XAVIER UNIVERSITY of LOUISIANA

14TH ANNUAL

FESTIVAL OF SCHOLARS

A CELEBRATION OF STUDENT RESEARCH AND CREATIVE SCHOLARSHIP

2017

APRIL 20-21

Presented by the Center for Undergraduate Research and Graduate Opportunity
Dear Xavier Community Members:

Welcome to the 14th Annual Festival of Scholars (FOS), presented by the Center for Undergraduate Research and Graduate Opportunity (CURGO) with funding support from Title III-SAFRA and NIH BUILD (Award Number TL4GM118968) grants.

Since 2004, the Festival of Scholars has showcased the vast array of student research and creative work achieved with the support and guidance of faculty. The 2016 FOS program features student exhibitions representing all six of Xavier’s academic divisions, as well as the College of Pharmacy.

Over the years CUR has awarded more than $500,000 in grants to support student research and creative work mentored by Xavier faculty. In addition, the Center has provided travel funding for student presentations and research both nationally and abroad.

CUR also sponsors two student peer-reviewed publications, Pathways and XULAneXUS, with funding support from the Andrew Mellon Foundation. Pathways is a freshmen journal with essays that deal with students’ personal experience and reflect the diversity of background and perspective in our student body.

XULAneXUS, Xavier’s online undergraduate research journal, publishes the outstanding scholarship of undergraduates in every academic discipline.

In line with Xavier’s mission to prepare its students to assume roles of leadership and service, the CURGO programs are designed to support the development of leaders through quality research experiences. Through meaningful participation in faculty-mentored projects, students learn how to think critically about problems, design and implement solution strategies, think creatively and produce new ideas or materials, as well as learn to overcome challenges and obstacles. Although a research career is not every student’s destiny, substantive research experience can add value to any student’s career path.

I look forward to sustaining and enhancing the great programs of CURGO in collaboration with my Xavier family. Thanks to all the participants and their faculty mentors for the time and energy spent on this year’s presentations. A special thanks to CURGO team, the executive committee, and the faculty, staff, and student volunteers who helped make the 2017 program a success.

Thank you for coming and for your support.

Sincerely,

Ja’Wanda S. Grant, PhD
CURGO Sr. Director
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Event</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program at a Glance</td>
<td>04</td>
</tr>
<tr>
<td>Thursday Poster Presentations - Session 1</td>
<td>06</td>
</tr>
<tr>
<td>Thursday Poster Presentations - Session 2</td>
<td>20</td>
</tr>
<tr>
<td>Thursday Oral Presentations</td>
<td>30</td>
</tr>
<tr>
<td>Thursday Course Presentations</td>
<td>36</td>
</tr>
<tr>
<td>Friday Oral Presentations</td>
<td>42</td>
</tr>
<tr>
<td>Friday Poster Presentations - Session 1</td>
<td>46</td>
</tr>
<tr>
<td>Friday Poster Presentations - Session 2</td>
<td>66</td>
</tr>
<tr>
<td>Friday Course Presentations</td>
<td>76</td>
</tr>
</tbody>
</table>
The 2017 Festival of Scholars (FOS) highlights the research and creative scholarship of Xavier University students.

PROGRAM AT A GLANCE

Thursday, April 20, 2017
University Center – Second Floor Lobby

9am - 4pm Registration and Presentation Set-Up
12:15pm Welcome – Dr. JaWanda S. Grant, CURGO Sr Director
Opening Prayer – Sr. Dr. Mary Ann Stachow, Theology
Opening Remarks – Dr. Anne McCall, Provost and Sr. VP for Academic Affairs
Keynote BUILD Speaker – Dr. Olawale Sulaiman, MD, PhD
Pizza Lunch
1:15pm Poster Session 1
2:45pm Poster Session 2
11am - 8pm Course Presentations
3:30pm Oral Presentations

Friday, April 21, 2017
University Center – Second Floor Lobby

12pm Oral Presentations
Pizza Lunch
1pm Poster Session 1
2pm Poster Session 2
11am - 3pm Course Presentations
Xavier University students featured on left from last years’ Festival of Scholars event hosted by the Center for Undergraduate Research and Graduate Opportunity.
Corey Todd, Pharmacy

Computational Investigation of Isoquinoline Alkaloids & Scaffold Replaced Derivatives As CYP1A1 Inhibitors

Mentor(s):
Dr. Florastina Payton-Stewart
Chemistry Department

Keywords: Cancer Research

Abstract: Single nucleotide polymorphisms (SNPs) are types of genetic variation in at least 1% of the global population that represent a replacement of a single, specific nucleotide in a stretch of DNA. CYP1A1*2A, a polymorphism exhibited predominantly in African Americans, has an altered estrogen metabolism and is known to increase susceptibility to estrogen-related breast cancer in African American women. Metabolism of estrogens involves hydroxylation at either C2 (2-OHE) or C16 (16-OHE). There is an association between the 2-OHE/16-OHE metabolite ratio and breast cancer; a higher production of 16-OHE compared to the normal ratio levels increases the risk of breast cancer. CYP1A1*2A has a 12-fold higher increase compared to the normal ratio. The inhibition of disease-causing polymorphisms, is necessary in order to aid in the development of new and more effective personalized therapy.

Tatyana Aubert, Mass Communication

Rise in Suicide among African American Males

Mentor(s):
Dr. Tia Smith
Mass Communication Department

Keywords: Millennials, suicide, social media, African American, males

Abstract: The purpose of this study is to determine how media and lack of proper resources contributes to the rise of the suicide rate among black millennial males. The struggles black males face in their everyday lives makes them more prone to the development of depression and eventually suicide. The lack of health resources in black communities and research is also the reasoning for suicides among black males. This study analyzes the causes of suicide among black males, media’s role in depression and suicide, and how black millennials cope with depression. The study will be conducted through the use of social media. The objective is also to learn how social media plays a role in suicide and depression and also how to aid those with mental health issues and ways to prevent suicide among black millennial males aged 18-25. The purpose of this literature review is to: 1) explain the prevalence of depression and suicide among African American males; 2) comparison of depression and suicide among African Americans and Caucasians; 3) risk factors for depression and suicide; 4) seeking treatment; 5) method of researching depression and suicide among African American millennial males through the use of social media.
Tawny Mickey,  Speech Pathology

The Effects of Music Therapy on the Social Communication Skills of Children with Autism Spectrum Disorder

Mentor(s):
Dr. Elgustus Polite
Speech Pathology Department

Keywords: Autism, ASD, Music Therapy, Communication, Language, Children, Social Interaction, Melodic Intonation Therapy, Intervention

Abstract: Autism Spectrum Disorder (ASD) is a general term for a complex disorder that affects brain development. Many children who are diagnosed with ASD show signs of stereotypical behaviors related to social engagement, communication, and spontaneous participation. When music is used as a form of early intervention therapy, it has been shown to improve these stereotypical behaviors. The purpose of this research was to integrate and synthesize the extant research literature on the effectiveness of music therapy on the social communication skills of children with Autism Spectrum Disorder. A comprehensive literature search for research studies, which included data on music therapy relating to ASD, was conducted using electronic sources. This led to the identification of 20 research studies that met the criteria for this review. The results showed that when music is used as a form of early intervention therapy, it has been shown to improve the stereotypical behaviors exhibited by children with ASD. The limitations of these findings and directions for future research will be discussed.

Brianna Pace,  Computer Science

Foster Care System Database

Mentor(s):
Dr. Kun Zhang
Computer Science Department

Keywords: Computer Science

Abstract: The proposed database is one that helps organize and keep track of foster children and adoption records within the foster care system. The entities represented in the database are foster children, foster parents, social care workers, foster homes, and adoptive parents. A foster child is assigned to only one foster parent and home. Each foster parent may be a legal guardian of up to five foster children. Each foster home has one or at most five foster children. Each child will also be assigned to one social care worker. A social worker oversees many foster children and inspects multiple foster homes monthly. The social care worker also oversees the adoption process for each adopted child. Within the adoption process a child is adopted by one person. Also, an adoptive parent may be in the process of adopting up to three children. The design process includes a needs assessment, ER diagram, Logical Model, and the database implementation using a relational database management software. The purpose behind the proposed database is to help organize and simplify the foster care system because the existing system is known to be very disorganized and the quality of care is lacking in some cases.
Brandon Hylton, Biology
Samantha Imbraguglio, Chemistry

Factors that Influence Recombinant Lysine Deacetylase Activity

Mentor(s):
Dr. Terry Watt
Chemistry Department
Tasha Toro

Keywords: biochemistry, enzymes, buffers, fluorescence

Abstract: Lysine deacetylases (KDACs) are the enzymes that reverse the post translational modification of acetylation. KDACs play a critical role in the cell and changes to their activity have been linked to diseases. In order to characterize KDAC activity in a biologically relevant fashion, in vitro assay buffer should ideally mimic the in vivo environment. In this project, our research objective is to determine the components of buffer that influence KDAC activity while remaining biologically relevant and cost efficient. The starting buffer used consisted of phosphate, glycerol and potassium chloride. The buffer parameters varied included the viscosity, buffering agent, and metabolite concentrations. The effect of these alterations was measured through fluorescence-based activity assays. KDAC8 was the primary enzyme used. The variation of most of these parameters either did not affect KDAC8 activity or decreased it. The addition of a metabolite mixture to the reaction slightly increased KDAC8 activity. In order to determine which metabolite caused the activity increase, citrate was selected for further investigation due to its metal chelating properties. KDAC8 and other Class IIA KDACs require a metal cation at their active site to function. In excess, some of these metals can also bind to an inhibitory site on the enzyme. When citrate was added to the reaction in the presence of excess zinc, activity was partially restored. However, the addition of citrate alone had no effect on KDAC8 activity. Impact of the buffer conditions on determination of KDAC activity by mass spectrometry was also evaluated. In conclusion, a minimal phosphate buffer optimizes KDAC8 activity while remaining biologically relevant and cost efficient. Furthermore, the addition of citrate is a biologically relevant method to ensure that excess trace metals are not inhibiting KDAC8.

Tyjah Saulsberry, Chemistry
Taylor Jackson, Biology

Novel Ceramide Analogs for the Treatment of Breast Cancer

Mentor(s):
Dr. Maryam Foroozesh
Chemistry Department
Dr. Tulasi Ponnappakam

Keywords: Cancer Research, Ceramide Analogs, Breast Cancer

Abstract: Breast cancer is the leading cause of death in women with triple negative breast cancer occurring in approximately 10-20% of diagnosed breast cancer. Breast cancer cell lines have been used widely to study breast cancer cell biology, to screen new drugs, and to identify pathways leading to suppression of cancer growth and metastases. Sphingolipid-signaling pathway is considered to be a novel approach to targeting cancerous cells. Numerous findings suggest that sphingolipids play important roles in the regulation of cancer pathogenesis and development. Ceramide, a bioactive sphingolipid, is a powerful tumor suppressor molecule that is thought to induce apoptosis, inhibit proliferation, and induce senescence in cancer cells. However, the use of endogenous ceramides is limited by their inability to efficiently penetrate the lipid bilayer and their breakdown by ceramide metabolizing enzymes. Our laboratory has synthesized approximately 40 ceramide analogs with the goal to synthesize ceramide analogs with increased antitumor activity, efficacy, and specificity than endogenous ceramides. As of date, our most potent ceramide analog has been Analog 315, (S,E)-3-hydroxy-2-((2-hydroxybenzylidene) amino-N-tetradecylpropanamide. To further test the efficacy of Analog 315, we conducted in vivo studies using human triple negative breast cancer cell line, MDA-MB-231, in nude mice. We propose that ceramide analogs with increased antitumor activity represent a potential new class of chemotherapeutic agents.
13 Victoria Barnett, Psychological Science

*Binge-Like Feeding Attenuates Alcohol Drinking*

**Mentor(s):**
Dr. Sunil Sirohi  
Division of Basic Pharmaceutical Sciences

**Keywords:** Binge eating, Binge drinking, alcohol use disorder, depression, anxiety

**Abstract:** Alcohol use disorder (AUD) and binge eating disorder frequently coexist and problematic eating may increase the risk for developing substance abuse, overweight/obesity, and worsening depressive symptoms. However, nature by which binge-like eating impacts alcohol drinking is poorly understood. We investigated the impact of intermittent access to a nutritionally-complete palatable diet (NPD), which induces a feeding pattern mimicking binge-like intake, on alcohol drinking in Long-Evans rats. Rats were divided into two groups based on similar body weight and food/water intake and received 24-hr access, twice a week, to either the NPD or normal chow (the control group) for two weeks. The animals were tested in a two-bottle choice paradigm of water and a 20% EtOH solution on the days following exposure to the NPD. Rats in the NPD group displayed a significant overconsumption of calories on NPD-access days and under-consumption of chow on non-NPD-access days. Surprisingly, animals exposed to the NPD drank significantly lesser amounts of alcohol than the control group. This study reveals that two weeks intermittent exposure to a NPD attenuates alcohol intake in rats and identifies a novel feeding paradigm which is effective in reducing alcohol drinking and may have clinical implications in the management of alcoholism.

15 Meghan Dillon, Premedical Psychology

*Factors that Contribute to Higher Educational Success Amongst African Americans*

**Mentor(s):**
Dr. Lisa Schulte-Gipson  
Psychology Department

**Keywords:** African American educational success, parental involvement, intrinsic motivation, attending a HBCU, black excellence in a higher educational success, and career success.

**Abstract:** Over time, African Americans have not been granted the same supportive opportunities as their Caucasian counterparts and other ethnic groups. African American students are generally not afforded great opportunities to succeed in higher education. Nevertheless, African Americans have to put in more time and effort in order to succeed in higher education. Due to the unprecedented number of African Americans entering into college at this present day, it is important that they have many supportive factors to guide them along throughout their college endeavors. Factors that aid in African American educational success include: parental involvement, intrinsic motivation and attending an Historically Black College and University (HBCU). With the supportive aid from these factors, African American college students are afforded the same successful opportunity like their counterparts. Parental involvement plays a vital key in African American college students’ performance because parents are allowed to be active in the learning phase of their children's life and it allows for a greater chance to excel. Intrinsic motivation is also an imperative factor because it guarantees self-fulfillment and self-accomplishment. Furthermore, it is very significant for African Americans to choose an HBCU which befits their social status, character and guarantees ultimate achievement for their career.
Mikala Bowen, Speech Pathology

Bilingualism in Children

Mentor(s):
Dr. Elgustus Polite
Speech Pathology Department

Keywords: Bilingualism, Speech Pathology, Language Development, Children

Abstract: In the United States, twenty-one percent of school-age children (between 5 and 17 years of age) speak a language other than English at home (Williams, 2015). Research has shown that children who speak two (i.e., bilingual) or more than two (i.e., multilingual) languages are more creative and better problem solvers compared to those who only speak one language (Jones, 2012). Although the research literature has addressed the benefits of being exposed to more than one language on development for typically developing children, relatively little is known about using both languages for intervention of language impairments in children who are learning more than one language. A comprehensive literature search was conducted using electronic sources. This led to the identification of research studies that met the criteria for review. Data from these studies provided evidence about using both languages for intervention in children with disabilities learning more than one language. Clinical implications and directions for future research will be discussed.

Ashlyn Pinkins, Public Health Sciences

France and French Guiana: A Comparison of the Adolescent Birth Rate

Mentor(s):
Dr. Tyra Gross
Public Health Sciences Department

Keywords: maternal and child health, global health, public health

Abstract: High adolescent birth rate has been a major problem for many countries. However, developed high-income countries have managed to drastically decrease their numbers. United Nations (UN) Sustainable Development Goals (SDG) #5 is to “Achieve gender equality and empower all women and girls.” The purpose of this project is to compare the adolescent birth rate of France to French Guiana. France, a high-income country has greatly decreased their adolescent birth rate, dropping it down to 9 per 1000 women aged 15-19 years between 2011 and 2015. French Guiana is a small developing country in South America that is part of the overseas department of France and considered a French territory. The adolescent birth rate for French Guiana is greater than 80 per 1000 women aged 15-19, a rate that is 8x greater than that of France. This is a problem that needs to be addressed in order to improve child, adolescent, and maternal health. Empowering women and girls can prevent factors related to adolescent pregnancy.
Rachel Hitchens, Biology Pre-Med

The modulation of various leukocytes in response to Trypanosoma musculi infection in mice

Mentor(s):
Dr. Mohammad Ashraf Aziz
Howard University Biology Department
Dr. Clarence Lee
Chair of Biology Department at Howard University

Keywords: Parasitology, Immunology

Abstract: This research was conducted to examine the proliferation of Trypanosoma musculi in the presence of adherent splenic cells and to also assess the effect of T. musculi on the modulation of varying leukocytes, namely Lymphocytes, Neutrophils, Monocytes, and Eosinophils. Trypanosoma musculi is a host-specific parasite, only infecting mice. To culture T. musculi, adherent splenic cells from mice were isolated and an aseptic tissue culture was performed. T. musculi parasites were cultured in the presence of these adherent splenic cells. Five mice per group were infected with $1 \times 10^4$ T. musculi culture via the intraperitoneal cavity. Blood smear slides were made at 4, 5, 6, and 12 day intervals post-infection and stained with Diff-Quik. Lymphocytes, Neutrophils, Monocytes, and Eosinophils were counted at the end of these time intervals post-infection. It was observed during the investigative period that the presence of T. musculi caused more of an increase in Lymphocytes and Neutrophils compared to those in the mice that were not infected. The observed immunomodulation is testament to the presence of an innate immune response to the parasitic infection in the mice and is evidence of the major role that these specific leukocytes play in protecting the mice from these types of infections.

