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Research Week 2013

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RESEARCH WEEK 2013

“CREATING A COLLABORATIVE RESEARCH CULTURE”

APRIL 2 –5, 2013

A Program Coordinated by the Office of Research

Texas Southern University • 3100 Cleburne Avenue • Houston, Texas 77004



TEXAS SOUTHERN UNIVERSITY

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RESEARCH WEEK 2013

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**ALLIANCE OF CENTERS AND CORE FACILITIES
FOR RESEARCH AND OUTREACH**

TSU RESEARCH WEEK 2013

ACTIVITY SCHEDULE

“Creating A Collaborative Research Culture”

April 2, 2013 - Tuesday

Continental Breakfast and Registration	Sterling Student Life Center Tiger Room (3rd Floor)	9:30 am-10:30 am
General Session	Sterling Student Life Center Tiger Room (3rd Floor)	10:30 am-12:00 pm
Student, Staff and Faculty Poster Presentations	Recreation Center Gymnasium	1:00 pm-4:00 pm
Research and Outreach Center Exhibits	Recreation Center Gymnasium	1:00 pm-4:00 pm

April 3, 2013 - Wednesday

Faculty Oral Presentations	Education Building Room #318	9:00 am-12:30 pm
Staff/ Student Oral Presentations	Education Building Room #318	1:30 pm -5:00 pm

April 4, 2013 - Thursday

College/School Discipline Specific Sessions

Thurgood Marshall School of Law	Law School Dean's Conference Room #227	9:00 am—11:00 am
JHJ School of Business	JHJ Conference Room #239	10:00 am—12:00 pm
BJ-ML School of Public Affairs	Public Affairs Building Room #114	10:00 am—3:00 pm
College of Science and Technology	Science Building Room #158	10:00 am-12:00 pm
Thomas F. Freeman Honors College	Honors College Auditorium	11:00 am-1:00 pm
College of Pharmacy and Health Sciences	Gray Hall Lecture Hall #100	11:00 am-1:00 pm
College of Liberal Arts and Behavioral Sciences	Public Affairs Building Room #114	1:00 pm-3:00 pm
School of Communication	MLK Building Room # 114	2:00 pm-4:00 pm
College of Education	Rod Paige Education Building #318	5:30 pm— 7:00 pm

TSU's Northwest Campus Sessions

Student Oral Presentations	Northwest Campus #503	5:30 pm-6:30 pm
Guest Lecturer	Northwest Campus #503	6:30 pm-6:45 pm
Awards and Acknowledgements	Northwest Campus #503	6:45 pm-7:00 pm

April 5, 2013- Friday

Awards Program/ Luncheon	Sterling Student Life Center Tiger Room (3rd Floor)	11:00 am-1:00 pm
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PRESIDENT OF TEXAS SOUTHERN UNIVERSITY

Dr. John M. Rudley
President



March 22, 2013

Dear Texas Southern University Community:

I am pleased to offer my endorsement of Texas Southern University's Research Week 2013, "*Creating a Collaborative Research Culture*." Annually, Texas Southern's Research Week serves as an assembly for the nation's most creative minds to share their work and facilitate future intra- and interdisciplinary collaborations fully aware that research is the lifeblood of innovation. Moreover, Research Week provides an avenue for promoting national and local awareness of the exciting research and outreach activities transpiring at our institution.

At present, countries around the globe are expanding their influence in higher education—particularly in the area of research. According to a report from the Organization for Economic Cooperation and Development, about 40 percent of young postsecondary degree-holders in leading countries will come from China and India by 2020—two nations fighting for the position of global leader in research. In comparison, the United States and some European Union countries will produce about 25 percent of young college graduates. Hence, if this nation is to stay competitive into the 21st century, it is critical that institutions and individuals remain committed to investing in research. "*Creating a Collaborative Research Culture*" will go a long way in making this happen by providing the greatest return on research dollars invested.

Together we can pioneer new discoveries that will help shape the world of today and tomorrow. Hence, quality research has become an even more precious commodity, and even more dependent upon faculty, students and universities actively utilizing research partners.

Research Week 2013, which will take place April 2-5, provides the kind of boundary-pushing environment capable of creating multiple pathways for increased support for cutting-edge research that will help Texas Southern University become one of the nation's leading urban serving institutions. Annually, Research Week successfully creates an atmosphere of excellence that is exhibited through oral and poster presentations from visiting scientists, faculty, research staff and students, along with panel discussions, plenary sessions and the culminating awards program.

By showcasing Texas Southern University's growing research acumen, Research Week 2013 allows members of the Texas Southern community to garner the benefits of a University culture that serves as an epicenter for ground-breaking research. I am pleased to offer my support and urge students, faculty and staff to participate in and celebrate Texas Southern's Research Week 2013.

Sincerely,

A handwritten signature in black ink that reads "John M. Rudley".
John M. Rudley
President

PROVOST, VICE PRESIDENT FOR ACADEMIC AFFAIRS AND VICE PRESIDENT FOR RESEARCH



April 2, 2013

Dear Texas Southern University Family:

Research Week at Texas Southern University (TSU) is an annual event designed to highlight and showcase the research activities and quality education of our undergraduate students, graduate students, and faculty. Research Week presents an opportunity for faculty and students to display research/scholarly works that could be of interest to colleagues from other educational enterprises, research laboratories, corporations and governmental agencies at large. TSU sponsors Research Week as a part of meeting and keeping its vision and mission of “Excellence in Achievement” through this year’s Research Week theme, “Creating a Collaborative Research Culture 2013.”

Our University is classified by the Carnegie Commission as a “Research Intensive” university and by the state of Texas as a “Doctoral” level university. Clearly, Research Week is very beneficial to TSU’s reputation, growth and development as an emerging research institution. I seize this opportunity to commend the efforts of faculty and students who will showcase their research/scholarly activities during Research Week. Your contributions will definitely add value to the overall research productivity of the University.

I strongly encourage you to attend as many presentations as possible. Your support is critical to the success of Research Week.

Sincerely,

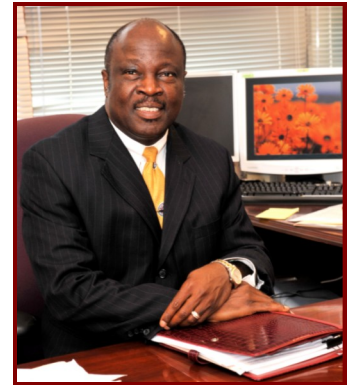
Sunny E. Ohia, Ph.D., FARVO

Provost

Vice President for Academic Affairs

Vice President for Research

INTERIM ASSOCIATE PROVOST ASSOCIATE VICE PRESIDENT FOR RESEARCH



Dear Texas Southern University Community:

Another year is here and another Research Week is here. The activities planned for this year's Research Week continues the tradition of showcasing the research strength of TSU faculty, staff, and students. It promises to demonstrate that Texas Southern University, like every other institution commits herself to conveying knowledge to new generations and to lead in the creation of new basic and applied knowledge through research and scholarship.

The activities planned for this week promise to live up to TSU's goal of promoting *Excellence in Achievement*. This year's theme, "*Creating a Collaborative Research Culture 2013*" aptly captures the essence of a vibrant research enterprise on campus and the need to synergize among the various entities for more effective gains. In order to enrich research culture and enterprise on campus, faculty acquisition of extramural funding remains a top priority through collaborative research. To this end, the first ever Research Retreat was held February 1 and 2, 2013 featuring eighty nine (89) faculty and staff who gave presentations of their research. This gave an opportunity for other faculty to identify likely partners for collaboration in seeking extramural funding. Four research clusters were established and investigators in each cluster have begun the task of identifying common research goals and ultimately research funding sources.

In continuation of the spirit of collaboration, the institutional interdisciplinary research seminar series has continued — one that involves joint seminars for faculty from all colleges and schools.

All in all, the University's programmatic activities designed to boost research are paying great dividends as attested to by the dramatic increase in the number of abstracts submitted for Research Week 2013 — up 19% overall, 25% for students and 33% for staff over last year's numbers.

With the current efforts and activities, I am convinced that the research enterprise at Texas Southern University is on the right track.

I wish everyone a fruitful Research Week.

Sincerely,

Adekunle Oyekan

Interim Associate Provost/Associate Vice President for Research

TEXAS SOUTHERN UNIVERSITY



ADMINISTRATION

TEXAS SOUTHERN UNIVERSITY ADMINISTRATION

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RESEARCH WEEK 2012 REPORT



RESEARCH WEEK 2012 REPORT

The Office of Research along with the University Research Committee and Research Advisory Council at Texas Southern University (TSU) continue to coordinate research week programs that reflect the increasing caliber of campus research and outreach initiatives. Research Week 2012 (RW12) was truly a history making event with over 100 faculty staff and students presenting their research to external and internal peers and colleagues alike. The number of abstracts submitted increased significantly –up 66% for faculty and 46% for students over last year’s numbers. The event was held April 2-5, 2012 and included general plenary sessions as well as oral and poster presentation sessions where faculty, staff and students who have distinguished themselves through their training and experiences in specific areas of research were afforded the opportunity to showcase their work.

This year’s theme, *“Advancing Together through Cutting Edge Interdisciplinary Research”* directly reflects major efforts embraced by the Office of Research for the 2011 and 2012 academic years. In recognizing the need to foster greater interaction among faculty, an institutional interdisciplinary research seminar series was implemented – one that involves joint seminars for faculty from all TSU colleges and schools. Similar efforts were made to include more diverse research projects with the common thread of creative thinking and innovation in this year’s general sessions.

The opening session featured Dr. Robert Bullard, nationally renowned environmental justice expert and dean of the Barbara Jordan ~ Mickey Leland School of Public Affairs at TSU, who discussed research presented in his seventeenth book, *Wrong Complexion for Protection: How the Government Response to Disaster Endangers African Americans* (NYU Press July 2012). Additionally, Dr. Jason Rosenzweig, Assistant Professor of Biology at TSU presented, *“The Pathogenic Yersiniae in Space: What Could Happen and What Can We Learn?”* Finally, the culminating awards program luncheon featured keynote speaker Judge Ruby Shaw, a TSU Thurgood Marshall School of Law alumnus who is presiding magistrate for the Fort Bend County Consolidated Truancy Court. Judge Shaw discussed her content analysis-based investigation of empirical research literature on school zero tolerance policies and whether school policymakers have enough information to conclude that zero tolerance policies are effective and should be continued as a deterrent to school discipline problems. This year’s session content exemplified the undeniable fact that collectively and individually TSU’s research community is raising the bar for excellence in research.

The Office of Research wholeheartedly thanks all internal and guest participants and presenters. Furthermore, we give thanks to the distinguished panel of judges: Dr. Halcyon Watkins, Attending Veterinarian, Dr. Nathaniel Shelton, Institutional Animal Care and Use Committee Member, Dr. Saswati N. Saha, Professor of Education, Dr. Mayur Desai, Professor of Business, Dr. Marcia Shelton, Director Research Regulatory Compliance and Research Compliance Officer for The Texas A&M System, Ms. Cecilia Bruce, Compliance Officer, Dr. Albertina Hueghey, Grants Editor for the Humanities and Social Sciences, Dr. David Owerbach, Grants Developer for the Sciences, Dr. Sheryl Mccurdy, Professor of the School of Public Health, University of Texas Health Science Center and Dr. Delonia Cooley, Faculty, School of Business. Congratulations to the faculty, staff and student oral and poster presentation winners!

RESEARCH WEEK 2012 WINNERS

PLACE	NAME
1st Place Faculty Oral	Dr. Arthur Whaley , Professor and Chair, Psychology, Academic Achievement and Behavioral Health among Asian American and African American Adolescents: Testing the Model Minority and Inferior Minority Assumptions
2nd Place Faculty Oral	Dr. Zivar Yousefipour , Assistant Professor, Health Sciences, Role of Serum Response Factor (SRF) and NFκB in Acrolein-induced Modulation of Inflammatory Gene Expression Profiling
3rd Place Faculty Oral	Dr. Maruthi Sridhar Balaji Bhaskar , Assistant Professor, Environmental Science and Technology, Monitoring Water Quality Using Remote Sensing
1 st Place Faculty Poster	Dr. Angela Meshack , Assistant Professor, Health and Kinesiology, Perception of Risk for Cardiovascular Complications Among African Americans with HIV
2nd Place Faculty Poster	Dr. Hyun-Min Hwang , Assistant Professor, Environmental Science and Technology, Is the Indoor Environment Safe for Children
3rd Place Faculty Poster	Dr. Yuhong Zhang , Assistant Professor, Engineering Technology, A Study of Security Countermeasure for Cyber-Physical Systems
1st Place Staff Oral	Dr. Poonam Sarkar , Research Associate, Pharmacy, Proteomic Profiling of Mouse Brain in Simulated Microgravity Environment
2nd Place Staff Oral	Latisha Clark, M.S. Research Staff, Transportation Studies, National Transportation Security Center of Excellence – Petrochemicals (NTSCOE-P), Petrochemical Incident Location System
3rd Place Staff Oral	Subria Lapps, MPA , Adjunct Professor, Public Administration; Dr. Michael Adams , Professor, Public Administration; Mellany Patrong , Risk Management Specialist, Exploring Study Abroad Opportunities At HBCUs: Making The Transition at Home and Abroad
1st Place Staff Poster	Jinghui Wang , Research Assistant Staff, Transportation Studies, Faculty Advisors/Collaborator: Dr. Qiao Fengxiang and Dr. Lei Yu, Implementing Right-turn Signal Control at Signalized Intersections
2nd Place Staff Poster	Dr. Omana P. Mathew , Research Associate, Pharmaceutical Sciences, PTEN/PI3K/Akt Signaling in Vascular Smooth Muscle Cells (VSMC): Influence of Histone Modifiers
3rd Place Staff Poster	Fei Tao , Graduate Research Assistant, Transportation Planning and Management, Faculty Advisor: Dr. Lei Yu, Effects of Driving Behaviors on Vehicle Emissions: A Case Study in Houston, Texas
1 st Place Student Oral	Christina Randall , Undergraduate Student, Biology, The Study of ER Stress in the P23H + \ RHO + Transgenic Mouse
2nd Place Student Oral	Shantell Phillips , Undergraduate Student, Biology, Faculty Advisor: Dr. Renard Thomas, The Effects of Titanium Dioxide Carbon Nanotubes on Human Fetal Osteoblast Cells
3rd Place Student Oral	Xiaomei Bian Doctoral Student, Pharmaceutical Sciences, Faculty Advisor: Huan Xie, Peg-Gold Nanorod's-Anti CA IX Conjugates for Tumor Targeting and Therapy
1st Place Student Poster	Afua Awuah-Okyere, Nourhane Badawi, Christiane Koffi, Ngoc-Thuy Pham, James Russell Jr., Allyse Woods , Graduate Students, Pharmacy Practice, Faculty Advisor: Dr. Adlia Ebeid, An Assessment of Medication Adherence as it Relates to Motivation and Knowledge
2nd Place Student Poster	Shere' Paris , Graduate Student, Pharmaceutical Sciences, Faculty Advisor: Dr. Amruthesh Shivachar, Immunoreactive Detection of Microsomal Epoxide Hydrolase and Soluble Epoxide Hydrolase Expression in Glioblastoma Tumor Cells
3rd Place Student Poster	Su Liang, Xiaomei Bian, Jing Ma , PuarDoctoral Students, Faculty Advisor: Huan Xie Development and Validation of a Sensitive LC/MS/MS Method for the Determination of γ-Tocotrienol in Rat Plasma: Application to Pharmacokinetic Studies

TUESDAY, APRIL 2, 2013

GENERAL SESSION

STERLING STUDENT LIFE CENTER TIGER ROOM, 3RD FLOOR

10:30 AM – 12:00 PM

Facilitator **Linda M. Gardiner, Ph.D.**

Director, Research Enhancement and Regulatory Services

Greetings **Sunny E. Ohia, Ph.D.**

Provost, Vice President for Academic Affairs, Vice President for Research

Opening Remarks **Adebayo O. Oyekan, Ph.D.**

Interim Associate Provost and Associate Vice President for Research



Introduction of Speakers

10:35 A.M.

“The Digital Age and the Democratisation of Narrative Filmmaking”

Chris C. Ulasi, Ph.D.

Interim Chair and Associate Professor, Radio, Television and Film

School of Communications, Texas Southern University

The study is to show how the “Digital Age” has spawned a new generation of filmmakers who utilize affordable consumer and semi-professional digital cameras to hone their skills of becoming storytellers and digital artists of consequence here in the United States and around the world. The increased involvement of ordinary citizens in political debate is evident on an even greater scale on independent filmmaker sites such as Real Documentary and Indie Filmmaker. The internet allows for greater freedom of expression, facilitating citizens' ability to challenge and criticize: a basic democratic right. The internet afford citizens' the digital platform to showcase extremely low budget narrative films which explore various issues that affect society or that even have the power to actually bring democracy about - the Egyptian Revolution 2011 being a prime example. Invariably, today we are living in the Digital Age and in the same way that the internet can transform economies by allowing companies to work more efficiently, it can also empower those whose lack access to funds available to big film studios to work on a shoestring budget as digital filmmaker- for the better.



