low density. We surveyed City residents to demonstrate fears that high density is associated with increases in crime, traffic congestion, pollution, and noise. We also interviewed Professors of City Planning at the University of New Orleans for academic perspectives.

New Orleans mayor Latoya Cantrelle has tasked the City Planning Commission to identify potential amendments to the Zoning Ordinance with the aim of increasing housing affordability. An informed public discussion about density is warranted as City Leaders grapple with ways to address housing availability, affordability, and high vacancy rates. Our purpose is to provide the public with a concise and accessible summary the associated effects of varying degrees of density.

Transportation and War

Mr. Anthony Cimino
Mentor: Bethany Stich

November 19 at 9:30 AM
LIB 410

I will show the relationship between transportation and war by looking at the use of the railroads during the US Civil War, airplanes in World War I, the Battle of the Atlantic and shipping convoys during World War II , and how containerization could have aided the US Military during the Vietnam War.

By examining the use of railroads by the Union during the Civil War gave them an advantage allowing them to win. I will show that in the early stages of WWI, the airplane played a secondary role then eventually moving into a combat role. I will show the importance of the encounter between the HMS Bulldog and the German U-boat U-110 changed the course of the war in the Battle of the Atlantic, giving the Allies certain victory. Then we will examine how the US Military failed to embrace Malcom McLean's vision of containerization and when they did accept his idea it was already to late to achieve the objectives of Vietnam.

Don't Drop Your GPA: How Does Participating in Extracurricular Activities Affect Your GPA?

Ms. Constance Davis with Khalia Wilson, Rahsaan Smith
Mentor: Andre Varnado, Sr.

November 20 at 2:30 PM
LIB 410

The group wanted to know the correlation between grade point average and extra curricular activites. The purpose of the project was to see how did extra curricular activities affect people GPA. For our method, a survey consisting of 6 questions was created on Survey Monkey. The participants rnaged between the ages of 14 to 25. The results showed that there was no specific correlation between people particpating in extracurricular activties and their GPA. In conclusion, if the opportunity to further our experiment were presented, it would be interesting to see if participating in certain sports affect your GPA.

Climate and Coastal Gentrification in Terrebonne Parish, Louisiana: A Paradox

Ms. Allison Haertling
Mentor: Marla Nelson

November 19 at 9:45 AM
LIB 410

Statement of objectives: This research examines climate and coastal gentrification in the bayous of Terrebonne Parish, as well as its paradoxical role in both out-migration and provision of the tax revenues needed to maintain public services and infrastructure for residents wishing to adapt in place.

Summary: Southeastern Louisiana's bayou communities possess a rich and diverse cultural heritage. However, economic factors, combined with environmental issues such as land loss, subsidence and rising seas, have spurred significant migration "up the bayou" in recent decades, threatening the loss of these cultures and leaving behind a population that is increasingly elderly and socioeconomically disadvantaged. In Terrebonne Parish, property values have declined in response to these economic and environmental dynamics, leaving many lifelong bayou residents with the grueling dilemma of whether to move away from the only home they have ever known with limited resources to start over, or stay in place and remain vulnerable to increasing risk. In order to move to new locations with higher elevations and more amenities, bayou residents are often forced to sell their homes to the only willing buyers: "outsiders" wishing to purchase them in cash for recreational fishing camps. On the other hand, choosing to stay means bearing witness to a rapidly changing culture where the rise of swanky, secondary/vacation homes and primary residence-to-fishing-camp-conversions have aided in a local economic shift from one historically based on commercial shrimping and fishing to one that is purely recreational and tourism-based.

*Methods/Results/Conclusion: I am conducting this research for my Master's Thesis, which is still in progress. Therefore, I am still sourcing data, but thus far, I have utilized resident interviews conducted by my advisor, Marla Nelson, over the past 18 months, as well as Census data, property tax records and windshield surveys. My review of the literature on climate/environmental and amenity migration, climate and coastal gentrification, and ""creative shrinkage""/areas planning for population decline, is also nearing completion.

Evaluating the Social Benefits of a Community-based Infrastructure

Ms. Maryam Izadi with Faisal Mallum
Mentor: Guang Tian

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #185

Community-based improvements and infrastructures, including urban trails, have shown multiple benefits to their surrounding neighborhoods. In the US, many abandoned rail corridors are transformed to trails following the Rail-to-trail Movement. In the post-Katrina, the City of New Orleans planned to transform a former transportation rail corridor and shipping Canal into a 2.6-mile long trail. The trail, so called Lafitte Greenway, is traversing several neighborhoods with a spectrum of socio-economic compositions. This research is a combination of two separate studies aims to quantify the social benefits of the greenway.

This study first explores the cost-effectiveness of mitigating the high social costs of physical inactivity and automobile use with bicyclist and pedestrian trails. Intercept surveys were conducted to assess the behavioral change among trail users before and after the trail opened. The benefit of those changes were monetized over the expected 30-year life of the trail. The result indicates that cumulative financial benefits (health care, mortality and motor vehicle) exceeded expenditures from 2030, reaching a ratio of 1.57 in 2045. Secondly, we estimated the impact of the tail on the violent and property crime density at quarter, half, and one-mile buffer from the

trail. The crime data were publicly available through the New Orleans Police Department. Conducting a Kernel Density Estimation with ArcGIS, we found that proximity to the trail is associated with decreased crime in levels. Thus, provision of such infrastructures for neighborhood can contribute to various health and transportation benefits while improving quality of life for residents.

Triple-Bottom Line Assesment of Green Infrastructure Implementation in New Orleans

Mr. Faisal Mallum with Maryam Izadi
Mentor: James Amdal

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #184

Urban areas are characterized by high population densities and heavily built environment that have disrupted natural ecosystem. Buildings, highways and concrete pavements have obstructed the natural flow of stormwater, which is exacerbated by other human activities. The introduction of green infrastructure into urban ecosystem mimics the behavior of the natural environment, therefore reduce flooding and mitigate climate change. New Orleans as a coastal city is prone to excessive flooding and other natural disasters that are a factor of global warming. This study analyzes the impact of green infrastructure implementation using the triple-bottom line approach. The project emphasizes on the activities and strategies of the city government, the communities and non-governmental organizations towards the implementation of green infrastructure in New Orleans. It also examines some of the major challenges faced by the city in green infrastructure implementation. Data collection method applied include content analysis, through local news and city publications to have holistic view on policies and efforts of the various stakeholders. Valuable information was obtained through interviews of civic societies and residents in the city.

Mapping Connections for Coastal Communities: Using GIS to Democratize the Decision Making Process In Regards to Coastal Adaptation

Ms. Alahna Moore
Mentor: N/A

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #186

Objectives:

- create an online mapping platform that visualizes spatial distribution and temporal change in climate phenomena within Louisiana's coastal zone, using New Orleans as a case study

- build an easily accessible database and calendar of public comment periods and meetings for upcoming coastal developments, so that communities can learn how and where to participate in determining the future of their landscape

I am building a decision making tool that visualizes increasing heat, frequency of flooding, subsidence, and vegetation loss within the coastal zone using an online mapping platform, ArcGIS StoryMaps. This platform allows one to curate interactive maps in a way that conveys a narrative using spatial data to tell the story. I plan to compile historical imagery illustrating land loss experienced over the past 4 decades with remotely sensed data visualizing spatial distribution of temperatures ranging from 70 - 90 degrees fahrenheit, rates of subsidence within the region, depth of flooding in recent storm events, and deforestation. This composite map will function as an educational tool, but also as a means of facilitating planning between communities and government officials.

In addition to the map highlighting areas experiencing the most intense or rapid changes, I plan to develop a platform that will make opportunities for the public to comment on proposed developments more easily accessible by generating a systematic process for scanning newspapers and the web to identify public hearings and comment periods, then hosting this information in a centralized calendar that is easy to access and filter based on one's own area of interest or cause to advocate for. While the StoryMap provides the information needed to educate about the situation Louisiana faces, the events calendar will be used to transform energy into action. I believe that multifaceted, scalable, interactive decision making tools such as this are essential for streamlining environmental organizing and public participation in government along the Gulf Coast.

Citizen Collaboration with Government & the New Orleans Adopt A Catch Basin program

Mr. Nicholas Phillips
Mentor: Bethany Stich

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #145

This project examines the link between citizen collaboration with government to assist in solving issues that arise within the community. This project looks at the link between citizen collaboration with government in response to the 2017 flooding event in New Orleans, which resulted in the creation of the City of New Orleans Adopt A Catch Basin program. The project follows citizen and government collaboration from the creation of the program to its current progress and future goals.

Citizen Participation & the New Orleans Adopt A Catch Basin Program

Mr. Nicholas Phillips
Mentor: Bethany Stich

November 19 at 9:00 AM
LIB 410

This project looks at the link between citizen participation in collaboration with government to assist in works and help resolve problems in the community. This project examines the City of New Orleans Adopt A Catch Basin program, which was formed in 2017 following a major flooding event. The project examines citizens collaboration with government through the programs beginning to current progress and future goals.

Global Transformation Roundtable: An Exploration of Adaptation Strategies in Louisiana

Mr. Benjamin Quimby
Mentor: Monica Farris, Pam Jenkins

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #182

Together, the combined forces of coastal land loss, rising sea levels, and climate change mean that Southeast Louisiana is becoming increasingly vulnerable to flooding and other hazards, threatening the future of many coastal communities and ecosystems. The need for a holistic strategy to respond to this risk, to adapt to protect lives, property, our natural landscape, and the communities of Southeast Louisiana is clear. The Foundation for Louisiana, Concordia, and UNO-CHART, with support from the Rockefeller Foundation, have facilitated a series of meetings, referred to as the Global Transformation Roundtable, to develop strategies for how Louisiana might approach this transition.