Jessica Carmon, Biology
Starr Villavasso, Biology Pre-Med

Identifying Substrates of Lysine Deacetylases

Mentor(s):
Dr. Terry Watt
Chemistry Department
Tasha Toro

Keywords: Lysine deacetylase, substrate, enzyme, kdac, pcr, fluorescamine assay

Abstract: Acetylation of lysine is a common post-translational protein modification. Lysine deacetylases (KDACs) are enzymes that reverse this modification. If deacetylation of lysine does not occur at the right time, it can cause many diseases, including cancers. Several KDACs do not have known biological substrates. Here, our research objective is to identify biologically-relevant substrates of KDACs by monitoring lysine deacetylation of potential substrates in vitro. No substrates have been identified for KDAC5 and KDAC9, so we are cloning these enzymes with the goal of characterizing their substrate specificity. KDAC6 is different from other KDACs because it is less substrate specific. This may be due to the fact that KDAC6 contains an extra catalytic domain. We isolated each catalytic domain of KDAC6 to determine their individual specificity. Following purification of the enzymes, the substrate-enzyme specificity is determined by performing an assay with acetylated peptides to measure the catalytic activity of the enzymes. Identified substrates of each KDAC are screened against other KDACs to determine specificity. Identification of KDACs substrates will provide new insights into the functions of the KDACs.
**Tajhshea Walden, Biology**

*Tajhshea Walden*

**Flavopiridol Reduces Pathological Angiogenesis Induced by the Kaposi’s Sarcoma Herpesvirus G-Protein Coupled Receptor**

**Mentor(s):**
Dr. Harris McFerrin
Biology Department

**Keywords:** Kaposi Sarcoma, Herpesvirus, angiogenesis

**Abstract:** Kaposi Sarcoma Associated Herpesvirus (KSHV) is the causative agent for Kaposi Sarcoma (KS) neoplasms. KS is a vascularized tumor that is prominently associated with acquired immunodeficiency syndrome. Currently, KS is an incurable tumor for which there is no established treatment. Due to the vascular nature of KS, an anti-angiogenic therapeutic approach is attractive. Recent evidence suggests that inhibition of a transcriptional elongation factor cyclin dependent kinase 9 (CDK9) is anti-angiogenic. The KSHV-encoded G-protein-coupled receptor (vGPCR) is sufficient enough to initiate KSHV-associated angiogenesis and tumorigenesis. We hypothesized that flavopiridol (FP), an inhibitor of CDK9, would inhibit vGPCR-induced angiogenesis by down-regulating expression of angiogenic growth factors. Using primary human umbilical vein endothelial cells (HUVEC) infected with either a control or a vGPCR-expressing retroviral vector, we demonstrated that CDK9 is activated upon vGPCR expression. Treatment with 50nM FP correlated with a significant decrease in expression of VEGF-A, VEGF-C, angiogenin and Bcl-2; decreased HUVEC migration and tubule formation in vitro; and angiogenesis in vivo. This suggests FP may play a role in transcriptional regulation of vGPCR responsive genes and implicate CDK9 as a target to reduce vGPCR enhanced angiogenesis and tumorigenesis. Additional experiments require the production and characterization of additional retrovirus carrying vGPCR.

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**Carrie Johnson, Biology**

**Tracy Vu, Biology Pre-Med**

**Ahmed Arasah, Biology Pre-Med**

*Carrie Johnson, Tracy Vu, Ahmed Arasah*

**Comparative photosynthetic physiology of near isogenic cotton lines differing in the degree of fiber cell wall thickness in cotton (Gossypium hirsutum L.)**

**Mentor(s):**
Dr. Harish Ratnayaka
Biology Department

**Keywords:** Plant science, Plant physiology, Photosynthesis, Cotton physiology and fiber formation

**Abstract:** Cotton seed trichomes are the most important source of natural fibers globally. The major fiber thickness properties influence the price of the raw material, and the quality of the finished product. The recessive immature fiber (im) gene reduces the degree of fiber cell wall thickening in allotetraploid Gossypium hirsutum. We compared leaf gas exchange characteristics, photosystem II function and leaf greenness between two near-isogenic cotton lines (NILs), im mutant with thinner fiber wall and TM-1 wild type with normal fiber wall thickness. The NILs were grown side by side in the field. Gas exchange, photosystem function and leaf greenness were monitored at two different canopy levels with leaves at 11th (mid canopy) and 18th (top canopy) nodes on the main stem. Gas exchange was also measured at the 18th leaf under two different leaf temperatures, 35 and 42oC. Net photosynthesis (Pnet) of the NILs was the same at a given canopy level. However, stomatal conductance (gs) in the im plants at the top canopy was 17% higher than the wild type. Leaf cooling and intercellular [CO2] (Ci) at the mid canopy were greater in the wild type. At either canopy level, the im plants had 7% greater maximum or variable fluorescence (Fm or Fv) than the wild type. The wild type had 50% greater nonphotochemical quenching (NPQ) than the im at the top canopy. At leaf temperature of 35oC, the NILs had the same gas exchange characteristics. However, at 42oC, im plants had significantly lower gas exchange than the wild type. In light response curves, the im plants had slightly higher apparent quantum efficiency (AQE) and maximum net photosynthesis (Amax) compared with the wild type. Furthermore, the im plants continuously maintained higher gs than the wild type throughout the span of increasing light intensity. The im plants were equipped with a stronger light harvesting antenna with less NPQ compared with the wild type. However, the im plants showed less efficiency in energy channeling from photochemistry to carbon assimilation than the wild type. Carbon assimilations of the NILs under stress were distinct depending on the type of stress.
Derian Pugh, Biology

*Validating the Expression Levels of MAPT Exons in Post-Mortem Alzheimer’s Brain*

**Mentor(s):**
Dr. Alison Goate  
Department of Neuroscience, Icahn School of Medicine at Mount Sinai  
Dr. Kathryn Bowles

**Keywords:** Alzheimer’s, Tau Protein, Exon Splicing, qPCR, Genetics, Religious Orders Study (ROS), Memory and Aging Project (MAP)

**Abstract:** The microtubule-associated protein tau (MAPT) gene encodes for the protein Tau, which is abundant in the neurons of the central nervous system. Tau is responsible for stabilizing microtubules, which supply essential nutrients to the cell, and it participates in cell division. Tau can aggregate to form neurofibrillary tangles that ultimately end up disintegrating this vital transport system, resulting in cell death. Diseases that are associated with defective Tau are referred to as tauopathies. In an effort to understand MAPT expression, splicing, and regulation in the human brain on the exon level, we designed and optimized primers for each of the different MAPT exons. We then carried out qRTPCR on 18 RNA samples derived from the dorsolateral prefrontal cortex of ROSMAP (Religious Order Study/Memory and Aging Project) participants in order to validate the expression levels that have previously been calculated using RNA-seq data from the full ROSMAP cohort. We validated the pattern of expression for the majority of the exons, but there were a few targets that did not match the ROSMAP data. The reasons for this are currently unknown, and further investigation and optimization of these exons is required. We plan to use this assay in the future to better characterize and understand the alternative splicing events that have been associated with several other tauopathies such as Alzheimer’s disease (AD), frontotemporal dementia (FTD), and progressive supranuclear palsy (PSP).

Ferralita Madere, Biology

*Optimization of Organic Solvent for Phytochemical Super-Cocktail Used to Combat Breast Cancer*

**Mentor(s):**
Dr. Shubha Ireland  
Biology Department

**Keywords:** Cancer Research

**Abstract:** The Ireland lab is currently investigating the effects of a ‘super-cocktail’, made of six naturally occurring compounds from fruits and vegetables, on breast cancer cells. In order to begin to study and to quantify the efficacy of the doses of the phytochemical-cocktail used in the research, a new solvent had to be chosen and tested due to setbacks seen in previous studies where ethanol was used as a solvent but was shown to be unsuitable due to the evaporative nature of alcohol and resulting volume fluctuations with temperature changes. The organic solvent dimethyl sulfoxide or DMSO while much more stable has the potential to be toxic at certain concentration. Based on this information, varying levels of DMSO on both breast cancer and nontumorigenic epithelial cell lines were tested to determine the highest level of DMSO at which the cells still functioned normally. The results of a viability assay revealed that even after 3 days of exposure at 0.3% DMSO (the maximum amount tested), all tested cell types remained healthy and metabolically active. Ongoing studies have shown exciting results in that our super-cocktail made in 0.145% DMSO (<50% of tolerable non-toxic amounts) specifically and consistently kills only cancer cells (optimum dosage 8 µmolar) leaving the normal, non-cancerous breast cells unharmed. These results have laid a strong foundation for in-vivo testing and mechanistic studies to determine specific pathways, genes and proteins involved in this process.
Morgan Yates, Mass Communication

Set It Off: Representation of Crime and Passion

Mentor(s):
Dr. Tia Smith
Mass Communication Department

Keywords: Media, Black Film, 1996, Set it Off, Reputation, Image, Love, Crime, American Dream, Financial stability,

Abstract: Representations of African-American women in Black films attempting to achieve the American Dream have been a heavily critiqued area of discussion. Stereotypical roles and representations of African American women in Black cinema have recurred throughout our history. In the media, specifically through Black films, there is an preconceived portrayal about how Black women are expected to achieve the American Dream. This portrayal takes place by way of finding romance, crime, and/or through gaining an education. However, even if they do gain success through education, they lack other aspects of this desired “American Dream.” This research will examine the connection between African American film’s portrayal of Black women achieving success by analyzing the 1996 drama, Set it Off. In addition to explain how these implications continue today and how it affects the African American community.

Alexia Pierre, Mass Communication

Activism Exists: Using Social Media to Promote Activism

Mentor(s):
Dr. Tia Smith
Mass Communication Department

Keywords: social media, millennials, African American, activists, activism

Abstract: In the world today, there is a plethora of social media accounts that lacks substance. However, these are the people that gains respect and popularity. Social media can be used for a greater purpose—social media can be used to promote activism. Social media activism is given little exposure. Activists are given little fame and attention. They are not boosted on the media or receiving blue checks next to their name on Twitter because they are not highly sought celebrities or public figures. The research conducted in this paper will highlight millennial activists on social media as well as state why youth activists are imperative and needed, present great uses of social media activism such as Arab Spring and explain why social media is useful to activism.
Muhammad Wally, Dual Degree Mechanical Engineering

Using Smartphone Accelerometer Data to Calculate Applied Forces in Weightlifting

Mentor(s):
Dr. Jessica Graber
Physics Department

Keywords: physics: applied force, acceleration, torque, moment

Abstract: Utilizing data collected with the accelerometer feature of the Physics Toolbox Suite android application, we calculated the amount of force exerted by a weight-lifter to lift a given set of weights at varying grip widths. Through the analysis of several plots (position vs time, acceleration vs time, and force vs time) we aim to derive a relationship between the force exerted by the lifter, and the width of the lifter's grip. This poster will outline the procedures of our experiment, detail the tools and methods utilized in our experiment, and display the preliminary plots generated using the accelerometer data.

Bryan Redmond, Premedical Psychology

Synthesis of generation 3-bis MPA dendrimers as a platform for novel nanotherapeutic drug delivery systems

Mentor(s):
Dr. Stassi DiMaggio
Chemistry Department

Keywords: Nanotherapeutic, Drug Delivery, Polymers, Dendrimer

Abstract: Stimuli Response Polymers (SRPs) are poised to make advances in nanotherapeutic drug delivery systems. In response to chemical, physical, or biological stimuli, SRPs can control the release of a drug into a system. This project involves the synthesis of a hybrid nanomaterial consisting of three layers: a dendrimer core, a ligand linker, and a stimuli response block co-polymer. Precisely defined and organized SRPs on the dendrimer core are expected to function as a more effective nanotherapeutic for drug delivery than freely assembled block co-polymers.

This research highlights the synthesis of the dendrimer core. The dendrimer core is synthesized in generational steps through alternating protection, coupling, and deprotection reactions. The 2,2-bis(hydroxymethyl) propionic acid, (bis-MPA) is protected with dimethoxy propane (DMP), and coupled with trimethylol propane (TMP), and then deprotected under acidic conditions to reveal hydroxy termini. The dendrimer core functions as an assembly site for stimuli response block co-polymers. A generation 1 dendrimer was produced and confirmed using 1H NMR and MALDI-ToF. These reactions will be repeated in order to synthesize subsequent generations of bis-MPA dendrimer, with a final goal of synthesizing a generation 3 bis-MPA dendrimer.
Hakeem Frank, Mathematics

Modeling the Impact of Sustainable Growing Practices on Urban Farms

Mentor(s):
Dr. Syed Ahmed
Division of Business

Keywords: Computational Modeling, Sustainable Agriculture, Statistics

Abstract: Environmental sustainability has been an increased topic of interest with the public's growing awareness of climate change. As the environment continues to exhibit signs of change, the demand for more environmentally conscious systems increases accordingly. Sustainable farming practices have risen in response to issues stemming from humanity's carbon imprint in the field of agriculture. Such processes often include the growth of produce in a controlled environment through the use of hydroponics, aeroponics, and LED lighting.

Our research investigates sustainable farming practices specifically associated with reduced carbon output. In our investigation, we briefly analyze the operations procedure of Zero Carbon Food Ltd., a business that utilizes vacant space under the city of London as a central location for crop production, using a method we identify as zero-carbon farming (ZCF).

We use Zero Carbon Food as a prototypical model in sustainable farming, and identify several of its facets that can be applied to urban farms in order to optimize their performance.

We apply methods in ZCF to a small-scale urban farm in New Orleans, in order to demonstrate its potential effect on growing efficiency. Our results suggest a positive correlation between the use of technology in agriculture and the production efficiency of the farm, measured in this research as revenue. The purpose of this research is to provide a preamble for further investigation in specific sustainable farming practices designed for small-scale farms, using mathematical tools to validate its pursuit.

Tiffany Tran, Biology Pre-Med
Makayla Matthews, Biology Pre-Med
Alexandria Mitchell, Biology Pre-Med

Roller Coasters: Safe or Unsafe?

Mentor(s):
Dr. Douglas Athey
Division of Education and Counseling

Keywords: Roller Coaster Safety, Roller Coaster Injuries, Roller Coaster Deaths

Abstract: Roller coasters come in a variety of different forms. Each type of roller coaster was invented to create different types of thrills for people to experience when riding roller coasters. Although roller coasters are used as a form of entertainment, there are risks associated with riding a roller coaster. Risks that are associated with roller coasters include injuries or death. An injury or death from a roller coaster can occur due to machine failure, disobedience to proper safety protocol, or health related issues.
Matthew Gaston, Computer Science

*Professional ESports Database*

**Mentor(s):**
Dr. Kun Zhang
Computer Science Department

**Keywords:** Computer Science Database Design

**Abstract:** According to OxfordDictionaries.com, ESports is defined as: “a multi-player game(s) played competitively for spectators, typically by professional gamers.” In 2016 ESports took a massive leap in popularity and marketability as a profitable business, a great example being the broadcast of a Street Fighter V tournament on ESPN2 for millions across the country to watch. In the future we will definitely see more businesses investing money into this growing industry. Therefore, I propose to create a database to better keep track of the myriad of players, sponsors, and tournaments involved. For this database, there will be five main entity types to keep track of: Player, Tournament, Sponsor, Match, and Organizer. Player attributes will include a unique PlayerID as well as a team(null if unsponsored), and a win/loss record. Tournament attributes will include a unique TournamentID as well as a date(composed of month, day, and year) and # of entrants. Sponsor attributes will include a unique SponsorID as well as address(composed of city, state, zip). Match attributes will include a unique MatchID (composed of a Player 1 and Player 2) as well as # of rounds. Organizer attributes will include a unique OrganizerID as well as name.

Ronise Evans, Biology
Amber Weatherspoon, Biochemistry

*Investigating the Role of a Dual Motif in DNA Binding by PAX3-FOXO1*

**Mentor(s):**
Dr. Kelly Johanson
Chemistry Department

**Keywords:** Biomedical Research, Biochemistry, Chemistry

**Abstract:** Rhabdomyosarcoma (RMS) is a common soft tissue sarcoma that can be divided into two main categories. Embryonal Rhabdomyosarcoma (ERMS) usually affects children in the first five years of life and has not been linked to the presence of specific gene fusions. Alveolar Rhabdomyosarcoma (ARMS), which is more aggressive, typically affects all age groups equally but a larger portion of RMS occur in older children. The more aggressive form of ARMS is primarily characterized by a reciprocal (2;13) (q35; q14) translocation, which results in the fusion of the N-terminus of PAX3 and the C-terminus of FOXO1. PAX3-FOXO1 mediated gene activation leads to ARMS development has been linked to several events involved in ARMS development, although all targets of this fusion protein have not been identified. A search of an updated ChIP-seq screen of 3881 PAX3-FOXO1 putative binding sites revealed that 36% contained both a PAX3 paired domain and FOXO1 recognition sequence within proximity. In vitro examination of a PAX3-FOXO1 dual motif indicates that mutation of the FOXO1 site or residues in the FOXO1 DNA-binding domain affect both binding and activation of these sequences. Binding sites for other transcription factors overlap or surround several of these dual motifs, indicating the need to examine potential transcriptional complexes formed by PAX3-FOXO1. Understanding the binding specificities and activities of this fusion protein will allow for a better understanding of the transcription factor which may lead to future therapeutic remedies.
Kyara Nichols, Dual Degree Chemical Engineering  
Simone White, Public Health Sciences

*Structural Contributions to Activity of Lysine Deacetylases*

**Mentor(s):**  
Dr. Terry Watt  
Chemistry Department  
Tasha Toro

**Keywords:** Enzymes, Protein, Lysine Deacetylase. KDAC, HDAC, Histone Deacetylase

**Abstract:** Acetylation of lysine is a common post-translational protein modification. Lysine deacetylases (KDACs) reverse this modification. Incorrect control of acetylation contributes to many human diseases. There has been limited characterization of the amino acid residues that contribute to activity, substrate specificity, and protein stability in KDACs. Our goal is to characterize contributions from specific conserved residues, including an arginine hypothesized to regulate product release and a catalytic residue that is a tyrosine in most KDACs but a histidine in apparently less active KDACs. Selected mutations were introduced in KDAC8 and KDAC7, and the resulting variants expressed and purified. Proteins were characterized by circular dichroism spectroscopy to determine structural effects, and activity was measured by fluorescence assays. Mutation of the arginine residue in KDAC8 to selected other amino acids resulted in unstable, poorly expressed proteins with low activity. Mutation of the tyrosine in KDAC8 to histidine resulted in impaired activity but no detectable changes in structure. A histidine to tyrosine mutation in KDAC7 resulted in structural changes, which may lead to the observed increase in activity. Our results suggest that the structure of KDACs is easily perturbed by mutations.
Mentoring & Grants

CURGO provides one-on-one mentoring and advising for students at all levels. CURGO helps undergraduates identify research programs and find the appropriate research mentor. CURGO also provides small mini-grants for students in STEM through the BUILD program.

CURGO’s Resources & Events

CURGO funds a limited number of travel awards for students to present their research at national and international conferences. CURGO sponsors annual campus-wide exhibitions of research and creative work in the spring (Festival of Scholars) and summer (Summer Symposium.) CURGO also holds workshops and info sessions to assist students with writing proposals and applications for competitive research opportunities.
Kennedi Crosby, Biochemistry

*Development of New Novel Therapeutics for Refractive Breast Cancer*

**Mentor(s):**
Dr. Jayalakshmi Sridhar  
Chemistry Department

**Keywords:** Cancer Research, Breast Cancer, Organic Synthesis

**Abstract:** Human Epidermal Growth Factor Receptor (HER2), when overexpressed, has been linked to several cancers including ovarian, gastric, and most notably breast cancer. Two isoforms of HER2 are predominantly found in HER2 positive resistant breast cancers: the truncated p95HER2, and HER2Δ16. The isoform our research focuses on is the HER2Δ16 isoform. HER2Δ16 has been linked to excessive cell growth and the prevention of apoptosis. Our group has identified 5,8-dihydroxynaphtoquinones to be effective growth inhibitors of HER2Δ16 overexpressed MCF7 breast cancer cell lines. We are presently focused on the synthesis of new derivatives of our lead compound to improve the inhibition potency. Through a multi-step synthesis including bromination, formylation, and Wittig reactions, a new derivative was synthesized. Additionally, dose response curve for growth inhibition of MCF7 cell line was generated for one of the compounds synthesized by my colleague.