11:00 A.M. Questions and Answers

11:05 A.M.

An Evaluation of the ASA Status of Emergency Dental Patients

Cleverick D. Johnson, M.S., D.D.S.

Department of Restorative Dentistry and Biomaterials

The University of Texas Health Science Center at Houston Dental Branch

Introduction: Emergency dental care is multifactorial and is frequently juxtaposition with to demographics, medical concerns and access to care. Within this group of patients are a plethora of under-diagnosed medical and dental health complexities. Patients lacking the resources often exclusively utilize dental emergency facilities including: private practices specializing in limited care, dental school's emergency clinics and or hospital emergencies clinics. Dental emergency clinics are often initial diagnostic arenas where under-diagnosed maladies are at times often diagnosed when the disease processes are in a protracted chronic irreversible state and serve as a critical point of referrals. **Methods:** Analysis of adult patient population diagnosis included the following: cancers, irreversible pulpitis requiring dental extractions dental, drug and or substance abuse, chronic systemic dysfunctions, ASA status, abuse/trauma and sociodemographics. **Results:** De-identified data was collected and grouped from patient records form the a private practice Urgent Care Clinic. The following information was collected from 752 patients presented to the clinic September 1, 2012 -December 25 2012, 60% or 451 were female and 40% or 301 were males. The average age of the female patients was 45 years of age with the average age of the male patients was 56. The oldest female patient was 90 years old with the oldest male patient was 88 years old. Within the female groups the youngest adult patient was 18 years old, contrasting with the male patients where the youngest patient was 26 years old. Ten (10) squamous cell carcinomas and one (1) mixed carcinoma were diagnosed. No carcinomas were observed in the female populations. 41% of the male population presented with drug/substance abuse noted by oral lesions, whereas only 12% of the female population presented with similar lesions. Twenty-one (21) 15 male patients and six (6) female patients presented with oral human papilloma lesions. Irreversible pulpitis was diagnosed in 75% of the reasons for the patient's dental extractions in both males and females, while 20% resulted from periodontal complications, 5% resulted from trauma. In this population group was a total of 88 ASA I, 265 ASA II, 396 ASA III, and 3 ASAIII/IV patients. **Conclusions:** The findings of this study indicate that this patient population is somewhat sicker than that in the general population. Government studies also indicate that this population has higher incidence of substance abuse than the general population. The level of cancers in this population of non-smokers was consistent with several studies. It can be noted that the age differences between female and male patients may indicate females may seek healthcare earlier than males indicative of a longer lifespan. Dental emergency clinics can provide patients with comprehensive diagnosis through medical and dental oral examinations.

11:50 Questions and Answers

Closing Remarks

FACULTY, STAFF, AND STUDENT



POSTER PRESENTATIONS

TUESDAY, APRIL 2, 2013**FACULTY, STAFF, AND STUDENT POSTER PRESENTATIONS**FACULTY, STAFF, AND STUDENT
POSTER PRESENTATIONS

RECREATION CENTER GYMNASIUM

1:00 PM – 4:00 PM

RESEARCH AND OUTREACH CENTER EXHIBITS

RECREATION CENTER GYMNASIUM

1:00 PM – 4:00 PM



Remote Sensing of Soybean Stress as an Indicator of Chemical Concentration of Biosolid Amended Surface Soils

Maruthi Sridhar Balaji Bhaskar, Ph.D. (Abstract 010P)

Assistant Professor, Environmental Science and Technology

College of Science and Technology

Co-PI: Robert K. Vincent

The accumulation of heavy metals in the biosolid amended soils and the risk of their uptake into different plant parts is a topic of great concern. This study examines the accumulation of several heavy metals and nutrients in soybeans grown on biosolid applied soils and the use of remote sensing to monitor the metal uptake and plant stress. Field and greenhouse studies were conducted with soybeans grown on soils applied with biosolids at varying rates. The plant growth was monitored using Landsat TM imagery and handheld spectroradiometer in field and greenhouse studies, respectively. Soil and plant samples were collected and then analyzed for several elemental concentrations. The chemical concentrations in soils and roots increased significantly with increase in applied biosolid concentrations. Copper (Cu) and Molybdenum (Mo) accumulated significantly in the shoots of the metal-treated plants. Our spectral and Landsat TM image analysis revealed that the Normalized Difference Vegetative Index (NDVI) can be used to distinguish the metal stressed plants. The NDVI showed significant negative correlation with increase in soil Cu concentrations followed by other elements. This study suggests the use of remote sensing to monitor soybean stress patterns and thus indirectly assess soil chemical characteristics.



The Yersinia Response to Simulated Microgravity: What Can We Learn About Bacterial Virulence from a Space-like Environment

Jason A. Rosenzweig, Ph.D. (Abstract 011P)

Assistant Professor, Biology

College of Science and Technology

Co-PI: Ashok K. Chopra, Ph.D.

Manned space exploration has created a need to evaluate the effects of microgravity on pathogenic and opportunistic microbes which astronauts could carry with them to the International Space Station and beyond. *Yersinia pestis* (YP) causes bubonic, septicemic, and pneumonic plague capable of killing infected patients within 3 to 7 days. In this study, simulated microgravity (SMG) was used to challenge both a parental YP strain and its $\Delta ymoA$ isogenic mutant (devoid of the histone-like protein YmoA which regulates gene expression). SMG's effects on proliferation, antibiotic resistance, cold growth, type three secretion system (T3SS) function, and virulence of both strains were evaluated. SMG reduced both strains' T3SS expression and function which likely accounted for the reduced host cell cytotoxicity observed; however, SMG did not enhance the virulence potential of YP in both cell culture and murine infection models. Interestingly, however, SMG did enhance the virulence potential of the YP $\Delta ymoA$ isogenic mutant during a murine infection in a T3SS-independent manner. Taken together, SMG appears to influence different yersinia strains in distinct manners, and a broader view of additional YP mutants is warranted to gain a better insight into the YP SMG response.



Calculations of the Therapeutic Absorbed Dose and Secondary Neutron production in Proton Therapy using the Geant4 Monte Carlo Toolkit

Mark C. Harvey, Ph.D. (Abstract 012P)

Assistant Professor, Physics

College of Science and Technology

Co-PI: Dr. Stephen Avery, Dept. of Radiation Oncology, University of Pennsylvania;; Dr. Paul Guèye, Dept. of Physics, Hampton University

Secondary neutrons are a main source of stray and leakage radiation outside treatment fields in proton radiotherapy and therefore, pose a risk to patients for the development of second cancers. The accuracy of the nuclear physics model used to predict stray neutron fields in proton radiotherapy is not clearly understood. The multi-purpose Geant4 (v9.4) code is used to calculate the therapeutic absorbed dose and neutron spectral fluence from a proton treatment unit using three nuclear physics models: the Bertini model, the Binary Cascade model and the INCL4/ABLA model. The purpose of this research is to compare and quantify differences in predictions from these models for an un-modulated and a range modulated 160 MeV proton therapy beam in 1) characteristics of the therapeutic absorbed dose and 2) stray neutron fields produced by a proton radiotherapy unit using the default Bertini model as the baseline of comparison. The therapeutic absorbed dose is calculated in a water phantom downstream of the nozzle exit, while the neutron spectral fluence is calculated in air. The ambient dose equivalent per therapeutic absorbed dose ($H^*(10)/D$) of the secondary neutrons produced by the nozzle components is also calculated for each model. Based on these calculations, we determine $H^*(10)/D$ at the isocenter, 1 m downstream from the isocenter, and at lateral distances of 1 m from the isocenter. Our results indicate that calculations of the therapeutic absorbed dose ratios are in good agreement for all three nuclear models. The $H^*(10)/D$ values differed somewhat at the isocenter with or without range modulation. However, the neutron spectral fluence calculations typically vary noticeably using the two alternative models for intranuclear cascade processes



Advanced Speech Feature Extraction for Automated Deception Detection

Yuhong Zhang, Ph.D. (Abstract 013P)

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College of Science and Technology

One of the most challenging and important aspects of border security is distinguishing truth from deceit in interpersonal communications, while limiting interference with vital and legal commerce. Hence it is urgent to have an automated system that will aid in the detection of hostile intent, criminal backgrounds, and deception when interviewing people at ports of entry and when apprehending suspects in the field. Voice Stress Analysis (VSA) has been researched and developed over the last few decades. This technology has been introduced commercially to the lie detection field. One theory behind voice stress analysis is that there are inaudible vibrations known as "micro tremors" in the voice. The micro tremors change when a person is telling a lie. Therefore, voice and speech feature extraction through advanced signal processing methodology has attracted more and more attention in the past twenty years. In this projects, we apply advanced signal processing techniques to speech signals generated from deception experiments (e.g., mock crimes, instructed lying) measured using a sensor network developed by The National Center for Border Security and Immigration (BORDERS) to extract vocal features for classifying deception. Specifically, we will develop a software toolbox, or called feature extractor, with which various interesting speech features can be extracted in real time. The result of this research project will be directly integrated into a deception detection system for real-time deception detection.



Assessing the Environmental Vulnerability Risk at Major Seaports: A Comparative Analysis Between the Major Ports of the US Gulf

Maria Burns, Ph.D., M.S., Lead Auditor (Abstract 014P)

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College of Science and Technology

While the US Gulf contains some of the country's major seaports, the dynamic maritime and offshore drilling activities may potentially impose environmental threats for the region. The nucleus of the study entails (i) air pollution by Volatile Organic Compounds, SO_x, NO_x, PM_{2.5}. (ii) water pollution and the introduction of microorganisms through ship ballast water discharges (iii) pollution due to ships' oil spills, (iv) pollution due to ashore industrial activities, at the ports' vicinity. Risk assessment methods will be applied in each of the above sectors, in order to prioritize the high-risk areas and most critical generators of pollution. The areas to be examined will be the major ports of the US Gulf, within the States of Texas, Louisiana, Alabama and Florida. The original "Economic Growth & Environmental Vulnerability" theorem will examine the correlation between the national transportation and economic growth, and its increased vulnerability to environmental pollution. This research paper encompasses the disciplines and principles of environmental management, legislation, maritime operations, econometrics and risk management. It aims to highlight the tremendous potential of the US Gulf's growth and job openings in the area, while identifies the focal points of likely environmental threats. The outcome of this study will estimate the risk of a potential environmental pollution, and reveal the current challenges and opportunities for the maritime industry and the Gulf region.



Identifying Treatments for Safe Crossings of Bicycles around Interchanges

Fengxiang Qiao, Ph.D. (Abstract 015P)

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College of Science and Technology

Co-PI: Ying Li and Lei Yu

Compared to motor vehicles, passengers cyclists are more likely to be hit due to inconspicuousness and, if hit, more likely to sustain injury due to lack of protection. The goal of this study is to identify suitable treatments for the successful crossing of bicycles at freeway interchanges based on literature review, field study, an engineer survey, and framework design. Applicable treatments were selected through literature review, and existing issues were identified and then resolved. Potential conflict rates were identified through field study. Potential Conflict Rates per Hundred Vehicles (PCRPHV) are proposed as a unified parameter to compare potential conflict rates at different types of interchanges which are categorized into three types. Type I is overpass interchanges; type II is underpass interchanges; and type III is at grade interchanges. Type III, at grade interchanges, were found to have lower potential conflict rates than type I and type II interchanges. An engineer survey was conducted in order to determine engineers' preferences on bicycle treatments. A questionnaire related to bicycle safety was designed and distributed to engineers. A set of tables were designed for bicycle treatment selection. Each table introduces a single treatment with information including a picture, description, unit cost, application sites, application conditions, etc. All these treatments are included in packages A, B and C.



Acrolein-Induced Oxidative Stress In NAD(P)H Oxidase Subunit gp91phox Knock-Out Mice Effects on Other Oxidant Systems and Total Antioxidant Status

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Associate Professor, Health Sciences

College of Pharmacy and Health Sciences

Co-PI: Dr. Mohammad Newaz

PURPOSE: gp91phox, an essential component of NAD(P)H oxidase, maintains the functionality of the enzyme in producing oxygen radicals. NAD(P)H oxidase plays an important role in oxidative stress but its precise contribution in acrolein-induced toxicity has not been fully explored. We investigated the involvement of NAD(P)H oxidase and other oxidant system in acrolein toxicity using gp91phox knock-out mice. **METHODS:** Male gp91phox knockout (KO) mice (20-25 gm) or wild type (WT) control was treated with acrolein (0.5 ug/kg; 1 week). Animals were sacrificed and the liver was used to determine biochemical parameters. **RESULTS:** KO mice generated low (1.43 ± 0.02 pg/ug protein) free radical as evident by 8-Isoprostane compare to the WT mice (2.19 ± 0.1). Acrolein increased 8-Isoprostane in WT ($P < 0.05$) but not in KO mice. Xanthine Oxidase (XO) activity was higher ($p < 0.05$) in KO (0.56 ± 0.06 uunit/ug protein) than WT mice. On the contrary, acrolein reduced XO in KO mice while significantly increasing them in WT. Cyclooxygenase (COX) activity was not different between WT and KO mice although acrolein increased COX in WT. KO mice exhibited a significantly low (2.1 ± 0.2 umol/mg protein) total antioxidant status (TAS) compared to the WT (3.5 ± 0.3). Acrolein reduced TAS in both WT and KO mice in an equal manner. **CONCLUSION:** These data suggests that NAD(P)H oxidase contributes significantly in acrolein-induced oxidative stress. We also suggests that in absence of NAD(P)H oxidase XO and COX plays a definitive role in. This data also corroborate that besides generating free radical, acrolein also reduces antioxidant ability thus compounding the effects of oxidative stress.



Effects of Parent Expectations and Involvement on the School Readiness of Children in Head Start

Krystal T. Cook, Ph.D. (Abstract 017P)

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College of Liberal Arts and Behavioral Sciences

Many children are unprepared for the minimal standards needed to succeed in school especially among African American and Hispanic children. School readiness is an important attribute for future success among all children. There are many efforts to address school readiness and the academic needs of students through early intervention. Head Start is an example of an early intervention program offering educational and social services to low-income families in an effort to promote school readiness among children at-risk for school failure. Early intervention programs, policy, and research acknowledge that advocating parent involvement and empowerment is the foundation for improving children's ability to be successful in school. The purpose of this study was to examine how parent expectations and parent involvement in home learning and enrichment activities affect the school readiness of children enrolled in Head Start. The study examined how these parent variables were related to children's school readiness, and differences between ethnic groups, gender groups, and level of risk. The study tested a model whereby the effect of parent expectations on school readiness is mediated by parent involvement. Results indicated that high parent expectations directly related to increased school readiness scores. Parent expectations also had a positive direct relationship to parent involvement. However, results did not support that parent involvement in home learning activities served as a mediator of the relationship between parent expectations and school readiness variables. Study implications for parent behaviors and school readiness are discussed.



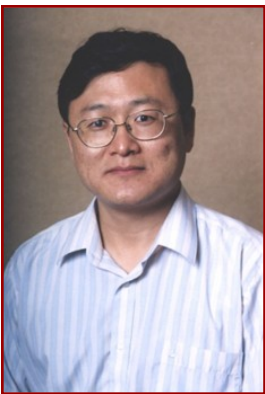
The Scope of Public Transit in Rural Transit Districts

Sarmistha Majumdar, Ph.D. (Abstract 018P)

Assistant Professor, Political Science

Barbara Jordan—Mickey Leland School of Public Affairs

Over the last few decades, many changes have taken place in rural America, which have helped to bring about changes in individuals' travel patterns and transportation needs. However, public transportation has failed to develop in rural areas for a variety of reasons, including low population density and lack of monetary resources. Also, there exists a lack of political will among public officials to recognize the increase in travel demands among rural residents and bring about necessary changes in the rural transportation scene. As a result, in many rural transit districts, transit operators have yet to adapt to the fundamental changes in rural communities and explore individuals' preferences in transportation. The demand based public transit services that are available in rural transit districts only cater to a special population of those individuals who are elderly, disabled, and have low income. As a result, people in rural areas tend to rely on their personal automobiles more than those in urban areas and spend a larger proportion of their income on transportation than those in urban areas. In this study, attempts have been made to explore if individuals in a city located beyond a metropolitan fringe and in a rural transit district have preferences for alternative transportation like public transit and to what extent their attitude towards commute and socioeconomic factors impact their preferences.