At the most recent meeting, in Bellagio, Italy, 22 local and global experts in subjects such as planning, hazard mitigation, coastal science, and finance gathered to discuss strategies for Louisiana's adaptation. The transcripts from the convening were coded using Dedoose, a qualitiative research software, to pull out themes. 750 pages of material were analyzed, with 44 separate codes and 1,780 individual excerpts emerging. Findings from the convening established the following as critical parts of a holistic adaptation strategy for the state of Louisiana: 1) Transforming the Economy; 2) Leveraging Strategic Investment; 3) Engaging and Informing Community Members; 4) Preserving Coastal Ecosystems; 5) Promoting Collaboration Sustainability; and 6) Prioritizing Equity.

Internal Collaboration Trip: Orleans, France

Dr. Bethany Stich
Mentor: N/A

November 19 at 10:45 AM
LIB 410

Green Infrastructure Privateer Ecowalk

Mr. Hoang Tao with Samantha Romain, Jessica Williams, Hannah Rubiano, Trinity Powell, Faisal Mallum
Mentor: Tara Lambeth, Monica Farris

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #180

A number of challenges and hazards caused by stormwater runoff impact today's built environment. The inundation of stormwater impacts the normal use of facilities, floods our environment, carries unwanted pollutants to nearby watersheds, and affects the purity of our water system. Here in New Orleans, stormwater runoff impacts are felt every time there is a heavy rain. There is a vital need for the

implementation of a more passive sustainable drainage system for effective stormwater management. Green infrastructure mimics the dynamics of the natural ecosystem by managing stormwater runoff through a regenerative process. The proposed "Privateer Ecowalk" demonstration project will be an expansive green infrastructure network located in the central part of campus at the University of New Orleans. Currently, the site experiences flooding due to stormwater runoff during heavy rains. This part of the campus is characterized by a high pedestrian footprint, and also provides a rest area for the campus community, but these uses are hindered by nuisance flooding. The Privateer Ecowalk project will not only drain stormwater runoff efficiently by detention, retention, and infiltration, but will help alleviate the overburden gray infrastructure drainage system through the natural process of purifying runoff pollutes. Additionally, this project will provide awareness of green infrastructure, improve walkability, lessen land subsidence, reduce urban heat, and improve the quality of campus life. The Privateer Ecowalk will take an illuminating journey down the course of a depicted Mississippi River, in order to reconnect the campus community to the environmental idea of living with water.

Complete Streets Approaches and Reshaping Cities, Towns and Streets

Ms. Abir Tarhuni
Mentor: Bethany Stich

November 19 at 10:00 AM
LIB 410

Cities' streets are not just conduits for traffic, and thus, should be designed in manners that meet their users' needs. Well-designed streets are key elements of the sustainable development. They generate higher values for homeowners and revenues for businesses. This study traces ideas about complete street design to evaluate the existing conditions of N Peters Street from Decatur St. to Elysian Fields Ave to examine how could complete street approach improve accessibility, connectivity, and safety of in the Street? The study seeks to reshape urban patterns of the street to achieve safer conditions of non-motorized (walking and biking) conditions and facilities. Data were collected from several site visits and observations. The study found that there is a need to provide significant improvements for the non-motorized mobility in the street. Applying the Complete Streets Approaches can be a flexible solution that responds to sustainability principles, prevailing standards, and local conditions.

APPLYING SAFETY POLICIES: A CASE OF LA 23/NEW ORLEANS & GULF COAST RAILWAY CORRIDOR

Miss Abir Tarhuni
Mentor: James Amdal

November 19 at 10:15 AM
LIB 410

The New Orleans & Gulf Coast Railway Company (NOGC) operates 32-miles long railroad in the West Bank area of New Orleans. The (NOGC) provides customers with an economical and dependable transportation option and develops new business opportunities. Trains intersect with a large number of local streets within the City of Gretna. Residents are facing serious risks of public safety. Especially, with the increased train traffic due to a new coal export facility or terminal in Plaquemines Parish. This study is a step of working closely to make the rail-freight easier and less expensive; it seeks to result in a long-term vision for community-based safety, mobility, and livability developments through the City of Gretna and along LA 23/New Orleans & Gulf Coast Railway. The study area covers approximately 10 miles of the New Orleans & Gulf Coast Railway; it located in the Belle Chasse Subdivision. The study found that the intersections along the corridor LA 23/New Orleans & Gulf Coast Railway corridor, which is nationally-significant, require developments for better conditions of safety and livability. The solution included in this study provides safer export opportunities by partnering states with service providers and local organizations. It represents a major safety implementation in the City of Gretna and collaboration between the Gulf Coast Railway Company (NOGC), state, and county entities, as well as the city's planning entities.

Bike Use in the Central Business District

Mr. Charles Thompson
Mentor: Tara Tolford

November 19 at 9:15 AM
LIB 410

The City of New Orleans recently released their updated plan for the network of bike lanes in the city, and in it one of the most transformed neighborhoods is the Central Business District. The project's goal is to focus on the distribution of bikers among the different roads which pass through the CBD and note the differences in bike usage for the morning and evening commutes. To achieve

this weekly morning and evening bike counts on different streets at their Girod St intersections were taken. Only streets with no existing bike lane were chosen. Throughout the corridor the usage of bikes is varied with block to block changes. In order for the residents of the CBD and those who bike there to be safest, protected bike lanes need to be put in on the most needed streets.

QOZs in the Big Easy: A study of Qualified Opportunity Zones in New Orleans

Dr. Michelle Thompson with Samantha Romain, Nicole Coleman, Gaige Hargrave, Bobby Winkles
Mentor: N/A

November 19 at 11:15 AM
LIB 410

In spring 2019 the MURP 4005/5005 Introduction to Neighborhood Planning course provided service learning to HousingNOLA whose Executive Director is Ms. Andreanecia Morris. HousingNOLA focuses on issues that relate to housing, employment, socio-economic development, community engagement, public policy and strategic uses of data to empower individuals and enrich the non-profit, public and private sectors. The course provided an introduction to neighborhood issues that HousingNOLA cares about and strives to make better: community involvement in the planning process. The focus of the project research was on US Federal Qualified Opportunity Zones (QOZ) and how this national policy has been deployed in New Orleans, LA . This report may be used a template to guide general research for a non-profit developer who is working in a priority QOZ census tract. The research being done by the "QOZ Analysts" is a 'first look' from national to state to local perspectives to engage community, and philanthropy, as well as, inform municipal government on the history, background and conduct community spatial data analysis to identify and analyze QOZs. The project team will reflect on their experience conducting community-university applied research and related QOZ academic or professional development which followed.

The 'G' word: is gentrification just neighborhood change?

Dr. Michelle Thompson
Mentor: N/A

November 19 at 11:00 AM
LIB 410

This presentation provides a reflection on the University of New Orleans, Department of Planning and Urban Studies community speaker series in spring 2019 which discussed historic and current issues related to Gentrification. The first speaker, Peter Moskowitz, is a writer and journalist now based in New Orleans. Moskowitz grew up in New York City's West Village before, as he stated "it was gentrified." When Peter returned to New York City after college, his neighborhood the social fabric had changed because it was taken over by real estate development. This inspired Peter to write "How to Kill a City", published in 2016, and presented in a community-university talk in New Orleans in March 2019. Dr. Eugene "Gus" Newport discussed "Community Land Trusts and Self-Preservation" at UNO in April 2019. Dr. Newport is a social justice activist, community/economic development consultant, has worked for several foundations and served on the faculties of MIT, Yale, UC Santa Cruz, U Mass Boston and Portland State. He was the two-term Mayor of Berkeley, CA (1979-1986). During the 1960's he chaired the largest civil rights organization in Rochester, NY, and worked alongside Malcolm X. Dr. Newport also served on the five-person advisory body to oversee the planning to rebuild New Orleans following Katrina. Dr. Newport was a former Executive Director of the Dudley Street Neighborhood Initiative (DSNI), still the only US community development organization that used the power of eminent domain (1988), which created a community land trust for long-term affordable housing in their Urban Village

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How Gentrification has Effected Public Transit in New Orleans

Ms. Victoria Tidwell
Mentor: Tara Tolford

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #135

Diagnosing Danger: Analyzing Crash Data Collection, Analysis, and Dissemination Practices for Safer Streets (SCoRE Grant Research)

Ms. Tara Tolford
Mentor: N/A

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #236

Assessing the factors which contribute to traffic crashes is a necessary prerequisite to identifying appropriate countermeasures to reduce risk and improve future safety outcomes. However, in many communities, systematic, quantitative approaches to analyzing crash data and diagnosing the geometric and/or human factors which lead to crashes are underdeveloped, and often further stymied by inadequate access to high-quality, detailed, relevant data documenting crash circumstances and contributing factors.

This research assesses the current state of the practice for statewide and local crash data collection, analysis, and dissemination in response to identified NCHRP research problem statements and to support adoption of national best practices locally and at the Louisiana DOTD.

Housing and Community Resilience in Ponchartrain Park

Ms. Michelle Tullo with Stephen Harrell, Jr.
Mentor: Fallon Aidoo

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #188

Pontchartrain Park is recognized as one of the earliest African-American suburbs in the United States, first constructed in 1955. However, the once stable suburb was devastated by Hurricane Katrina and is now struggling with blighted properties, higher vacancy rates, and an aging housing stock. Despite these challenges, the highest amount of families have returned here compared to other African-American neighborhoods. Our goal was to learn about why people returned to this neighborhood by studying how home ownership and the physical structures changed over time.

Our method was to create a dataset of the owners of the buildings from 1955-2018 using historical city directories and current property records. We then used information from Sanborn maps, the 2010-2017 Blight Stat program, and the 2004-2012 Historic Permits to map building footprints and demolitions.