Kyara Nichols, Dual Degree Chemical Engineering  
Simone White, Public Health Sciences

*Structural Contributions to Activity of Lysine Deacetylases*

**Mentor(s):**
Dr. Terry Watt  
Chemistry Department  
Tasha Toro

**Keywords:** Enzymes, Protein, Lysine Deacetylase. KDAC, HDAC, Histone Deacetylase

**Abstract:** Acetylation of lysine is a common post-translational protein modification. Lysine deacetylases (KDACs) reverse this modification. Incorrect control of acetylation contributes to many human diseases. There has been limited characterization of the amino acid residues that contribute to activity, substrate specificity, and protein stability in KDACs. Our goal is to characterize contributions from specific conserved residues, including an arginine hypothesized to regulate product release and a catalytic residue that is a tyrosine in most KDACs but a histidine in apparently less active KDACs. Selected mutations were introduced in KDAC8 and KDAC7, and the resulting variants expressed and purified. Proteins were characterized by circular dichroism spectroscopy to determine structural effects, and activity was measured by fluorescence assays. Mutation of the arginine residue in KDAC8 to selected other amino acids resulted in unstable, poorly expressed proteins with low activity. Mutation of the tyrosine in KDAC8 to histidine resulted in impaired activity but no detectable changes in structure. A histidine to tyrosine mutation in KDAC7 resulted in structural changes, which may lead to the observed increase in activity. Our results suggest that the structure of KDACs is easily perturbed by mutations.
James Armstrong, Chemistry

*Synthesis and Rearrangement of 3-methyl-3-vinylhex-5-en-2-one*

**Mentor(s):**
Dr. Kathleen Morgan
Chemistry Department

**Keywords:** Organic Chemistry, Synthesis, Catalysis

Abstract: When heated at high temperatures 1,5-dienes undergo a transformation known as the Cope Rearrangement. The Cope Rearrangement is a concerted pericyclic reaction that results in the formation of the more stable diene. The mechanism involves breaking a sigma bond as the double bonds of the diene shift, and results in a new C-C bond. The need to use heat limits the usefulness of the reaction, and the goal of this work is to determine an effective way to catalyze the rearrangement. 3-Methyl-3-vinylhex-5-en-2-one is the subject of the rate study, and is produced through a four-step synthesis. It is known that the rate of rearrangement can be influenced by substituents, and in this study, a carbonyl substituent will be studied with various Lewis Acids catalysts. The Cope Rearrangement has great synthetic utility as a regioselective C-C bond forming reaction.

D.J. Onuaguluchi, Pharmacy

*Cell-Extrinsic Effects of Metformin in the Breast Cancer Microenvironment*

**Mentor(s):**
Dr. Christopher Williams
Division of Basic Pharmaceutical Sciences

**Keywords:** Cancer research, Chemoprevention, Antineoplastic, public health, drug indication advancement, tumor microenvironment, breast cancer

Abstract: Calorie restriction mimetic drugs such as metformin have garnered interest as potential cancer chemopreventive agents. Meta-analyses reveal that among diabetic patients, metformin use is associated with decreased incidence of multiple cancers, including breast. One of the underlying mechanisms of metformin's action is related to inhibition of mitochondrial function, leading to apoptosis. However, little has been published with regard to how metformin impacts cell signaling between cancer cells or between the cancer cell and the surrounding stroma. Indeed, gene expression studies have shown that metformin alters the mRNA expression of several genes related to inflammatory cell signaling in the breast. Our expected contribution is to elucidate mechanisms by which metformin impacts the autocrine/paracrine signals regulating breast cancer progression, including disruption of inflammatory signals in the tumor microenvironment. We propose that metformin disrupts PGE2 signaling, inhibits production of annexin A2, and induces NAG1 expression in the tumor microenvironment, rendering it inhospitable for neoplastic progression. Successful completion of these studies will provide strong evidence that metformin's impact on the tumor microenvironment may indeed be the predominant mechanism involved in metformin-mediated chemoprevention, and provide a rationale for combination with other anti-inflammatory drugs (aspirin, indomethacin, celecoxib) in treatment and chemoprevention strategies for breast cancer.
Ciaj Strode, Elementary Education

Should Flu Shots be Required for School Children?

Mentor(s):
Dr. Thora Bayer
Philosophy Department

Keywords: Public Health and Education

Abstract: Mandatory vaccination is nothing new in the United States. School children across the country have been required receive immunization for diseases like measles and mumps for years. But mandatory influenza vaccination hasn't caught on as fast, even though vaccination for young children is strongly recommended by the Centers for Disease Control and Prevention. Even though school children are just a fraction of the population, immunizing a critical percentage of the population from the flu could significantly diminish the chance of a widespread outbreak, a phenomenon known as herd immunity. Some parents, and others, do not agree. This report presents evidence from each of the different perspectives presented and defines terms used regarding the issue of requiring flu shots.

Asia Satchell, Biology Pre-Med
Randi Thomas, Biology
Chaunceia Boyd, Chemistry

Safe Underwaters

Mentor(s):
Dr. Douglas Athey
Division of Education and Counseling

Keywords: Water Safety Precautions and Preventions

Abstract: Around 1,000 kids die each year by drowning with another 2600 children being treated in hospitals yearly from near drowning accidents. These high numbers of incidents makes drowning the second leading cause of accidental deaths in young children, teenagers, and young adults. In this presentation we plan to raise awareness and provide precautions and preventions of drownings to make sure kids are kept safe. Most of these drownings take place in home swimming pools. Young children are more at risk, being that they can drown in less than 2 inches of water. This is an issue that often goes unnoticed and not frequently recognized as such a common problem. We will be discussing causes, how to save someone that is drowning, how to avoid swimming injuries, and much more. We also plan on touching various safety locations including beach safety, pool safety, and at home pool safety.
**Nigel Palmer,** Mass Communication

*Black Millennials and Social Media: Entrepreneurship*

**Mentor(s):**
Dr. Tia Smith  
Mass Communication Department

**Keywords:** Black Millennials. Social Media, Entrepreneurship

**Abstract:** The research topic I have chosen for Research Methods is focused on black millennials and social media. The research question I wish to answer is: Does social media play a role in encouraging black millennials to start their own businesses? I have chosen this topic entirely from my interest of college students finding a way to make money while they are in school that doesn't involved them punching numbers into a time clock. Additionally, I recently saw an uptick in the numbers of clothing lines and photography companies being developed by the youth and how the community is supporting those people so that their aspirations can bloom. I was intrigued on how they promoted and branded their company through the use of technology. All promotions were done on social media sites. There were no use of paper fliers to get their company noticed. I read an article on how black millennials are changing the game and how they are bound to be the greatest entrepreneurial generation in America's history. I want to further exploit the strengths and weaknesses of black millennials as they are on their journey to world of entrepreneurs.

**Anh Nguyen,** Pharmacy

*Review of the Role and Assembly Practice of AddEASE Medications among Inpatient Pharmacies*

**Mentor(s):**
Ms. Yvette Duncan  
Supervisor/Pharmacist Lead, Ochsner Inpatient Pharmacy

**Keywords:** Medication safety, inpatient pharmacy, addEASE medications, binary connector, drug efficacy, aseptic procedure, IV medication administration

**Abstract:** The project evaluates the practice of using the addEASE assembly (attaching the IV fluid bag and the vial for injection) among several observed hospitals in the New Orleans area. Two aspects of the practice are discussed and reviewed: the role of addEASE medications in the inpatient dispensing process and the conditions required during the assembly process. Through previous and current internships as well as hospital rotations, the interest in medication safety regarding addEASE medications has been developed to provide a proper expected outcome of preparing and using addEASE medications. The project studies the assembly process through observations of practices from three different inpatient settings. Direct information collection from the manufacturer and systematic review of related issues in addEASE assembly are done. The project confirms the significance of having addEASE medications ready for use in a busy inpatient pharmacy. It also emphasizes the recommended addEASE assembly by the manufacturer, and the importance of aseptic techniques and aseptic conditions involved in the assembly process. The proper assembly can help to achieve the correct expiration dates. Patient safety and drug efficacy are to be put before the technician's convenience or any other reasons that may deter the aseptic practice of addEASE assembly.
Huy Do, Chemistry

Determination of the Dissociation Constants of Triprotic Acids With Broadly Ranging pKas

Mentor(s):
Dr. Galina Goloverda
Chemistry Department
Dr. Vladimir Kolesnichenko

Keywords: Analytical Chemistry

Abstract: Many polyprotic acids do not have available pKas due to the limitations of potentiometry in characterizing strongly acidic protons and weakly acidic protons and in analyte solubility. To solve this problem, we demonstrate the modified potentiometric titration technique, which helped to extend the range of the analytical pKas as well as the spectrophotometry method that delivers higher-accuracy results. We have chosen a relatively strong 2-hydroxyisophthalic acid and its 5-nitro derivative as model triprotic acids with well-separated pKas.

Nhu Tran, Chemistry

Design, Synthesis and Biological Evaluation of Berberine Analog as an Anticancer Agent.

Mentor(s):
Dr. Florastina Payton-Stewart
Chemistry Department

Keywords: Cancer Research

Abstract: Breast cancer is the most common cancer among women in the US and the second leading cause of cancer-related death in women (2). Despite the advances in chemotherapeutic agents for breast cancer, an acquired resistance to endocrine therapy still remains a major obstacle in the treatment of breast cancer. Studies have found that the phytochemical, berberine, a benzyl-tetra isoquinoline alkaloid extracted from plants of the Berberidaceae family, has been extensively used for many centuries in traditional Chinese and Native American medicine. Berberine is a nucleic acid-binding isoquinolone alkaloid with wide potential therapeutic properties. Berberine is usually found in the roots, rhizomes, stems, and bark and is also found in plants such as berberis (3). It exhibits antifungal, antiviral, anti-inflammatory and anticancer properties. Berberine has been found to suppress a wide variety of tumor cells including breast, leukemia, melanoma, pancreatic, tongue, prostate and gastric cancer (4,5). Studies have shown that berberine is a radiosensitizer of tumor cells but not normal cells (6). These studies suggest that berberine would be an effective candidate as an anticancer agent. We hypothesize that structural modifications of berberine may lead to effective anticancer agents used to overcome endocrine resistance in breast cancer. In this study we explored the potential anticancer properties of a berberine analog. This was accomplished by alkylating the C-13 position of the isoquinoline while keeping the berberine skeleton intact. Using molecular modeling as a guiding tool, we designed and synthesized several berberine analogs. We also evaluated the effect of berberine and berberine analogs on the mammosphere formation of MDA-MB-231 triple negative breast cancer cells. We will continue to evaluate the mechanism of action of these berberine analogs and unravel the structure activity relationship.
Lexcie Thomas, Mass Communication

*An Exploration of the Buying Habits of Post-Graduate Black Millennials*

**Mentor(s):**
Dr. Tia Smith  
Mass Communication Department

**Keywords:** Millennials, Financial literacy , Buying habits, Market strategies , African Americans, College graduates, Job market- entering, Home ownership, Debt Finances

**Abstract:** Taking a closer look into the buying habits of millennials post-graduation can determine their stance on financial literacy and what influences gendered or helped them make purchase decisions.

Victoria George, Biology Pre-Med

*Investigation of PAX3-FOXO1 Effect on NEAT1 Expression in Alveolar Rhabdomyosarcoma Cells*

**Mentor(s):**
Dr. Kelly Johanson  
Chemistry Department

**Keywords:** Cancer Research, Biochemistry, lncRNA, fusion gene, PAX3-FOXO1

**Abstract:** Rhabdomyosarcoma (RMS) is pediatric sarcoma in the soft muscular tissue. One of the two major types of rhabdomyosarcoma is alveolar rhabdomyosarcoma (ARMS). ARMS generally occurs in muscles in the abdomen, arms, and legs. Due to its tendency to grow rapidly, it is a more aggressive form of the cancer that has a high risk factor. The expression of PAX3-FOXO1 in ARMS may contribute to the formation of tumors by inducing tumor growth activities or inhibiting tumor suppressing activities. There are many studies investigating targets of PAX3-FOXO1; some indicate that PAX3-FOXO1 binds to long noncoding RNA (lncRNA), although it is not known if this interaction affects the expression of the lncRNA. Nuclear-enriched autosomal transcript 1 (NEAT1) is a 4kb lncRNA that potentially is bound by PAX3-FOXO1. Several putative PAX3-FOXO1 binding sites are present in the DNA fragment of NEAT1 that was identified in a ChIP assay. We are examining NEAT1 to narrow down the specific site of PAX3-FOXO1 interaction as well as determining the effect of PAX3-FOXO1 on NEAT1 expression. The expression of NEAT1 is necessary for differentiation of muscle cells, and a change in this expression due to PAX3-FOXO1 may be involved in the development and progression of ARMS.
Simone White, Public Health Sciences
Kyara Nichols, Dual Degree Chemical Engineering

**Structural contributions to activity of lysine deacetylases**

**Mentor(s):**
Dr. Terry Watt  
Chemistry Department  
Tasha Toro, Biochemistry

**Keywords:** Lysine Deacetylases, Protein, Substrates

**Abstract:** Acetylation of lysine is a common post-translational protein modification. Lysine deacetylases (KDACs) reverse this modification. Incorrect control of acetylation contributes to many human diseases. There has been limited characterization of the amino acid residues that contribute to activity, substrate specificity, and protein stability in KDACs. Our goal is to characterize contributions from specific conserved residues, including an arginine hypothesized to regulate product release and a catalytic residue that is a tyrosine in most KDACs but a histidine in apparently less active KDACs. Selected mutations were introduced in KDAC8 and KDAC7, and the resulting variants expressed and purified. Proteins were characterized by circular dichroism spectroscopy to determine structural effects, and activity was measured by fluorescence assays. Mutation of the arginine residue in KDAC8 to selected other amino acids resulted in unstable, poorly expressed proteins with low activity. Mutation of the tyrosine in KDAC8 to histidine resulted in impaired activity but no detectable changes in structure. A histidine to tyrosine mutation in KDAC7 resulted in structural changes, which may lead to the observed increase in activity. Our results suggest that the structure of KDACs is easily perturbed by mutations.

Lauren Thornton, Biology

**Computational and Structural Analysis of Disease Causing Mutations at the Kinesin-Microtubule Interface**

**Mentor(s):**
Dr. Thomas Huckaba  
Biology Department

**Keywords:** Biophysics, neurodegenerative disease, molecular motors

**Abstract:** Hereditary Spastic Paraplegia (HSP) is a neurodegenerative disease that results in progressive lower limb spasticity and weakness. This project focuses on mutations in the neuronally-enriched kinesin transport motor, Kif5A; half of which are at the kinesin-microtubule interface, suggesting an inability of Kif5A to properly interact with its microtubule track. To test this hypothesis, we have performed a series of biochemical and biophysical assays to examine the enzymatic properties of recombinantly-expressed Kif5A proteins. In addition, we have performed molecular dynamics simulations and structure-based analysis of altered interactions that result from these mutations. We find that all mutations in this region decrease the affinity of Kif5A for microtubules, and that most mutations decrease the microtubule-stimulated ATP hydrolysis rates. Our in silico analyses suggest that this reduced kinesin-microtubule affinity is caused by the loss of salt bridge formation at the kinesin-microtubule interface. We find that HSP-causing mutations not only interrupt interactions at the specific mutation site, but also alter the kinesin structure in such a way that multiple sites in the interaction network are affected. The combination of these in vitro and in silico analyses provide mechanistic insight into how mutations in Kif5A ultimately cause HSP.
Micah Anthony, Pharmacy

Respiratory Enzymes of Ferrimicrobium acidiphilum: Oxidation of Cytochrome 601 is Rate-Limiting During Aerobic Respiration on Soluble Iron

Mentor(s):
Dr. Robert Blake
Division of Basic Pharmaceutical Sciences

Keywords: microbiology, cytochromes, respiratory enzymes

Abstract: Absorbance spectra were collected on twelve different live microorganisms, representing six phyla, as they respired aerobically on soluble iron at pH 1.5. A novel integrating cavity absorption meter was employed that permitted accurate absorbance measurements in turbid suspensions that scattered light. Illumination of each microorganism yielded a characteristic spectrum of electrochemically reduced colored prosthetic groups that gradually reoxidized when the limiting ferrous ions were depleted. A total of six different patterns of reduced-minus-oxidized difference spectra were observed. Ferrimicrobium, representing the Gram-positive Actinobacteria, yielded spectra dominated by a-type cytochromes. The other phyla yielded spectra dominated by various a-type, b-type, and c-type cytochromes. Novel reduced cytochrome peaks were obtained at 579 nm within the Nitrospirae phyla and 485 nm within the Crenarchaeota phyla. These observations are consistent with the hypothesis that individual acidophilic microorganisms that respire aerobically on iron utilize one of at least six different types of electron transfer pathways that are characterized by different redox-active prosthetic groups. In situ absorbance spectroscopy is shown to be a useful complement to existing means of investigating the details of energy generation in intact microorganisms under physiological conditions.

Kiersten Rapp, Pharmacy

A Script for Success in Patient Immunizations

Mentor(s):
Dr. Ashley Taylor
Division of Clinical and Administrative Sciences

Keywords: My research focuses on health disparities, amongst minority populations, concerning influenza vaccinations

Abstract: Introduction: Although immunizations have shown to positively impact health care disparities and improve health outcomes, immunization rates have been lower, historically, in minority patients. The purpose of this study is to identify and describe potential barriers present in minority patients for obtaining the influenza vaccine. Methods: A pre-immunization survey will be administered by Xavier University of Louisiana pharmacy students and given to consenting patients that are being seen by pharmacists and pharmacy residents in the Anti Coagulation Clinic at University Medical Center. Participants will be given a brief presentation on influenza vaccinations. Following the intervention, participants will be asked if they would like to receive the influenza vaccination. Participants that respond no or yes to the vaccination will be assigned to groups A and B, respectively. Group A patients will receive a follow-up immunization survey given by a pharmacy student. Group B participants will be provided the vaccination by the nursing staff, and will also be given the follow-up immunization survey.
Maya Leslie, Speech Pathology/Elementary Education

**Early Intervention of Speech and Language Impediments.**

**Mentor(s):**
Dr. Elgustus Polite
Speech Pathology Department

**Keywords:** Educational Research

**Abstract:** In recent years, early intervention and response to intervention methods have become the forefront of education to determine if students have deficiencies in speech. These educational methods and/or strategies have been used in the screening to evaluate students of various backgrounds and socioeconomic status. In particular, students who are suspected to have articulatory and/or phonological impediments. Early intervention methods for speech impediments have had substantial success for students that are on the border of being diagnosed with a speech impediment. This process helps to prevent the over-identification of students with exceptionalities. Speech Language Pathologist all over the country are engaged in developing early intervention services to determine whether or not a child has speech and language deficiencies. This poster will be utilized to illustrate several of the strategies that current speech language pathologist are utilizing.