The Impacts of Oil and Gas Pipelines on Urban Residential Property Values: A Case Study in Houston

Qisheng Pan, Ph.D. (Abstract 019P)

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Co-Pi: Rickenson Daniel

Barbara Jordan—Mickey Leland School of Public Affairs

Some recent incidents of oil and gas pipelines in urban areas, such as the 2010 gas pipeline incident in San Bruno, California, have brought attention to urban residents and planners about the potential risks of pipeline facilities in residential neighborhoods. This paper examines the impacts of oil and gas pipelines on residential property values in Houston using the 2010 InfoUSA household data and pipeline data from local oil and gas pipeline companies. It utilizes three groups of variables, representing physical, neighborhood, and accessibility characteristics of properties. A hedonic model based on the traditional ordinary linear regression (OLS) and a multi-level regression model (MLR) are employed to examine the effects of the explanatory variables, especially the proximity to oil and gas pipelines, the number and the density of pipelines, and the commodities transported by pipelines, etc. A series of models with different sets of explanatory variables are developed to limit the effects of multicollinearity. Both MLR and OLS models consistently report that the density of pipelines and the proximity to pipelines has significantly negative impacts on property values in residential neighborhoods. The models also show that different commodities transported by pipelines have different effects on residential property values but MLR model and OLS model do not report the same effects.



Prospective Latino Students' Knowledge, Opinions, and Perceptions of HBCU's

Yoruba T. Mutakabbir, Ph.D. (Abstract 020P)

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College of Education

As legal and societal changes transform HBCUs from the only option for Black students to one of several options, HBCUs are increasingly recruiting non-Black students. The majority of research on HBCUs and non-Black students focuses on White students at HBCUs. Three of the top 10 states with the largest Latino populations are Texas, Florida, and Georgia, which are home to 19 HBCUs. Eight of the 10 states with the fastest growing Latino populations are home to 37 HBCUs (Alabama, South Carolina, Tennessee, Kentucky, Arkansas, North Carolina, Maryland). Considering the aforementioned statistics, HBCUs may find a burgeoning recruitment pool in the Latino population. Strong recruitment and enrollment is crucial to any university's survival. Using data from focus group interviews, this study will explore the knowledge, opinions, and perceptions Latino students have about HBCUs. The focus group is a qualitative data collection method that encourages individuals to provide in-depth answers to interview questions. Purposeful sampling will be used to identify potential participants. Specifically, Latino, college-eligible high school juniors enrolled in the Houston Independent School district will be recruited to participate in focus groups. Latino community college students with an expressed interest in transferring to a 4-year college will also be recruited for this study. The Houston metropolitan area is an ideal location for this study because it has a large Latino population and is home to 2 HBCUs. Data from this study can assist recruitment personnel in attracting more Latino students to HBCUs.



US - Nigeria Relations from 2009-2013

**Dr. Ahaziah Umanah and Dr. Joy Egbunike
(Abstract 021P)**

Professor, Speech Communications

School of Communications

The paper examines United States relationship with an important African Country, South of the Sahara. Nigeria is the most populous country in Africa. In International Affairs, Nigeria has been the most outstanding country in Africa with regards to conflict management. It has deployed members of its armed Forces to conflict situations as directed by the United Nations and the African Union. It has also engaged in shuttle Diplomacy in potential and actual conflict situations in many parts of the world. Nigeria shares common borders with Chad and Niger and has close diplomatic ties with Egypt and Israel. Given the political, strategic and diplomatic importance of the Arab awakening and the role of AL –Quida in the International Magreb (AQIM); given the need to understand and contain world terrorism; it is important to carefully examine the relationship between US and Nigeria in its various perspectives. This will help us appreciate why strategic relationships between the US and Nigeria can shape bilateral and multilateral interests around the world.



Development of Sterile Synthetic Matrices to Mimic Human Tissue in Forensic Training and Analysis

Ashraf Mozayani, Pharm.D., Ph.D., (Abstract 022P)

Executive Director of Forensic Science, Administration of Justice

Barbara Jordan–Mickey Leland School of Public Affairs

The goal of this project is to develop a series of synthetic fluids that mimic the physical properties of some of the evidence types collected for forensic testing, primarily semen and blood. DNA samples will be collected from volunteers in the form of buccal swabs or other non-invasive technique. These DNA samples will then be added to artificial solutions to create pseudo crime scene evidence or swabs for paternity testing. The DNA samples can be mixed to mimic sexual assault evidence or blood spatter. The samples will then be analyzed by students to provide them with hands-on experience with standard forensic DNA analytical techniques like PCR and electrophoresis, and will also provide the opportunity to interpret the results obtained from samples similar to those found in operating forensic laboratories.



The Impact of Mobile Technology on Health, Safety, and Environmental Regulatory Compliance in the Oil and Gas Industry

Karma Sherif, Ph.D. (Abstract 023P)

Professor, Business Administration

Jesse H. Jones School of Business

Mobile technology has been noticeably diffused in business in the last decade. Research studies have mainly focused on examining the structure of the technology and benefits to a mobile workforce. One area that has not gain much attention is the impact of mobile technology on regulatory compliance. Due to the nature of operations in the oil and gas industry, organizations are faced with a myriad of internal and governmental rules and regulations to ensure safety of all stakeholders involved and the surrounding communities, what came to be known as Health, Safety, and Environmental (HS&E) Regulations. While HS&E regulations are detailed and comprehensive, compliance has been substandard and accidents directly linked to HS&E violations continue to be noticeable. One major obstacle to organizations has been the deployment and inspection of processes against rules. This research examines the impact of mobile technology, as a deployment platform, on increasing regulatory compliance, reducing the cost of compliance checking, and improving the efficiency of business operations. As the capital of energy, Houston hosts a large number of multinational organizations whose concerns about HS&E compliance are paramount. In this research study, I examine the benefits of implementing mobile technology in reducing the cost of compliance checking and improving the efficiency of business processes with regard to HS&E regulations.



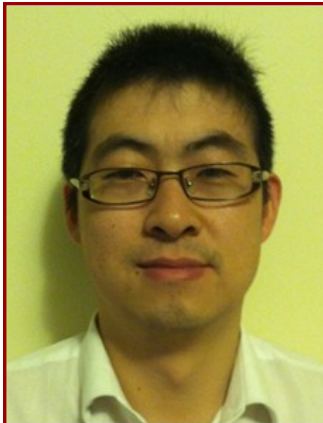
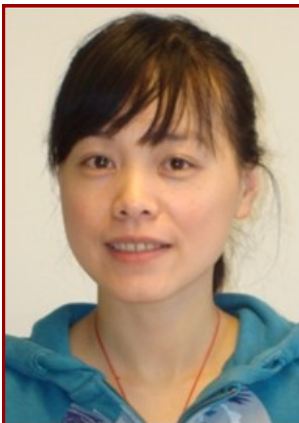
Extracting Natural Gas Through Hydraulic Fracturing: A Texas Law Reform Proposal

Emeka Duruigbo, SJD (Abstract 024P)

Professor, Law

Thurgood Marshall School of Law

Oil and gas companies have developed and deployed new methods of extracting natural gas from shale rock formations for energy use. Natural gas is environmentally attractive because its relatively low carbon content makes it the cleanest and most favored in the fossil fuel family. Production activities in the Barnett, Haynesville and Eagle Ford shale plays indicate that Texas is not only a pioneer, but will continue to be a major player, in this arena. While the techniques of hydraulic fracturing (“fracking”) and horizontal drilling have been immensely successful in extracting previously unreachable gas resources, there is also the concern that these new techniques will release harmful chemicals that contaminate underground water supplies. There are also economic consequences of fracking in the urban areas of Texas, as small unit holders risk losing the natural gas beneath their land to energy developers. These holders are especially vulnerable due to the peculiarities of Texas law. Texas does not have a pure compulsory pooling statute, unlike 30 other states in the country. Worse still, another legal provision – Rule 37 – that enabled small tract owners to develop their oil and gas fields is being deployed by energy companies to extract gas from unwilling mineral owners. This disturbing practice has been described as eminent domain without compensation. The present research project examines the legal and economic ramifications of fracking in Texas and proposes a change in the law to reflect the changes in gas extraction technology.



Improving Work Zone Safety by Person-to-Infrastructure (P2I) Wireless Communications

Qing Li and Xiaobing Wang (Abstract 025P)

Graduate Research Assistants, Transportation Planning and Management

College of Science and Technology

Co-PI: Fengxiang Qiao, Ph.D.

In accordance with the Federal Highway Administration reports, 639 workers were killed in traffic crashes in construction and maintenance work zones during the period of 2003 to 2007. This death toll accounts for 12.65% of all deaths in work zones. So far many measures and technologies have been developed to minimize this fatality rate, such as Radio Frequency Identification (REID) technology, flagger training, and speed controls. This research further intends to improve the communication in work zones through the Person-to-Infrastructure (P2I) wireless communication system, which contains two subsystems. The first subsystem is for the communication between vehicles and infrastructure (I2V); while the other one is for between workers and infrastructure (P2I). The position of workers in work zones can be monitored continuously by the P2I wireless system, which is tested in a pilot study. During the tests, besides drivers' behaviors under such system are observed, while greenhouse gas emission, fuel consumption are measured with two scenarios: with and without the P2I system. Surveys to potential users demonstrate that all pilot participants have highly evaluated the reliability and safety of P2I communication. Meanwhile, the greenhouse gas emission and the fuel consumption are decreased significantly with P2I communication. In conclusion, with the aid of the P2I wireless system, drivers are able to obtain timely safe warnings about the location of workers and roadside devices, thereby adjusting their driving behaviors to adapt to the situation according to its guidance. The conclusion is that the application of P2I communication can improve the safety of workers in work zones efficiently.



Feasibility of Solar Powered Traffic Signs in Houston - A Step Toward Sustainable Control Devices

Khosro Godazi, M.S. (Abstract 026P)

Associate Director, Center for Transportation Training and Research

College of Science and Technology

Co-PI: Alex Miller, Ronald Goodwin

With the economy fluctuating all the time, the federal and some city governments at times spend more money than they take in from taxes. It is important for these governments to find ways to reduce spending while still providing sufficient operations for their constituency. As the national focus turns to finding alternative energy rather than the reliance of fossil fuels, it is not hard to find ways in which the city can save money. One of these ways is taking advantage of the sun's energy to power our traffic signals as well as switching the traditional incandescent bulbs to LED. Since the city's origin, Houston, Texas, has been a continuous success in population growth, land expansion, job opportunities, and a leader of industry. The city did not get to be where it is by not staying ahead of the curve. With its 2,450 signalized traffic intersections and a wide range in the number of signals at each one, the city has an opportunity to be a leader in large scale retrofitting in the United States. By retrofitting the signals to solar energy and switching to LED the city will see major energy and cost savings, as well as a significant decrease in maintenance cost and time due to the longer lifespan of the LEDs and solar panels.



Evaluation of Impacts of Signal Spacing on Vehicle Emissions Along Arterial Streets: A Case Study in Houston

Jinghui Wang (Abstract 027P)

Graduate Research Assistant, Transportation Planning and Management

Faculty Advisors and Co-PI: Dr. Lei Yu and Dr. Fengxiang Qiao

College of Science and Technology

As the signal spacing decreases, which means the number of signals per mile increases, the operational performance along arterial could be degraded. This may cause frequent acceleration and deceleration activities and additional control delay as well as more emissions on arterials. This research is intended to evaluate the vehicle emissions on roadway sections of arterials under different signal spacing's. Two road sections with different signal spacing's of an arterial along the Texas Medical Center in Houston are selected as test bed to collect vehicle activity data. Second-by-second speed data are collected from Global Position System (GPS), which is used to calculate Vehicle Specific Power (VSP) and operating mode distribution. Pollutants CO, HC and NO_x and greenhouse gas emission CO₂ are estimated. The emissions on the two road sections are compared. The results show that the road section with higher signal spacing always produces lower emissions than with smaller signal spacing; while the signal coordination may alleviate the production of emissions on the section with lower signal spacing. The effect of signal spacing on vehicular emissions has an order as (from the top to the bottom): NO_x, CO₂, HC, CO, which indicates that the impact of signal spacing on NO_x is the strongest and CO the weakest.



Comparison of Different Left-Turn Alternatives

Mehdi Azimi, Ph.D. (Abstract 028P)

Postdoctoral Research Fellow, Transportation Studies

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Left-turn maneuvers may have significant impacts on the safety and operation of some intersections. They may increase the delay and/or the risk of crashes at intersections. One way to address the negative impacts of direct left-turn movements is to apply indirect left-turn alternatives/strategies. Some highway agencies have been developed alternatives for direct left-turn maneuvers at signalized and unsignalized intersections. At signalized intersections, indirect left-turn treatments reduce conflicts between vehicles and also minimize delays by eliminating the left-turn phase. At unsignalized intersections, indirect left-turn strategies not only reduce delays, but also help to mitigate angle crashes. Indirect left-turn treatments include the use of right-turn movements followed by U-turns, or applying jug-handle designs. This research study presents the results from reviewing impacts of indirect left-turn alternatives on driving behaviors and driving safety. Impacts on driving behaviors include change in turning maneuvers, travel time and speed, and also perception of acceptable gaps. Impacts on driving safety include change in conflict areas, conflict counts, and crash types.



Safety Impacts of Different Types of Freeway Weaving Segments with Auxiliary Lanes

Yan Lu (Abstract 029P)

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Faculty Advisor: Dr. Yi Qi

College of Science and Technology

While weaving segments are seen throughout Texas, the existing literature includes little detail as to safety impacts of auxiliary lanes and various ramp-lane arrangements. The objective of this study is to evaluate such safety impacts on freeway weaving segments with auxiliary lanes. Three different types of lane arrangements were considered. They were designated as Type A, Type B, and Type C arrangements with different settings of ramp roadway and lane connectivity. The author compared crash frequency, crash severity, and collision types of the three types of lane arrangements. The outcomes of this study will provide necessary understanding for designing freeway weaving segments.



Assessing Transportation for Seniors Aging in Place in Urban and Suburban Areas: A Case Study of Houston, Sugar Land, and Pearland, TX

Gwendolyn C. Goodwin Ph.D. (Abstract 030P)

Senior Researcher, Center for Transportation Training and Research

College of Science and Technology

Aging in Place describes the ability of seniors to continue living in their homes instead of moving to a nursing home, assisted living or with family. As America prepares for the first wave of "Baby Boomers" to retire, scholars speculate that seniors will face transportation and mobility issues, housing affordability challenges, limited income, and declining health with increasing healthcare costs as they age in place. Of these issues, transportation (mobility) will remain at the forefront of the list and can directly impact the senior's quality of life. In addition, these challenges are different for urban seniors compared to suburban seniors. This study examines the challenges seniors face while aging in place in Houston, Texas (urban) and Pearland and Sugar Land, Texas (suburban areas). To determine how seniors will age in place in urban and suburban areas, this study examined each of the study areas' mobility based on current transportation services, the walkability, and senior accident data.



K-12 Transportation and Environment Club by Innovative Transportation Research Institute

Minerva Carter, B.S. (Abstract 031P)

Project Coordinator I, Innovative Transportation Research Institute

Transportation Planning and Management

Faculty Advisor and Co-PI: Dr. Fengxiang Qiao

College of Science and Technology

The purpose of this project was to develop and implement a transportation and environmental curriculum for primary and secondary schools in the Houston area. The curriculum will be implemented in two schools in the Houston Independent School District: MacGregor Elementary and Sharpstown High Schools. The objective of the project is to bring awareness to the student population that transportation systems is an area of study in college and further prepare while still in school for studying transportation systems or a related field in college. The curriculum includes learning modules covering introductory topics in transportation; transportation and the environment; rail safety; marine transportation system; air transportation system. The curriculum will be facilitated onsite.



Public Involvement: Engaging Communities for Better Tomorrow

Peggy Adolph (Abstract 10P0)

Master's Candidate, Transportation Studies

Faculty Advisor: Dr. Carol Abel Lewis

College of Science and Technology

Transportation, as we know it, is essentially designed to accommodate mobility. Offers humans access to and from various places; and facilitates the movement of goods and services, imports and exports. For this to happen, proper transportation planning remains a critical component for successful transport. Transportation planning involves a wide range of professional areas, subjects, and/or systems that are used to carry out this important process designed to foster involvement by all users of the system, such as the businesses, community groups, environmental organizations, and general public. Involvement is one of the core elements in which the strategic transportation planning must reflect the community needs. Public Involvement is an element that consults with interested or affected individuals and entities before making a decision; Two-way communication and collaborative problem solving with the goal of achieving better and more acceptable decisions prevents or minimizes disputes by creating a process for resolving issues. SAFETEA-LU emphasizes the responsibilities of the lead agencies under NEPA in determining the final purpose and need for the action and the range of alternatives, after considering input from the public and participating agencies. The opinions, comments, complaints, and or concerns must be heard and addressed in some form. This paper discusses the methods agencies use to involve the public, while exploring techniques to creatively engage the public participation using new ideas, performance measures, diversities, and technologies while being sensitive to a limited budget.