We noticed three clear trends in the data. First, properties located closer to the Industrial Canal experienced more severe flooding and were more likely to be demolished or vacant today. Second, people who maintained family ownership for decades before Hurricane Katrina were more likely to retain ownership post-Katrina. Lastly, properties where owners had taken FEMA's Road Home payout option are more likely to be vacant today. These trends suggest that physical location, family tenure in the neighborhood, and FEMA payout options influenced who currently lives in the neighborhood. These findings provide a starting point for deeper research into home retention and resiliency and have implications beyond Pontchartrain Park for residents who have lost their homes to climate events.

National Identity & The Built Environment: A Case Study of Wren's City Churches

Ms. Brittany Waggener
Mentor: Bethany Stich

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #133

After the German air raids on the city of London ended in early 1941, Britain had the dual task of deciding how to rebuild damaged or destroyed areas while increasing military efforts overseas. The air raids indiscriminately affected homes, places of business, industrial areas, government buildings, and places of worship. Rebuilding the city of London was a massive undertaking led by famed local architects and members of parliament and completed by planners and laborers through fundraising efforts and government funding. While many of the affected buildings housed religious congregations or were controlled, in part, by religious entities, religious organizations declined to actively participate in reconstruction discussions. This research focuses on the rebuilding efforts for Christopher Wren's city of London churches between the years 1941 and 1966 and on how these rebuilding efforts shaped national identity during and after World War II.

BACK TO FINDER

Political Science

Impartiality and Neutrality for Medicins Sans Frontieres in Conflict Zones: a Look at the Middle East

Ms. Abby Martin with Leah Bordlee
Mentor: Steven Mumford

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #131

Medecins Sans Frontieres, commonly known as Doctors Without Borders, is an international non-profit providing medical humanitarian aid. The organization's main goal is to provide assistance to victims of conflict, epidemic, and disaster while operating under the principles of impartiality, neutrality, and independence. MSF is guided by principles of impartiality and neutrality but, practicing these principles, especially in the context of areas like the Middle East, is difficult. Our goal is to analyze the organization's core principles of being impartial and neutral and how successful they are in conflict areas, particularly the Middle East. MSF succeeds to the unbiased provision of aid by remaining impartial. MSF often fails to remain neutral, especially in conflict zones. This is important because threats to the organization's image as a neutral and impartial organization threaten their ability to operate in a humanitarian space.

The Economic Effects of Immigration and Customs Enforcement (ICE) Detention Centers in Louisiana

Miss Kathleen Mendoza
Mentor: Emma Morley

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #129

Introduction: Over the last couple of years, specifically under the Trump Administration, the influence of the private prison industry in the United States (US) has been greatly impacted by the immigration enforcement through the expansion of detention centers across the country. Detained immigrants, asylum seekers, those awaiting a hearing in an immigration court or in the deportation process are held in privately U.S. Immigration and Customs Enforcement (ICE) owned detention centers. These detention centers are then owned by contractors that received billions of dollars in combined revenue; this revenue is then used for purposes that favor these contractors' political interests to pass for profit prisons legislation. Because of all this revenue, ICE has continued to expand its presence in Louisiana (LA), making it one of the top fifth state to possess the largest amount of people in U.S. immigration detention per day. The state does not see or profit from any of these prisons/detention centers. Instead, people's tax dollars are then used to help fund these for for-profit jails that hold immigrants in inhumane, unsanitary, and remote environments. There is not enough information available for LA residents to better understand that private prison companies are seeking opportunities to continue expanding as it pursues the goal to detain, arrest, and deport more immigrants.

Hypothesis: In my research, I would like to gather information that is detrimental in better understanding the way ICE detention centers are affecting LA. This will help prove my hypothesis that ICE owned detention center's main priority is gaining political influence to continue building more detention centers across the country in order to increase their revenue.

Methods: Analyze the current presidential administration and congress's relations to helping promote legislation that promotes more for-profit prisons. Calculate the amount of tax dollars used to sustain immigrants in the detention centers. Interpret already existing data on how detention centers affect the country as a whole and how certain factors affect Louisiana.

Conclusion: Louisiana has continued to give ICE a foothold in building more detention centers over the last couple of years, since it has not taken the initiative to ban for profit prisons like other states. Many of the current prisons are renewing their five-year contracts and are looking forward to expanding. These rural located facilities make it even herded for detainees to find attorneys to represent them in gaining any form of status in the US, which only makes the matters worse in the overcrowding and long detaining sentences. Louisiana needs to see that for-profit prisons are not aiding to the state or detainees in need.

Louisiana Marijuana Laws: The effects on the Criminal Justice System

Ms. Shanell Williams
Mentor: Christine Day

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #193

This research identifies the statutes that support marijuana criminalization and examines the challenges and benefits of marijuana legalization and decriminalization in Louisiana. Legislature legalized marijuana for medical purposes in 1991; however lawmakers finally supported and passed a bill in 2017 authorizing the establishment of up to 10 licensed pharmacies for the procurement of

medical cannabis. This research will analyze the criminal penalties for marijuana possession and the costs associated with individuals convicted of marijuana offenses.

Currently the state has local jurisdictions that have enacted municipal laws in the state that have partially or fully decriminalized minor marijuana possession offenses. In Orleans parish, much discretion is given to the New Orleans Police Department (NOPD) to either issue a summons or arrest individuals for minor marijuana offenses.

Primary and secondary sources through direct communication with respondents, documents, and observation, will be used to identify the main concerns and achievements of jurisdictions that have legalized and decriminalized marijuana for both medical and recreational usage. Recommendations will be made for advocating legalization of marijuana for both medical and recreational usage because of the potential benefits on the economy and impact on the criminal justice system.

BACK TO FINDER

Psychology

Families in Poverty: Additive & Qualitative Influences on Parenting

Ms. Lauren Aaron with Laura Scaramella
Mentor: Sarah Black

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #208

Growing up in poverty is known to set children up for several disadvantages in development (Anderson Moore et al., 2009), and is thought to occur via disruptions in parenting and family life (Conger et al., 1994). The current study intends to further probe the influence of poverty and related risk factors on parenting behaviors in a low-income, urban sample of young children (mean age 24 months, 55% female) and their mothers (n=167). Further, the current study will compare traditional additive approaches to risk experience to latent class analysis (LCA), a modern statistical approach which allows a better understanding of the varying constellations of risk experienced by these low-income families. Such person-centered statistical approaches allow us to fine-tune interventions for these families based on risk profiles and expected outcomes. Data were collected in the greater New Orleans area and includes sociodemographic, psychosocial distress, and observed variables. Variable-centered additive indices of risk will be created and used as a predictor of parenting behavior. LCA will be used to identify unique clusters of experience, and also used as a predictor of parenting behavior, in order to contrast the two approaches.

Neurocorrelates of anxiety, withdrawal, and atypicality in a population of children at ultra-high risk for developing schizophrenia in adulthood

Ms. Lauren Alvarado with Lauren Alvarado, Diana Hobbs, Ashley Sanders, Kelli Nini, Cierra Rousseau-Dobard, Tatyana Kimbrough, Elliott Beaton
Mentor: Elliott Beaton

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #119

Background: Children with 22q11.2 deletion syndrome (22q11.2DS) experience a variety of stressors that derive from and contribute to a complex medical, behavioral, and psychological profile including anxiety, depression, and psychosis. The neural origins of these symptoms are not yet understood and could be biomarkers of future mental illness risk.

Automated versus manual delineations of brain regions in high-resolution magnetic resonance images of children with and without a neurodevelopmental disorder

Ms. Mary Bordelon with Bethany McCurdy, Alexis Daigle, Natasha James, Blake Manale, Diana Hobbs, Ashley Sanders
Mentor: Elliott Beaton

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #123

OBJECTIVE: Volumetric analyses of cortical and subcortical brain structures provide insight into the origins of psychological disorders and changes in brain over time. High-resolution 3D magnetic resonance images (MRI) are parcellated into regions of interest based upon known neuroanatomical parameters. The most accurate but very time-intensive method is having a highly trained individual hand

trace the regions of interest (ROI) to reconstruct a 3D model in imaging software like Mango. Fully automated software like Freesurfer can parcellate brain regions quickly but it is subject to systematic error, especially in atypical brains. To determine the potential tradeoff between time and accuracy, we compared manually traced ROIs using Mango to FreeSurfer's automatic parcellation software. METHOD: MRIs were collected from children with and without a neurodevelopmental disorder (n = 41) ages 7-16 (M = 12.13 ± 2.41). Bilateral ROI volumes of the insula, cerebellum, and putamen were calculated manually using Mango and automatically using FreeSurfer. RESULTS: Paired samples t-tests indicated that the manually traced ROI volumes for all regions were consistently smaller than the automatically generated ROI volumes via FreeSurfer (all ps<0.01). CONCLUSION: Convergent validity between the two methods was poor. While the volumes were proportional, the discrepancy is concerning and may explain problems with replicability in the brain imaging literature at large. Our next step is to train a machine-learning algorithm to improve automatic ROI parcellation.

Longitudinal Analysis of Mothers' Parenting Consistency's Associations with Children's Adjustment

Mr. David Brabham
Mentor: Sarah Black

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #204

A robust literature exists on the respective benefits and detriments for children of positive and negative parenting behaviors. However, less is known about the associations of children's adjustment and consistency of parenting behaviors. This proposal seeks to examine the relationship between valence and consistency of parenting behaviors, with the aim of determining whether consistency is associated with child adjustment independent of valence. Data were collected from 145 mothers with at least 2 children (one toddler aged; another preschool aged and enrolled in the Head Start program) participating in the Mothers and Preschoolers Study (MAPS). Participation involved videotaped observations of numerous designed interactions between mother and toddler, as well as survey data from mothers. The analytic plan for answering study hypotheses will use bivariate correlations and multiple regression to establish 1) positive and negative parenting's respective consistency over time, 2) whether consistency is an independent predictor of child adjustment, and 3) whether valence and consistency interact to predict child adjustment. Results from this study will expound on parenting consistency's role in children's adjustment, as well as how the interplay between parenting consistency and valence are associated with children's adjustment.