Kellie Cooley, Pharmacy

**Racial Disparity in Access to Newer Class Anti-Diabetics Among Adult Patients with Diabetes in the U.S.**

**Mentor(s):**
Dr. Yingnan Zhao
Division of Clinical and Administrative Sciences

**Keywords:** Biostatistical Research on Diabetes Medication Adherence and Access to Care

**Abstract:** Poorer diabetes care and outcomes that are common in racial and ethnic minority populations, may partially be attributed to more barriers to medications among minority populations than whites. This study aimed to examine racial differences in the use of newer class pharmacological treatments in the US, using a nationally representative sample of non-institutionalized population. METHODS: This cross-sectional study analyzed the 2014 Household Component and Prescribed Medicines files of the Medical Expenditure Panel Survey (MEPS). Use of newer class pharmacological treatment was defined as any record of prescription fill for type 2 sodium-glucose co-transporter (SGLT2) inhibitors, dipeptidyl peptidase 4 (DPP-4) inhibitor and glucagon-like peptide-1 (GLP-1) in 2014. The use rate was reported and compared between non-Hispanic whites and minorities. Estimates were weighted to the total American non-institutionalized population (WTP). Logistic regression models were employed to assess the association of racial groups and use of any newer anti-diabetics. RESULTS: 2,591 (WTP: 24,272,685) individuals with diabetes were identified in 2014. Among those treated with pharmacological therapy (96.2%, WTP: 23,359,737), 4.0% (WTP: 931,236) used GLP1, 6.6% (WTP: 1,538,691) used DPP4 and 1.8% (WTP: 417,955) used SGLT2 respectively, yielding 11.7% (WTP: 2,735,890) who had used at least one class of these newer antidiabetics in 2014. A higher proportion of non-Hispanic whites were found to receive newer antidiabetics than minorities (13.5% versus 8.8%, p=0.0036). After controlling for age, education, insurance coverage and diabetes duration, minorities were still less likely to use newer antidiabetics compared to their white counterparts (OR=0.69, 95%confidence interval=0.49, 0.98). Consistent racial disparity was found within each of SGLT2, DPP-4, GLP-1 classes. CONCLUSIONS: Racial disparity in access to newer treatment options among Americans with diabetes is observed. Persistent difference in barriers to new health technology between racial/ethnic groups needs to be examined in broader socioeconomic context and addressed promptly and effectively.
Jazmin Stenson, Biochemistry

**Investigating contributions of the N and C terminus to FOXO1 and DNA interactions**

*Mentor(s):*
Dr. Kelly Johanson
Chemistry Department

*Keywords:* DNA protein interactions, protein function

**Abstract:** FOXO1 is a mammalian transcription factor that belongs to the FOXO protein family. FOXO1 regulates glucose and fatty acid metabolism in the liver, and changes in FOXO1 expression have also been identified in a variety of cancer cells. All FOXO proteins bind to two consensus sequences known as the Daf-16 binding element or DBE (5′-TT(A/G)TTTAC-3′) and the insulin-response element or IRE (5′-TT(G/A)TTT(G/T)(G/T) -3′). FOXO1 binding can be enhanced by the presence of multiple copies of these consensus sequences although the mechanism behind this enhancement is not known. Molecular Dynamics Simulation and in vitro assays indicate that Wing 1 of the FOXO1 DNA-binding domain makes contact with DNA bases outside of the consensus sequence. However, this data does not explain the enhancement in binding observed with multiple copies of the IRE or DBE that extend beyond the potential reach of Wing 1 indicating the need to explore additional mechanisms for this enhancement. We are therefore interested in determining how the N and C terminus of FOXO1 might contribute to the interaction with DNA. Bacterially expressed and purified versions of FOXO1 lacking specific domains were used to determine the effects on DNA binding through in vitro assays. Understanding the contribution of the entire protein structure to DNA binding may allow for a better understanding of how FOXO proteins bind and recognize specific target sequences.

Taryana Peterson, Psychological Science
Ashley Mello, Biochemistry
Tiffany Phillips, Biochemistry
Marquis Bell, Chemistry Pre-Pharmacy

**2, 4, 6, 8, The Air Quality in St. Rose is not so Great**

*Mentor(s):*
Dr. Michael Adams
Chemistry Department

*Keywords:* Louisiana Bucket Brigade, environmental justice

**Abstract:** Our section of FRSM 1100 focuses on issues of environmental justice in New Orleans and beyond. Through a partnership with the Louisiana Bucket Brigade (LaBB), we worked with members of the St. Rose community to visit residents of the area and inform them of air quality issues. We also encouraged them to become more aware of how they can work with the LaBB to remain aware of these issues.
Jenae Bryant, Biology Pre-Med

Examining the Role of a KDAC4 Conserved Active Site Residue on Enzymatic Activity and Substrate Specificity

Mentor: Dr. Terry Watt
Chemistry Department

Abstract: Acetylation of lysine is a common post-translational modification of proteins. Lysine deacetylases (KDACs) reverse this modification by reacting with acetylated lysines. Inappropriate acetylation has been linked to specific diseases, including cancer. Determining the mechanism of KDAC function and substrate specificity could lead to new disease therapeutics. One active site residue in KDACs is either a tyrosine or histidine residue, and this difference appears to be important for enzymatic activity. Wild-type KDAC8 has considerable activity and contains a tyrosine at this site. Wild-type KDAC4 contains a histidine at this site and is generally inactive with most KDAC substrates, with the exception of a fluorinated substrate conjugated to a fluorophore. In this study, the wild-type KDAC4 was expressed and was active with the fluorinated substrate, but not with a range of peptides derived from acetylated proteins. A histidine-to-tyrosine mutation was made in KDAC4. The mutated KDAC4 showed an increase in enzymatic activity, and reacted with a variety of peptide substrates. To further study the role of KDAC4, site-directed mutagenesis of one active site residue produced different protein variants. Future work will focus on understanding the importance of this active site residue in KDACs in order to understand the biological function of KDAC4.

Khari Gilmore, Biology

HSP Mutations Alter The Microtubule Affinity of Kinesin Kif5A

Mentor: Dr. Thomas Huckaba
Biology Department

Abstract: Hereditary spastic paraplegia (HSP) is a heterogeneous class of diseases marked by lower limb weakness and spasticity due to progressive degeneration of axons in the corticospinal tract. HSP has been linked to mutations in the neuronally enriched kinesin motor protein, Kif5A. The function of this protein is to transport cellular cargo from cell bodies to synaptic terminals, suggesting that inefficient cargo transport may play a role in this pathology. Kinesin motility requires alteration of affinity with its microtubule track-affinity that is dependent on the electrostatic interactions between amino acids of Kif5A and of the microtubule. Newly discovered HSP-causing mutations are found at kinesin's microtubule binding site that alter charged residues in kinesin. We hypothesize that these mutations disrupt microtubule binding and subsequent motility. To test this hypothesis, we expressed and purified the mutant protein, and then performed a variety of in vitro assays to examine the effect this mutation had on kinesin's catalytic activity. We found that kinesin's motility and affinity for microtubules were altered as a result of this mutation. Further analysis may provide greater insight into how mutations in kinesin lead to neurodegenerative disease.
**Kamilya Hunter**, Biology Pre-Med

*Oxidation of Cytochrome 583 is Rate-limiting when Acidiplasma aeolicum Respires Aerobically on Iron*

**Mentor:**
Dr. Robert Blake  
Division of Basic Pharmaceutical Sciences

**Abstract:** The practical goal is to develop a new and powerful approach to quantitatively examine the dynamic behavior of bacterial electron transport systems at the microbe-mineral interface, an interaction that has heretofore been difficult to probe directly. We exploit a novel integrating cavity absorption meter where the cuvette compromises a reflecting cavity completely filled with the absorbing suspension. The premise is that UV-visible spectroscopy of electron transfer reactions among colored biomolecules can be conducted in highly turbid suspensions if the live bacteria are irradiated measuring light. Under these conditions, the absorbed radiant power is independent of scattering effects. We conducted equilibrium and kinetic studies on the Fe(II)-dependent reduction and $O_2$-dependent oxidation of cytochromes in intact Acidiplasma Aeolicum at pH 1.5. We discovered that the oxidation of a cytochrome with a reduced peak at 583 nm was the rate-limiting step in the aerobic iron respiratory chain of this organism. The ability to conduct accurate real-time absorbance measurements in live organisms will permit any biological process that involves colored biomolecules process that involves colored biomolecules to be studied in new ways.

**Michaela Smith**, Chemistry  
**Kendale Watson**, Biology Pre-Med

*Novel Stimuli Response Nanomaterials as Potential Drug Delivery Systems*

**Mentor:**
Dr. Stassi DiMaggio  
Chemistry Department

**Abstract:** Stimuli Response Polymers (SRPs) are polymers that possess the ability to respond to external stimuli. SRPs change physical properties in response to environmental triggers such as changes in temperature, pH, and solvent. To this end, block co-polymers have been used as stimuli response materials in the field of drug delivery. These block co-polymers can freely self-assemble in solution in order to encapsulate drugs and serve as a delivery and release system. Our aim, however, is to couple a precise number of linear block co-polymers to a bis-MPA dendritic core to study the effects on stimuli response and drug release of the dendrimer-block co-polymer assembly vs that of free polymers. We hypothesize that a well-defined system of SRPs assembled to a dendritic core will offer more consistent and predictable drug encapsulation and delivery to target cells. Bis-MPA dendrimers are nearly monodisperse compared to other polymers and have excellent biocompatibility. Our goal is to synthesize generation 1, 2, and 3 bis-MPA polymers and conjugate them to click-chemistry ligands, which in turn, will be coupled to the block co-polymers. These ligands are synthesized to have an amine end which could be coupled to a carboxy-terminated dendrimer. They will also have an alkyn, alkene, or azide end which will be used to couple the SRP to the material via click chemistry reactions. These are synthesized by first protecting the amine group of tyramine with Boc2O. Next, we added 1-bromo-2-chloroethane, to the hydroxy terminated end of the tyramine to create a chloride leaving group. The chloride was displaced using sodium azide in 18-crown-6 ether to result in a terminal azide group that serves as a click chemistry attachment point for SRPs. Finally, the N-boc was deprotected with trifluoroacetic acid to reveal the primary amine. We will then purify and quantify the dendrimer-ligand conjugates to yield materials with a precise number of coupling ligands. Ultimately, well-defined arm structures with exact numbers of SRPs per dendrimer will result from this approach. We have successfully synthesized the amine-azide, amine-alkene, and amine-alkyne ligands. We will couple these to the dendritic core. The resulting materials will be purified and conjugated to the SRPs for future studies.
Zaharra Withers, Psychological Science

Stereotype Threat and Creativity

Mentor:
Dr. Elliott Hammer
Psychology Department

Abstract: The research experiment was conducted to study the possible link between creativity and stereotype threat. We observed the effect that creativity has on the academic performance stereotype of African American women (Davis, Aronson, & Salinas 2009). We're interested in whether the congruence of the test instructions and the actual measure of the task would affect performance. The study is a counterbalanced 2X2 within subjects design in which the participants answered verbal and quantitative items taken from the practice SAT and creativity measure (RAT and Guilford's alternate uses task).

Ammiel Williams, Political Science

From Many to MENA: The Middle East and North African Countries role the Global Market

Mentor:
Dr. Pamela Waldron-Moore
Political Science Department

Abstract: The role of developing countries in the international economic system is constantly changing. Typically endemic to the current system, some countries provide an irreplaceable infrastructure to the finance system and are central to the development of commercial relations. Other countries play a less important role. Moreover, specific aspects of their less advantaged situation feed into the system and reinforce it. It has become common to see some previously developing countries push past the impoverished threshold to reach development. However, the problem of achieving development still pertains to the vast majority. Specifically, Middle Eastern and North African(MENA) countries tend to be positioned on the least developed side of the continuum. Thus, this research is aimed at understanding why only a few MENA countries have been able to achieve their developmental goals rather than the majority; how they have accomplished this and the factors that have accommodated their progress. In addition, this paper will consider the role contemporary Middle Eastern and North African countries have played and will continue to play in the global system.
Sydni Raymond, Mass Communication

Social Media’s Influence On Perceptions of Black Millennials In the Workplace

Mentor:
Dr. Tia Smith
Mass Communication Department

Abstract: This research is examining social media’s portrayal of black millennials and if it plays a role in higher rates of discrimination in the workplace and the hiring process. This research has been done by interviewing gen-exers and asking questions about their opinions on black millennials and their performance in the workplace versus what they see on social media. Several sources have supported that the media has portrayed black millennials as lazy, technology crazed, and self entitled, which results in higher rates of discrimination in the workplace. The media’s portrayal of millennials as a whole is lazy, technology crazed, and self-entitled. With blacks making up 13 percent of the millennial generation, and rarely highlights the positive aspects of black millennials. While social media has opened many entrepreneurial opportunities for black millennials such as YouTube and Instagram, for traditional job seekers, it has become more difficult to land a job. Has social media eliminated job opportunities for black millennials?

Mohib Ibrahim, Computer Science

Software Engineer Salary Database

Mentor:
Dr. Kun Zhang
Computer Science Department

Abstract: When searching for jobs, aspiring and experienced Software Engineers have difficulty negotiating the appropriate salary based on experience, location, and various other factors. There are resources such as GlassDoor and Paysa that give salary averages based on location, but those resources don’t take years of experience into account. Salary.com does show salaries based on experience and location, but other important compensation benefits, such as relocation, equity or stock in a company, signing bonuses, and yearly bonuses, are missing. In order to assist software engineers in determining the proper salary levels, I propose to develop a database that will provide many of the things that are missing from existing salary comparison websites.
Attitudes and Perceptions of Interracial Dating

Mentor:
Dr. Elliott Hammer
Psychology Department

Abstract: A 2010 census indicates that less than 10% of US marriages are interracial. However, less than 1% of interracial marriages are between White and Black couples (CDC, 2010). The purpose of this study is to investigate attitudes and perceptions of interracial dating among college students. Forty-Five African American females participated in this study. They completed measures of racial identity (Multidimensional Inventory of Black Identity), personality (Big Five Factors), and answered questions about their first impressions of couples from a self-distance viewpoint. Preliminary analysis would indicate that women who hold stereotypical beliefs of interracial couples would be less willing to date outside their race than women who do not hold those beliefs. Furthermore, we hope to elucidate whether distancing oneself from interracial dating, compared to viewing oneself in an interracial relationship, influences one’s willingness to date interracially.

Black Millennials, Twitter, and the Pursuit of Love

Mentor:
Dr. Tia Smith
Mass Communication Department

Abstract: Despite the numerous dating sites, social media, Twitter especially, has been the site of many “hook-ups,” often of which become public when something goes wrong. This presentation explores whether Twitter has an effect on how black women view black relationships.
Abstract: This research focuses on the media portrayal of black, educated women and how they neglect love for the advancement of their careers and achievement of the American dream of financial stability. This project analyzes the depictions of black women in two hit television series and explicate the messages of the two main characters. This research focuses on the message that black women receive about the balance between love and their careers from the television shows that are distributed by mainstream media outlets as well as the implications those messages have on the lives of the audiences that watch them. The research will explore the topic of how young women and even those who have already established a career now believe that it is okay to focus on the American dream of being financially stable and if their love life happens to take the back burner then that is a sacrifice that must be made. This research will include theories that support and analyze the presented claims.
Psychology of Gender Outreach

Mentor:
Dr. Wyndolyn Ludwikowski
Psychology Department

Abstract: Students applied psychology of gender theory and research to the task of creating outreach programs geared toward educating the public about an area of interest/passion. Broadly this course focuses on how gender as a social construct shapes the lives of people in contemporary society. Specific issues addressed include ideas and stereotypes about masculinity and femininity; gender differences and similarities in cognitive abilities, personality, and social behavior, gender roles in families; the economic dynamics associated with gender; representations of men and women in the media and culture; and the potential for change in gender relations and gender inequality.

UC 205
11:00 – 11:30 AM
*Masculinity and Sexual Harassment*
Tatyana Smith, Psychological Science
Kaelan Vazquez, Psychological Science
Jayna Motley, Psychological Science
CJ Blagrove, Psychological Science
D’Avion Singleton, Psychological Science

UC 201
11:00 – 11:30 AM
*Gender Differences as Defined by Culture and Age*
Shantel Berkley, Political Science
Kalyn Jones, Psychological Science
Victoria Barnett, Psychological Science
Peyton Ware, Psychological Science
Cassandra Johnson, Spanish

UC 219
11:00 – 11:30 AM
*Double Standards: Slut-Shaming Unveiled*
Jada Mack, Psychological Science
Denisia Thomas, Biology Pre-Med
SydneDion Lampkin, Psychological Science
Amene Omoruyi, Premedical Psychology
DJ Jones, Sociology

UC 205C
11:30 AM – 12:00 PM
*A Woman’s Worth*
Asia Satchell, Biology Pre-Med
Jamayne Potts, Psychological Science
L’oreal Ivory, Psychological Science
Kiara Simmons, Premedical Psychology
Imagine Moore, Psychological Science

UC 201
11:30 AM – 12:00 PM
*Stereotypes/Perceptions of Women based on Ethnicity and Appearance*
Ebony Artis, Communication Studies
Zoie Horton, Psychological Science
Cara King, Psychological Science
Sydney Morris, Psychological Science
Keona Williams, Psychological Science

UC 218
11:30 AM – 12:00 PM
*Family, Gender, and Shaping One’s Perceptions*
Quinesia Ayers, Premedical Psychology
Kiriston Clark, Psychological Science
Kortney LaMark, Premedical Psychology
Eric Pigram Jr., Psychological Science
Jael Vincent, Psychological Science
Throwing on the Potter’s Wheel

Mentor:
Ms. MaPo Kinnord Payton
Art Department

UC Lawn
1:05 PM – 3:00 PM
- Sarah Hale, Biology Pre-Med
- Shakayla Morgan, Chemistry Pre-Med
- Christin Champion, Mass Communication
- Shelby Lee, Chemistry Pre-Med
- Ashley Gragg, History
- Lindsey Speights, English
- Cora Phistry, Accounting
- Zaharra Withers, Psychological Science

Diversity at Target: How We Play

Mentor:
Dr. Richard Peters
Division of Business

Abstract: In this presentation the question of gender inequality and discrimination will be discussed with respect to Target’s marketing and merchandising of its toys. Specifically, issues of unnecessary categorization, subliminal messaging and undue exclusion will be addressed. Further, a proposal to improve the effectiveness of Target’s diversity management in its toy offerings will be provided and the implications of this for the company and the industry will be discussed.

UC 205C
1:15 – 2:15 PM
Target and Diversity: How Do We Play
- Alaina McClue, Accounting
- Maya Suell, Accounting
Rome and the Early Church: Investigations and Explorations

Mentor:
Sr./Dr. Mary Ann Stachow
Theology Department

Abstract: The five students who took part in the Rome Study Abroad Summer course will be presenting video and PowerPoint material based upon their course readings and the discoveries they made as they visited the ancient sites.