GIS Methods Designed to Minimize the Impact of GPS Data Processing Errors to Estimate Vehicle Emission by Road Type

Baba Tembely (Abstract 101P)

Graduate Research Assistant, Transportation Planning and Management

Faculty Advisor: Dr. Yi Qi

College of Science and Technology

The Texas Southern University is currently evaluating the impact of intelligence transportation system on road vehicle emission measurement. The research effort provides incentives to study participants who change driving behavior in response to ITS information (vehicle emission on congestion level). To estimate vehicle specific power and drivers' behavior (e.g. speed and acceleration profiles), researchers employ in vehicles GPS devices. The accuracy of estimated speed by road classification, and even acceleration use to calculate vehicle specific power is paramount. The researchers have applied various data GIS techniques to the GPS data collected and evaluate the vehicle specific power in minimizing the impact of GPS data processing random errors on the estimation of vehicle emission. The researchers also create a new methodology to produce an accurate GPS data ready to use in MOVES to estimate the vehicle emission. However, the new methodology was the most accurate when compared to vehicle specific power estimated by others in the same manner. The researchers currently recommend that the new method be used as the preferred technique for GPS data processing for use in vehicle emission studies. Researchers will continue to evaluate additional GIS methods as they are identified.



Feasible Solutions to Reduce Airport Pollutions at Terminals

Larry Hill (Abstract 102P)

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Faculty Advisor: Dr. Fengxiang Qiao

College of Science and Technology

Co-PI's: Dr. Lei Yu and Dr. Fengxiang Qiao

When we go to the airports to pick up our friends, loved ones or close friends. While at the terminal our cars are idle ling, causing fuel emissions to be distributed into the air. Now my research is a way to implement a way to stop this and cut down on the foul air at the airports. If I can conduct a survey and an actual study of how long that the cars wait at the terminals and if an hour of free parking could be offered, would help out drastically and also improve the traffic flow in the airports as well. But if this idea is accepted and implemented into the daily operation's there would be less traffic, and less vehicle emissions. The way that I will go about logging my information will be by going to the airports and conducting these survey's myself and getting personal input at the airport's, by driving my vehicle to test and measure the acceleration and the flow of traffic while waiting and estimate about how much emissions are being let into the air. In an hour's time, this paper proposes an approach to employ the floating car method and Global positioning system to record down speed and acceleration rates can then be synthesized into Vehicle Specific Powers (vsp) values, which will yield out corresponding VSP distributions and operational Mode (OM) distributions at terminals.



Using RFID to Improve Drivers Awareness of STOP Sign at Unsignalized Intersections

Xiaobing Wang (Abstract 103P)

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College of Science and Technology

Co-PI's: Dr. Lei Yu and Dr. Fengxiang Qiao

Safety is always an important issue in stop sign controlled unsignalized intersections. Even though various engineering, education, and policy related strategies have been applied, there are still a lot of lives and property lost at unsignalized intersections. In this paper, a Radio Frequency Identification (RFID) based Drivers Smart Assistance System (DSAS) was developed. The system hardware are all very cheap devices, while the current version of the system software is compiled in the computer program Visual Basic (VB). The RFID tags are placed on roadside, while the readers (receivers) and other devices such as GPS are equipped into the vehicles. Once a tag coded as a stop sign is detected by the in-vehicle reader, the warning signal(s) will be broadcasted to drivers in the form of verbal and/or image message. In order to understand the effects of this system, twenty subjects were recruited and tested while driving in the neighborhood area of TSU. Statistical results from tests show that the warning message from the DSAS can help vehicles to start to decelerate at earlier, and thus would possibly enhance the safety at such intersections. Besides, the impacts of DSAS on vehicle emissions were also tested. Results show that the effects of DSAS on vehicle emissions are not very clear, which may need further tests sand studies in wider areas.



Micro-Trips and Driving Cycle Applications in Vehicle Emission Estimations

Keziah Hill (Abstract 104P)

Master's Candidate, Transportation Planning and Management

Faculty Advisor: Dr. Fengxiang Qiao

College of Science and Technology

Co-PI's: Dr. Lei Yu and Dr. Fengxiang Qiao

A driving cycle is a speed-time sequence developed for a certain type of vehicles in a particular environment to represent the driving pattern. There are three main components of a driving cycle which includes: identifying micro-trips, selecting micro-trips, and constructing the driving cycle. Micro-trips are of the most important component for developing a driving cycle; a single trip can consist of numerous micro-trips. Micro-trips is define as a short speed-time profile bounded by idling times, which starts at the beginning of one idling time and ends at the next idling time. One Micro- trip is composed of one idling time and one running period. There are three ways to establish the beginning and ending of micro-trips; when a new trip begins, if the previous speed was zero and current speed is not zero, and the period of rest is always at beginning of a micro-trip, for example every time you stop at a stop light or stop sign and you pull off that is the beginning of a single micro-trip. There are three ways a micro trip can be excluded from a driving cycle: first is if the micro-trip is consistently idling, secondly is if the micro-trip is less than 20 seconds long, and third way a micro-trip can be excluded from consideration for a driving cycles is if any micro-trip with only one non-zero second of driving.



Identifying the Advantages and the Possible Problems Using MOVES for Vehicle Emission Estimation

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College of Science and Technology

Co-PI's: Dr. Lei Yu and Dr. Fengxiang Qiao

MOVES (Motor Vehicle Emission Simulator) is a Computer Model designed to estimate air pollution emissions from Cars, Trucks, Motorcycles, and Buses. MOVES2010 was designed to replace the previous emission model MOBILE6.2 as the emission model the US Environmental Protection Agency (EPA) will maintain and support. This research will identify the advantages and possible problems using MOVES for vehicle emission estimation. It explains the existing practice in the mobile source emissions estimation. MOVES2010 has improves the understanding of in-use emission levels and the factors that influence them. This research also conduct a survey designed as a pilot study as part of research sponsored by the National Science Foundation (NSF) CREST Center and the U.S. DOT Tier 1 University Transportation Center as Texas Southern University (TSU). The objectives of this survey are to identify the advantages and possible problems using MOVES for vehicle emission estimation. It provides a better understanding of MOVES and determines the state of the art/ practice in the relevant research area. Based on the research, one can understand why EPA adopted the MOVES2010. The finding from this research will help in the process of understanding MOVES2010, its accuracy and emission estimate



State of the Art/Practice in Quantifying the Effects of Advanced Traveler Information (ATIS) on Emissions

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College of Science and Technology

In the last two decades, we have seen giant strides in the use of Intelligent Transportation System (ITS) in the transportation sector. Advanced Traveler Information System (ATIS) is one such system which falls under the umbrella of ITS initiatives. An important function of ATIS is to provide reliable traffic information to assist travelers in making informed pre-trip or en route travel decisions. This information mostly caters towards reducing travel time for a user. There are several studies in literature which link traveler behavioral changes due to ATIS penetration and studies which link congestion levels to emissions. The objective of this paper is to synthesize and report the studies carried out in these two directions, and help bridge the gap in understanding the effects of ATIS on emissions.



The Analysis of Vehicle Specific Power Characteristics in the Houston Area

Chelse Hoover (Abstract 107P)

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College of Science and Technology

Emission output varies due to weather, road type, driving behaviors, location, and several other factors. This study analyzes the characteristics of VSP and emission outputs in the Houston-Galveston-Brazoria area. Vehicle Specific Power (VSP) is a widely used proxy for calculating vehicle emission. VSP is defined as the instantaneous tractive power per unit vehicle mass. In this approach, several HGB roadways will be driven with a GPS device in the vehicle to collect the necessary data for VSP. Once VSP is collected the results are to be categorized into operating mode bins, a statistical technique that yields vehicle emission output. This research is intended to evaluate VSP and emission trends for the tested roadways in this study. Note that the conducted research is a pilot study, a preliminary test whose methodology will be applied to more thorough future studies.

Evacuation Models and Dynamics

Sandra Onyejekwe (Abstract 108P)

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College of Science and Technology

US Department of Transportation Research and Innovative Technology Administration (RITA) report (2007) identified more than 30 transportation modeling applications to forecast evacuations. Traffic volumes and routing from the simulation will advance knowledge for coastal communities that are susceptible to hurricane or other weather events. To design a Geographic Information System (GIS) network and apply TRANSIMS model, to investigate strategies that will relieve IH 45 while moving civilians out of harm's way during an emergency evacuation, to calculate traffic movements in real-time, and to enrich the dialog of decision makers as to their options to manage evacuation traffic. This new model for evacuation scenarios will be able to increase detailed and robustness in transportation simulation, improve preparation and execution in threatened environments. Outputs are important to top decision makers and DHS customers.



Reduction of Motorists' Delay and Crash Potential Upstream of Highway Work Zones

Qun Zhao (Abstract 109P)

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College of Science and Technology

Lane closures due to highway work zones introduce many challenges to the goal of ensuring smooth traffic operations and a safe environment for drivers and workers. In addition, merging has been found to be one of the most stressful aspects of driving and a merge process that is viewed as "unfair" (e.g., due to queue-jumping) can lead to further unsafe behaviors stemming from "road rage." In this research, innovative lane control measures such as fixed cycle signals and continuous merge signals are evaluated; field data was collected and analyzed at selected work zones closure. After that, mesoscopic dynamic traffic assignment modeling was used to estimate the diversion rate; the vehicle flow output from the mesoscopic model was input into a microscopic model to evaluate driver behavior; and the vehicle trajectories from the microscopic model were input into a safety analysis model for predicting conflict rates. Finally, suggestions were proposed to guide TxDOT towards the appropriate lane control measure in each potential scenario.



Project Level Vehicle Emission Analysis by Use of MOVES (Motor Vehicle Emission Simulator)

Enyu Li (Abstract 110P)

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Faculty Advisor: Dr. Yi Qi

College of Science and Technology

Co-PI: Ameena Padiath, Yi Qi

Air quality and transportation planners estimate vehicle emissions using emission factor models like Motor Vehicle Emission Simulator (MOVES), MOBILE 6, CMEM, etc. MOVES is an emission estimation modeling system developed by EPA's Office of Transportation and Air Quality (OTAQ). This new emission modeling software helps estimate emission rates for a broad range of light duty and heavy duty vehicles. The input requirement for MOVES at the project level includes fuel types, vehicle age distribution, inspection/maintenance, temperature, source types, link types (road types, grade, traffic volume, speed limited) etc. The driving cycle/speed profile which is used in the paper was obtained from GPS data collected from around Houston. The GPS data is converted to Vehicle Specific Power (VSP) distribution, which is then converted to operation mode ID. Operation mode ID is the most important input data, and different emission rate (CO, NOx, Total HC, Total Energy etc) can be produced as needed. This paper helps one comprehend the various inputs required while carrying out a project level analysis using MOVES.



Forecasting the Global Economy Growth from an Oil, Gas and Maritime Perspective

Class TMGT 826 (Abstract 111P)

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Faculty Advisor and Co-PI: Dr. Maria Burns

College of Science and Technology

The current research provides an in-depth forecast of the imminent changes in the global maritime, oil and gas industries, by critically evaluating empirical evidence on the production vs. consumption equilibrium, and the subsequent impact on trade routes. In the first stage, the original “freight equilibrium” theory is presented to support the fluctuations in the commodity markets’ production and distribution, as well as the efforts to maintain a sustainable demand-supply symmetry at a global level. The nucleus of this paper is to forecast through assessing the “maritime and energy market production cycles” that verify an interrelation between energy, commodities production and sea transport. Consequently, the paper investigates the factors causing the supply-demand imbalances that impact the global economy. Econometric equations will be used as tools in original economic forecasts seeking to model the behavior of the key players in the maritime and energy industry (ship owners, producers, consumers, suppliers, policy makers, investors, etc.). Furthermore, the production factor will be evaluated through a number of statistical models pertaining to production/consumption ratios, trade patterns and agreements, purchasing power and national economy elements. As an epitome, the trigger of retaliatory actions will be closely examined in conjunction with the effects on production changes, global trade agreements and transportation contracts. The findings of this study will determine the worldwide growth of trade and sea transport, and will highlight the opportunities and potential to sustain global economic growth from a geographic and industry perspective.



Sea Piracy and Maritime Security: Calculating Risk Assessment Values

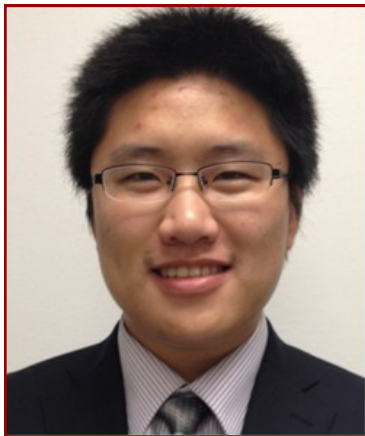
Class MTMS 481: Fredrick Assabill, Damon Hall, Ashley Henry, Donald Cooper, Tamesha Hill, Porsche Clayton, Damien Leday, Bradley Moore, Wesley Wilkins (Abstract 112P)

Master's Candidate, Transportation Studies

Faculty Advisor and Co-PI: Dr. Maria Burns

College of Science and Technology

Ship Piracy is an increasingly alarming phenomenon which is encountered in strategic sea routes. It is considered as a security threat, and compliance to the International Ship and Port Facility Security (ISPS) Code is mandatory at a global level. The present research examines the global phenomenon of Maritime Piracy, and aims to utilize Security Risk assessment formulas, or piracy impact forecasting methods. Based on facts and figures obtained in course MTMS 481, the global incidents of piracy within ocean-going ships will be duly examined, while mapping the high-risk piracy areas. Consequently, three maritime security econometric formulas will be tested, in order to verify the feasibility of forecasting piracy. Each equation will be tested by major piracy disasters, and students will critically evaluate a) Piracy Risk Assessment : the possibility of forecasting a ship's readiness to mitigate piracy, and level of protection. 2) Measuring the Human Factor impact within a piracy event 3) Evaluating the losses and outcome after a Piracy attack. The findings of this research will be utilized to generate a practical road-map to risk assessment and damage assessment methods for security.



Using Driving Simulator for Vehicle Specific Power (VSP) Simulation in Vehicle Emission Analyses - A Feasibility Study

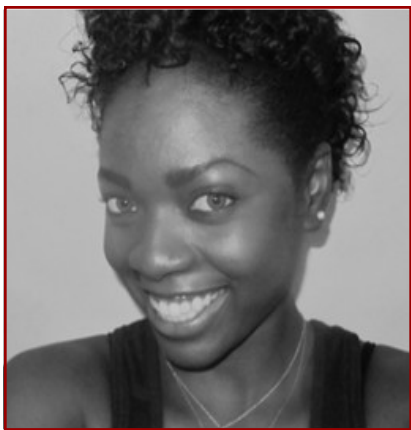
Ziyue Li, M.S. (Abstract 113P)

Graduate Research Assistant, Transportation Planning and Management

Faculty Advisors and Co-PI: Dr. Lei Yu and Dr. Fengxiang Qiao

College of Science and Technology

Emission Estimation by simulation models is developing fast in traffic and environment research area. But these models are difficult to characterize the driving behavior on the real road. Currently the emission estimated is hard to be verified and evaluated. In this context, this paper is intended to validate the applicability of driving simulator in vehicle emission estimations based on the explanatory parameter of vehicle emissions - vehicle specific power (VSP). In accordance with VSP and vehicle activity data, the operating mode bins distributions can be calculated which are directly related to emission rates. A scenario is built in the driving simulator based on the real world include road type, traffic flow, signal time etc. People drive both in real world and driving simulator to keep the same driving behavior. By analyzing real-world and simulated vehicle activity data, it is found that the operating mode bins distributions are quite different with each other. In order to turn the driving simulator data into useful in emission estimation area, this paper use fuzzy logic theory to calibrate the distributions. The result shows that the error is reduced 50% than before. And after calibration, the error of total emission is less than 2%. So this study concludes that fuzzy logic theory applies to vehicle emission estimation. And once the calibration is accurate, the data from driving simulator can be used in the emission research area. But besides this paper, more people in different ages, genders and driving ages need to be chosen to do the test for the future research, in order to make the calibration and validation more accurate.



Microgravity Induces Apoptosis in Human T-Lymphocytes

Linda Noukeu, B. S. (Abstract 114P)

Master's Candidate, Biology

Faculty Advisor: Dr. Shishir Shishodia

College of Science and Technology

Microgravity is known to have significant effects when dealing with any animal sample beginning as deep from the cellular level. These changes at the cellular level include effects such as apoptosis; however, the effect of simulated microgravity on apoptosis is still controversial. The objective of this study is to prove that simulated microgravity conditions will induce apoptosis of jurkat cells. To achieve this objective, the jurkat cells (t-lymphocyte cells) were grown in the HARV (high aspect ratio vessel) and the same cell lines were grown in parallel under normal gravitational conditions in culture flask. The effects of microgravity on the cells were measured through cell count using a hemocytometer; and at the protein level, through the expression of caspase 9, 3,8, cleaved caspase 3, and PARP, using the western blot method. The findings of this study proved that simulated microgravity conditions did in fact decrease cellular count and decrease the expression of caspase9, 3,PARP when compared to those cells that were under normal gravity conditions.