An Examination of the Structure of Psychopathology in Early Adolescence. Should it be Considered Two Factors or Three?

Ms. Miranda Evans with Matthew Scalco
Mentor: Matthew Scalco

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #210

Psychopathology is frequently split into two larger dimensions: internalizing and externalizing (e.g., Achenbach & Rescola, 2001). However, there is a high degree of co-occurrence between the two dimensions (Keiley et al., 2003) and co-occurring symptom dimensions account for the majority of variance in impairment and poor psychosocial outcomes (Caspi et al., 2014). The current study will address issues with the two factor model by comparing convergent and divergent validity for the Youth Self Report across a latent two-factor model and a latent bifactor model. Ninety-three well validated constructs including temperament, psychosocial adjustment, and other measures of psychopathology at three waves were used for validity. A sample of early adolescents (N=387; Mage at Wave 1 = 11.6) was used to test the hypothesis that the bifactor model would have the best divergent validity. Each latent model had excellent fit but the bifactor model showed an advantage over the two-factor model. Across the three waves, 92 of 93 variables were related to at least one factor in each of the models. Interestingly, when comparing the bifactor models to the two factor models, 72 of 92 relationships (78%) changed. There was also a large degree of consistency across the waves for both models. Ninety-one percent of correlations replicated across at least two waves and 55% replicated in both models at all three waves. Results support the notion that the bifactor model of psychopathology demonstrated much stronger divergent validity than the two-factor model yet both had consistent relationships with validators over time.

The Complexities of Crankiness and Cortisol: Exploring the Relationship Between Irritability, Cortisol Reactivity, and Psychopathology

Ms. Rachel Kaplan
Mentor: Sarah Black

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #202

Irritability is a transdiagnostic symptom of psychopathology and mood dysregulation in children, adolescents, and adults (American Psychological Association, 2013; Brotman et al., 2017). Irritability is also a sign of acute and chronic stress (Repetti & Wood, 1997; Yang et al., 2015). Numerous studies have shown a bidirectional association between psychopathology and stress responsivity in the hypothalamic-pituitary-adrenal (HPA) axis, which culminates in cortisol reactivity (CR; Doom & Gunnar, 2013; Grimm et al., 2017). Previous research also indicates a predictive relationship between CR in early childhood and psychopathology in adolescence and adulthood (Barrios et al., 2017; Shonkoff et al., 2009). Using previously collected data from a longitudinal study (Klein & Finsaas, 2017), this proposal aims to explore the relationship between early childhood CR (taken from saliva samples), irritability throughout childhood, and psychopathology in early adolescence. Of particular interest are depression and attention-deficit-hyperactivity disorders (ADHD), which are often associated with irritability and inconsistent CR levels in the internalizing/externalizing/CR literature (Alink et al., 2008; Eyre et al., 2017; Kamradt et al., 2018; Morris et al., 2017). Pubertal onset and sex differences are also examined as possible moderators within the context of this proposed study. CR levels at age three are expected to predict irritability and psychopathology symptoms at age 12.

Face perception and recognition impairment in children with chromosome 22q11.2 deletion syndrome

Ms. Tatyana Kimbrough with Diana Hobbs, Ashley Sanders, Cierra Rousseau-Dobard, Kelli Nini, Lauren Alvarado, Elliott Beaton
Mentor: Elliott Beaton

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #113

Results: Children with 22q11.2DS had higher levels of reported withdrawal, anxiety, and atypicality in the 22q11.2DS compared to the TD group (all ps<0.01). Several regional volumetric differences were evident between groups. Elevated anxiety was related to smaller mid-anterior corpus callosum volume (p<0.01). Higher withdrawal scores were associated with smaller left supramarginal and midanterior corpus callosum volumes (ps<0.05) but larger bilateral hippocampal and cerebellar volumes (ps<0.06). More atypicality was associated with greater right temporal pole volume (p<0.05).

Neural changes in language processing associated with tDCS in children with autism spectrum disorder

Dr. Tracey Knaus with Megan Goldfarb, Jade Jenkins
Mentor: N/A

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #196

Transcranial direct current stimulation (tDCS) is a non-invasive, neuromodulatory technique used to stimulate specific surface cortical regions. Several studies of healthy adults have demonstrated changes in language activation, accompanied by behavioral improvements, with tDCS applied to the left inferior frontal gyrus (IFG). tDCS has also shown language improvements in patients with aphasia when applied over either the left or right IFG. Language and communication deficits are a core feature of autism spectrum disorder (ASD) and fMRI studies have suggested atypical language organization in people with ASD. One study showed improved syntax in children with ASD after tDCS to the left IFG, but studies have not examined neural changes associated with tDCS in an ASD population. The purpose of this study was to examine the potential of tDCS to modulate neural activity during a semantic, language task and help determine whether left or right IFG is a better target in children with ASD. Right-handed boys with ASD (11-17 years) were randomly assigned to receive tDCS (1 mA for 20 minutes) to the left or right IFG. Functional MRIs were acquired with a synonym task, pre-tDCS and immediately following tDCS and changes in activation examined. This is an ongoing pilot study, but thus far, those with left stimulation have shown decreased activation in left IFG, as hypothesized, while those with right stimulation have been more variable in changes in activation. Our preliminary results suggest that left IFG may be a better stimulation target compared to right IFG in adolescents with ASD.

Hippocampal and amygdalar volumes in adults with schizophrenia and children at ultra-high risk for psychosis

Ms. Kelli Nini with Diana Hobbs, Ashley Sanders, Lauren Alvarado, Cierra Rousseau-Dobard, Tatyana Kimbrough, Elliot Beaton
Mentor: Elliott Beaton

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #127

Background: Children with 22q11.2 deletion syndrome (22q11.2DS) present with systemic symptoms including cardiovascular, sensory-perpetual, cognitive, and psychological function. They are 30 times more likely to develop schizophrenia versus the general population. Stress and anxiety are common in both 22q11.2DS and patients with schizophrenia. Stress often precludes psychiatric events in

patients with schizophrenia. Stress and anxiety associated with 22q11.2DS may contribute to etiopathology of psychosis in both populations in stress-sensitive brain regions including the amygdalae and hippocampi. These regions are potential schizophrenia risk biomarkers in 22q11.2DS. Method: We compared stress-vulnerable brain regions in children with 22q11.2DS and typically developing (TD) children to the brains of adult patients with schizophrenia using high-resolution MRI. We hypothesized 1) that the hippocampi would be smaller and amygdalae larger relative to total grey matter in the 22q11.2DS group compared to TD children and 2) proportionally similar to the adults with schizophrenia. We collected T1-weighted MR images of children ages 7-16 with (n=47) and without (n =28) 22q11.2DS at the Touro Imaging Center. Brains of 20 adult patients with schizophrenia from an open-source MRI database were also analyzed. Total grey matter, hippocampal, and amygdalar volumes were calculated using a combination of automated and manual computer-based tools. Results: Data reduction and quality control is ongoing. Thus far, controlling for age and total grey matter volume, children with 22q11.2DS reported significantly less right hippocampal volume in the CA1 region compared to TD children (22q11.2DS: 572.69 ± 13.25 mm3 vs. TD: 613.48 ± 14.31 mm3; $F(1, 37) = 4.16$, $p < 0.05$). Conclusions: The CA1 region of the hippocampus is well established to be particularly vulnerable to the effects of chronic stress. Further findings and conclusions are forthcoming.

UNO Students and Sex Roles

Miss Morgan Orlosky
Mentor: Jess Matherne

November 19 at 10:15 AM
LIB 407

Regional differences in the brains of children with chromosome 22q11.2 deletion syndrome with low plasma vitamin D levels

Ms. Heidi Turner with Diana Hobbs, Leslie Kelley, Ashley Sanders, Lauren Alvarado, Tatyana Kimbrough, Kelli Nini, Cierra Rousseau-Dobard
Mentor: Elliott Beaton

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #115

BACKGROUND: Children with chromosome 22q11.2 deletion syndrome (22q11.2DS) have elevated anxiety and are at ultra-high risk for developing schizophrenia. Vitamin D (VitD) is involved in brain development, neuroprotection, gene transcription, immunological regulation, and influences neuronal signal transduction. Low VitD is associated with schizophrenia, depression, and anxiety in the general population and anxiety in 22q11.2DS. Yet, little is known about how vitamin D levels in children with 22q11.2DS could mediate risk of psychosis in adulthood. We hypothesized that lower VitD levels in children with 22q11.2DS would be associated with atypical brain development compared to neurotypical (NT) children as measured using magnetic resonance imaging (MRI).

METHOD: Using FreeSurfer's (v6.0) automated subcortical parcellation of brain regions from high-resolution T1-weighted MR images, we examined the relationship between neuroanatomical measures (grey and white matter volume and thickness) in relation to serum levels of vitamin D in children ages 12.13 ± 2.41 with 22q11.2DS (n = 22) and those typically developing (n = 19).

RESULTS: Children with 22q11.2DS (n = 7, M = 29.73 ± 4.50) had lower plasma vitamin D levels compared to NT children (n = 13, M = 35.77 ± 4.75), $t(18) = 2.76$, $p < 0.05$. Multiple regional differences in grey and white matter volumes and thickness were found between groups (ps<0.05). Higher VitD levels in children with 22q11.2DS were associated with larger right temporal medial volumes (β = 0.45, R2 = 0.14, $p < 0.05$).

CONCLUSIONS: Abnormalities in structure and function of the medial temporal lobes in patients with schizophrenia is well documented. Neuroanatomical differences in the right medial temporal lobe in relation to VitD levels in this small sample of children with 22q11.2DS suggest a role for VitD in the etiopathology of psychosis in this population.

The Relationship between Taste and Color Perception

Mr. Deyon White
Mentor: Jess Matherne

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #109

Conclusion: Psychological and behavioral symptoms found in this sample of children map onto brain regions of interest associated with anxiety disorders and psychosis. Future work should include longitudinal monitoring of brain development in relation to increases in psychopathological behavior in this population at high-risk for serious mental illness in adulthood.