UC 218
1:30 – 2:30 PM
Brittany Bryant, Biology Pre-Med
Linda Nguyen, Mathematics
Jendaya Bell, Political Science
Erica Greenwood, Accounting
Areion Phipps, Biology Pre-Med

Addressing Gender Inequalities in the Developing World: U.N. Sustainable Goal #5

Mentor:
Dr. Tyra Gross
Department of Public Health Sciences

Abstract: Public health student scholars from past semesters of PHLT 4002- Introduction to Global Health will present on a hot topic in the field of global health: gender inequality and the rights of women and girls. Presentations will center around the United Nations (UN) Sustainable Developmental Goals (SDGs) to be achieved by the year 2030. SDG #5 is to “Achieve gender equality and empower all women and girls.” This goal includes targets to end gender-based discrimination, violence and harmful practices (ie. female genital mutilation) and to ensure equal educational, economic and civic opportunities. Three students will separately present analyses of gender inequality in Kenya, Mali and Finland vs. Pakistan. Each student will conclude their presentation with recommendations on how to address these pressing issues. (For more information on the SDGs, visit: https://sustainabledevelopment.un.org/sdgs)

UC 218
1:15 – 1:45 PM
Gender inequality: Threats to the health, well-being, and human rights of Kenyan girls
Shalani Taylor, Public Health

Achieving Literacy, Numeracy and Tearing Down Gender Barriers: How Finland’s Success Can Help Pakistan
Anastasia Wright, French

Gender & Disease: How gender inequality has effected the spread of disease in Mali
Cozette Boakye, Public Health
Historical Perspectives on Race and Sexuality in New Orleans

Mentors:
Dr. Steven Salm
Dr. Elizabeth Manley
History Department

Abstract: These represent original student research and writing derived from archival research in the Historic New Orleans collection for the History Senior Thesis.

UC 205C
2:45 – 4:00 PM
Chasing the American Dream or the American Nightmare? The Desegregation of the Y.M.C.A of New Orleans 1964-1967
Ashley Gragg, History

John McDonogh, A Man of Many Faces: A Slave Owner’s Twisted Involvement with the ACS, Manumission, and New Orleans Urban Education
Jawn Manning, History

The Hot House: Pancho Rodriguez and Tennessee Williams
Corinne Williams, History

Writing About Art

Mentor:
Dr. Biljana Obradovic
English Department

UC 218
2:40 – 3:55 PM
Poetry and Art
Anam Ismail, Biology Pre-Med
Myriah S. Tyler, Psychological Science
Meredith L. Williams, Art
Sydney Morris, Psychological Science
Artistic Interpretations of Genetics

Mentor:
Dr. Michelle Bell Boissiere
Chemistry Department

Abstract: In Genetics Lecture students study several abstract concepts. The molecules, cellular components, and interactions between these are often best comprehended by coupling the textual detail with figures, models, and animations. Dr. Boissiere assigns students the task of creating their own interpretation of concepts taught in the course. The synthesis of ideas and creation of an accurate depiction fosters a deeper comprehension of the concepts and their applications. This display showcases a sample of works submitted since the fall of 2015.

In front of UC 205C
2:40 – 3:55 PM
Origami Nucleotide
  Steven Do, Biology Pre-Med

DNA Helix Earrings
  Noor Fatima, Biology Pre-Med

Models of Chromosome Translocation and of Nucleosomes
  Enrique Harold, Biology Pre-Med

Model of Theta Replication in Prokaryotes
  Sydney Labat, Biology Pre-Med

Lego Model of DNA Helix
  An Nguyen, Biology Pre-Med

Sketches of Non-Dysjunction in Meiosis
  Hoang Michael Nguyen, Biology Pre-Med

Painting of Human Karyotype
  Mariette Pena, Biology Pre-Med

Painting of Mitosis
  Victoria Phillips, Chemistry

Painting of Mitosis
  Kayla Street, Biology Pre-Med

Painting of Transcription
  Linh Tran, Chemistry Pre-Med
Communication Studies Capstone Projects

Mentor:
Dr. Ross Louis
Communication Studies Department

Abstract: Communication Studies Capstone is a course in which students engage in an in-depth study of a contemporary issue in Communication Studies by integrating and applying the theories, knowledge and skills they have acquired through their previous coursework to a research project. Students will present their capstone projects.

UC 205C
3:00 – 4:00 PM
Millennials’ and Post-millenials’ Usage of Social Media and their Awareness of Sex Trafficking
Damilola Babatunde, Communication Studies

Policing of Black Women’s Bodies in Online Commentary of Flavor of Love
Ebony Artis, Communication Studies

“God damn America!”: A Cluster Criticism Analysis of the Jeremiah Wright 2008 Print Media Coverage
Emerald Dukes, Communication Studies

A Skirt of Many Colors: A Performance of Love, Gender and Religion

Mentor:
Dr. Elizabeth Whittington Cooper
Communication Studies Department

Abstract: Dr. Elizabeth Whittington Cooper stages an interactive performance utilizing students from her Gender and Communication class and the audience to understand one woman’s journey to exploring (her)self. Through the symbolic use of post-its and Mystery techniques, the performer weaves together a skirt from personal narratives and research in the field of performance, gender, queer theory, and race. A workshop follows the performance to discuss the use of the Mystery and how the performance was created. Audience members will have a chance to ask questions and think about how they would create their own Mystery.

UC 219
6:00 – 8:00 PM
Participating Students
Samantha Alexander, Psychological Science
Ebony Artis, Communication Studies
Damilola Babatunde, Communication Studies
Shantel Berkley, Communication Studies
Taqiyyah Elliott, Political Science
Iesha Gadsen, Undeclared
Kianna Greene, Communication Studies
Kelsey Joseph, Speech Pathology
Dominiqueca Lewis, Undeclared
Tamara Richardson, Psychological Science
Amanda Ware, Business
Explaining Gender Differences in Realistic Interests with Social Cognitive Career Theory

Mentor: Dr. Wyndolyn Ludwikowski
Psychology Department

Abstract: The present study examined the extent to which gender differences in Realistic interests are explained by examining the effects of occupational perceptions of sex-type and income, learning experiences, and self-efficacy as mediators of interest using an archival data set. In 2009, 427 participants from a large, Midwestern university completed measures of masculinity, femininity, learning experiences, self-efficacy, and interests. The fit of the measurement and structural models were found to be good. Significant paths were found among gender and masculinity and learning experiences. A significant path was found between learning experiences and self-efficacy but a non-significant path existed between learning experiences and the occupational expectations. Significant paths were found between both self-efficacy and occupational expectations of sex type (but not occupational expectations of income) and Realistic interest. There was a significant direct path between gender and Realistic interest. The potential implications of this study is that men receive more Realistic learning experiences, which provides them with more self-efficacy while also increasing their expectations of more men in the Realistic fields. These factors possibly lead to a higher chance of men choosing Realistic occupations due to their differential exposure to those kinds of learning experiences. However, the gender difference shown by the significant path from gender to Realistic interest was robust and not accounted for by the other significant pathways.

CRISPR-Cas9: Ethics and Genomic Engineering of the Future

Mentors: Dr. James Dunson, Philosophy Department and Dr. Thomas Huckaba, Biology Department

Abstract: Genetic engineering has played a large role in human society. Since the 1980's and the discovery of restriction enzymes, genetic engineering has transformed many sectors of society including medicine, agriculture, and commercial enterprises. As the technology advanced and provided new possibilities, ethical dilemmas have been solved yet new ethical implications have appeared over time due to the booming growth of genetic engineering. Further questions about the patenting of organisms and genes arose from the growth of a sector where in many cases 40-50% of revenues went into research and development. Gene editing has managed to blur the lines on issues encompassing control over nature and even defining the boundaries between curing, preventing, and enhancing. These questions, and many more, have re-emerged and altered with the discovery of the CRISPR-Cas9 system. This system has the potential to alter what is seen as possible in terms of genetic engineering. As the technology has grown in leaps and bounds, the ethical debates around the introduction of the CRISPR-Cas9 complex needs to be examined. Thus, the precedents set by past genetic engineering and how CRISPR abides to or alters them are pivotal to understanding the scientific and ethical impacts affecting society.
Amira Gee, Chemistry
Maliq de Pina, Dual Degree Biomedical Engineering
Natalie Hughes, Dual Degree Chemical Engineering
Deanna-Kaye Daley, Chemistry

Development of an aptamer based miRNA sensor

Mentor:
Dr. Mehnaaz F. Ali
Chemistry Department

Abstract: The purpose of this research project is to develop sensors for the specific detection of clinically relevant biomarkers. Sensors consist of two components that include target detection and signaling. Once the probe detects a target molecule a signal is produced. For the current detection strategy, specific aptamers are used for detecting specific targets. The target recognition can occur in combination with signaling via reactivation (using a prosthetic group) of an inactive redox enzyme or directly via electrochemical detection (using the redox active prosthetic group). The aptamer scaffolds are designed to bind the prosthetic group in a signaling binding pocket and the nucleic acid target in a target binding pocket. The complementary hybridization of the target nucleic acid releases the signaling molecule (prosthetic group). A similar system is designed for the detection of small-molecules via a displacement assay. The signaling mechanisms for both these systems depend on the response received upon FAD based reactivation of the enzyme or detection via voltammetry. Enzyme reactivation rate of the inactive enzyme once FAD is reintroduced is measured using enzyme kinetics. Our current work consists of elucidating the affinities of the modified aptamer to FAD and the specificity of the aptamer for the targets.

Veronica Miles, Chemistry Pre-Med
Moamen Ismail, Biochemistry

Synthesizing Phthalimide Derivatives as Dual Kinase Inhibitors Targeting Angiogenesis

Mentors:
Dr. Jayalakshmi Sridhar
Chemistry Department
Dr. Rajesh Komati

Abstract: Angiogenesis, the formation of new blood vessels, plays a critical role in the growth and spread of cancer and vascular pathologies. Diseased cells stimulate angiogenesis using chemical signals to bring oxygen and nutrients necessary for growth and proliferation, making angiogenesis a prime therapy target. While Vascular Endothelium Growth Factor Receptor (VEGFR) is known to be a critical kinase for angiogenesis, recently Cyclin-Dependent Kinase 9 (CDK9) has also been shown to play a role in angiogenesis. Our research group is focused on the synthesis of small molecule phthalimides as dual kinase inhibitors of CDK9 and VEGFR to target angiogenesis. Computational molecular modeling studies revealed phthalimides as a reputable core structure due to their ability to competitively bind both CDK9 and VEGFR, in place of ATP, and thus inhibit the downstream signaling process that promotes angiogenesis. Our research group has also identified five lead phthalimide compounds using molecular modeling methods that exhibit inhibition of both CDK9 and VEGFR in high-throughput assays, as well as inhibition of angiogenesis using in-vivo chick embryo assays.
Deja Washington, Mathematics

An Investigation for Evidence of an Association Between Domestic Violence Cases and the Proximity of Service Care Provisions in New Orleans from 2013 to 2016

Mentor: Dr. Carroll Diaz
Mathematics Department

Abstract: Domestic violence cases between 2013 and 2016 in New Orleans will be analyzed to determine if immediacy of care is associated. Where the crime occurred could have an impact on if the domestic violence offense is reported, and if the victim will seek a service care provision. Service care provision can be divided into three categories: Domestic Violence Shelters and Programs, Hospitals with adult care, and Family Services. The care's location could determine accessibility and if one is willing to seek help. My hypothesis is the number of domestic violence cases are more prevalent in areas of New Orleans that are not in proximity, as in same district, to care and relief providers. Analysis of the city's open data police reports for domestic violence each year discussed and demographics of offenders and victims as well as the service providers in those certain districts, their year of establishment with respect to 2013, and the type of care that could be received by victim(s) are considered. The Receiver Operating Characteristic Curve, odds, as well as map of New Orleans with domestic violence cases and service care provision divided into districts will be used to determine the risk of domestic violence.

Hakeem Frank, Mathematics

Quantifying the Performance of Flexible Propulsors with Non-Uniform Stiffness

Mentors: Dr. Syed Ahmed
Division of Business
Dr. Alexander Hoover, Tulane University Center for Computational Science

Abstract: Many animals that swim and fly accelerate the fluid environment in which they inhabit. Recent studies have observed that many animals with flexible appendages follow bending kinematics that transcend taxa and fluid medium. In this study we have derived computational models for the motion of flexible panels using a network of springs and beams. We then incorporated our model into the immersed boundary method, which allowed us to simulate heaving panels immersed in a fluid. The panel's rigidity and heaving frequency were varied across the parameter space and their propulsive performance was recorded. The relationship between their elastic properties and performance was then analyzed with the Euler-Bernoulli beam equation. Beam mode analysis allowed us to relate effective flexibility, a nondimensional number, with panel performance. Local maxima in thrust output correspond with specific effective flexibilities across various beam stiffnesses and frequencies. The study then examined the panels with non-uniform stiffnesses.
**Revamping TripAdvisor**

**Brianna Warren, Business Management**

**Mentors:**
Dr. Syed Ahmed  
Dr. Richard Peters  
Division of Business

**Abstract:** The overall purpose of the study is to examine the weaknesses of TripAdvisor and create a feasible plan that will result in exponential gains for the company as a whole. As a result of analysis, the major findings include: the lack of a loyalty rewards program and personality filter user interface. The proposed solutions have a 24 month timeline, as well as a budget of 1 million dollars. In conclusion, the proposed solutions will result in a 54 million dollar net profit after the two year period.

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**Learning Disabilities Holding Back Black Youth**

**Christopher Brown, Mass Communication**

**Mentor:**
Dr. Tia Smith  
Mass Communication Department

**Abstract:** It is important to recognize and adequately address learning disabilities in the African American community while removing the negative stigmas unfairly attributed to learning disabilities in the African American community over the years. As a society we unfairly stigmatize those with learning disabilities making it difficult for them to seek help and for them to get help. Moreover, we sometimes place an enormous burden on minorities' with disabilities saddling them with dual discrimination due to their race and disability.
1 Selena Gray, Biology
Kamari Fletcher, Public Health Sciences
Camry Hardy, Biology Pre-Med

**TLE1 Inhibits Anoikis and Promotes Tumorigenicity in Human Lung Cancer Cells Through Zeb1-mediated E-cadherin Repression**

**Mentor(s):**
Dr. Hector Biliran
Biology Department

**Keywords:** Cancer Research

**Abstract:** TLE1 is a Groucho corepressor protein that has shown to be overexpressed in human lung carcinomas and is considered a putative lung specific oncogene. To date, the molecular mechanism underlying TLE1 oncogenic function in lung cancer remains to be fully delineated. Here, we report an important role of TLE1 in promoting lung tumorigensis by a mechanism involving induction of anoikis resistance. Using the human lung adenocarcinoma A549 as a model system, we observed that TLE1 inhibits anoikis through transcriptional repression of the tumor suppressor gene E-cadherin. Importantly, we demonstrated that Zeb1, an EMT promoting transcriptional factor, is required for TLE1-mediated E-cadherin repression and anoikis resistance. In vivo, TLE1 strongly promoted tumorigenicity of A549 cells in a Zeb1-dependent manner. These findings identify the Zeb1/TLE1/E-cadherin transcriptional mechanism as a novel pathway that promotes anoikis resistance and oncogenic growth of lung cancer cells.

3 Amber Weatherspoon, Biochemistry
Ronise Evans, Biology Pre-Med

**Investigating the Role of a Dual Motif in DNA Binding by PAX3-FOXO1**

**Mentor(s):**
Dr. Kelly Johanson
Chemistry Department

**Keywords:** Protein interactions, Protein binding, Biochemistry

**Abstract:** Rhabdomyosarcoma (RMS) is a common soft tissue sarcoma that can be divided into two main categories. Alveolar Rhabdomyosarcoma (ARMS) is an aggressive type of RMS and typically affects all age groups equally but a larger portion of RMS occur in older children. The more aggressive form of ARMS is primarily characterized by a reciprocal (2;13) (q35; q14) translocation, which results in the fusion of the N-terminus of PAX3 and the C-terminus of FOXO1. PAX3-FOXO1 mediated gene activation leads to ARMS development has been linked to several events involved in ARMS development, although all targets of this fusion protein have not been identified. A search of an updated ChIP-seq screen of 3881 PAX3-FOXO1 putative binding sites revealed that 36% contained both a PAX3 paired domain and FOXO1 recognition sequence within proximity. In vitro examination of a PAX3-FOXO1 dual motif indicates that mutation of the FOXO1 site or residues in the FOXO1 DNA-binding domain affect both binding and activation of these sequences. Binding sites for other transcription factors overlap or surround several of these dual motifs, indicating the need to examine potential transcriptional complexes formed by PAX3-FOXO1. Understanding the binding specificities and activities of this fusion protein will allow for a better understanding of the transcription factor which may lead to future therapeutic remedies.
Delaney George, Mass Communication

Acceptable features in Black Women: Hair

Mentor(s):
Dr. Tia Smith
Mass Communication Department

Keywords: Women’s Studies, Social Media, Image Studies, Social Image, Black Culture, Discrimination

Abstract: The identity of black women over time has been judged, discriminated against, and targeted for many years. Features of black women trigger certain elements in not only the public eye but themselves. This can involve self-esteem issues, pressure when in society, or any doubtful feeling toward how they look. These stigmas and feelings stem from a common place of judgment and have been re-directed to these women. In my research, I will target the feature of hair in black women and it acceptance and effect in and on society, as well as themselves. Answering a question of “why do we conform?”

JaNiece Walker, Biology

Transcription of L1 in Mammalian Tissue

Mentor(s):
Dr. Maria Morales
Epidemiology

Keywords: L1, Cancer Research

Abstract: Long interspersed element 1 (L1) is a human transposable element, which has the capacity to retrotranspose, meaning to “copy and paste” itself into the genome. As a result of retrotransposition, key cell functions may be disrupted leading to disease. L1 elements are present at high copy number in the genome. Few elements are full length and functional, contrary to numerous truncated elements, causing difficulty quantifying L1 expression in human cells and tissues. Only a full length L1 is capable of synthesizing mRNA from its own promoter located in L1 5’UTR, allowing for identification of transcribed L1 elements in the genome. To characterize L1 transcripts in human tissues, we isolated first total and cytoplasmic RNAs and subsequently poly-adenylated RNAs. Rapid amplification of 5’ cDNA end (5’RACE) was then performed to the L1 RNA. PCR product formation was run on an agarose gel. Expected 395 and 1200bp-long products were purified, TOPO cloned and sequenced. Using this approach, we were able to detect the full length L1 transcripts in human placenta tissue. Our findings are interesting because our approach is working to detect full length L1 RNAs, and also to identify L1 expression in placenta tissue.
Tarius Hill, Biology

*Novel Ceramide Analog 315 For The Treatment Of Breast Cancer*

**Mentor(s):**
Dr. Maryam Foroozesh  
Chemistry Department  
Dr. Tulasi Ponnapakkam

**Keywords:** Cancer Research

**Abstract:** Ceramides are lipid molecules that are commonly found in the cell membrane. These molecules have shown significant effects on inducing cell death through both apoptotic and non-apoptotic pathways. Previous studies have shown specifically that Analog 315 ((S)-2(benzylideneamino)-3-hydroxy-N-tetradecylpropanamide) has anticancer properties on chemo-resistant breast cancer cell lines such as MCF-7TN-R. We have tested this ceramide on three breast cancer cell lines MCF-7, endocrine-resistant MDA-MV-231, and chemo-resistant MCF-7TN-R. During in vitro studies, Analog 315 has been shown to be effective in reducing breast cancer proliferation, which was tested with the MTT Cell Proliferation Assay. Typan Blue method and Caspase Glow analysis were also used to measure cell death. Currently, we are conducting in vivo studies on Analog 315. Our main goal is to develop ceramide drugs for the treatment of breast cancer.