Unique Genes of a Spacecraft Assembly Isolate B. Pumilus SAFR-032, that may be Responsible for the UV/ Peroxide Super-Resistance of its Spores

Sharon Kwende (Abstract 115P)

Undergraduate, Biology

Faculty Advisor: Dr. Madhan R. Tirumalai, University of Houston

College of Science and Technology

Co-PI: F.Diouf, MR Tirumalai, K Venkateswaran, GE Fox

Understanding the adaptation and metabolic strategies used by extremophilic organisms is critical to obtaining insights to the environmental conditions that open up niches for life. In addition to the standard extremophiles that resist high temperatures, low pH etc, one also should consider organisms that are extremely resistant to radiation that may be encountered on the surface of a planet such as Mars whose surface has minimal protection due to its minimal atmosphere. Recently strains of *Bacillus* have been discovered whose spores are as much as six fold more resistant to a simulated Martian UV environment than the spores of *Bacillus subtilis*. The objective of the research described here is to understand how these organisms achieve greatly elevated resistance. The spores of several *Bacillus* species isolated from the spacecraft assembly facility at NASA's Jet Propulsion Laboratory are unusually resistant to UV radiation and hydrogen peroxide. In order to understand the basis for such resistance, the whole genome of one of the predominant *Bacillus* species, *B. pumilus* SAFR-032, and the draft genome of *B. safensis* FO-36b were compared in detail with the very closely related type strain *B. pumilus* ATCC7061. *B. pumilus* SAFR-032 is more closely related to *B. pumilus* ATCC 7061 than it is to *B. safensis* FO-36B. Despite such a phylogenetic relationship, 170 genes of SAFR-032, are absent from both FO-36b and ATCC-7061. Forty of these genes are entirely unique open reading frames in SAFR-032 (not found in any other organism in the available genome databases).



Unusual Regulon Gene Composition of a Spacecraft Assembly isolate, B. Pumilus SAFR-032 Strain that Produces Spores Unusually Resistant to UV Radiation and Peroxide

Fatma Diouf (Abstract 116P)

Undergraduate, Biology

College of Science and Technology

Co-PI: S Kwende, MR Tirumalai, K Venkateswaran, GE Fox

Spores of gram-positive *Bacillus* sp., have been repeatedly isolated from the spacecraft assembly facility which is under extreme conditions, viz., stringent nutrient-limiting, oligotrophic conditions, filtered air circulation, controlled temperature, humidity, and the use of a chemical disinfectant. In particular, spores of one of the isolates, *B. pumilus* SAFR-032, exhibit significant elevated resistance to both UV radiation and H₂O₂, far exceeding those of the dosimetric *B. subtilis* type strain. Spores of another isolate *B. safensis* FO-36b show a higher level of resistance to H₂O₂ than UV radiation. In order to understand the basis of these elevated resistances, the genomes of SAFR-032 and FO-36b were compared with the closely related type strain, *B. pumilus* ATCC-7061, whose spores are not resistant to either UV or H₂O₂. Using the genome of the very-well characterized *B. subtilis* as a reference, the regulon composition of these two genomes was examined. Regulons are the basic units of cellular response systems in bacterial cells and each regulon is a group of genes sharing, (i) the same regulatory molecule, (ii) a common regulatory element binding site/promoter, and may be located non-contiguously in the genome. Several operons / gene clusters from the *B. subtilis* regulons involved in multiple processes ranging from sporulation, metabolism and transport, have either their constituent genes missing or replaced by a different gene, in the genome of SAFR-032.



Phylogenetic Analysis of *Aspergillus* and Related Fungi Based on Mitochondrial Cytochrome Oxidase I

Shaunte' Hulett-Abdin, M.S. (Abstract 117P)

Ph.D. Candidate, Environmental Toxicology

Faculty Advisor and Co-PI: Dr. Hector Miranda

College of Science and Technology

Microorganisms are hypothesized to experience rapid rates of mutation in space due to microgravity and ionizing radiation. As an initial effort to test the relative rates to which certain genes evolve under space-like conditions, we reviewed the usefulness and reliability of mitochondrial cytochrome oxidase 1 (COI) gene in resolving the evolutionary relationships of *Aspergillus* and related fungi. The objectives of this study are to 1) characterize the mitochondrial COI gene of *Aspergillus* and related fungi, 2) align the homologous sequences of COI genes across the selected taxa, and 3) conduct phylogenetic analysis using parsimony, distance methods, and maximum likelihood. We sequenced 5 species from ATCC, plus an unknown culture obtained from environmental samples. For the analyses, alignments were done using Geneious Pro (Biomatters, Ltd., New Zealand). Final alignments were exported in nexus file format. Using PAUP©4b10, we conducted phylogenetic analyses thru Maximum Parsimony (MP), distance method using Neighbor-Joining, and Maximum Likelihood (ML). Our preliminary analysis suggested the following observations. 1) The conflict in the utility of COI as barcoding marker reflects the lack of taxonomic stability within Fungi at the intra- and inter-species level. There is a need to expand geographic sampling of taxon to further test the validity of current classification. 2) No intron was observed within the short barcode region (600 bp) among the samples we investigated.



Carcinogenic High Molecular Weight PAHs in Indoor Dust

Sharmila Bhandari (Abstract 118P)

Ph.D. Candidate, Environmental Toxicology

Faculty Advisor and Co-PI: Dr. Hyun-Min Hwang

College of Science and Technology

Indoor dust contains various contaminants that can be ingested inadvertently. This study analyzed high molecular weight PAHs. PAHs with molecular weight of 278 and 302 have been gaining more attention due to their higher cancer potency than benzo[a]pyrene, which has been used as a reference PAH. Indoor dust samples (<100 µm) collected from 188 houses in northern California were analyzed for high molecular weight PAHs using a GC-MS. Total concentrations of more than 25 PAHs varied from 120 to 21,800 ng/g. Concentrations of benzo[a]pyrene in about 5% of the samples were above USEPA screening guideline. Benzo[b + j + k]fluoranthenes were most abundant and followed by indeno[1,2,3-cd]pyrene and benzo[ghi]perylene. All PAHs with molecular weight of 278 and 302 were below 1,000 ng/g. Concentrations of individual PAHs were multiplied by cancer potency factors, if available, and summed together to determine their total cancer potency. They ranged from 11.4 to 8,9300 (11.4 to 2,010 without dibenzo[a]pyrene). In most samples, dibenzo[ah]anthracene and dibenzo[al]pyrene accounted more than 50% of the total cancer potency because of their higher cancer potency factors. Actual cancer potency is highly likely to be greater than the calculated values because only 7 PAHs (less than 25% of detected PAHs) were used to calculate total cancer potency. It indicates that total cancer potency can be estimated using some commonly analyzed PAHs such as Benzo[b + j + k]fluoranthenes, benzo[a]pyrene, indeno[1,2,3-cd]pyrene and benzo[ghi]perylene at least in the area where indoor dust samples were collected.



Characterization and Finger Printing of Tar Balls along Galveston Beach: Impact from the Gulf of Mexico BP Oil Spill or Spill from around the Houston Area?

Gloria Okome (Abstract 119P)

Ph.D. Candidate, Environmental Toxicology

Faculty Advisor and Co-PI: Dr. Momoh Yakubu

College of Science and Technology

The appearance of tar balls along the stretch of the Galveston beach has led to the speculation that they could have come from the BP oil spill in the Gulf of Mexico. However, Galveston residents reports of regular tar balls wash offs. Therefore, are these tar balls from unknown oil spills around the Houston –Galveston areas or they are from the Gulf of Mexico oil spill? The objective of this study is to characterize and finger print the tar balls from Galveston beach by determining the chemical composition and hence infer their possible sources and transport directions. Tar ball samples were collected in 2010 from four selected sites between the east and west sides of Galveston beach covering an approximate distance of 7.5 miles. The samples were morphologically described and detailed chemical analysis was determined using GC-MS and Infra-red spectroscopy to characterize and compare the samples for similarities using a source finger printing data synthesis process. 100 mg of tar ball was dissolved in 10 ml of methylene chloride, agitated and left standing for sedimentation of particles from the mixture. The supernatant was subjected to chemical analysis using GC-MS and Infra-Red spectroscopy. Headspace sampler was used to analyze the water collected from the Galveston beach for the determination of volatile organic compound. GC-MS chromatogram results show straight chain hydrocarbons such as Nonadecane (C₁₉H₄₀), Octadecane (C₁₈H₃₈), Tetradecane (C₁₄H₃₀), Tridecane (C₁₃H₂₈), Undecane (C₁₂H₂₆) and Sulphuric acid C₁₇H₃₆O₃S. The IR spectrum from the tar ball samples show mainly four stretches: wave numbers 3800 – 3200; 3200 – 2800; 1700 – 1550; and 1500 – 1300 cm⁻¹. These stretches corresponds to the presence of alcohol (-O-H) (hydroxyl group and ether compounds) that are attached to heteroatoms and shows the presence of 1- and 2- Octanol spectra (primary and secondary Octanol). The other wave corresponds to the presence of unsaturated and saturated C-H stretch. Alkenes and amides stretch (double bonds) and finger printing (single bonds) respectively. Thus, comparison of chromatograms and spectra with known standards and published reference spectra show that these tar balls are similar to those of the Louisiana light crude spilled in the Gulf of Mexico.

Environmental Exposure and Impact of Asthma on Pregnancy

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Master's Candidate, Environmental Toxicology

College of Science and Technology

Co-PI: Dr. Bhaskar Maruthi, Dr. Andrea Shelton

The extent and type of environmental exposures during pregnancy have been suggested to have a tremendous impact on pregnancy outcomes. One of the most common triggers to poor pregnancy outcomes is asthma. Asthma is the most common chronic diseases of childhood, affecting approximately 9% of children and complicates 8% of women's pregnancies in the United States. Several environmental risk factors have been found to be associated with an increased risk of asthma. Epidemiologic studies have shown that environmental exposures during pregnancy might influence the development of childhood asthma. Severe or poorly controlled asthma has been associated with numerous adverse perinatal outcomes. Minority populations, especially African Americans and Latinos, suffer a disproportionate burden of asthma morbidity. African American women experience the highest levels of asthma-linked mortality and asthma-related health care utilization. This epidemiologic study will investigate environmental stressors that may contribute to the development of asthma in pregnant women. The objective of this study is to evaluate the association between ozone and cigarette smoking to asthma. Secondary data collected from a population of women between the ages of 14 – 44 years, diagnosed with asthma during their pregnancy will be analyzed. Participants are residents of Houston's subdivisions with high concentrations of pollutants. The following hypothesis will be tested at the 0.05 level of significance: There is a significant correlation between ozone and smoking to asthma. The data will be analyzed using multiple linear regression and other appropriate statistical methods.

Using Silymarin and its Analogs as an Antioxidative Agent Against Environmental Stress

Elvedina Mansoor, M. S. (Abstract 121P)

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Faculty Advisor: Dr. Fawzia Abdelrahman

College of Science and Technology

Co-PI: Dr. Mahmoud Saleh

The use of *Caenorhabditis elegans* as a model organism to study changes at the cellular, molecular and organism level must be understood to prevent, reduce and/or reverse effects caused by oxidative damage and effects caused by exposure to simulated microgravity (SMG). Due to its small size, rapid life cycle, completely sequenced genome, well defined pattern of development and the ability to live and reproduce in both liquid and agar media *C. elegans* have been used in providing optimal results within various fields of biological research. To counteract biological changes due to the environmental stress the antioxidant Silymarin found in the herbal supplement; from the plant milk thistle: and its analogs (Silibinin, Quercetin and Naringenin) were used to evaluate the potential of their protection when used as countermeasures against the impact of simulated microgravity (SMG) on the nematode *C. elegans*. Using Silymarin and its analogs as a supplement will provide us with better understanding of changes that may occur within the organism. Antioxidants are substances that protect cells against unstable molecules; such as free radicals and other reactive species produced due to the exposure to different environmental pollutants or different source of radiation to minimize oxidative damage. Exposure of *C. elegans* to simulated microgravity (SMG) with additional food supplement (Silymarin and its analogs with concentration of 50µg/ml) increased the progeny, lifespan, final population and decreased mortality percentage. Likewise the culturing *C. elegans* on Nutrient Growth Medium (NGM) treated with Silymarin (100 µg/1ml NGM), but no additional supplement was added during exposure to HARV (SMG) also showed increase in progeny, lifespan, and decrease in mortality.

Pesticides Exposure Impairs Vascular Reactivity in Rat Aorta

Nina Brinkley (Abstract 122P)

Ph.D. Candidate, Environmental Toxicology

Faculty Advisor: Dr. Momoh Yakubu

College of Science and Technology

Co-PI: Smith-Baker, Charlotte 2; Sapp, John B.3; Bessac, Bret F.4; Oyekan, Adebayo O.5; Yakubu, Momoh A.1,5 1. Environmental Sci Tech, TSU 2. Toxicology Lab, Inst Forensic Sci 3. Chemistry, TSU 4. Pharm Sci, TAMU HSC, Kingsville, TX, 5. Ctr Cardiovasc Dis, TSU, Houston, TX

Exposure to pesticides continues to be of great public health concern as studies of moderate pesticide exposure found increased prevalence of neurotoxicity. But effects of exposure to acute low dose pesticides on vascular reactivity is lacking. We have investigated the effects of 2 or 4 weeks exposure to single pesticide (Lindane, 1/5LD50; SP) or multiple pesticides (aldrin, endosulfan, lindane, 4,4-DDT, and endrin: 1/100, 1/50, and 1/25 of the LD50, MP) on vascular reactivity. Changes in vascular reactivity was determined by ACh (10⁻⁸ -10⁻³ M) relaxation of phenylephrine (PE, 10⁻⁶ M) pre-contracted aorta and monitored by DI-720 system -DATAQ. In control, ACh dose-dependently relaxed PE-induced contraction which was attenuated by 2 wks lindane (reducing relaxation from 57 ± 5% to 36 ± 0.8%; while MP attenuated relaxation to 19.8 ± 5.8% and 19.0 ± 4.0% for 1/100 and 1/25 LD50; ACh 10⁻³ M, p<0.05, n=6). Paradoxically, 4 wks SP significantly enhanced relaxation to ACh from 60.5 ± 4.6% to 83.5 ± 8.8% (ACh 10⁻³ M, p<0.05, n=6) and MP had no significant effects. In aorta from dermal group (SP), relaxation to ACh was significantly attenuated from 59.4 ± 5.0 to 23.7 ± 6.0% (ACh 10⁻³ M, p<0.05, n=6). Vasoconstrictions to PE (10⁻⁸ -10⁻³ M) were significantly attenuated by 4 wks' oral SP and dermal MP without significant changes observed in 2 wks oral MP. These results demonstrate the adverse vascular effects of pesticides' exposure which is characterized by differential loss of vasorelaxation to ACh and vasoconstriction to PE. This is an indication that acute low dose exposure to pesticides as in real life scenario can contribute to development of cardiovascular dysfunctions, central vascular dementia and neurological diseases. Thus, to fully understand the vascular consequences of pesticides exposure and contribution to vascular dysfunctions the mechanism(s) behind this vasomotor impairment needs to be further investigated.



Assessment of Post-Graduate Knowledge of Natural Products vs. The Local Herbal Stores

Ashley Crawford and Hoang Tran (Abstract 123P)

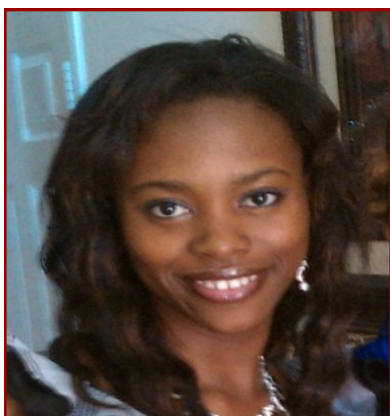
Pharm.D. Candidate, Pharmacy

Faculty Advisor: Dr. Flora Estes

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OBJECTIVES: People use herbal products to help manage and/or treat various conditions from the flu to depression to hyperlipidemia. All pharmacists are required to undergo vigorous training in drugs regulated by the FDA and most over the counter products. Many patients may still purchase natural products in drug stores instead of herbal stores. This study will determine if pharmacists are more knowledgeable than employees of herbal stores in the field of natural products.

METHODS: A comparative study was done to determine whether pharmacist or local herbal stores have more knowledge of natural products. The pharmacies and local herbal stores were randomly selected in the Houston and surrounding areas. Community pharmacists and employees of herbal stores both were surveyed and graded to determine who is more knowledgeable and comfortable in the field of natural products. Approximately 15 community pharmacists and 15 employees of herbal stores answered a 5 to 7 minutes survey. **RESULTS:** The results of this survey will determine whether pharmacist or local herbal stores have more knowledge about natural products. **CONCLUSIONS:** Community pharmacists have to be knowledgeable in the field of natural products. Natural products are not approved or regulated by the FDA. Natural products may be more affordable than conventional medications, therefore being an alternative to patients.