BACK TO FINDER

Public Administration

Disaster Preparedness Card Game Project

Ms. Heather Glass
Mentor: John Kiefer

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #160

Objectives: To create a disaster-preparedness themed card game which educates about hazards and disaster preparedness activities, and promotes volunteer organizations that are present in many communities.

Summary: This card game, working title "Disaster Strikes!" will be used as an educational tool for middle and high-school age students to learn about different hazards and what items can (and should) be included in their family's preparedness kit. An additional objective is for this card game to be fun for adults to play, with enough variety to play it time and time again. The card game will utilize active and passive learning methods to promote a culture of preparedness and awareness of different hazards and basic preparedness concepts. Final game design and playtesting will occur in Fall 2020. This poster displays sample cards and scenarios, highlighting how the cards compares to similar games, plus how each card type contributes to the factors necessary for a successful, enjoyable game.

BACK TO FINDER

School of Education

School-based Mental Health Counseling: Experiences of Students, Parents, and Counselors-In-Training

Dr. Christopher Belser
Mentor: N/A

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #206

This presentation will synthesize findings from two qualitative studies about a school-based mental health program. The presenter will describe the program structure and share findings gleaned from interviewing elementary students participating in the program, their parents, and the counselors-in-training who delivered interventions. Implications for program development and service delivery will be discussed.

The Development of a Transdisciplinary School Violence Risk Assessment

Ms. Lauren Clark
Mentor: Roxane Dufrene

November 19 at 11:15 AM
LIB 407

Objective Statement: To propose the current research that plans to utilize a quantitative research modality to develop a school violence risk assessment supported by three constructs identified in relevant literature.

Summary: School safety and school violence prevention increased in the wake of the Columbine High School shooting in 1999 (Goforth, 2019); however, efforts to implement school violence preventative measures have been widely unreliable (Blosnich & Bossarte 2011; Fisher, 2019). The proposed risk assessment seeks to synthesize research across criminology, sociology, and counseling fields to provide a comprehensive and thorough foundation for a transdisciplinary school violence risk assessment.

Divergent disciplines (i.e., psychology, criminology, and sociology) have made valiant attempts to address the phenomenon of school violence (Mayer & Jimerson, 2019). However, most efforts made have remained linear within each designated field and lack a cross-field analysis on the ways to address the concern of school violence. The current transdisciplinary risk assessment offers a comprehensive approach to address school violence and is supported by three constructs (i.e., internalized emotional and behavioral distress, lack of attachment, and skewed beliefs) (Hirschi, 1969; Lerner, 1980; Terzian et al., 2011). A quantitative research design will be used for the instrument development process and data analysis procedures.

Monologue

Mr. Justin Davis
Mentor: L. Kalo Gow

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #248

Monologue from the play, "The MountainTop".

Martin Luther King, Jr. talks with God and asks for more time before leaving the earth.

How Does Height Affect Someone's Performance in Sports or Physical Activities?

Ms. Alacia Isidore with Ashley Robertson, Kendall Roach
Mentor: Andre Varnado, Sr.

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #250

Studies in the past have proven the fact that someone's height really affects how a student is going to perform and after performing research, it is proven that shorter people have more success when participating. Athletes who are 5'5" or smaller seem to have more success in sports. One of the participants spoke their height caused them to be able to perform better at the height of 5'3". Another participant is 5'5" said that "I am quicker on my feet because I am shorter"

One of the taller participants, 5'8", said that their height sometime slowed them down because they were sometimes to tall to hit the targeted ball. But other participants taller than 5'5" said that when participating in sports their height impacted them in a more positive then negative way.

The Effects of Screen Time on Academic Performance in Adolescents

Ms. Aliyah King with Nashaun Thomas, Ju'Elz White
Mentor: Andre Varnado, Sr.

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #249

This experiment focuses on the effects of screen time concerning teenagers and their grades. A survey that asked students a few questions about their screen time as well as their grade point average was conducted. The survey compared the screen time to grade point averages to figure out if gpa is effected by screen time.

The survey questions were:

1. What do you identify as? (gender)
2. How old are you?(teenagers)
3. Which do you prefer to do the most? (reading or use cell phone)
4. Choose the hobby you tend to do more often. (read or use cell phone)
5. How many hours do you typically spend during either hobby?
6. What is your grade point average?

Once the data was gathered, the team members analyzed the age, gender, screen time, and gpa of the subjects whom completed the survey. The statistics were analyzed and the conclusion that screen time does have an impact on academic performance was reached.

Is Attending TRIO Programs Helpful to Students and Their Grades?

Ms. Tailajah Martin with Kaleb Jackson
Mentor: Andre Varnado, Sr.

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #251

Students all over America use TRiO to support them through high school and assist them in preparing for college. A survey given to high students who attend or have attended Upward Bound and those who have not, had only positive things to say about the program. Participants in the program responded with opportunities they're provided. Students who completed the survey but have not participated in Upward Bound spoke about it could have helped them. They based their responses on what participants have shared with them.

Balancing Power Dynamics in Home-Based Counseling

Mrs. Victoria Rodriguez with Yvanna Pogue
Mentor: Christopher Belser

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #212

While most counselors will at some point meet clients in their homes or public spaces to provide therapy, few masters programs have an educational component that addresses the unique challenges of providing counseling services in non-traditional settings. Clients who lack resources such as, finances, transportation, and mobility, may find these home-based services helpful as this might be the one modality in which they are able to access counseling. However, these settings provide their own limitations to the counseling process. One of the components counselors in these settings must consider is how the power dynamics in the therapeutic relationship between counselor and client are affected by conducting therapy in a client's home. Although post-modern approaches to therapy, such as Solution-Focused and Feminist Theory, encourage an egalitarian relationship between counselor and client, counselors who are unfamiliar with this shift in power based on environment might be unprepared to address this imbalance. This study's purpose is to examine three obstacles counselors face in regards to power differences including addressing role confusion in a client's space, navigating individual counseling with family members present, and minimizing distractions to maintain focus in session. This study also suggests interventions with an emphasis in boundary-setting to foster respectful equality in interactions between counselor and client. Since former research indicates that the therapeutic alliance is the factor with the greatest impact on therapy outcomes, this study implies that counselors can increase awareness of power differences in home-based settings and apply empirically supported interventions to improve therapy outcomes.

BACK TO FINDER

School of Hotel, Restaurant, & Tourism

Individual Hosts vs. Company Hosts on Airbnb: Role of Authenticity, Knowledge, and Trust on Consumers' Intentions

Ms. Joyce Han
Mentor: Han Chen

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #218

Airbnb has become a dominant player in the sharing economy as it significantly affects the hotel industry. The perceived authenticity is one of Airbnb's fundamental key factor, but recent hospitality studies lack addressing types of hosts and how they compare in terms of different dimensions of authenticity affecting behavioral intentions. The current study identifies two categories of Airbnb hosts, individual hosts and company hosts, and examines the role of brand, existential, and intrapersonal authenticity and mediating role of trust in consumer's intention to repurchase or recommend Airbnb. The findings may contribute to P2P literature portfolio in terms of types of hosts and provide implications to both P2P individual hosts and company hosts.

The research will employ U.S. consumers who have traveled in the past 12 months and having stayed at an Airbnb before. The sample size for each type of hosts will be 200. A self-report online survey will be posted on Amazon Mechanical Turk (Mturk) for data collection. Study will ask the participants to confirm if their most recent experience with Airbnb have been with individual hosts or company hosts.

The measurement scales for all constructs are based on previously validated scales and will be modified to fit into this study (Kim et al., 2009; Liang et al., 2018; Mody et al., 2019). All scales will be measured using seven-point Likert scales, ranging from 1 (strongly disagree) to 7 (strongly agree).

Exploring the Role of Sensory Perception in Hospitality Operations

Ms. Sebastian Matias Torres Vallejo
Mentor: Bridget Bordelon

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #214

Sensory perception has become important not only to researchers in the medical and psychology fields but also in marketing and hospitality. The purpose of this study is to understand how the five senses (visual, auditory, olfactory, gustatory and tactile) affect the perception of hospitality guests when they are visiting new environments. This paper aims to frame the topic with a phenomenological approach as the experiences can differ among individuals. One of the goals of this study is to explore the relationship between basic physiology of the senses, the role they have in each individual, and how it can be applied in the hospitality industry. This study will focus on the guest life cycle model and propose the expansion of the model by including the role of the five senses. Using a mixed-method design, both qualitative and quantitative research will be conducted. Qualitative data will consist of focus groups and interviews with hotel stakeholders and managers. Also quantitative data will consist of survey research of hotel guests to explore and measure their experiences. The overall goal of this paper is for hotel managers to take into consideration when performing renovations to the hotel, the importance the five senses can have over the perception of the quality of service. A guests' senses can affect their overall experience in hospitality venues, which can lead to greater intention to recommend, higher intention to return and generate a brand loyalty.

BACK TO FINDER

School of Naval Architecture & Marine Engineering

6-12 STEM Outreach

Mr. David Bonneval
Mentor: Brandon Taravella

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #220

Biomimetic Predator Fish Robot

Ms. Gracelyn Bowers with Guillaume Rieucau, David Bonneval
Mentor: Brandon Taravella

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #105

Nature has inspired innovation for centuries and with the technology of the twenty-first century it is more possible than ever to recreate the beauty and grace of the natural world. The reaction of prey to the presence of predators is one that is deep rooted in evolution and ecology. To make a prey animal react as if a predator were present when it is would not only be a great technological accomplishment but would also allow for important behavioral research to be done. With the use of a "predator robot," it is the end goals of this test to collect information on whether schooling fish under the risk of predating modulate their collective tendencies in response to hydrodynamic cues and variation of signal-to-noise ratio, and whether those adjustments are directed at promoting anti-predatory responsiveness through efficient information transfer between individuals. This study will be conducted by Dr. Rieucau at Louisiana Universities Marine Consortium. The School of Naval Architecture and Marine Engineering at the University of New Orleans was entrusted with designing and constructing the robotic piscivorous predators that are to be used in the experiment. One of the robotic predator types that will be developed is a spotted seatrout.