Rebecca Udokop, Biochemistry  
Brandon Hylton, Biology Pre-Med

*Comparison of assays for detecting lysine deacetylase activity*

**Mentor(s):**
Dr. Terry Watt  
Chemistry Department  
Dr. Tasha Toro

**Keywords:** Cancer Research, Chemistry, Biochemistry

**Abstract:** Lysine deacetylases (KDACs) are enzymes that play a role in post-translational modification of proteins, affecting gene expression and protein function. Altering gene expression and protein function has been associated with diseases. The standard method of deacetylation detection involves using a fluorophore conjugated to the substrate. This conjugation changes the behavior of the substrate significantly. There are several alternative, but less established, methods available for assaying KDAC activity with label-free substrates. These methods involve detection of one of the reaction products, either by fluorescence-based methods or mass spectrometry. Our project is to compare the reliability, sensitivity, and effectiveness of the multiple methods. Our standard assay, the fluorescamine assay, detects unacetylated lysine with high reliability and sensitivity. A fluorescence-based assay measuring the production of acetate did not produce reliable data. Mass spectrometry was unable to provide reliable quantitative data under the conditions used and was less sensitive than the fluorescamine assay. However, mass spectrometry was able to differentiate between multiple substrates reacted in the same solution and identify which lysine was deacetylated in multiply acetylated substrates. We found the fluorescamine assay is best used when quantitative data is desired while mass spectrometry is better suited for screening large numbers of potential substrates.
**Feryn Harris, Biology**

*Aptamer-functionalized hybrid nanoparticles for the targeted knock-down of multi-drug resistant proteins (MRP) in breast cancer cells*

**Mentor(s):**
Dr. Anup Kundu  
Biology Department

**Keywords:** Breast Cancer Cell

**Abstract:** The major cause of treatment failure in cancer is the development of Multi Drug Resistance (MDR) of cancer cells to chemotherapeutic drugs during the course of treatment. We plan to utilize nanotechnology to overcome chemoresistance mechanisms. In this project, the MRP-1 will be targeted as the major resistant protein in the cancer cell lines. This is an intriguing protein because it is represented within all, or majority, types of cancer tissue. When MRP-1 is highly expressed, it creates an extremely resistant cell environment for these breast cancer cells. This protein has the ability to dispel a huge list of anti-cancer drugs including doxorubicin. We anticipate that knocking down MRP-1 by specific siRNA encapsulated nanoparticles could enhance the delivery of doxorubicin (Dox) into the breast cancer cells. For targeted delivery, the aptamer technology will be used. This preliminary study has been focused on the development of a aptamer-labeled nanoparticle system for effective delivery of MRP-1 siRNA into breast cancer cells.

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**Imani Bijou, Biochemistry**

*Differential Expression of Lysine Deacetylases in Breast Cancer Cells*

**Mentor(s):**
Dr. Terry Watt  
Chemistry Department  
Dr. Tasha Toro, Chemistry

**Keywords:** Cancer Research, Differential Gene Expression, Lysine Deacetylase

**Abstract:** Lysine deacetylases (KDACs) along with acetyltransferases are epigenetic modulators reported to play an important role in tumorigenesis. For example, KDAC5 in high levels has been shown as a prognostic marker for breast cancer. Gene quantification of KDACs 1-11 was compared from cell lines of an African American triple negative breast cancer patient (MDA-MB 468), a Caucasian triple negative breast cancer patient (MDA-MB 231), and a non-triple negative breast cancer patient (MCF 7) using real time PCR. Non-cancerous (MCF 10A) mammary cells were used as the standard. Real time PCR was performed in triplicate for all cell lines, and protein levels were also quantified by western blot. A panel of reference genes, including PUM1, PPIA, RPL13A, and PGK1, was first validated to ensure that they were appropriate for these cell lines. All three breast cancer cell lines overexpress KDAC8. KDAC10 and KDAC11 are overexpressed in MCF7 but not either of the triple negative cell lines. Both triple negative cell lines overexpress KDAC9, but only MDA-MB 468 overexpresses KDAC3. Using rtPCR, we can quantify the amount of KDAC mRNA in the different breast cancer cells. Study of differential gene expression can help determine how breast cancer develops.
Imani Thompson, Psychology

Socioeconomic Status, and Parental Involvement on the Development of Children with Behavior, Language and Learning Disorders.

Mentor(s):
Dr. Elgustus Polite
Speech Pathology Department

Keywords: SES, Socioeconomic status, Children, Speech language pathology, Stress, Behavior disorder, Learning disorders, Therapy

Abstract: 1% of children between the ages of 0-9 years old live in households with incomes below 50% of the poverty line and 43% of all children in the US live in poverty or low-income homes (NCCP, 2015). This research reviews the effects of socioeconomic status (SES) and parental involvement on the development of children with speech, learning and behavioral disorders. The purpose of this research is to expose the further difficulties children with such disorders have with meeting developmental and educational milestones. Also to reveal how such (home and educational) environments and the lack of proper nurturing and minimal resources slow or limit the progression of development. By identifying these issues the importance of parental involvement as well as clinical services and educational support in the progression and development of children will be shown. This will also allow for more individual consideration of children in poverty and may direct future research on educational aid for low-income schools who, have students with disabilities and disorders and research on family involvement in developmental achievement for children with behavior, language and learning disorders.

Alexis Davis, Mass Communication

Objectification of Women in the Media: Success or Failure

Mentor(s):
Dr. Tia Smith
Mass Communication Department

Keywords: Sexual objectification, sexual assault, substance abuse, feminism

Abstract: In the recent past, advertisements and magazines have taken a common trend where they portray women as sexual objects. More than ever before, the role of women in the media has been reduced to attract men who are sexually thirsty. Semi-nude women are all over the media whenever a product is being launched. In the music industry, video clips portray women as playing a second role of entertaining their male counterparts. Such a depiction may have an adverse effect. Especially on young people who may change their perception as to what beauty means. To the young generation, magazines and media provide useful information as pertains to lifestyle and how to dress. The increased objectification, thus, makes the young generation see beauty as result of having a curvaceous body, a thin waist, and good looks. Thus has prompted young girls to put more emphasis to achieve this. Many go hungry by skipping meals. Some use figure-enhancing pills. Their focus has shifted from the books to the looks, but is this a threat to the future or an appreciation for a women’s sexually worth?
Taylor Fields, Psychological Science

*How Negative Media Affects The Perceptions of African American Male Masculinity*

**Mentor(s):**
Dr. Lisa Schulte-Gipson  
Psychology Department

**Keywords:** Psychology, Social Awareness

**Abstract:** African American males have been victims and targets of negative media for many years due to their racial history in this country. They are often painted as illiterate, aggressors, problem starters, and criminals. According to an article titled “It’s Simply Because We’re Black Men”: Black Men’s Experiences and Responses to the Killing of Black Men apart of the Journal of Men's Studies, in which the author cited, Anderson (2011) “often associate white skin color with “respectability, civility, and trust” while Black skin color is associated with “poverty, danger, and distrust—above all, with regard to anonymous young males” (p. 3). African American males have been assigned identities and characteristics that have been manipulated by the media and have become seen as their norm in society. There are those in the African American community, such as mentoring groups and historically black fraternities, that try to combat these negative perceptions and ideals by expressing their opinions and by creating their own definition of their masculinity. The purpose of this study is to assess three hypotheses, one if negative media plays a significant role in the perceptions of black male masculinity. Two if news media would entice more negative perceptions of black male masculinity than social media to society as well as individuals. Third to see that if there were more positive perceptions of black males in news media, societal views on black males would change thus changing what society believes a black man should be. A sample of 9 people both male and female, from Xavier University of Louisiana participated in this study. Using the findings, one can accurately conclude whether overall media perceptions have an effect on the perceptions of African American male masculinity.

Nghia Doan, Biology Pre-Med  
Camilla Do, Chemistry Pre-Med  
Jacob Lee, Biology Pre-Med  
Shannon Phipps, Biology Pre-Med  
Kelli Weber, Biology Pre-Med  
Brandy Sardie, Biology Pre-Med  
Amani Kanj, Chemistry Pre-Pharmacy

*Jonah and the Dag Gadol: Paranomasia in the Hebrew Book of Job*

**Mentor(s):**
Dr. Michael Homan  
Theology Department

**Keywords:** Hebrew, Jonah, Paranomasia, Bible, Old Testament

**Abstract:** Students researched paranomasia (word play) in the Hebrew Book of Job. This poster displays the results of their research.
Samantha Imbraguglio, Chemistry
Brandon Hylton, Biology Pre-Med

Optimizing the Buffer System for Lysine Deacetylase Activity

Mentor(s):
Dr. Terry Watt
Chemistry Department
Dr. Tasha Toro

Keywords: Lysine deacetylases, KDAC, metal dependent enzyme, in vitro enzymatic assay

Abstract: Lysine deacetylases (KDACs) are the enzymes that reverse the post translational modification of acetylation, resulting in an unmodified lysine residue and acetate. KDACs play a critical role in the cell and changes to their activity have been linked to diseases. In order to characterize KDAC activity in a biologically relevant fashion, in vitro assay buffer should ideally mimic the in vivo environment. In this project, our research objective is to determine the components of buffer that influence KDAC activity while remaining biologically relevant and cost efficient. The starting buffer used consisted of phosphate, glycerol and potassium chloride. The buffer parameters varied included the viscosity, buffering agent, and metabolite concentrations. The effect of these alterations was measured through the use of fluorescence-based activity assays. KDAC8 was the primary enzyme used to observe the effects of these variations. Although the variation of most of these parameters either did not affect KDAC8 activity or decreased it, the addition of a metabolite mixture to the reaction slightly increased KDAC8 activity. In order to determine which metabolite caused the activity increase, citrate was selected for further investigation due to its metal chelating properties. KDAC8 and other Class IIa KDACs require a metal cation at their active site to function. In excess, some of these metals can also bind to an inhibitory site on the enzyme. When citrate was added to the reaction in the presence of excess zinc, activity was partially restored. However, the addition of citrate alone had no effect on KDAC8 activity. In conclusion, a minimal phosphate buffer optimizes KDAC8 activity while remaining biologically relevant and cost efficient. Furthermore, the addition of citrate is a biologically relevant method to ensure that excess trace metals are not inhibiting KDAC8.

Krystal Holmes, Mass Communication

How has Instagram reshaped the young black women’s ideal standard of beauty?

Mentor(s):
Dr. Tia Smith
Mass Communication Department

Keywords: Media research

Abstract: This is research is on what is the standard beauty when it comes to the comes influence of social media and how it shapes the ideal of what beauty is suppose to look like.
Starr Villavasso, Chemistry
Jessica Carmon, Biology

*Identifying Substrates of Lysine Deacetylases*

**Mentor(s):**
Dr. Terry Watt
Chemistry Department
Tasha Toro

**Keywords:** Biochemistry, lysine deacetylase, protein, enzyme, substrate, peptide

**Abstract:** Acetylation of lysine is a common post-translational protein modification. Lysine deacetylases (KDACs) are enzymes that reverse this modification. If deacetylation of lysine does not occur at the right time, it can cause many diseases, including cancers. Several KDACs do not have known biological substrates. Here, our research objective is to identify biologically-relevant substrates of KDACs by monitoring lysine deacetylation of potential substrates in vitro. No substrates have been identified for KDAC5 and KDAC9, so we are cloning these enzymes with the goal of characterizing their substrate specificity. KDAC6 is different from other KDACs because it is less substrate specific. This may be due to the fact that KDAC6 contains an extra catalytic domain. We isolated each catalytic domain of KDAC6 to determine their individual specificity. Following purification of the enzymes, the substrate-enzyme specificity is determined by performing an assay with acetylated peptides to measure the catalytic activity of the enzymes. Identified substrates of each KDAC are screened against other KDACs to determine specificity. Identification of KDACs substrates will provide new insights into the functions of the KDACs.

Samantha Alexander, Psychological Science

*Media Images affect African American’s Self-esteem*

**Mentor(s):**
Dr. Eliot Hammer
Psychology Department

**Keywords:** Self-esteem, media images, mass media

**Abstract:** The purpose of this study is to examine the affect the images in the mass media have on society's self-image. Specifically paying close detail to the African American culture.
Tamara Richardson, Psychological Science

*Visual Short Term Memory and Video Game Play*

**Mentor(s):**
Dr. Elliott Hammer  
Psychology Department

**Keywords:** visual short-term memory, video games, abstract strategy games, filtering abilities, visual stimuli,

Abstract: Gaming patterns were evaluated among participants in order to examine its link to the short term memory and filtering abilities of individuals. 16 Xavier University of Louisiana students participated in completing as eleven trial task in which they filtered differences between two stimuli when compared. The participants also completed an original eight question questionnaire. This studies finding did show a positive relationship between the two variable, though there weren't any significant positive connection among gaming and memory.

Tyra Johnson, Mass Communication  
Melynda Nguyen, Chemistry Pre-Pharmacy  
Miranda Lawrence, Psychological Pre-Med

#environmentaljusticematters

**Mentor(s):**
Dr. Michael Adams  
Chemistry Department

**Keywords:** Environmental justice, Cancer Alley

**Abstract:** Students in Freshman Seminar II, Section 2 have been studying issues of environmental justice in New Orleans and beyond. Much of the focus has been on the area from New Orleans to Baton Rouge known as “Cancer Alley”. Presented here is a service-learning project that was completed through a partnership with the Louisiana Bucket Brigade. Working with members of the St. Rose community, students conducted a door-to-door campaign to encourage residents to become more aware of air quality issues in the neighborhood. They also shared with residents information about how they can contribute to the efforts of the Bucket Brigade to track and monitor releases from nearby industrial facilities.
Xiara Day, Biology

*Investigations into the Antidiabetic Effects of Garcinia Kola via Alpha-glucosidase from Saccharomyces cerevisiae Inhibition*

**Mentor(s):**
Dr. Patience Obih  
Division of Basic Pharmaceutical Sciences

**Keywords:** Pharmacology, Pharmaceutical Research, Diabetes, Phytotherapy

**Abstract:** Diabetes mellitus is the seventh leading cause of death in the U.S., and affects over 29 million people. In 2012, the costs of diabetes exceeded over 245 billion dollars. Oral hypoglycemic medication and insulin have been widely used to control Type 2 diabetes, but have undesirable side effects and are expensive. Recent approaches to controlling postprandial blood glucose levels have involved α-glucosidase inhibition, which delays the cleaving of polysaccharides to monosaccharides and prevents carbohydrates into the blood stream. Therefore, the study of alternative antidiabetic medication is needed and studies have pointed toward utilizing phytotherapy for the hypoglycemic effects of plants such as Garcinia Kola (bitter kola). The extracts were assayed in vitro method by the method of Ramirez et al., 2012 and prepared on a 96-well micro titer plate for alpha-glucosidase from Saccharomyces cerevisiae or yeast inhibitory activity. The results were read on a ThermoScientific® Multiskan spectrophotometer at 400 nm. Bitter kola, tested at 200 mg/mL, displayed close to 50% enzyme inhibition compared to Acarbose, a prescribed α-glucosidase inhibitor as well as other tests that did not utilize alpha-glucosidase enzyme with yeast. The results suggest that aqueous extracts of Garcinia Kola exhibit α-glucosidase yeast inhibition.

Hakeem Frank, Mathematics

*Quantifying the Performance of Flexible Propulsors with Non-Uniform Stiffness*

**Mentor(s):**
Dr. Alexander Hoover  
Tulane University Center for Computational Science

**Keywords:** Computational Fluid Dynamics, Computational Biology, Biomimicry

**Abstract:** Many animals that swim and fly accelerate the fluid environment in which they inhabit. Recent studies have observed that many animals with flexible appendages follow bending kinematics that transcend taxa and fluid medium. In this study we have derived computational models for the motion of flexible panels using a network of springs and beams. We then incorporated our model into the immersed boundary method, which allowed us to simulate heaving panels immersed in a fluid. The panel's rigidity and heaving frequency were varied across the parameter space and their propulsive performance was recorded. The relationship between their elastic properties and performance was then analyzed with the Euler-Bernoulli beam equation. Beam mode analysis allowed us to relate effective flexibility, a nondimensional number, with panel performance. Local maxima in thrust output correspond with specific effective flexibilities across various beam stiffnesses and frequencies. The study then examined the panels with non-uniform stiffnesses.
Asianera Neal, Biology
Brodrick Bazanac, Chemistry Pre-Pharmacy
Taylor Russaw, Biology

**Breathing Life Back Into the Heart of New Orleans**

**Mentor(s):**
Dr. Michael Adams
Chemistry Department

**Keywords:** Environmental justice, Water Management

**Abstract:** This section of FRSM 1100 focuses on issues of environmental justice in New Orleans and beyond, with a specific focus on issues surrounding water. Working with WaterWise NOLA, we visited the Treme neighborhood to discuss with residents issues of water management and local flooding.
Sierra Armstrong, Public Health Sciences

*Changing the World one Goal at a Time: Reflections on the U.N. Sustainable Developmental Goals (SDGs): Using Sweden as a Model to Address Child and Mortality Rates in India*

**Mentor(s):**
Dr. Tyra Gross
Public Health Sciences Department

**Abstract:** This semester, PHLT 4002-Introduction to Global Health scholars focused on the United Nations (UN) Sustainable Development Goals (SDGs) to be achieved by 2030. Ranging from ending hunger and poverty to achieving gender equality and clean water and sanitation, the 17 SDGs are a framework to help countries take action to improve the health, quality of life and safety of all people. In each project, students either chose to assess a specific country's current progress toward a specific SDG (ie. ending hunger in Nigeria, SDG #3) or compare and contrast the statuses of two countries (comparing gender equality in Norway & Jordan, SDG #5). Students worked throughout the course to develop and research their topic with the end goal of writing policy briefs with recommendations for national governments. Seven students will present posters of their final projects. In addition to the SDGs, Global Health students had a course book club using the text “Where No Doctor Has Gone Before: Cuba's Place in the Global Health Landscape” (Huish, 2013) in Fall 2016 and Spring 2017. One student from Fall 2016 will present lessons learned about the Cuban healthcare system.