Overestimation of Renal Function Using the Cockcroft-Gault Equation in Patients with Recent History of Shock Requiring Vasopressin Use

Ezinne Ozurumba (Abstract 124P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor: Dr. Joshua Swan

College of Pharmacy and Health Sciences

Co-PI: Husaina Hassanali¹, Amaris Fuentes, Pharm.D.², Joselin Joseph¹, Joshua T. Swan,
1- Texas Southern University, 2- The Methodist Hospital

PURPOSE: Vasopressin is used to treat septic shock that is unresponsive to norepinephrine or dopamine alone. It is hypothesized that the estimated Cockcroft-Gault creatinine clearance (CG-CrCl) over-estimates renal function compared to measured 24-hour urine creatinine clearance (24-CrCl) in intensive care unit (ICU) patients exposed to vasopressin. **METHODS:** A retrospective cohort study which included patients admitted to a tertiary academic medical center from 2006 to 2012 with a 24-hour urine collection taken in the ICU. Patients that met the inclusion criteria were divided into exposure or non-exposure groups. Exposure was defined as patients that required systemic vasopressin before or during 24-hour urine collection. All other patients were included in the non-exposure group. The primary outcome is to compare the difference between CG-CrCl and 24-CrCl between groups. **RESULTS:** Two hundred and ninety patients were included with 22 in the exposure group and 268 in the non-exposure group. Patients were similar for exposure versus non-exposure regarding age, male gender, Caucasian race and ABW. There was no difference in the proportion of patients with AKI in the exposure group compared to the non-exposure group. The 24-CrCl was similar in the exposure group compared with the non-exposure group. The CG-CrCl was similar to the 24-CrCl in the exposure group. The CG-CrCl overestimated the 24-CrCl in the non-exposure group. The difference between CG-CrCl and 24-CrCl was similar for the exposure group compared with the non-exposure group (median difference in ml/min; 12 versus 6, P equals 0.268). **CONCLUSIONS:** Recent inpatient exposure to vasopressin did not augment the difference between CG-CrCl and 24-CrCl.



Comparison of the Effectiveness of Different Disease State Management Strategies in Improving Adherence to and Value Of Pharmacologic Treatment In The Elderly

Carrie Mays (Abstract 125P)

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INTRODUCTION: Elderly patients are burdened with disease state management compliance based on residence, costs, cognitive function, and a lack of health-based knowledge. The challenges focused on are highlighted by the Center for Disease Control and *Pharmacy Times*. Studies addressing issues faced by the elderly retain credibility based on availability and qualitative value shown to improve patient care. **METHODOLOGY:** A meta analysis of fifteen studies showing methods to improve elderly patient compliance was done. Interventions basing compliance on improvements through patient education, pharmacists' interventions, and dosage administration are in the utilized studies. **RESULTS:** Patients receiving pharmacists' interventions through education or counseling sessions had an average compliance increase of 30% compared to controlled groups. Pharmacists' interventions were shown to simplify 45% of patients' medication regimens. Patients who received medications through patches and as one tablet medication combinations had increased compliance. Blister packaging of medication was shown to increase compliance by 14% versus patients on "free standing pills." **CONCLUSION:** Increasing compliance in the elderly requires healthcare professionals to decrease ineffective dosage practices, and to give patients insight on their physiological state and medication regimen. Pharmacy innovations can lead to patient non-compliance if pharmacists' roles as drug experts are overshadowed by conveniences. Medication and disease state management costs were shown to be exponentially lower than acute hospitalizations.



The Effect of Chronic Modulation of Protein Kinase A by Dibutyryl cAMP on Gene/Protein Expressions in Rat Cortical Astrocytes

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A metabolically stable analog of cyclic-AMP, dibutyryl cAMP (bucladenosine), has been recently shown to be a potent anti-inflammatory agent. However the cellular mechanisms of its action remain unclear. The purpose of this study was to determine whether short term and/or chronic treatment with dibutyryl cyclic-AMP (DBC) modulate the expression of genes/proteins that affect brain astroglial structure and function. Treatment with DBC has previously been shown to induce a morphological change in cultured rat cortical astrocytes. It has also been shown that DBC causes an increase in the expression of glutamate transporter 1 (GLT1), but no studies have evaluated whether DBC will induce or suppress the anti-inflammatory cannabinoid receptor subtype-2 (CB2R), in astrocytes. Frozen rat cortical astrocytes were thawed, subcultured and treated with DBC for 1 day without serum or 7 days with serum in vitro. Qualitative measures of GLT1, glutamate aspartate transporter (GLAST), CB1R, CB2R, β -integrin marker of microglia (CD11B), and glial fibrillary acidic protein (GFAP) expressions were evaluated by Immunocytochemistry and confirmed by quantitative western blotting analysis. The results showed that the DBC-treated rat cortical astrocytes underwent a morphological change, increased expression of CB2R, and showed little or no change in the expression of GLT1 or GLAST. These results suggest that the cellular mechanisms of actions of DBC may involve induction of anti-inflammatory genes/proteins, including up-regulation of CB2R, via chronic stimulation and activation of the protein kinase A mediated anti-inflammatory pathways.



Effects of Furosemide on a Comparison of Measured 24 hour and Cockcroft – Gault Calculated Creatinine Clearance in Critically Ill Patients

Husaina Hassanali (Abstract 127P)

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Co-PI: Ezinne Ozurumba¹; Joselin Joseph¹; Dr. Amaris Fuentes²; Dr. Joshua Swan² ¹ – COPHS-TSU; ² – The Methodist Hospital

PURPOSE: Cockcroft-Gault (CG) equation may not be reliable among critically ill patients to estimate creatinine clearance (CrCl). Furosemide is commonly prescribed in the intensive care unit (ICU), and it increases urinary volume and sodium excretion. It is hypothesized that administration of furosemide during 24-hour urine creatinine clearance (24-CrCl) magnifies the difference between 24-CrCl and CG-CrCl. **METHODS:** Retrospective study of ICU admissions at a tertiary care with a documented 24 hour urine collection. It was approved by the IRB with a waiver of informed consent. Active exposure was defined as administration of furosemide during or within 4 hours of starting urine collection, and previous exposure was administration of furosemide more than 4 hours before the start of urine collection. Acute kidney injury (AKI) was assessed using AKI Network and RIFLE criteria and an adjusted body weight (ABW) used to calculate CG-CrCl. **RESULTS:** Of 200 patients, 151 were active exposure and 49 were previous exposure. Comparable baseline characteristics were observed between active exposure and previous exposure regarding age, male gender, Caucasian race, ABW and RIFLE Failure criteria. Difference between CG-CrCl and 24-CrCl was higher in previous exposure compared to active exposure (15 ml/min [IQR 1.0 – 32] vs. 2.9 ml/min [IQR -9.0–20], $P = 0.005$). CG-CrCl and 24-CrCl were similar in active exposure (median ml/min; 63 CG-CrCl vs. 53 24-CrCl, $P=0.0774$). CG-CrCl overestimated 24-CrCl in previous exposure (median ml/min; 56 CG-CrCl vs. 41 24-CrCl, $P=0.0181$). **CONCLUSION:** CG equation overestimated actual CrCl in patients with previous furosemide exposure compared to patients with active exposure.



Compare the Effectiveness of Nutraceuticals and Usual Care in the Treatment of Depression: A Meta-Analysis of Literature

Martin Ndum (Abstract 128P)

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BACKGROUND: Selective serotonin reuptake inhibitor (SSRI) is the antidepressant of choice for treating depression. However, the side effects profile and the cost of using these agents have left patients and health care providers to try herbal treatment to mitigate this problem. St. John's Wort is widely used as a nutraceutical to treat mild to moderate depression. The aim of this study was to compare whether St. John's Wort is as effective as antidepressant in treating patients with depression. **METHOD:** Literature searched from Pubmed data base using key words St. John's Wort, depression, HAMD, randomized trials, effectiveness, and adverse effects were done. A total of fifteen (15) randomized trials including three thousand three hundred and forty-eight patients (3348) with depression were selected. Using the PICO model, the relative risk reduction and number needed to treat was calculated from each of the articles. **RESULTS:** Ten of the studies met the inclusion criteria. There was some heterogeneity among these studies. Only one out of ten trials show that St. John's wort was effective as antidepressant. **CONCLUSION:** On the basis of available literature, St. John's Wort shows a modest clinical benefit in treating patients with mild to moderate depression, but it is not as effective as antidepressants. More trials with larger sample sizes and duration for at least six to nine months should be conducted to effectively justify these results.



Over the Counter Weight Loss Products: A Patients' Perspective

Sarah Sedrak (Abstract 129P)

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College of Pharmacy and Health Sciences

Co-PI: An Nguyen, and Justin Varghese

BACKGROUND: With the rising levels of obesity and now that more than one-third of U.S. adults are obese. More people are turning to over the counter weight loss products. A study will be conducted to evaluate the efficacy and effectiveness of over the counter weight loss products. Most weight loss products work effectively only with diet and exercise.

METHOD: Lay persons will be surveyed on their opinions and experiences with over the counter weight loss products. People surveyed will be of different ages and backgrounds. The survey will question whether the surveyed ever used an over the counter weight loss product or if they even ever considered it. Moreover, if an over the counter weight loss product was ever used how much weight was intended to be lost and how much weight was actually lost. The survey will also question whether such product was used in combination with any other method like diet or exercise, and how much of the weight loss would be attributed to the weight loss product by itself. **RESULT:** This survey will question the surveyed whether they would recommend any over the counter weight loss product and the reasons behind their recommendation or their disparagement. **CONCLUSION:** This survey should assist all health care providers especially pharmacists, who get asked all the time about such weight loss products, to better understand the realities that lay persons hold in their minds with regards to over the counter weight loss products, and therefore being able to effectively advise their patients.



Importance of Medication Adherence and Lifestyle Modifications to Hispanics in Regards to Hypertension Survey

Jessica Ramos (Abstract 130P)

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BACKGROUND: Hypertension is a disease that can be controlled by the use of medications and by lifestyle modifications such as diet and exercise. **OBJECTIVE:** To determine how important do Hispanics consider lifestyle modifications such as diet and exercise in their management of hypertension and whether they are implementing those modifications in their lives. **METHODS:** This survey is being conducted face to face on random Hispanics who have been diagnosed with hypertension. In the survey, Hispanics are asked their age, how long they've been diagnosed with hypertension, how many medications are they currently taking for hypertension. Other questions are also included in the survey in order to determine how important do Hispanics rank lifestyle modifications such as diet and exercise in comparison to medication. **RESULTS:** This survey is still ongoing; the goal is to conduct the survey in at least 100 Hispanics, with an equal number of males and females. Currently most of the 38 Hispanics that have been surveyed have ranked lifestyle modifications important to their hypertension therapy, but it is mostly females who are actually adopting healthy diets and exercise into their lives. **CONCLUSION:** So far this survey has shown that Hispanics rank lifestyle modifications along with medication adherence important in their management of hypertension, although that does not necessarily mean that they are implementing lifestyle modifications into their life.



Impact of Prophylactic Medication on the Incidence and Severity of Infusion Reaction from Rituximab in an Outpatient Infusion Center

Smitha M. Kuriako (Abstract 131P)

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PURPOSE: Rituximab is a chimeric monoclonal antibody associated with infusion reactions which occur most often during the first infusion. This study aims to assess the impact of prophylactic medication on incidence and severity of infusion reactions in patients who received initial, non-initial non-rapid (NINR), and rapid rituximab infusions. It was hypothesized that infusions which were appropriately pre-medicated per our institution's rituximab infusion policy and procedures were less likely to result in an infusion reaction versus infusions that were not. **METHOD:** Retrospective analysis was conducted including all patients who received rituximab infusions from June 2010 through July 2011. Appropriate prophylactic medication regimen was defined as acetaminophen 650 mg given orally sixty minutes prior to all rituximab infusions, diphenhydramine 25 mg given thirty minutes prior to infusion for all initial (oral or intravenous route) and rapid infusions (intravenous route only). **RESULTS:** Total of 423 rituximab infusions were administered. Only 5% (4 of 86) of initial infusions, 25% (34 of 138) of NINR infusions, and 38% (75 of 199) of rapid infusions received appropriately pre-medicated. Of the 17 infusion reactions observed, 10 occurred during initial infusions, 5 during NINR infusions, and 2 during rapid infusion. Compared with patients receiving either inappropriate diphenhydramine or acetaminophen, there was no difference in the incidence of infusion reactions for patients receiving appropriate prophylaxis. **CONCLUSION:** Absolute compliance with the hospital's rituximab infusion policy was low. There was no difference in the incidence of infusion reactions for infusions that did and did not receive appropriate prophylaxis.



Comparative of the Effectiveness of Monotherapy and Polytherapy on Seizure Frequency, Adverse Events and Quality of Life (QOL)

Linda Mbah (Abstract 132P)

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INTRODUCTION: Inadequate seizure treatment has been associated with increase in a person's risk of subsequent seizures, while appropriate seizure treatments can prevent unnecessary adverse effects, and increase a person's quality of life. Monotherapy anti-epileptic drugs (AEDs) have been the standard of care in seizure treatments for many years. Thus the goal of this research was to obtain information that will be used compare (AED) monotherapy and polytherapy, in order to determine their effects on seizure frequency, adverse events and quality of life (QOL). **METHODOLOGY:** We analyzed 15 articles on: randomized controlled clinical trials, meta-analysis, retrospective trials, self reported studies, etc that were conducted on seizure (mono and poly) therapies. Using these articles, we compared the adverse effects and quality of life of patients on AED monotherapy vs. polytherapy. We also compared the seizure frequency of patients on AED monotherapy vs. polytherapy. **RESULTS:** AED polytherapy (AED combinations) has more adverse effects compared to monotherapy, and this is one of the major reasons why patients on polytherapy had lower quality of life compared to those on monotherapy. Patient on polytherapy had slightly more seizure control than those on monotherapy. **CONCLUSION:** No significant differences were found in overall seizure frequencies between monotherapy and polytherapy AEDs. However AED polytherapy was associated with more adverse effects and lower QOL.



Creating a Continuing Education Program for New Pharmacy Preceptors

Genevieve Hoang and Karen Ly (Abstract 133P)

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OBJECTIVE: To create a home study or webinar course for the new pharmacist preceptors according to feedback received from pharmacists and current pharmacist preceptors. The course will meet all the ACPE CPE requirements and standards for an approved 3 hours (0.30 CEU) of continuing education credit. **METHODS:** The data collection method was an anonymous questionnaire consisted of both quantitative components, close-ended and open-ended qualitative responses which emphasized teaching skills and benefits of home study or webinar course for the new pharmacist preceptors. The 9-question survey was sent via mail to 500 randomly selected active pharmacists/pharmacist preceptors in the United States. Based on the survey responses, we developed a New Pharmacist Preceptor Training CE course meeting ACPE CPE standards and TSBP Preceptor requirements. The participants had the right to disregard the survey, or if agreed, they could either mail back the survey or they could submit their responses with the link provided in the letter via online, provided by Survey Monkey. Data was then collected and analyzed. **RESULTS:** Still in progress **CONCLUSION:** Still in progress



Cortical Glutamatergic Neuroplasticity Following Re-Exposure in a Single Trial Conditioned Place Preference Paradigm Underlies Retrieval of Cocaine Environment Learned Associations

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College of Pharmacy and Health Sciences

Co-PI: Balaji Krishnan, Adriane dela Cruz, Noelle Anastasio, Robert Fox, Sonja Stutz, and Kathryn Cunningham

Exposure to the environment in which cocaine is experienced can prompt relapse in abstinent addicts. The association between the cocaine experience and the environment is a learned process in which glutamate neurotransmission in the corticolimbic circuit is implicated. In the present experiment, we tested the hypothesis that specific neuroadaptations in glutamate neurotransmission, critical to retention and/or retrieval of a learned cocaine-environment association, occur at early stages of drug exposure. To this end, we investigated the phosphorylation of the AMPA glutamate receptor subunit 1 (GluR1), GluR2, and downstream activation of MAP kinase extracellular-signal regulated kinase (ERK) in corticolimbic circuits isolated from rats behaviorally described to express a cocaine conditioned place preference (CPP) after a single pairing between cocaine and environment. Male rats (N=32) were conditioned with a single pairing of cocaine (20 mg/kg i.p) or saline (n=8) and subjected to a four-phase paradigm (pre-conditioning, conditioning, expression test, and drug-free environmental re-exposure). The drug-free environmental re-exposure test allows for the identification of neuroadaptations associated with retrieval of cocaine-environment associations in the absence of behavioral or pharmacological confounds. We observed increased activation of GluR and ERK in synaptosomal fractions of the prefrontal cortex (PFC) selectively in rats that expressed a CPP relative to non-CPP expressing and control. In contrast, activation of ERK, GluR1 or GluR2 was not altered in the hippocampus or amygdala. In the PFC, glutamatergic neuromolecular changes occur, after only a single pairing, suggesting that the cocaine-environment associations arise early and are critical to the retrieval of this learned cocaine-environment association.