An Experimental Study of the Boundary Layer on an Oscillating Cylinder

Mr. Jonathan Eastridge
Mentor: Brandon Taravella

November 19 at 11:15 AM
LIB 424

An analytical model for the wake of a segmented robot swimming like an anguilliform fish has been developed and experimentally validated (Potts III, 2015; Vorus and Taravella, 2011). However, the onset of frictional drag is not yet well understood, and, consequently, computational prediction methods are being developed for undulating propulsors which also require experimental validation. One procedure is conducted herein to develop these tools, namely boundary layer investigations for a cylinder oscillating in plane parallel with the ground in the presence of steady, uniform flow. Particle image velocimetry is the experimental method of choice which allows for precise velocity measurements within the boundary layer. Preliminary comparisons with numerical simulations are presented by means of velocity contours in two-dimensional planes oriented transversely with respect to the oncoming flow. Understanding the fluid mechanics associated with the anguilliform swimming motion allows for calculation of the frictional drag experienced by the robot and validation of numerical predictions.

Experimental Investigation of a Dropped Rocket Model in the Towing Tank of University of New Orleans

Ms. Madeleine Koerner
Mentor: Vincent Xiaochuan Yu

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #101

Studying the Boundary Layer and its Effect on Wake

Ms. Anastassia Kosmopoulos with Jonathon Eastridge
Mentor: Brandon Taravella

November 19 at 2:30-4:00 PM
Learning Commons, 1st Floor, #107

My research work entailed assisting in developing a strategy and experiment to analyze the velocity present in the boundary layer of the amphibious eel-like robot currently being developed at UNO. This entailed seeding the tow tank with translucent white particles, using a clear cylinder with an equivalent shape to the robot eel, and using the PIV system to take hundreds of images of the cylinder moving through the water and then analyzing the velocities of the particles in the boundary layer of the cylinder.

UNO Robotic Eel Camp

Ms. Fallon Lambert with Lorraine Steigner, Caroline Haslauer, Vivian Vazquez, Hannah Malone
Mentor: Brandon Taravella

November 20 at 11:45 AM
LIB 407

Mooring Line and Machine Learning

Miss Qianwen Li
Mentor: Vincent Xiaochuan Yu, Xueyan Liu

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #222

In the field of naval architecture especially for offshore structures, mooring lines are such an essential part that must be attached great importance to. However now the traditional as well as the most popular way to detect mooring line integrity mostly relys on watching water circles.

This presentation is based on the research about one of the latest new ways to do the prediction of the integrity of mooring lines which is more economical and has higher reliability according to the accuracy and high speed calculating of computer algorithm. The data post process method used here is machine learning which could be highly efficient for data analysis because it is a big data epoch now.

The data efforts in this research could be simply summarized into 2 parts, which is get data resources in the powerful industrial simulation software OrcaFlex and deal with data by applying different models including LR, QDA and Neural Network in the maths professional software R studio.

The first part is based on the foundation of the previous research by Igor Prislin and Soma Maroju , who proposed the related research could only involve 2 kind of parameters: 6 DoF and DGPS. In this premise, this poster goes further by using different machine learning methods and comparing their reliability by relative tables, grams and plots.

Numerical Analysis of a Cylinder Freely Dropped into Fluid in two Dimensions

Mr. Yi Li
Mentor: Vincent Xiaochuan Yu

November 20 at 10:00-11:30 AM
Learning Commons, 1st Floor, #224

This paper based on the simulated results of a dropped drilling pipe model using a 2D theory from which is proved by Aanesland in his model test, and attempts to summarize a more widely applicable conclusion for dropped cylinders. The equations of motion of Aanesland attribute the frictional drag in x-direction to boundary layer theory for turbulent flow, and obtain a form drag from the theory of Hoerner. And Morison equation is used in the viscous force of z-direction and viscous moment of rotation. Firstly, according to these equation, the change of viscous forces component of a dropped cylinder with time can be visualized by numerical analysis. Since the viscous forces and moment become periodically balanced after a while, the motion of a falling cylinder can be predicted.

The Floating Offshore Wind Turbine System Apply to Puerto Rico Conditions

Mr. Hoang Pham
Mentor: Vincent Xiaochuan Yu

November 20 at 3:45 PM
LIB 431

How we might transform and save energy continues to be an important research question for our future. There is great need for "green energy" to replace gasoline, diesel, etc. in order to better protect the environment. This idea compels me towards a research involving wind turbine systems. My major is Naval Architecture Marine and Engineering, and in this project, I will focus on offshore wind turbine platforms, the structure of wind turbines, and the advantages of wind as an alternative energy source.

The offshore structure platform is the main part of the project. I plan to design a platform that can float in the sea and carry the turbine on the top. External conditions such as winds, waves, sun will be considered. As a student at The University of New Orleans, I can use the Naval Engineering Department's tow tank facility to test the ability of the structure and the design.

The wind turbine is a wind turbine controller with a maximum daily output of 2.0 MGW. The charge controller is specially designed for each individual wind turbine, and the special design allows for the most power out of the wind turbines while protecting the turbines from overcharging.

The purpose of this project is to transform wind energy into electricity to use by the wind turbine systems in offshore environments. With the fixed wind turbine, it must stay in one place. A floating turbine, however, can be transported to areas of need. As a result, after the recent hurricanes in Puerto Rico, all electricity sources were disabled. The amount of time needed to rebuild directly impacts the ability to provide necessities such as water and electricity. If we could tow a wind turbine there by ship, it could be used to solve this problem. At the time of work on this project, I want to go back to Puerto Rico to learn more about the environment and the conditions of the island. The most important thing is how the reality of this project can be useful in Puerto Rico.

UNO Robotic Eel Camp

Dr. Brandon Taravella
Mentor: N/A

November 20 at 11:30 AM
LIB 407

The School of Naval Architecture and Marine Engineering recently piloted a STEM outreach camp aimed at getting high school and middle school students interested in engineering. The camp involved 3D modeling, additive manufacturing (3D printing), robot design, robot construction, and programming. Campers teamed up into groups of four in order to build, program and test an eel robot. The camp ended with a competition in which the robots were involved in races of speed and maneuvering.

BACK TO FINDER

School of the Arts: Film

A look into the New Orleans Healing Center

Ms. Gabriela Aldana
Mentor: N/A

November 19 at 9:00 AM
LIB 416

A short documentary which dives into the Healing Center's history, mission and all activities and programs offered, which strive to bring holistic healing to the New Orleans community.

Programmatic Film and Bryantic Elision Contractions

Mr. Marvin Bryant Jr
Mentor: Shanda Quintal

November 20 at 2:00 PM
LIB 416

Programmatic Film (PF) combines the fundamental ideas of Program Music (PM) and the Soviet Montage Theory (SMT) and their effects to convey a concise and compelling narrative through music and contrasting imagery. PF replaces dialogue in a film by taking music keys, the emotional connotations attached to each key, and juxtaposing imagery to convey a narrative in an unorthodox but engrossing manner. The imagery of SMT substitutes the visual of a character talking while the music of PM substitutes the emotional phonetics of a character speaking. However, if there is dialogue in the film, the dialogue can be manipulated to fully exploit the core theme of the story with the use of Bryantic Elision Contractions. If the story's theme is "justice", each letter in the word justice will be omitted from each word beginning with the corresponding letter. July becomes 'Uly and stand becomes, 'tand. This experimental form of dialogue creates an entirely new flow of language and speech pattern for the characters within the story.

Cinematographer Don McAlpine

Miss Madison Campbell
Mentor: N/A

November 20 at 2:45 PM
LIB 416

March of Dimes

Ms. Lada Egorova
Mentor: Laszlo Fulop

November 19 at 10:15 AM
LIB 416

This video was made for March of Dimes, a non-profit organization that help to fund research to prevent premature birth and financially support families who have to face premature birth. This video was screened on October 4th for their fundraising event.

Parallel Parking

Mr. Dustin Foret
Mentor: Hamp Overton

November 19 at 11:15 AM
LIB 416

I have made a 3 page script with 2 characters and 1 location. AKA, a 321. In this exercise, the challenge is to make a film with these restrictions. I chose to make a short film about a teenager and his insulting father as they practice the art of Parallel Parking.

My Dawg, Ernest

Mr. Daniel Guillory
Mentor: John "Hamp" Overton

November 19 at 10:45 AM
LIB 416

I analyze the characteristics of cinematography used to communicate messages in 3 films.

HTP-169

Mr. Ryan Hazlewood
Mentor: James Roe

November 19 at 9:30 AM
LIB 416

Dean Cundey, Cinematographer

Mr. Jordan Johnson
Mentor: N/A

November 19 at 9:45 AM
LIB 416

A brief look into the cinematographer Dean Cundey and his work, specifically on the films Back to the Future, Jurassic Park, and Halloween.

Creativity and Aging: A Documentary Project

Mr. Justin Livingston
Mentor: Laszlo Fulop

November 20 at 2:30 PM
LIB 416

ew Orleans has always been a hub of art and creativity, drawing in creative professionals from all disciplines and walks of life. From world renowned musicians and painters to the men and women making a living selling their work in Jackson Square, every one of them has a story to tell. For the past year I have been working with Professor Laszlo Fulop on a documentary project looking into the lives and careers of creative professionals around this city at or above the age of seventy. We have conducted a number of interviews with artists around New Orleans to talk about their craft and how aging has affected their careers and lives with the hope of compiling these interviews into something meaningful.