Algeria Brisbon, Public Health Sciences

*Changing the World one Goal at a Time: Reflections on the U.N. Sustainable Developmental Goals (SDGs): The successes and failures of nutritional behaviors: The country of Algeria*

**Mentor(s):**
Dr. Tyra Gross
Public Health Sciences Department

**Abstract:** This semester, PHLT 4002-Introduction to Global Health scholars focused on the United Nations (UN) Sustainable Development Goals (SDGs) to be achieved by 2030. Ranging from ending hunger and poverty to achieving gender equality and clean water and sanitation, the 17 SDGs are a framework to help countries take action to improve the health, quality of life and safety of all people. In each project, students either chose to assess a specific country's current progress toward a specific SDG (ie. ending hunger in Nigeria, SDG #3) or compare and contrast the statuses of two countries (comparing gender equality in Norway & Jordan, SDG #5). Students worked throughout the course to develop and research their topic with the end goal of writing policy briefs with recommendations for national governments. Seven students will present posters of their final projects. In addition to the SDGs, Global Health students had a course book club using the text “Where No Doctor Has Gone Before: Cuba's Place in the Global Health Landscape” (Huish, 2013) in Fall 2016 and Spring 2017. One student from Fall 2016 will present lessons learned about the Cuban healthcare system.
Neasjia Brown, Public Health Sciences

Changing the World one Goal at a Time: Reflections on the U.N. Sustainable Developmental Goals (SDGs): Ending hunger in Nigeria

Mentor(s):
Dr. Tyra Gross
Public Health Sciences Department

Abstract: This semester, PHLT 4002-Introduction to Global Health scholars focused on the United Nations (UN) Sustainable Development Goals (SDGs) to be achieved by 2030. Ranging from ending hunger and poverty to achieving gender equality and clean water and sanitation, the 17 SDGs are a framework to help countries take action to improve the health, quality of life and safety of all people. In each project, students either chose to assess a specific country’s current progress toward a specific SDG (i.e. ending hunger in Nigeria, SDG #3) or compare and contrast the statuses of two countries (comparing gender equality in Norway & Jordan, SDG #5). Students worked throughout the course to develop and research their topic with the end goal of writing policy briefs with recommendations for national governments. Seven students will present posters of their final projects. In addition to the SDGs, Global Health students had a course book club using the text “Where No Doctor Has Gone Before: Cuba’s Place in the Global Health Landscape” (Huish, 2013) in Fall 2016 and Spring 2017. One student from Fall 2016 will present lessons learned about the Cuban healthcare system.

Cheyenne DeShields, Public Health Sciences

Changing the World one Goal at a Time: Reflections on the U.N. Sustainable Developmental Goals (SDGs): Reforming Institutionalized Care in Mexico

Mentor(s):
Dr. Tyra Gross
Public Health Sciences Department

Abstract: This semester, PHLT 4002-Introduction to Global Health scholars focused on the United Nations (UN) Sustainable Development Goals (SDGs) to be achieved by 2030. Ranging from ending hunger and poverty to achieving gender equality and clean water and sanitation, the 17 SDGs are a framework to help countries take action to improve the health, quality of life and safety of all people. In each project, students either chose to assess a specific country’s current progress toward a specific SDG (i.e. ending hunger in Nigeria, SDG #3) or compare and contrast the statuses of two countries (comparing gender equality in Norway & Jordan, SDG #5). Students worked throughout the course to develop and research their topic with the end goal of writing policy briefs with recommendations for national governments. Seven students will present posters of their final projects. In addition to the SDGs, Global Health students had a course book club using the text “Where No Doctor Has Gone Before: Cuba’s Place in the Global Health Landscape” (Huish, 2013) in Fall 2016 and Spring 2017. One student from Fall 2016 will present lessons learned about the Cuban healthcare system.
Trana Hopkins, Public Health Sciences

*Changing the World one Goal at a Time: Reflections on the U.N. Sustainable Developmental Goals (SDGs): Women Rule the World: Comparing Norway & Jordan on Gender Inequality*

**Mentor(s):**
Dr. Tyra Gross
Public Health Sciences Department

**Abstract:** This semester, PHLT 4002-Introduction to Global Health scholars focused on the United Nations (UN) Sustainable Development Goals (SDGs) to be achieved by 2030. Ranging from ending hunger and poverty to achieving gender equality and clean water and sanitation, the 17 SDGs are a framework to help countries take action to improve the health, quality of life and safety of all people. In each project, students either chose to assess a specific country's current progress toward a specific SDG (ie. ending hunger in Nigeria, SDG #3) or compare and contrast the statuses of two countries (comparing gender equality in Norway & Jordan, SDG #5). Students worked throughout the course to develop and research their topic with the end goal of writing policy briefs with recommendations for national governments. Seven students will present posters of their final projects. In addition to the SDGs, Global Health students had a course book club using the text “Where No Doctor Has Gone Before: Cuba's Place in the Global Health Landscape” (Huish, 2013) in Fall 2016 and Spring 2017. One student from Fall 2016 will present lessons learned about the Cuban healthcare system.

Christina Malone, Biology

*Changing the World one Goal at a Time: Reflections on the U.N. Sustainable Developmental Goals (SDGs): Clean Water and Sanitation: Sierra Leone vs. United States*

**Mentor(s):**
Dr. Tyra Gross
Public Health Sciences Department

**Abstract:** This semester, PHLT 4002-Introduction to Global Health scholars focused on the United Nations (UN) Sustainable Development Goals (SDGs) to be achieved by 2030. Ranging from ending hunger and poverty to achieving gender equality and clean water and sanitation, the 17 SDGs are a framework to help countries take action to improve the health, quality of life and safety of all people. In each project, students either chose to assess a specific country's current progress toward a specific SDG (ie. ending hunger in Nigeria, SDG #3) or compare and contrast the statuses of two countries (comparing gender equality in Norway & Jordan, SDG #5). Students worked throughout the course to develop and research their topic with the end goal of writing policy briefs with recommendations for national governments. Seven students will present posters of their final projects. In addition to the SDGs, Global Health students had a course book club using the text “Where No Doctor Has Gone Before: Cuba's Place in the Global Health Landscape” (Huish, 2013) in Fall 2016 and Spring 2017. One student from Fall 2016 will present lessons learned about the Cuban healthcare system.
**Sarajeni Mercier,** Biology  
**Justin Platt,** Biology Pre-Med

**Which Cardioactive Drugs Can Affect Heart Rate in Daphnia?**

**Mentor(s):**  
Dr. Peter Barrett  
Biology Department

**Abstract:** The purpose of this experiment was to test whether particular drugs might affect the heart rate of Daphnia. Daphnia are a crustacean species very similar to fleas, as they can hop around like them; however, they are transparent. Their transparency allows us to easily observe whether certain drugs increase, decrease, or have no effect on heart rate. In this experiment, we placed Daphnia in different NSAIDs (nonsteroidal anti-inflammatory drugs), neurotransmitters, drugs that act on receptors, analgesics (pain relievers), and artificial sweeteners to test possible effects on heart rate. The Daphnia’s movement was reduced by placing them in a petri dish and allowing them to chill on ice. Inhibiting the movement of Daphnia allowed the heart rate to be accurately measured. According to our results, some drugs can reduce heart rate, while others can increase it. Through this experiment, we will determine which drugs can have negative or positive effects on Daphnia heart rate, and begin to elucidate the mechanisms by which they produce these effects.

**Christine Smith,** Sociology

**Manufacturing Poverty: Factory Workers in China and Mexico**

**Mentor(s):**  
Dr. Tyra Gross  
Public Health Sciences Department

**Abstract:** Public health student scholars from past semesters of PHLT 4002- Introduction to Global Health will present on a hot topic in the field of global health: gender inequality and the rights of women and girls. Presentations will center around the United Nations (UN) Sustainable Developmental Goals (SDGs) to be achieved by the year 2030. SDG #5 is to “Achieve gender equality and empower all women and girls.” This goal includes targets to end gender-based discrimination, violence and harmful practices (i.e. female genital mutilation) and to ensure equal educational, economic and civic opportunities. Three students will separately present analyses of gender inequality in Kenya, Mali and Finland vs. Pakistan. Each student will conclude their presentation with recommendations on how to address these pressing issues.
Kennedy Word, Public Health Sciences

The Cuban Healthcare System: Health as a right despite times of economic chaos

Mentor(s):
Dr. Tyra Gross
Public Health Sciences Department

Abstract: Public health student scholars from past semesters of PHLT 4002-Introduction to Global Health will present on a hot topic in the field of global health: gender inequality and the rights of women and girls. Presentations will center around the United Nations (UN) Sustainable Developmental Goals (SDGs) to be achieved by the year 2030. SDG #5 is to “Achieve gender equality and empower all women and girls.” This goal includes targets to end gender-based discrimination, violence and harmful practices (ie. female genital mutilation) and to ensure equal educational, economic and civic opportunities. Three students will separately present analyses of gender inequality in Kenya, Mali and Finland vs. Pakistan. Each student will conclude their presentation with recommendations on how to address these pressing issues.

Jawn Manning, History

Oral History of Gert Town: The People of Gert Town

Mentor(s):
Dr. Sharlene Sinegal-DeCuir
History Department

Abstract: This course introduces students to methods used in oral history research, the collection process, documentation and the use of interview information collected. Students engage as oral history researchers in preserving the history of one of New Orleans’s most infamous African-American neighborhoods, Gert Town. Members of the Gert Town community will be encouraged to share personal accounts of larger documented events in African-American history and its effect on the Gert Town community. Students conduct interviews focusing on the neighborhoods history from its existence in 1900 through various major events in Louisiana’s history including but not limited to Jim Crow, the creation of Xavier University of Louisiana, the Civil Rights Movement, and Hurricane Katrina.
John Tortorich, History

Oral History of Gert Town: The People of Gert Town

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Dr. Sharlene Sinegal-DeCuir
History Department

Abstract: This course introduces students to methods used in oral history research, the collection process, documentation and the use of interview information collected. Students engage as oral history researchers in preserving the history of one of New Orleans's most infamous African-American neighborhoods, Gert Town. Members of the Gert Town community will be encouraged to share personal accounts of larger documented events in African-American history and its effect on the Gert Town community. Students conduct interviews focusing on the neighborhoods' history from its existence in 1900 through various major events in Louisiana's history including but not limited to Jim Crow, the creation of Xavier University of Louisiana, the Civil Rights Movement, and Hurricane Katrina.

Sydney Wessinger, History

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History Department

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Angel Wiles, History

*Oral History of Gert Town: The People of Gert Town*

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Dr. Sharlene Sinegal-DeCuir
History Department

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Leland Johnson, Art

*Opportunity Analysis (Xula learning app)*

**Mentor(s):**
Dr. Syed Ahmed
Division of Business

**Keywords:** Computer, Science, Design, Research, Organization, Marketing, Education, Planning, App, Web, Code, Learning

**Abstract:** Social Media is Booming among today’s youth across the country. Students can gain access to information in seconds at the click of a button. With apps such as Facebook and Twitter students can stay connected to their friends and as a result stay up to date with the most recent happenings. This does not apply to the most important aspect of a student’s life, which is their education. Students are forced to rely on “faulty” programs such as Blackboard for updates relative to their selected courses. This destroys the modern flow of constant information that is expected in a fast paced college environment and disconnects the student from teacher. This is where our project comes in to provide the necessary access that students at Xavier lack today through our app. Students can get updates for assignments, exams all through their mobile device. The access students will have through this app will increase their productivity and make life easier for teachers to reach students outside of the classroom.
Cameron Hebron, Public Health Sciences

**African Medicine for Nicotine Addictions**

**Mentor(s):**
Dr. Tyra Gross
Public Health Sciences Department

**Keywords:** Herbalism, Nutraceutical, Smoking cessation, Tobacco

**Abstract:** Background: Herbalism is the use of plants for medicinal purposes. African cultures practiced herbalism as their only means of medicine over 4000 years ago in present day Ghana. Herbs can also help to avoid negative side effects that come with many prescription drugs.

Purpose: The purpose of this research is to find a cheaper and more familiar alternative for tobacco smoking cessation.

Methods: The articles presented include two research journal articles and a blog post on the historic importance of herbalism in African Diasporic Culture. These references highlighted the versatility of herbal practices.

Findings: Over 4000 processed chemicals are smoked in 1 cigarette alone and dependence is primarily caused by nicotine. Cigarettes can damage the cardiovascular system, and create a psychological dependence. To combat the physiological damage caused by cigarette smoke, herbalists recommend coltsfoot as an herb to help clear and strengthen the respiratory system, while turmeric is useful for the circulatory system.

Conclusion: With these herbs being so widely available more research and education should be done to help raise public awareness on the health benefits of herbalism.

Kylar Wiltz, Biology

**Aptamer-functionalization of hybrid nanoparticles to improve the silencing of P-glycoprotein in breast cancer cells**

**Mentor(s):**
Dr. Anup Kundu
Biology Department

**Keywords:** Cancer, Drug Delivery

**Abstract:** Resistance to chemotherapeutic agents like Doxorubicin is the major cause of cancer treatment failure. Development of an effective therapeutic strategy to circumvent Multi Drug Resistance (MDR) is highly anticipated. Overexpression of P-glycoprotein (P-gp) has been found to be strongly associated with the reduction of intracellular level of anticancer drugs in breast cancer cells. P-gp expression could be silenced using siRNA delivered by nanocarriers. In order to avoid notorious side effects to normal cells, these siRNA encapsulated nanoparticles need to be selectively targeted to breast cancer cells. Our aim in this study is to develop a targeted nanocarrier delivery system for siRNA into breast cancer cells. We propose that surface functionalization of the nanoparticles with breast cancer cell specific aptamer would allow selective delivery of siRNA to tumor cells resulting in downregulation of P-gp expression.
Faith Simiyu, Biology Pre-Med
Morgan Marcial, Biology Pre-Med

Planaria Regeneration in Various Drugs and Substances

Mentor(s):
Dr. Peter Barrett
Biology Department

Abstract: Planaria are freshwater flatworms in the family Platyhelminthes that have the ability to regenerate any body part that becomes damaged. They have special cells called neoblasts, which are equivalent to our own stem cells, that are able to differentiate and divide into any of the Planaria's body cells. In our experiment we bisected the organisms and placed them in various drugs and common substances at variable concentrations to determine what effect(s) this might have on the cell cycle and therefore on the ability of the Planaria to regenerate. We also tested two different species of the Planaria, Dugesia tigrina and Dugesia dorotocephala, in order to identify if there is a difference in regeneration capability between the two species and whether they are both affected equally by the drugs.
Mariah White, Pharmacy

The Student Hotspotting Project: Activating Health Profession Students to Identify and Engage High Utilizing Patients to Improve Quality and Value of Care

Mentor(s):
Dr. Jessica Johnson
Division of Clinical and Administrative Sciences

Keywords: NOLA Hotspotting, interprofessionalism, barriers to care, high-utilizer status

Abstract: My colleagues and I wanted to contribute innovations to a healthcare system that would increase medical services, establish continuity of care, and decrease healthcare system utilization among homeless individuals, the chronically ill, and disabled patients. During a year-long, interprofessional community-service experience, students identified patients with high-utilizer status and were paired with another team member to interview and work closely with their patients to reduce excessive health care system utilization. Patients with this high-utilizer status are those who have multiple complicated disease states and frequently seek care from emergency departments rather than relying on preventive care. This service-learning project was conducted as a collaboration between Xavier University of Louisiana College of Pharmacy, Louisiana State University (LSU) Health Sciences Center, and Tulane University School of Medicine, with advisors from each respective school. The project helped students develop communication skills necessary for both patient and interprofessional collaboration, develop empathy and understanding for patients with unmet medical needs, and develop project management, problem solving, and leadership skills. Student pairs identified barriers to each patient’s ability to manage their disease states, and then developed low or no-cost solutions to those problems. The overall goal of NOLA Hotspotting is to develop and implement creative solutions for patients who have difficulty managing their own care. This service-learning analysis describes my contributions to the project and provides reflective evidence for how the course is able to meet its goals, outcomes and objectives.

Hoang Michael Nguyen, Biology Pre-Med

Aptamer-Functionalized Hybrid Nanoparticles to Enhance the Translocation of Doxorubicin into Breast Cancer Cells by Downregulating P-glycoprotein

Mentor(s):
Dr. Anup Kundu
Biology Department
Sruti Chandra

Keywords: Cancer Research

Abstract: According to the American Cancer Society, over 15 million people are diagnosed with cancer every year and more than half of those diagnosed die within 5 years of diagnosis. One major reason for cancer treatment failure is the development of resistance of cancer cells to chemotherapeutic drugs such as Doxorubicin. One mechanism that the cancer cells use to avoid cellular uptake of chemotherapeutic drugs is to overproduce certain transport proteins that efflux cancer drugs out of the cell before they can take effect. One such major transport protein is called P-glycoprotein (P-gp). To help remedy this problem, my lab has been working on aptamer functionalized nanoparticles that can transport siRNA molecules specifically to cancer cells to downregulate the production of those specific, overly produced transport proteins. Once the major efflux pump has been silenced, chemotherapeutic drugs can more efficiently enter the cancer cells and enhance treatment efficacy. Our current research focuses on the ability of our aptamer functionalized siRNA encapsulated nanoparticles to silence P-gp in breast cancer cells and to enhance the uptake of the chemotherapeutic drug Doxorubicin.
Anthony Nguyen, Chemistry  
David Le, Biology Pre-Med  

*Determining Extracellular Sulfatase SULF1 Concentration as a Biomarker to Detect the Onset of Breast Cancer Using an Electrochemical Approach*

**Mentor(s):**  
Dr. Zhe Wang  
Chemistry Department

**Keywords:** Cancer Research

**Abstract:** The human SULF1 gene codes for the enzyme endosulfatase 1, SULF1, which is located in the extracellular matrix of cells. Current research indicates that the concentration of SULF1 in body fluid is highly influenced by the carcinogenic process, especially in the early stages of breast cancer. Compared to normal, healthy controls, SULF1 gene expression has been discovered to increase to levels up to 40 fold in breast cancer patients. Because of this, developing a method to efficiently and effectively monitor the SULF1 level would greatly aid in the pursuit of finding a successful way to detect breast cancer in its early stages. In this project, an electrochemical approach is able to be used to determine the concentration of electrochemical probe contained sulfate groups by combining two different methods of detection: electrochemistry and quartz crystal microbalance. This allows for a more effective and accurate procedure. As a result, utilizing the properties of the SULF1 enzyme and the reaction it catalyzes can lead to a rapid and noninvasive method for point-of-care breast cancer diagnosis.