Effectiveness of Nutraceuticals and Usual Care in the Treatment of Hypertension

Lawrence P. Nasieku (Abstract 135P)

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INTRODUCTION: Hypertension is a major risk factor for coronary heart disease, stroke, congestive heart failure, renal insufficiency, and peripheral vascular disease. New treatment approaches for treating hypertension combine usual care with the use of nutraceutical supplements. Nutraceuticals are described as foods or parts of food that provide medical benefits or health benefits including the prevention of disease. **GOALS AND OBJECTIVES:** The aim of the study was to compare the effectiveness of Nutraceuticals and usual care in the treatment of hypertension. I investigated whether Nutraceuticals are inferior or as efficacious as usual care in the treatment of hypertension. The common consensus is that, Nutraceuticals are not inferior to usual care. **METHODS:** The dataset of several studies regarding the role of nutraceuticals in the treatment of hypertension were searched through PubMed. The keywords used were 'nutraceuticals' and 'hypertension'. Studies with reduction of blood pressure as the primary outcome were chosen. The primary endpoint was a reduction of blood pressure. The secondary outcome was the effect of Nutraceuticals in the markers of cardiovascular health. **RESULTS:** A total of 15 studies with a range of 19 to 36382 participants were investigated. Most of the studies were published between 2002 and 2012. An analysis of the Number Needed to Treat Hypertension (NNT) to prevent one additional incidence of hypertension had a mean of 5.4 patients. **CONCLUSION:** A nutritionally relevant daily intake of Nutraceuticals alone does not provide significant benefit in the management of hypertension. However, they can be used as adjunct therapy.



Effectiveness of an Antibiotic Stewardship Program at a Long Term Acute Care Facility

Quratul Ain (Abstract 136P)

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PURPOSE: Long term acute care facilities (LTAC) care for patients with complex medical conditions who require inpatient care for an extended period of time (typically greater than 25 days). During this prolonged stay patients may develop infections and are given extended-spectrum and/or multiple antibiotics. Such practices lead to unnecessary antibiotic use, and use of antibiotics for a longer period of time leads to antibiotic resistance, which has significant negative consequences for medicine. The Kindred Hospital recently implemented an antibiotic stewardship program (ASP) as a way to improve antibiotic use, and had to meet three outcomes measures. This study will focus on data from the last three years to determine the effects of the ASP on the facility's outcomes. **METHODS:** The data was collected retrospectively from the years 2010 to 2012. The data included 1) the number of patients on more than 3 antibiotics, 2) number of patients on antibiotics for more than 10 days, and 3) monthly antibiotic cost per patient day. **RESULTS:** Research suggests that having an ASP in this facility is beneficial as it leads to safety of the patient, reduced drug toxicity, and decreased risk of antibiotic resistance. **CONCLUSION:** Implementing Antibiotic Stewardship program in LTAC not only helped patients with the unnecessary use of antibiotics for a longer period of time, but also helped in decreasing the cost of healthcare.



Computerized Physician Order Entry, a Survey of the Nation's Pharmacy Staff

Roksana Darab (Abstract 137P)

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Background: CPOE has many advantages. Despite the benefits, many facilities resist implementing CPOE. Pharmacy staff satisfaction plays an important role in the implementation of CPOE. **Objective and Purpose:** This survey measures the nation's pharmacy staff satisfaction with CPOE. **Methods:** The twelve questionnaire survey is posted on ASHP's website. It assesses the surveyor's perception of the goals, advantages, and effects on pharmacy operations such as phone calls to physicians and prescription errors. The last two questions are open ended and space is allotted for suggestions. Descriptive and quantitative statistics are used to identify trends. **Results:** This survey shows that most pharmacy staff is aware of CPOE's benefits. Most staff members believe that the number of phone calls to clarify prescriptions has not been reduced and CPOE has not had a hand in decreasing the number of staff in the pharmacy. Most of them believe they received adequate training before and were given some degree of feedback after utilizing CPOE. They believe the number of errors has been reduced or did not change. Many of them had valuable suggestions to improve the CPOE execution. **Conclusion:** CPOE by itself does not improve productivity and quality of work at a pharmacy. Effort should be made to use pharmacy staff opinions in creating and implementing CPOE. Future CPOE development should focus on usability in the pharmacy, as well as education for providers who enter the order into the system.



Assessing the Need for Continued Pharmacist Interventions to Increase Compliance with The Joint Commission Medication Management Standards in a Community Behavioral Health Center

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College of Pharmacy and Health Sciences

Purpose: Medication errors (MEs) are cited as a major point of evaluation of compliance with the 2012 National Patient Safety Goals set forth by The Joint Commission with respect to medication management standards. Continuum Behavioral Health Center provides partial hospitalization services for psychiatric patients and was designated as "compliant" by The Joint Commission in 2011 following major practice changes implemented by a pharmacist to decrease MEs. The objective of this study is to determine whether the interventions have been upheld in this center following receipt of this designation as well as numerous staff changes. **Methods:** This study will be conducted as a retrospective chart review and because no direct patient contact is needed to collect data, this study was exempted from approval by the Institutional Review Board prior to the start of data collection. All information will be gathered without the use of any patient identifiers in order to maintain confidentiality. Fifty charts will be reviewed at random to determine whether pharmacist instituted interventions of system-wide utilization of standardized physician order forms and medication forms are working effectively to decrease medication errors. The following data will be collected: age, gender, measurement of vital signs at each encounter, medication reconciliation, proper utilization of standardized forms, and appropriate documentation of ADEs/MEs. The primary objective of this study is to determine if there was a continuation of pharmacist-instituted safe medication practices to decrease the number of adverse drug events. Secondary measures involve determining whether any new issues related to medications and patient safety have arisen and if new recommendations are needed to ensure continued compliance with the national regulatory standards.



Synthetic Cannabinoid Analog, WIN 55212-2, Induced Neurotransmitter Transporter and Cannabinoid 2 Receptor (CB2R) Expressions in Cultured Rat Cortical Astrocytes

Kruti Shah (Abstract 139P)

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Cannabinoids affect learning and memory by modulation of synaptic plasticity via glutamate neurotransmission. The purpose of this study was to investigate if chronic exposure to WIN 55212-2, a potent aminoalkylindole cannabinoid receptor agonist affects synaptic levels of glutamate by altering its reuptake by glial cells, mainly astrocytes. Frozen rat cortical astrocytes were thawed, sub-cultured and treated for 1 or 5 days with WIN 55212-2 (1microM) and the expression levels of astroglia-specific, glutamate transporter-1 (GLT1), glutamate aspartate transporter (GLAST), cannabinoid CB1receptor (CB1R) and CB2 receptor (CB2R) subtypes were detected by immunocytochemical double-labeling in conjunction with quantitative western blot analyses. Immunocytochemical analysis showed an increase in the expression of GLT1 that was corroborated with a ~1.5-fold increase of a protein with a molecular mass of ~65kDa. However, GLAST protein expressions remained unaffected. Surprisingly, chronic treatment with WIN 55212-2 also induced an increase in CB2R expression, which was localized with the astrogial marker, glial fibrillary acidic protein (GFAP). Western Blot analysis showed a protein band with a molecular mass of ~37kDa, corresponding to the molecular mass of CB2R. These results suggest that chronic exposure of astroglial cells to WIN55212-2 caused an up-regulation of astroglial GLT1, which is a major excitatory neurotransmitter reuptake system responsible for the clearance of glutamate from the synaptic cleft and regulation of glutamate neurotransmission. Additionally, our results showing the WIN 55212-2 induced up-regulation of astroglial CB2R receptors suggests a neuroprotective role for this mixed agonist, which would eventually prevent inflammatory responses in the brain with minimal CB1R-mediated psychotic responses.



Glycemic Control in Diabetic Patients Involved in a Pharmacist-led Disease State Management Program at a Non-Profit Community Health Clinic

James W. Russell Jr. (Abstract 140P)

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There are an estimated 26 million adults aged 20 and older in the United States (U.S.) living with the diabetes mellitus and it has been projected that as many as 1 in 3 U.S. adults could have diabetes by 2050 if current trends continue. Medication non-adherence, lack of knowledge, limited access to healthcare resources, and low health literacy contribute to a number of complications. Disease state management (DSM) led by pharmacists, in accordance with the standards of care derived by the American Diabetes Association (ADA) Professional Practice Committee yields comprehensive care that focuses on disease management, medication therapies, and prevention of complications to improve patient outcomes. This study was conducted as a retrospective, chart review. Thirty-Five patients were randomly selected to represent a 10% interim sample of the DSM diabetic population of San Jose Clinic. The data collected includes age, gender, glycosylated hemoglobin (HbA1c), fasting blood glucose (FBG), documented episodes of hypoglycemia (blood glucose < 50 mg/dL) and hyperglycemia (blood glucose > 400 mg/dL) all of which were provided by Sevocity®. Of the 35 patients, 33 were documented to have completed three DSM pharmacy encounters. Of those 33 patients 54% showed a decrease in HbA1c, 20% maintained a goal HbA1c of ≤ to 7%, and 45% showed an increase in HbA1c. Although, overtime trends were negated due to a decrease in patient encounters, those that participated on a consistent base for 4 or more encounters showed improvement. Therefore, the pharmacist-led program proved to be beneficial for patient outcomes over time.



Lipopolysaccharide-induced Upregulation of Cannabinoid 2 Receptors in Rat Cortical Astrocytes

Dakota N. Jackson, B. S. (Abstract 141P)

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While the existence of cannabinoid 2 receptors (CB2R) in healthy brain is still uncertain, its expression is associated with a variety of inflammatory processes. Activation of CB2R in microglial cells is known to suppress the release of pro-inflammatory factors that cause astrogliosis—an inflammatory brain response. The aim of this study was to determine whether inflammatory agents, such as bacterial lipopolysaccharide (LPS), alter the expression of CB2R in astrocytes. In this study, rat cortical astrocytes (RCAs) were treated for 24 hr with LPS (0-10 μ g/ mL) in serum free Dulbecco's Modified Eagle Medium (DMEM). The expression of glial fibrillary acidic protein (GFAP), as a measure of "astrogliosis", and expressions of CB1R and CB2R were measured by immunocytochemistry (IC) double labeling and quantitative western blot (WB) analyses. IC results showed that 24 hr incubation with LPS increased the number of fibrous-like processes in GFAP-expressing cells that also showed an increase in the expression of CB2R. Quantitative WB analysis confirmed our IC results, showing a 2-fold increase in CB2R band intensity. Western blot analysis also showed an increase in CB1 R expression in astrocytes. These results indicate that LPS treatment induces astrogliosis with a concomitant upregulation of CB2R expression in rat cortical astrocytes. FUNDING: (*Partial support from G12RRO3045 and Institutional grant).



Evaluation of Current Model of Practice for Treating Concurrent Tuberculosis and HIV Infections

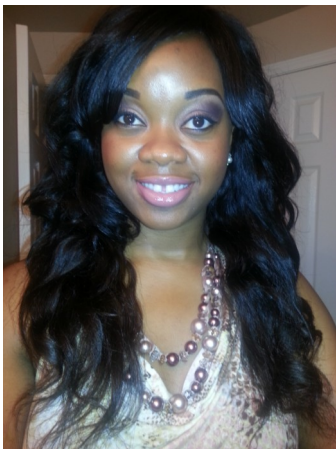
Kinyatta Weatherspoon (Abstract 142P)

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Background: Tuberculosis affects approximately one-third of the world's population and approximately 11,000 people in the United States. The number of people living with tuberculosis in Houston, Texas is double the national rate. According to the Harris County Public Health and Environmental Services, the City of Houston is utilizing a treatment protocol implemented in 2003. Since then, there have been updates published by the World Health Organization (WHO) and the Department of Health and Human Services (HHS) with specific treatment options for managing patients with tuberculosis and concurrent HIV/AIDS infections. **Methods:** An online search was utilized to identify 10 local and national facilities that treat co-infected patients. A survey was administered to all facilities via the survey monkey tool to capture information regarding treatment protocols. **Results:** Of the 10 facilities contacted, all facilities responded that their treatment protocols include treating both infections simultaneously. Forty percent responded that they initiate HAART within two weeks of starting TB treatment. The preferred HAART regimen was a combination of a non-nucleoside reverse transcriptase inhibitor (NNRTI) in combination with a nucleoside reverse transcriptase inhibitor (NRTI), which follows the most recently published HIV treatment guidelines. **Implications:** As a result of years of research, in particular the CAMELIA clinical trial, we have better information regarding the timing of HAART when treating concurrent HIV and TB infections. Going forward, a recommendation of initiating HAART with the preferred regimen starting two weeks after TB therapy initiation can be made to the City of Houston and affiliates.



Survey on Recommendations on Over-the-Counter (OTC) Weight Loss Products: Pharmacists' Perspective

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Pharm.D. Candidate, Pharmacy (**Abstract 143P**)

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Purpose: Usage of weight loss products and dietary supplements has increased in the United States over the years. Consumers have pulled away from traditional methods of losing weight which includes incorporation of exercise and diet modifications; they are leaning toward seemingly easier, faster, and inexpensive ways of achieving weight loss, using over-the-counter products. With the availability of retail pharmacists, consumers often seek advice on recommendations and means to achieve their weight targets. The aim of this study is to investigate the most commonly recommended OTC weight loss products by retail pharmacists as they pertain to patients' needs and weight loss goals. **Method:** Preceding the initiation, this study was exempted from Texas Southern University Committee for Protection of Human Subjects (CPHS) review. This, in effect, was supported by the fact that this research involves the use survey procedures, interview procedures or observation of public behavior. A 10-questionnaire survey was created using Survey Monkey, and was randomly distributed to 120 retail pharmacists in select areas of Houston. These participants would interact on a one-on-one, face to face interview with the investigator; and questions posed would include such pertaining to their recommendations on OTC weight loss products. The ensuing data that would be gathered include: the most frequently recommended OTC weight lost product(s), frequency of product recommendation, views on prescription weight loss products versus OTC products, most probable influence on OTC weight loss product recommendation, concerns about safety and regulations of OTC weight loss products, preference on physician-assisted guidance to weight loss goals. Participants' responses will be assessed and all records received will be charted without identifying the participants or their respective places of employment. **Results:** There was a 93% response rate, with 62% of participants having or listat as the most commonly recommended OTC weight loss product; 29% favored no OTC weight loss product recommendation.



Determination of New PharmD Curricula Success Based on OSCE Scores

Quyen Ho and Karin Williams (**Abstract 144P**)

Pharm.D. Candidate, Pharmacy

Faculty Advisor and Co-PI: Dr. Flora Estes

College of Pharmacy and Health Sciences

The College of Pharmacy and Health Sciences at Texas Southern University has recently undergone an extensive restructuring of its PharmD curriculum. This included the addition of more clinically based classes in comparison with the old curricula. The intent of this study is to assess the benefit of the change by utilizing data collected from student scores on Objective Structured Clinical Examinations (OSCEs), which were administered to each grade level beginning in 2009. The student success rate and matriculation through the PharmD program as compared to the success rate of the OSCE will be investigated. Current and graduated student perceptions of the OSCE and its utility are incorporated into the study through surveys. Such surveys have implied positive student feedback on the examination as related to successful completion of courses within each year. Interviews and research of OSCEs given by other Texas pharmacy schools compared to the success rate of their PharmD program are also examined and analyzed. Results will determine whether the new curriculum has any effect on the knowledge base of students with the use of a structured examination.



Pharmacist Impact on Overall Quality of Life on Elderly African American Patients Through Medication Reconciliation

Gildardo Bazan and Vy Pham (Abstract 145P)

Pharm.D. Candidate, Pharmacy Practice

Faculty Advisor: Dr. Macaulay Akpaffiong

Co-PI: Dr. Ivy Poon

College of Pharmacy and Health Sciences

PURPOSE: High blood pressure and aging increase the susceptibility to attain chronic disease states. Consequently, overall quality of life for the burdened patients is decreased as their ability to perform regular daily activities gradually decreases as well. The purpose of the study is to reduce health disparities in blood pressure control and describe the use of medications in end-of-life care patients through medication reconciliation. **METHOD:** An educational intervention study was conducted in an attempt to achieve blood pressure control among elderly African American patients by pharmacist home visits and biweekly telephone follow ups. These patients from the Houston Veterans Affairs Hospital were preselected from an ongoing cardiovascular study conducted by Texas Southern University College of Pharmacy and Health Sciences. Therefore, informed consent for this study was waived. Pharmacist interns collected the patient demographics, medication lists and diagnoses through a retrospective chart review. **RESULTS:** Over 431 patients were recruited for the study with similar baseline characteristics. Of the 305 participants that completed the study, 47% of them achieved ≥ 5 mmHg drop in systolic blood pressure at six months. Eighty percent of the patients that were considered end-of-life ($n=10$) had potentially inappropriate medications for their life expectancy. **CONCLUSION:** Pharmacist intervention through medication reconciliation and patient education can have a positive influence in helping individuals gain control of chronic conditions like hypertension. End-of-life patients may also benefit from having pharmacists screen for medication appropriateness.