Two sisters, two worlds: short film exploration

Mrs. Milena Martinovic
Mentor: Katie Garagiola

November 20 at 1:45 PM
LIB 416

In the second year MFA film program, we make a ten minute film. All my films are personal explorations of relationship dynamics between women. With this film, I hope to explore the dynamic between two sisters with very different lives. The film takes place over one night out. The younger sister from L.A., Sylvia, is visiting the older sister, Julia, in New Orleans. Julia wants to show her a good time but feels deeply insecure for the lack of career and purpose her life holds here. She tries to overcompensate by trying to seem cool in front of her little sister. By the end, in the climax scene in the bathroom of the bar, they have a moment of truth and realize they both admit they want each other's lives, a realization they bond over.

The Cinematography of Lance Acord

Mr. Robbie Morgan
Mentor: John "Hamp" Overton

November 19 at 11:30 AM
LIB 416

Objective: to introduce film goers to the work of Lance Acord Summary: A video essay on a cross section of films featuring the cinematography of Lance Acord

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Chaos: An Interpretation of Ora Histories from Hurricane Katrina Survivors

Ms. Ariana Newman
Mentor: David Gladstone

November 20 at 2:15 PM
LIB 410

Chaos: An Interpretation of Oral Histories From Hurricane Katrina Survivors is a pre-development component of the film Chaos: The Seven Days After Hurricane Katrina. This interpretation will bring to life four oral histories I have conducted between 2016-2019. These oral histories will be the basis for the screenplay of Chaos for the feature film (production begins Spring 2021).

Objectives of Chaos: An Interpretation of Oral Histories From Hurricane Katrina Survivors:

- To create an interpretative performance of pre-development work intended to inspire development, pre-production, production, and post-production of the film Chaos: The Seven Days After Hurricane Katrina

- To increase awareness of the film Chaos and to premiere the plans for research, development, production, and post-production goals.

- To offer an opportunity to others who may be interested in conducting an oral history of their personal histories or recommendations for other human subjects and their specialized histories based on the seven days after Hurricane Katrina.

- To generate monetary support to develop funds to produce Chaos, independently.

Reality Check

Miss Alyssa Newsham
Mentor: Laszlo Fulop

November 19 at 9:15 AM
LIB 416

The Dance: The Process of Christopher Doyle

Mr. James Pardue
Mentor: N/A

November 19 at 10:00 AM
LIB 416

A Dance: The Creative Process of Christopher Doyle is a visual essay that explores the creative process behind the work of Christopher Doyle, an Australian Cinematographer who works in Hong Kong. This video is a compilation of interviews from multiple sources to better understand his work and his approach to visual storytelling. This project was made to learn about the methods behind visual storytelling in film, especially in cinematography, in different regions of the world.

MAXED OUT

Mr. Rashad Richardson
Mentor: Cheryl Hayes

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #195

My work as of recent has changed and is extremely different from what i was doing before. I mainly work with the human figure now and, my goal is to drag out as much color as possible.

BACK TO FINDER

School of the Arts: Fine Arts

Heavy

Ms. Mary Adams
Mentor: Ariya Martin

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #103

In mathematics, a spiral is a curve, which emanates from a point, moving further away as it revolves around the point.

Heavy is made of found concrete and naturally occurring rocks pieced together to form a spiral sculpture. Starting with small pieces of concrete and rocks, the wall increases in height with larger pieces and ends again in the center with smaller pieces. The installation represents broadly the number of sexual assaults that are estimated to occur on college campuses in correlation to the number of enrolled students at UNO. Heavy is comprised of over 1,000 pieces of rock and concrete because the National Crime Victimization Survey estimates that roughly 12 percent of students, both male and female, will experience sexual assault at some point during their college careers. There are about 8,300 students enrolled at UNO, therefore I used approximately 1,080 pieces of rocks and concrete. I used more than 12% to indicate how poorly rape and sexual assaults are estimated. Because 90 percent of assaults occurring on campuses are not reported, I painted 102 pieces red, or ten percent of my total, to highlight the disparity in assaults reported.

The shape of the spiral speaks to how individual assaults emanate from rape culture as a whole. Spirals often represent a journey and an unfolding path, which leads to a source or a center. The center here is a small rock indicating how miniscule aggressions towards women turn, like the spiral of a hurricane, into something larger, more destructive. I also chose the shape of a spiral because of its feminine symbolism, representing lifecycle and fertility. Here, I have it stand as a symbol of feminine resilience, forever turning despite the heavy weight we carry.

Concrete and naturally occurring rocks together create tension of man-made versus natural. This tension is apparent in assaults themselves; as assaults are essentially man-made yet occur so often they become almost a natural part of life, particularly for women. These stones represent the weight of sexual assault that survivor's carry, the weight of what it means to perpetuate rape culture in society, the weight our daughters will probably carry, the weight our grandmothers did, mothers, sisters and friends. The rocks are different sizes and shapes to tell the differences in each assault story.

Heavy is my first large-scale installation piece. It is inspired by my personal struggles with sexual assault and the realization of how wide spread the problem is, how embedded it is in our culture and particularly so on college campuses. The piece is also inspired by the Berlin Jewish museum installation of Fallen Leaves. The Fallen Leaves exhibit by Menashe Kadishman, inspired this piece because the overwhelming amount of faces used in the installation harnessed the scope of Jewish lives lost during the Holocaust. I hope to grasp the scope of the sexual assault problem by visibly showing how many assaults are taking place on campuses.

Much of my work deals with political issues such as sexual assault and female trauma. Originally graduating in Sociology from The University of Texas at Austin, I am interested in the raw human experiences we share across society and how to show these experiences and emotions in a compelling visual manor. I often work with found and recycled materials including glass, light bulbs and mirrors. I repurpose them to make the used, the broken, into something whole. This is a theme that resonates throughout my work.

Cicada brothel

Ms. Heather Allred
Mentor: Tony Campbell

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #242

The idea of the assignment was to put an image on an object to make the object something it is not. I chose to make a cicada brothel out of this cabinet. I designed the ""sexy cicadas"" by combining biology book cicadas with thick women physique. Then I transferred the image with a stencil, and painted the negative space neon orange. This is an interactive piece. Please take a look inside at the golden cicadas in funny sex positions. I hope this piece gives you a laugh.

Recycled dreams

Ms. Heather Allred
Mentor: Tony Campbell

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #241

You never know you miss something till it's gone.

I use to live at the end of a little neighborhood, just a short walk away from the swamp. I took for granted the wildlife I had just outside my back door.

My mom and I were going through some tough times and we lost our house in January. I lost my childhood home. My mom moved across the lake with some relatives. And I moved into a little apartment in the city. There are no birds here. No flowers. No cicadas humming. It's unsettling. I can't find comfort in my new place. It is not home.

I have this reoccurring dream where I am sitting on the back porch of my old house. The magnolias from the neighbor's tree smell sweet. I can hear the cicadas sing at the sun as it sets. In front of me are three egrets hunting for food in a ditch, one grabs a snake. The other two egrets fly away from fright. As I watch, I can not determine who is winning, the snake, or the egret.

Triple-Bottom Line Assessment of Green Infrastructure

Mr. Jim Amdal
Mentor: N/A

November 20 at 1:30 PM
LIB 416

Urban areas are characterized by high population densities and heavily built environment that have disrupted the natural ecosystem; buildings, highways and concrete pavements are typical features of the urban environment. These characteristics have obstructed the natural flow of stormwater, exacerbated by the human activities that have changed the climatic condition of the planet. Global warming have led to rising sea levels, frequently reoccurring flooding and other natural disasters, which impacts coastal cities the most. The introduction of green infrastructure into urban ecosystem mimics the behavior of the natural environment, therefore reduce flooding and mitigate climate change. This project is a triple bottom line assessment of green infrastructure implementation in the city of New Orleans, with emphasis on the activities of the city government, the communities and non-governmental organizations towards implementing green infrastructure in the city. The assessment will be directed towards the most vulnerable areas and neighborhoods around the city, to study the impacts of flooding caused by stormwater runoff; then analyze the environmental, social and economic ramifications of implementing green infrastructure in those areas.

Tangled Jewels

Mr. Brennan Folse
Mentor: N/A

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #181

Tyler

Ms. Ash Gaude
Mentor: Kathy Rodriguez

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #173

An acrylic portrait of warm colors done during the summer to practice skin tones and experiment with smoother, more realistic styles.

Red, White and Blue

Ms. Amanda Gullette
Mentor: Ariya Martin

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #125

In this series of prints I am exploring concepts surrounding greed and capitalism. I am interested in the ways society is shaped by money and how its influence changes the value system in a capitalist market. The dollar bill has come to represent power in the United States as well as most other developed nations. The more one possesses the more power one can obtain. It's fascinating how a piece of paper can have so much sway over those who seek it and its ability to alter a person's perception in regards to the value of another life. I see examples of this everywhere I look. From injury lawyers blasting ads all over television and billboards, popular music, insurance claims adjusters, social media advertising, etc. We are constantly being issued a personal value in dollar amounts. Want to be more valuable? Buy this and finance that. We are being feed the idea that you never have to age or feel unhappy if you just had money. There will always be a supply of cosmetic treatments and antidepressants to get you through the messy business of getting old. If you could only get your hands on more money, you would be happy and care free. Suggesting that one can never feel fulfilled or satisfied without being wealthy. Those who can't afford it or choose not to participate in this value system are seen as antisocial, a communist, or on the fringes of society.

I decided to create these images as cyanotype prints after experimenting with the medium. I created a small print using a dollar bill, which transferred both sides of the note, creating a double-sided effect. It created a level of transparency in the all mighty dollar that I had not seen before. This process gave me the ability to print my own form of currency, to alter the visual concepts laid out before me, and show them as I see them. The corruption, pain and suffering these symbols have bestowed onto a population, the utter disregard for a person's value beyond the monetary, and our negative feelings towards ourselves and others who don't have access to wealth. It is my hope that in creating these images I am able to purge some of those negative feelings and reflect them back to the viewer in a way that also encourages them to explore these concepts for themselves and reevaluate their own relationship with money. What is it that we truly value in society? Have we sacrificed our humanity in pursuit of cash, or is there still hope that we can deconstruct or monetary value system in exchange for spiritual and communal values on our fellow human beings?