David Heron, Biology  
Dalia El-Desoky, Biology  
Chelsi Watson, Biology  

*LRP-1 Targeted Intervention of Diabetic Retinopathy in Mouse Eye Model*

**Mentor(s):**  
Dr. Partha Bhattacharjee  
Biology Department  
Ahamed Hossain, Syed Muniruzzaman

**Keywords:** Molecular and Cellular Biology

**Abstract:** Vascular changes in the retina are traditionally considered as a classic diagnostic feature of diabetic retinopathy (DR). However, color blindness, lack of contrast sensitivity and abnormal electroretinogram characteristic to retinal neurodegeneration are documented in diabetic patients before clinically evident blood vessel changes arise. In fact, diabetes-induced retinal neurodegeneration precedes vascular damage. Two hallmark features of retinal neurodegeneration are neuronal (retinal ganglionic cell-RGC) apoptosis and Muller cell (only immune cell in the retina) hyperactivity. Critical barriers to the development of adequate therapeutic strategies for the treatment of DR is related to the lack of information about the mechanism of early retinal neurodegeneration and its progression to late vascular abnormalities. Our studies with genetically modified db/db (mimicking human type 2 diabetes mellitus) mouse eye model suggest a signaling pathway involving low-density lipoprotein receptor-related protein-1 (LRP-1) protecting neurons from apoptosis. Our results also suggest that LRP-1 activation prevents neuronal apoptosis in the retina by regulating the PI3k/Akt pro-survival pathway and MAPK/Erk pro-apoptotic pathway. We suggest a new therapeutic strategy of inhibiting neuronal apoptosis in diabetic retina and may benefit the interventional approach against other retinal neurodegenerative diseases such as glaucoma and AMD (age-related macular degeneration).
Sheila Tchombe, Pharmacy

*Investigation into the Antidiabetic Action of Brassica oleracea var via Alpha-glucosidase Inhibition*

**Mentor(s):**
Dr. Patience Obih  
Division of Basic Pharmaceutical Sciences

**Keywords:** Pharmacology, Pharmaceutical Research, Diabetes and Phytotherapy

**Abstract:** Diabetes mellitus is considered the seventh leading cause of death in the United States affecting over 29 million people. Several treatments are available for lowering the blood glucose levels and in all therapies, proper nutrition is essential. A-glucosidase inhibition delays the cleaving of polysaccharides to monosaccharides and prevents carbohydrates into the blood stream. Inhibitory foods include leafy green vegetables, and sweet potatoes to name a few. Broccoli, known as Brassica oleracea var was studied to determine alpha glucosidase inhibitory activity. The purpose of this study was to examine the ability of aqueous extracts of broccoli to inhibit α-glucosidase activity. This herb was selected on the basis of supporting evidence in literature and its widespread use in traditional medicine. The extracts were assayed in vitro method by the method of Ramirez et al., 2012 and prepared on a 96-well micro titer plate for alpha-glucosidase inhibitory activity. The results were read on a ThermoScientific® Multiskan spectrophotometer at 400 nm using acarbose as a positive control. Broccoli, tested at 200 mg/mL, displayed little inhibitory activity compared to Miglitol (Glyset). The results suggest that aqueous extracts of Brassica oleracea var exhibit some α-glucosidase inhibitory potentials and synergistically works in DM treatment.

Brionna King, Biology Pre-Med

*Respiratory Enzymes of Ferroplasma acidiphilum: Oxidation of Cytochrome 583/594 is Rate-Limiting during Aerobic Respiration on Soluble Iron*

**Mentor(s):**
Dr. Robert Blake  
Division of Basic Pharmaceutical Sciences

**Keywords:** Biochemistry bacterium research ferroplasma acidiphilum archaea oxidation iron extremophiles microorganism

**Abstract:** Ferroplasma acidiphilum is an archaeal member of the phylum Euryarchaeota. Microorganisms that respire iron aerobically can also be found in 5 other phyla. Very little is known about the electron transfer reactions that occur when any of these microorganisms respire iron aerobically. Hypothesis: All of these organisms that respire iron aerobically may use the same mechanism to conduct electron transport from iron to oxygen. Methods: We tested this hypothesis by culturing the Fp acidiphilum in pH 1.5 and 37 degrees C and examining the biomolecules in intact cells that became reduced when the cells were exposed to soluble iron. Cells were cultured and suspended in a solution with soluble ferrous iron. Then, the cells were washed and harvested by centrifugation and washed twice to remove spent culture medium. We then counted the washed cells by electrical impedance measurements on a Multisizer. Next, the iron dependent reduction of cytochromes in the intact bacteria was monitored using a novel integrated cavity absorption meter. The intact cells were studied to see where there were absorbance peaks that appeared when the oxidized cells were exposed to reduced iron. Results: The absorbance peaks for the iron-dependent reduced cytochromes Fp acidiphilum were found at 583 and 594 nm. Conclusions: These spectral properties were different from those observed in the organisms in the other phyla. A new hypothesis would be that different organisms from different phyla use different biomolecules to respire iron.
Brandon Hylton, Biology
Rebecca Udokop, Biochemistry

*Comparison of assays for detecting lysine deacetylase activity*

**Mentor(s):**
Dr. Terry Watt
Chemistry Department
Dr. Tasha Toro

**Keywords:** Enzyme activity, Biochemistry, Mass spectrometry, Flourescence,

**Abstract:** Lysine deacetylases (KDACs) are enzymes that play a role in post-translational modification of proteins, affecting gene expression and protein function. The altering of gene expression and protein function has been associated with diseases. The standard method of deacetylation detection involves using a fluorophore conjugated to the substrate. This conjugation changes the behavior of the substrate significantly. There are several alternative, but less established, methods available for assaying KDAC activity with label-free substrates. These methods involve detection of one of the reaction products, either by fluorescence-based methods or mass spectrometry. Our project is to compare the reliability, sensitivity, and effectiveness of the multiple methods. Our standard assay, the fluorescamine assay, detects un-acetylated lysine with high reliability and sensitivity. The fluorescence-based assay measuring the production of acetate did not produce reliable data. Mass spectrometry was unable to provide reliable quantitative data under the conditions used and was less sensitive than the fluorescamine assay; however, this technique was able to differentiate between multiple substrates reacted in the same solution, and show that different HDACs can react with different numbers of lysines on the same peptide

Brandon Brown, Mass Communication

*Fox News Portrayal of Black Lives Matter*

**Mentor(s):**
Dr. Tia Smith
Mass Communication Department

**Keywords:** Fox News, Black Millennials, Media, Black Lives Matter, Protest, Equality, Fairness.

**Abstract:** This research is to identify the standpoint Fox News holds which pertains to Black Lives Matter. It is important to understand how Fox News reports on the movements protests, and the picture they create for greater America.
FESTIVAL of SCHOLARS

XAVIER UNIVERSITY of LOUISIANA
Christopher Brown, Mass Communication

Learning Disabilities Holding Back Black Youth

Mentor(s):
Christopher Brown
Mass Communications Department

Keywords: Dyslexia, attention deficit disorder, ADD, learning, disability, black millennial, comedy

Abstract: In the mid 1980’s there was Episode of Cosby Show where a character Theo is diagnosed with dyslexia. In that episode it is explained how hard Theo worked in school and received below average grades, his parents, a doctor and a lawyer struggled to understand his difficulties. Bill Cosby even makes jokes about Theo's work ethic, wondering if his son is stupid. It hasn't been since this episode has mental disabilities were explained in the African American community. As an African American millennial who has dyslexia, I remember that episode vividly and it helped me understand myself better. My goal is to have other people gain that kind of understanding I received.

Chelsea Kelland, Biology Pre-Med

Characterizing Mutations at the Kinesin-Microtubule Interface that Cause Hereditary Spastic Paraplegia

Mentor(s):
Dr. Thomas Huckaba
Biology Department

Keywords: Biology Neuroscience

Abstract: Hereditary Spastic Paraplegia (HSP) is a neurodegenerative disease that results in progressive lower limb spasticity and weakness. While HSP can be caused by mutations in over 50 different genes, all patients share an axonopathy of the corticospinal tract of upper motor neurons. This project focuses on mutations in the neuronally-enriched kinesin transport motor, Kif5A. To date, there are 24 separate mutations in Kif5A that have been shown to cause HSP. Perhaps unsurprisingly, half of the known HSP-causing mutations in Kif5A are at the kinesin-microtubule interface, suggesting an inability of Kif5A to properly interact with its microtubule track. To test this hypothesis, we have performed a series of biochemical and biophysical assays to examine the enzymatic properties of recombinantly-expressed Kif5A proteins. In addition, we have performed molecular dynamics simulations and structure-based analysis of altered interactions that result from these mutations. We find that all mutations in this region decrease the affinity of Kif5A for microtubules, and that most mutations decrease the microtubule-stimulated ATP hydrolysis rates. Under standard microtubule gliding assay conditions, none of the mutant kinesins showed ensemble motility. However, upon progressive reduction of the ionic strength of the assay conditions, we saw microtubule gliding for many of the mutants. Our in silico analyses suggest that this reduced kinesin-microtubule affinity is caused by the loss of salt bridge formation at the kinesin-microtubule interface. We find that HSP-causing mutations not only interrupt interactions at the specific mutation site, but also alter the kinesin structure in such a way that multiple sites in the interaction network are affected. The combination of these in vitro and in silico analyses provide mechanistic insight into how mutations in Kif5A ultimately cause HSP.
Aliyah Jones, Premedical Psychology

*Semi-Automation of a Reliable Method for Measuring Human Insular Cortex*

**Mentor(s):**
Dr. Jeremy Cohen
Psychology Department

**Keywords:** Psychology, Insular Cortex, Neuroscience, Morphometry, ANTS, Cognition

**Abstract:** The Insular Cortex is the multimodal brain region with connectivity throughout the brain that is involved in a wide variety of cognitive functions, including anxiety manifestation and psychosis. The use of manual morphometry is ideal to measure the size of insular cortex, as this approach is capable of capturing subtle inter-subject variability, but is very time consuming. Automated image processing is capable of producing data from more subjects, but the approach itself loses accuracy of nuance of anatomy across subjects. The goal of this study was to increase the reliability of the segmentation adapter by configuring the script using dilation configurations. It was hypothesized that ANTs could generate reliable insular ROIs to established manual measurements.

Jadzia James, Mass Communication

*The American Dream: Black Millennial Consumers*

**Mentor(s):**
Dr. Tia Smith
Mass Communication Department

**Keywords:** Black Millennial, Black Consumers, American Dream, Black Social Media

**Abstract:** Literary and studies and articles have been combined to investigate the influence of the black millennial on consumerism. The focus relies heavily on the use of social media to reach this target group and enable products to be more accessible and therefore aid this group in achieving the American dream. Millennials, who have been found to be optimistic about their financial futures, have presented themselves as valuable consumers through investments, mainstream culture, and cause-related purchasing. Findings from this research will provide implications and limitations for the purpose of theory and implementation. Upon examination of these findings, it can be concluded that black millennials have redefined the American dream and have shaped it into an ideal that is inclusive of ever-changing technology.
Jeremey Shropshire, Chemistry

*Synthesis of Stimuli-Response Nanomaterials as Potential Drug Delivery Agents*

**Mentor(s):**
Dr. Stassi DiMaggio  
Chemistry Department

**Keywords:** Organic Chemistry, Cancer Research

**Abstract:** Dendrimers are synthetic polymers with a branched, treelike structure. The molecular architecture of dendrimers results in polymers that are well defined in their size and number of terminal groups. The nature of the terminal groups determines the particular dendrimer shape, stability, conformational rigidity or flexibility, and viscosity. Dendrimers contain arms, which are uniformly centered on the dendrimer core. The number of arms on a dendrimer is proportional to the dendrimer generation. We have designed and synthesized various ligands to conjugate the dendrimer arms that will serve as unique attachment points for functionally relevant molecules, such as stimuli-response polymers (SRPs) used for drug encapsulation and delivery. We will attach the SRPs to the dendrimer via click-chemistry ligands. To that end we have synthesized 3-(4-(2-chloroethoxy)phenyl)propanoate, 3-(4(prop-2-ynyloxy)phenyl)propanoate and 3-(4-(allyloxy)phenyl)propanoic acid as click chemistry ligands. These ligands are synthesized from the same starting material methyl 3-(4-hydroxyphenyl)propanoate, which then is reacted with propargyl bromide, allyl bromide, and sodium azide respectively to synthesize the ligands with an alkyne, alkene, or azide click chemistry functionality. The carboxy ends of these ligands have been conjugated to the hydroxy termini of the bis-MPA (Bis 2-2 hydroxymethylpropionic acid) dendrimer arms using EDC coupling chemistry. The results of the ligand syntheses and the conjugation reaction were verified by 1H NMR. These dendrimer ligand complexes will then be attached to a stimuli response linear block-copolymer. We predict that the precisely defined dendrimer-ligand-SPR will be able to encapsulate drugs and selectively distribute drugs with greater efficiency than free SRPs alone. These stimuli-responsive polymers can potentially be innovative nanomaterials in therapeutic drug-delivery.

Leonard Lewis, Mass Communication

*Black Female acting roles and how social media has shaped it.*

**Mentor(s):**
Dr. Tia Smith  
Mass Communication Department

**Keywords:** Entertainment, Acting, Hollywood, Q, Equality

**Abstract:** The purpose of this study is to explore different roles black women have in media such as being an actress, filmmaker, or a reporter and how they are perceive due to the descriptions that are given on television. Black women in media have been a controversial topic over the years. Some may say the portrayal of black women is much more positive than it has been in the past few years. This study will analyze the question “How are black women portrayed in television, negatively, positively or both? My research will seek to answer how roles such Mary Jane Paul, Olivia Pope, Cookie Lyons are created. The study will not only analyze black actress, but also the way we perceive black female reporters. Its goal is to increase the amount of knowledge regarding the history of black women in media over time.
Donyika Joseph, Pharmacy
Alaina DeKerlegand, Pharmacy
Hannah Naquin, Pharmacy

Managing the Rise of Diabetes Among Type 2 Diabetic Patients in Rural Mexico

Mentor(s):
Dr. Lovie Rodgers
West Jefferson Medical Center Director of Pharmacy

Keywords: Global health awareness, Pharmacist-associated interventions

Abstract: While volunteering on a medical service trip to Puerto Peñasco, Mexico in 2015, many T2DM patients reported no longer using metformin due to negative gastrointestinal side effects. These testimonies prompted development of a survey to assess how patients in this area are managing T2DM. A group of Xavier University pharmacy students under the guidance of a clinical pharmacist participated in a medical service trip to Puerto Peñasco, Mexico through International Service Learning (ISL). During home screenings and clinic visits, patients were introduced to the survey and the purpose of our research, invited to participate, and assured their level of care was not dependent on their decision. Survey responses were received from 16 patients during our trip; no patients with T2DM declined participation. Of the 16 patients, 3 (18.8%) were not using any treatment, 12 (75%) were using metformin with or without a second therapy, and 1 patient was using the herb moringa. Insulin, glibenclamida, glimepiride, and chayotes were secondary therapies used by 8 of the 12 metformin users. ISL was surprised by the results and has adopted this survey in hopes of identifying patients who would benefit from donations or financial assistance as a means of obtaining medications.

Asianera Neal, Biology
Brodrick Bazanac, Chemistry Pre-Pharmacy
Taylor Russaw, Biology

Breathing Life Back Into the Heart of New Orleans

Mentor(s):
Dr. Michael Adams
Chemistry Department

Keywords: Environmental justice, Water Management

Abstract: This section of FRSM 1100 focuses on issues of environmental justice in New Orleans and beyond, with a specific focus on issues surrounding water. Working with WaterWise NOLA, we visited the Treme neighborhood to discuss with residents issues of water management and local flooding.
Brittany Bryant, Biology Pre-Med
Jonathan Nguyen, Biology Pre-Med

Feeding Frenzy: Cellular Digestion in C. elegans

Mentor(s):
Dr. Peter Barrett
Biology Department

Abstract: The purpose of this experiment was to see whether certain substances undergo endocytosis in C. elegans, specifically in the small intestine. In this experiment, substances such as fluorescent dyes that are known to bind and stain DNA, dye conjugates, fluorescent organisms, and fluorescent latex beads were introduced to the worms' environment to see if C. elegans would engulf or reject the substance, if the substance would kill the worm once the worm ingested it, and where the fluorescence would be observed in the worm. Worms were washed from petri dishes and exposed to different substances for the worms to uptake: acridine orange, RITC-dextran, ethidium bromide, yeast labeled with CFP, E. coli-GFP, E. coli-DsRed, and fluorescent beads were added to tubes, along with wild-type C. elegans. The tubes were wrapped in foil and allowed to incubate for endocytosis to occur. After the incubation period, the tubes were centrifuged and the supernatant was removed, avoiding disturbance of the worms. The worms were washed three times with PBS buffer. Wet mounts were prepared by adding the worms to a slide and sealing it with petroleum jelly, so that the worms could be viewed under the fluorescent microscope. Our results indicate that the fluorescent beads were consumed by C. elegans, but remained in the intestinal lumen instead of being taken up by the intestinal cells. Acridine orange is consumed and labels the intestinal lumen of the worms. Ethidium bromide is also taken up by the intestinal cells, but less so than acridine orange. A fair amount of ethidium bromide was still present in intestinal lumen. The results of our experiment determined that fluorescent beads are not taken up by intestinal cells, most likely due to their size. Acridine orange is easily absorbed into the intestinal cells compared to ethidium bromide, which has relevance to acridine orange acting as a carcinogen.
Food Justice

Mentor:
Dr. Elizabeth Hammer
Psychology Department

Abstract: Our Freshman Seminar course has been studying Food Justice this semester, in conjunction with a Service Learning project at Agrowtopia (Xavier's urban garden). In this panel we will discuss issues related to food using an integral human development framework. Topics include food consumption and production, food waste, governmental policies, and the outlook for the future. We will use both a local and global approach.

UC 218
11:00 – 11:50 AM
Food Consumption
Jazmine Ross, Biology Pre-Med

Food Production
Ja’Che J. Malone, Premedical Psychology

Food Production
Alexandria Griffin, Public Health Sciences

Food Politics
Taylor Perry-Crawford, Psychological Science

Food Waste
Chya L. Woodard, Chemistry Pre-Pharmacy

The Future of Food
Natalia Loudd, Biology Pre-Pharmacy

Earth Day Panel

Moderator:
Ms. Carolyn Thomas
Office of Career Services

Abstract: The purpose of this panel is to provide information and create awareness of Sustainability and Environmental employment opportunities in an effort to prepare our students for the local and global economies.

UC 205 C
11:00 – 12:00 PM
Participating Organizations
STEM NOLA
Xavier University Office of Environmental Health and Safety
Greater New Orleans, Inc.
Water Collaborative
Sewage and Water Board New Orleans – Environmental Dept.
Prism: Creative Nonfiction in Living Color

Mentor:
Ms. Katheryn Laborde
English Department

Abstract: In Creative Writing (CRWT) 2070, students study and write creative nonfiction, a genre that requires the artistry of fiction writing and the power of truth. In this presentation, the writers present original flash essays inspired by specific colors.

UC 218
12:00 – 12:50 PM
Blood Red
Nicholas Honore, Chemistry

Turquoise
Delaney George, Mass Communication

Peach
Aja McCoy, Political Science

Green
Jendaya Bell, Political Science

Gold
Amari Teal, Sociology

Blue
Joy Alia, Premedical Psychology

Vibrant Red
Brandon Brown, Mass Communication

Hair

Mentor:
Dr. Shearon Roberts
Mass Communication

Abstract: This will be screening of a digital short film. The film depicts young black women's emotional daily with their hair.

UC 218
11:00 – 12:00 PM
Deja Dennis (Producer/Director), Mass Communication
Performance and the Transmission of Folklore from West Africa to Louisiana

Mentors:
Dr. Susan Spillman, Languages Department
Dr. Ross Louis, Communication Studies Department
CURGO/Mellon Research Circle

Abstract: My performance will be an adaptation of 'The Reward' a folktale transcribed by Birago Diop. The purpose of this solo performance is to critique the transmission of African folktales to the Americas.

UC 219
2:00 – 3:00 PM
Amber Dominique, Spanish and Psychology
FESTIVAL OF SCHOLARS