While only one of these prints is on display for UNO Innovate, I encourage everyone to visit Milneburg Hall to see the complete series. My work will be on display there from 11/19 through 12/2/2019.

MM

Mr. Dwayne Kennedy Jr
Mentor: Ariya Martin

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #140

MM is a portrait photograph of a Mother Mary Statue I took in the Fall of 2018. In my intro to photography class we where focusing on portraits and I chose one my images focus point is to be this Statue.I've walked past this statue everyday and it has always caught my attention. I've never really seen a statue like that up and close. I felt like the the cracks and chipping told a story. I wanted to capture that story. I want people who view this image to feel the image more then seeing.

New Orleans Collage

Ms. Chelsea Lee
Mentor: Dan Rule

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #198

For this drawing ("New Orleans Collage"), there are three things about New Orleans that are shown: their most popular foods, things that relate Mardi Gras, and a few popular landmarks. The materials that were used were pens, colored pencils and markers. This collage was done, mostly, with several different color ballpoint pens. Colored pencils were used for the French Quarter, the beignets, and the gumbo. The only places that contains marker was the band at the bottom left corner, the Zulu coconuts, and the black background.

Smoker

Ms. Chelsea Lee
Mentor: Dan Rule

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #199

This portrait ("Smoker") was done with ink because it's my favorite media to work with. My interest in drawing with ballpoint pens developed after my high school teacher introduced me to Albrecht Dürer. This is also my first drawing of an elderly person in pen. Seeing photos of elders, that are taken by professional photographers, have always fascinated me. Those type of photos gave me the idea of drawing an elderly man that has a serene facial expression.

Blatant: An Altar to Urge

Mx. E Marshall
Mentor: Kathy Rodriguez

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #164

I am submitting a work on paper selected from a larger body of work. This piece explores space, time and personal identity in a 2 dimensional form through painting and drawing.

I am exploring the bodies and forms of horses in space. Horses have always played a role in my childhood dreams and fantasies. All I ever wanted to do was make art about horses. I stopped when my teachers told me that was silly. Now as an adult I am returning to that original urge and using it to explore the use of cliches and symbols in my work.

Portraits of American Buddhists (As Family)

Prof. Ariya Martin
Mentor: N/A

November 20 at 1:00 PM
LIB 416

As a child, and certainly as an adolescent, the significance and uniqueness of growing up Buddhist escaped me. However, age has renewed my respect and appreciation for this upbringing, as well as for the family and community that emerged. Working with a large format 8x10 camera I began, in the summer of 2015, to make portraits of some of the original members of the Rochester Zen Center (established by the pioneering Western Zen teacher, Roshi Philip Kapleau). I am amazed by the continued sense of community from bonds that were forged from spiritual practice over four decades ago and which now span generations. As I continue exploring these webs of connection I have also come to understand the unique perspective as well as the importance of this lineage in the context of

the Zen Buddhist diaspora in the United States. My goal is to complete a body of work that includes photographs, and perhaps oral histories and other ephemera, to explore notions of community and family. I work with film and use antiquated camera equipment because the process forces me to slow down and leave room for deep observation and contemplation. The analog process honors personal interaction and creates space for that when a person sits for me. In addition, there is a meditative quality when you work with large format, which feels quite fitting for this work.

Report on the Roundtable Discussion "Art for Justice"

Dr. Anna Mecugni
Mentor: N/A

November 20 at 1:15 PM
LIB 416

I was awarded a LEEP grant last year to organize a roundtable discussion immediately following Dread Scott's Slave Rebellion Reenactment, scheduled for November 8–9, 2019. The roundtable is set for November 13, 2019.

Memories

Miss Amy Nguyen
Mentor: Dan Rule

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #229

My work mirrors my state of loss, longing, and acceptance of a broken partnership. Through my art, I am able to process and purge my emotions.

I work intuitively, following my pen and allowing my subconscious images emerge; other imagery is made in reference to my own body, reinterpreting myself through various mark-making. I gravitate towards soft pastel colors as well as a saturated rainbow spectrum. Initially I start with gentle ink marks that gradually build as layers of ink and color start to overlap. I experimented with image transfers and worked with a variety of mediums: acrylic, acrylic ink, vinyl paint, watercolor, pen, and colored pencil.

Baby Elephant

Ms. Emily Patrolia
Mentor: Jeff Rinehart

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #234

This piece is a charcoal drawing of my favorite animal. I love drawing elephants because I love their texture of their skin. I love drawing their faces and their trunks.

The Plunge

Ms. Spencer Shaw
Mentor: Tony Campbell

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #239

Cyanotype is a photographic printing process that utilizes the reaction of photosensitive chemistry to UV exposure and water— producing a cyan hue that may be deepened with the additional application of hydrogen peroxide. Unit #1 is a one-off cyanotype print on cotton rag paper where I used semi-transparent fabric to manipulate the amount of UV rays able to reach the substrate, which had been treated with the light-sensitive cyanotype chemistry. The pieces of fabric prevented areas of the paper from absorbing the same amount of UV rays as the rest of the paper, generating the image of a figure in a lighter value in the center of a darker field of blue. The semi-transparent nature of the fabric also lent a textural effect throughout the shape of the central figure. This work was intended as a self portrait and an exploration of the anonymity one might experience by viewing their own body as one of many human "units"— our individual identities predicated on our membership to the human species, before all else. In a formal sense, this work nods to the well-

known Blue Nudes of Henri Matisse, although the figure in Unit #1 is decidedly more androgynous, and its positioning more intentionally embryonic. In the future, I hope to develop a larger set of similar prints, to emphasize the seriality of our evolution as a species.

Me and my buddies

Miss Ellsbeth Truitt
Mentor: N/A

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #111

I took real world photographs of myself and my friends and mashed them together with drawings of my original characters. The end result creates a fun image of zany characters having a good time in a Roger Rabbit inspired set.

Me and my buddies 2

Miss Ellsbeth Truitt
Mentor: N/A

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #112

I took pictures of my friends being themselves and combined them with my original characters.

Influences

Miss Emma Waguespack
Mentor: Ariya Martin

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #213

One of a series of photographs depicting the artist dressed in their friends clothing.

Dad of Mine

Ms. Grace Wright
Mentor: N/A

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #117

This is an oil painting of my wonderful father. He raised my brothers and I all on his own, and I have him to thank for everything. I would not be the woman I am today without this man. He has supported me throughout all of my art endeavors, and I could not be more grateful. I had the hardest time getting this stubborn dad of mine to sit for me, but as always, he came through. My dad happens to be one of my closest friends. I paint those I hold closest to me. Capturing what a strong father he has been was important to me, and I think it shows.

BACK TO FINDER

School of the Arts: Music

New Compositions

Prof. Brian Seeger
Mentor: N/A

November 20 at 3:15 PM
LIB 410

Professor of Music Brian Seeger will present samples of new compositions he created with the support of an internal grant from the ORSP.

BACK TO FINDER

School of the Arts: Theatre

Funhouse

Miss Hannah Hornsby
Mentor: Laszlo Fulop

November 20 at 3:00 PM
LIB 416

A screenplay adaptation based off of the song ""Funhouse"" by Pink. This realistic story takes a small glimpse into the fears of a young child and what it's like to feel completely and utterly helpless. It deals with taboo subjects that hopefully will encourage young people to open up about toxic relationships.

Every Heart Sings a Song

Ms. Danielle James
Mentor: L. Kalo Gow

November 20 at 2:45 PM
LIB 410

The title of my piece is Every Heart Sings a Song. At first glance to some that title seems a bit cliche or cheesy. However, it is the most eloquent way I can state that we as people are all vastly unique and yet somehow the same. The purpose of this piece is to illustrate a journey in a person's state of being. Individuals can go from immense happiness and joy to crippling sorrow in a matter of moments and vice versa. I would like to showcase this in my piece to shed light on the strength people have, if they just keep moving forward.

Miss You

Miss Galatia Jones
Mentor: Brent Rose

November 20 at 1:30 PM
LIB 410

Objective: I wrote this song to explain the emotional conflict a person feels when missing someone even though they have done wrong.

Summary: This piece is supposed to evoke emotion and showcase an internal battle. The lyrics state, "nothing in this world can make me miss you... not your smile, not your lips, not your hands on my hips." This explains that the person wants to move on, but the memories of their past relationship continue to play throughout their mind, stopping them from accomplishing this goal. However, the end explains how a person must understand that in order to move on, you must let go. I used a YouTube beat for an instrumental and it is sang with an R&B vocal style.

"Said You'd Stay" from Dark Nights the Musical

Ms. Emelie Lasseigne
Mentor: L. Kalo Gow

November 20 at 1:15 PM
LIB 410

Stemming from an image of a heartbroken girl standing alone in a spotlight, "Said You'd Stay" was created by Kalo Gow and Yotam Baum. The librettist of Dark Nights the Musical, Kalo Gow, wanted to make a song where the female love interest makes a difficult choice and becomes directly responsible for her own heartbreak.

Theater Production/Rehearsal Photos

Miss Alexandria Raney
Mentor: L. Kalo Gow

November 19 at 1:00-2:30 PM
Learning Commons, 1st Floor, #265

I am a current sophomore here at the University fo New Orleans, I am currently studying in the theater department. I have taken production and rehearsal photos for any productions here at UNO. Using a poster board I will present the photos I took for this unique opportunity given. I took photos for productions like: Desdemona, Gloria, and Keely and Du.

Song or Monologue

Ms. Raegan Rozas
Mentor: L. Kalo Gow

November 20 at 2:00 PM
LIB 410