Enteral Nutrition in the Immediate Post-Operative Period Following Orthotopic Liver Transplantation

Justin R. Washington (Abstract 146P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor: Dr. Joshua Swan

College of Pharmacy and Health Sciences

Co-PI: Justin R. Washington;1 Joshua T. Swan, PharmD, BCPS;1,2 Shawn A. Spear RD, LD, CNSD;2 Maha Boktour, MD, MPH;2 Linda W. Moore, MS, RD, CCRP2 1 – College of Pharmacy and Health Sciences, Texas Southern University; 2 - The Methodist Hospital

Background: Nutritional support is an important part of the care plan for all critically ill patients, especially patients who have recently undergone a major surgery. Malnutrition is a common complication of patients with cirrhosis. Therefore, orthotopic liver transplant (OLT) recipients require vigilant nutritional support during the post-operative period. Enteral nutrition (EN) can be started as early as 18 hours after OLT. The objectives of this study were to describe the time until initiation of EN and the time until achievement of goal EN after OLT. **Methods:** Patients who received an OLT at our tertiary care academic medical center from 07/01/2011 through 06/30/2012 and admitted to the surgical ICU were included. Goal EN was defined as 25 kilocalories per kilogram of body weight per day. Patient variables such as parenteral nutrition, presence of feeding tube, baseline nutritional status, concurrent mechanical ventilation, level of consciousness, indication for OLT were collected to identify variables which are associated with delayed initiation of enteral nutrition after OLT. **Results:** A total of 58 OLT patients were included in the analysis in which 64% of patients did not receive any nutritional support. During the first 7 days after OLT, 21 (36%) patients received nutritional support, 13 (22%) patients received EN, and 13 (22%) patients received TPN. **Discussion:** Most patients did not receive EN until after day 5, and few patients received total parenteral nutrition (TPN). The impact of current EN practices on patient outcomes is unknown and additional research is needed to identify best practices for EN in post-OLT patients.



Comparative Effectiveness of HIV Care Metrics

Naomi K. Mogaka (Abstract 147P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor and Co-PI: Dr. Inyang Osemene

College of Pharmacy and Health Sciences

Background: Non adherence to HIV Anti-retroviral (ART) medication is the leading cause of morbidity and mortality in this group of patients. Currently, some of the stipulated and well implemented HIV care metrics in many organization and health care departments that specialize in HIV care are: Process of care, CD4 cell count monitoring, screening for STDs, IV drug use, tuberculosis, Hepatitis B & C, Immunization, PCP prophylaxis, ART prescription and Viral control. This study will seek to establish through randomized control trials (RCT) and published articles, which metrics have been shown to be effective in improving medication adherence. **Methods:** A PubMed search for RCT and several articles and reviews on HIV/AIDS was conducted. Selection was targeted on those studies and articles that focused on adherence as an outcome measure. Both qualitative and quantitative studies that examined these metrics, whether conducted within or outside the United States were retrieved and evaluated. In addition studies that evaluated adherence barriers and facilitators were included. A PICO (Patient, Intervention, Comparator, and Outcome) analysis was conducted on 15 Randomized control trials to help come up with evidence based conclusion. **Conclusion:** Numerous published RCTs and review articles prove that point of care counselling by educated counsellors, which includes patient education on the disease state and importance of adherence to medications, and monitoring of viral load and CD4 count levels, are the key clinical metrics to improving medication adherence. More RCT that target impact of immunizations, and effect of PCP prophylaxis on patient adherence and outcomes are warranted



Assessment of Medication Errors within a Local Behavioral Health Center: A Focus on Patient Safety

Ngoc-Thuy Pham (Abstract 148P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor: Dr. Portia Davis

College of Pharmacy and Health Sciences

Co-PI: Dr. Portia N. Davis, Dr. Adlia Ebeid, Dr. Barbara Candley

Considering all sources of errors that may occur during healthcare, medication errors are the most common and also the most frequent cause of adverse events. The National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) define medication error as “any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer.” The purpose of this study is to determine if current practices involving pediatric psychiatric patients of the Continuum Behavioral Healthcare Center are in compliance with The Joint Commission’s medication management standards. The primary objective is to identify the prevalence of medication errors, and to classify them as prescribing errors, dispensing errors, medication administration errors, or patient compliance errors. A retrospective review of fifty patient charts was selected randomly from the month of August 2010 to October 2010. The data collected showed that several medication errors were due to non-compliance with vital signs, transcription errors, and dosage adjustments without indication. The results indicated that the Continuum Healthcare is in need of a medication error intervention. Pharmacist intervention will be utilized to reduce medication errors at this institution.



Systematic Review of the Incidence of Delirium in Mechanically Ventilated Intensive Care Unit Patients Sedated with Dexmedetomidine Versus Propofol, Midazolam, or Lorazepam

Oanh H. Ngo (Abstract 149P)

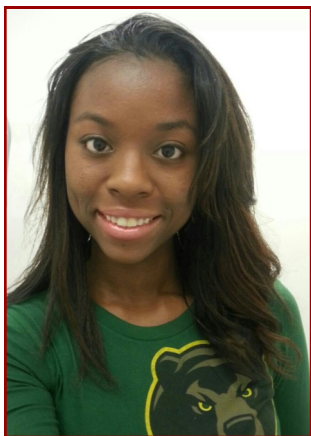
Pharm.D. Candidate, Pharmacy

Faculty Advisor: Dr. Joshua Swan

Co-PI: Huyenvy D. Van, Joshua T. Swan, Pharm.D, BCPS

College of Pharmacy and Health Sciences

Purpose: Delirium associated with increased mortality, intensive care unit (ICU) length of stay, hospitalization cost, and long-term cognitive dysfunction. Common sedatives used in the ICU for mechanically ventilated patients include dexmedetomidine, propofol, midazolam, and lorazepam. It is hypothesized that dexmedetomidine-based sedation will be associated with a lower incidence of delirium compared with propofol, midazolam, or lorazepam. **Methods:** This systematic review is exempt from institutional review board approval. The terms 'dexmedetomidine' combined with 'lorazepam,' 'midazolam,' or 'propofol' were used to search EMBASE and MEDLINE. Only articles written in the English language and including adult ICU patients that are randomized to continuous infusion sedation for mechanical ventilation were included. Additionally, delirium must be diagnosed using a validated screening tool, such as the confusion assessment method for ICU. **Results:** The terms search identified 270 unique articles. Only three articles (MIDEX/PRODEX, MENDS, and SEDCOM) met the inclusion criteria. Both MIDEX and PRODEX indicate the incidence of delirium is less in dexmedetomidine group (MIDEX- 11.9%; PRODEX- 9.6%) than midazolam (13.9%) or propofol (13.7%), respectively. MENDS trial demonstrates prevalence of delirium is less in dexmedetomidine group (79%) than lorazepam (82%). Additionally, SEDCOM trial shows the prevalence of delirium to be less in dexmedetomidine (54%) than midazolam (76.6%). **Conclusion:** Data from the three articles shows the incidence and prevalence of delirium is less in patients using dexmedetomidine-based sedation than those using propofol, midazolam, or lorazepam. Further evaluation and data must be collected before a definitive conclusion can be made about the risk of delirium among the sedatives.



Detection of Phase-1 Drug-Metabolizing Epoxide Hydrolases In Glioblastoma Cells

Shere' Paris, B. S. (Abstract 150P)

Ph.D. Candidate, Pharmaceutical Sciences

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Glioblastoma Multiforme (GBM) is a devastating prognosis for human brain tumors known for rapid proliferation, tumor invasiveness, cell migration, and drug resistance. Angiogenesis appears to be the main contributor of Glioblastoma's aggressive tumor growth. Epoxide Hydrolases (EH's), constitute an important class of drug metabolizing enzymes mainly distributed in liver and other extrahepatic tissues, including the brain. SEH substrates are responsible for vasoactive proliferation which may be an important contributor to angiogenesis and drug resistance. Previous studies have used sEH inhibitors to detect sEH activity in glioma cell lines U251 and U87 by fluorescence assay. In this Pilot study we report the expression of mEH and sEH's in GBM-derived U118MG cell lines. The expression of mEH and sEH was determined by immunocytochemical staining and western blotting analyses. Our results show that U118MG cells stained positive for both EH's and these results were confirmed by western blot analysis. These results demonstrate that mEH and sEH are coexpressed in GBM U118MG cells. Future goal is to further elucidate the possible roles of sEH in tumor cell proliferation by use of sEH inhibitors to reduce Glioblastoma's resistance to drug therapy.



Antimicrobials Use in Animals and Their Produce and a Possible Connection to the Development of Multi-Drug Resistant Bacteria in Humans

Somtochukwu Azubuike (Abstract 151P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor and Co-PI: Dr. Sondip Mathur

College of Pharmacy and Health Sciences

Antimicrobials Use in Animals and Their Produce and a Possible Connection to the Development of Multi-Drug Resistant Bacteria in Humans. In dealing with the issue of multiple drug resistance in humans, a research question that needs to be answered is whether there is a link between use of antimicrobials in animals and animal produce and human health. By using meta-analysis of the literature, the goal is to validate a positive correlation between use of antimicrobials in animals, their produce, as well as in animal feeds with the higher probability of antimicrobial drug-resistance and increased pathogenic impacts for humans. The analysis of the literature reveals that animals and humans are both likely to operate as vectors for drug-resistant bacteria transmission, spreading resistant-plasmids from one medium to another. Risk factors associated with acquiring infections include direct contact with live animals where examples include those involved with the production of consumer produce from animals and caretakers of livestock, direct contact with individuals who are carriers of the resistant bacteria, consumption of infected products, and most especially amongst the groups who are immune compromised such as elderly and HIV patients. In the articles reviewed, common resistant strains identified include: E. coli, Salmonella, Staphylococcus aureus and Enterococci. Based on these discoveries, it is essential that a guideline for management of antimicrobial use in animals breeding for human consumption be implemented, and in particular in the areas of disease prevention and treatment of livestock diseases.



Evaluating the Principle Display Panel of Soft Drinks: An OTC Pharmaceutical Approach

Brian Nguyen (Abstract 152P)

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College of Pharmacy and Health Sciences

Background: It is clear that the consumption of soft drink has negative long term effects on human health, many of which are irreversible. The underlying issue remains that most consumers do not have ready access to product facts and guidance on how much to consume per day. Missing are adverse effects and other information on side effects and interactions.

Purpose: The goal is to develop a principal display panel (PDP) for popular soft drinks consistent with FDA required drug facts and labeling of over-the-counter pharmaceutical products. **Methods:** Literature is reviewed to generate the “drug facts”, “dosing”, “side effects” of popular soft drinks. Additional literature review is conducted to support a comparison of FDA formatted OTC label with current soft drink labeling is analyzed in terms of marketing and health effects.

Discussion: Current labeling of popular soft drinks simply state “serving size: 1 Can”. However, without appropriate precaution or limitation of the daily intake of soft drinks, the long term effects of excessive soft drink consumption is known to increase the risk of obesity, diabetes, heart disease, and gout. With such serious long term side effects, it will benefit the health of billions of consumers if FDA were to require that the Nutrition Facts labels for sugary carbonated soft drinks conform with the guidelines sanctioned for over-the-counter (OTC) medications. **Conclusion:** This study captures the health risks associated with excessive soft drink consumption, the need for FDA to take remedial action to educate the consumers and the appropriateness of redesigning product’s principal display panel.



Reconstitutable Ursodiol for Oral Administration to Increase Safety and Efficiency in the Hospital System

Kanwal Abbas, Afsaneh Fani, Osita Okafor
Sanaz Mahmoudy (Abstract 153P)

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Faculty Advisor: and Co-PI: Dr. Rodney Hunter

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BACKGROUND: Ursodiol is a gallstone dissolution agent that is indicated in primary biliary cirrhosis, prevention of both graft rejection in liver transplantation and gallstones in obese patients. Ursodiol is administered to patients in tablets or capsules. **OBJECTIVE:** To determine the long term stability of a uniformly produced oral suspension formulation of ursodiol and compare its attributes to the current compounded product. **STUDY DESIGN:** 1:1 mixture of Ora-Sweet and Ora-Plus and an ursodiol powder (UP) will be combined to create a 20 mg/mL liquid concentration. To determine stability forty 100 mL bottles will be prepared. High performance liquid chromatography (HPLC) will be used every month for six months to test the suspensions. When the variation in the concentration is greater than 10%, this will indicate that the suspension lost its stability. **ANALYSIS:** Actual trough values that are obtained from patients treated with the compounded variety will be compared with the trough predictions of the UP suspension. Eventually, aspects such as pharmacokinetic predictability, stability, taste, and patient compliance of the UP suspension will be compared to the compounded suspension of similar concentration. Once the stability has been verified, an approval from institutional review board of Memorial Hermann hospital and the Methodist Hospital in Houston will be obtained to identify patients currently receiving compounded ursodiol suspension with a concentration of 20 mg/mL. A continual reassessment method and modified Fibonacci dose escalation strategy will be used in a phase I clinical trial in order to determine the optimal dosing ranges for the UP suspension. **RESULT:** Data collection and formulation development is still ongoing.



Pharmacokinetic Studies of Selected Medications Before and After Gastric Bypass Surgery

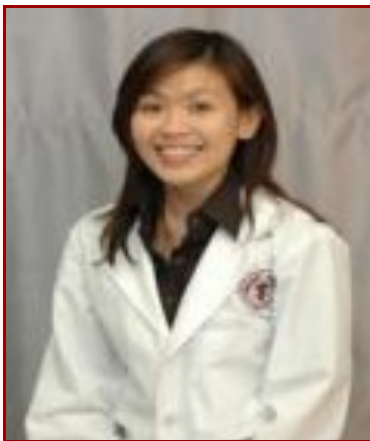
Joanne Omawunmi and John Vu (Abstract 154P)

Pharm.D. Candidate, Pharmacy

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Obesity (BMI ≥ 30) is a growing epidemic in the US in recent decades. Co-morbidities associated with obesity include hypertension, dyslipidemia, type 2 diabetes mellitus, GERD, depression, etc. Extreme obesity (BMI >40) is the fastest growing sector among the obese population. Bariatric surgery is the only durable and cost effective option for weight loss in the extreme obese. Roux-en-Y gastric bypass (RYGB), the most commonly performed bariatric surgery in the US, may alter the disposition of medications taken orally. Limited data are available regarding this. The objective is to evaluate the effect of RYGB on the pharmacokinetics of commonly used medications in this population. This study is a prospective study comparing pharmacokinetic profiles before and after the RYGB. Fifty-eight patients who take at least one of the study medications will be enrolled into the study. The study medications include antidepressants, statins, metformin, and proton pump inhibitors. Blood sample will be drawn before the surgery, and at 1, 3, 6, and 12 months after the surgery. The pharmacokinetic parameters including elimination rate constant (K), biological half-life ($T_{1/2}$), area under plasma concentration-time curve (AUC), total drug clearance (CLT), and volume of distribution (Vd) for the study medications will be determined and evaluated using the WinNonlin program. Statistical tests such as two-sided, unpaired student t-test at $P = 0.05$ will be used to analyze the data.



Accuracy of Continuous Hemoglobin Monitoring During the 48-hour Period After Orthotopic Liver Transplant

Meng Swen See (Abstract 155P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor and Co-PI: Dr. Joshua Swan

College of Pharmacy and Health Sciences

Co-PI: Sherilyn Gordon Burroughs, MD, FACS

PURPOSE: The Masimo signal extraction pulse carbon monoxide oximeter device (Radical – 7 [trademark]) provides noninvasive, and continuous measurement of total hemoglobin (SpHb) in physiologically normal patients. It was hypothesized that the SpHb would be the same as serum hemoglobin in patients immediately following OLT. **METHODS:** The institutional review board approved this study and granted a waiver of informed consent. A retrospective case series was conducted that included all patients with 48 hours of post-operative SpHb monitoring after an OLT from October 2011 to November 2011 at a tertiary care, academic medical center. For serum hemoglobin, the most recent SpHb recorded was assigned as a corresponding SpHb for analysis. Continuous data with a normal distribution were reported using mean \pm standard deviation. The paired Student's t-test and Pearson's correlation test were used to compare serum hemoglobin with SpHb. **RESULTS:** Four patients, three female and one male, were included in the study with ages range from 46 to 70 years old. Seventeen pairs of corresponding SpHb and serum hemoglobin were compared and analyzed. The mean serum hemoglobin was 9.0 ± 1.0 g/dL and SpHb was 11.1 ± 1.5 g/dL. Compared to serum hemoglobin, SpHb overestimated the hemoglobin concentration by 2.1 g/dL (95 percent confidence interval, 1.3 to 3.0 g/dL, $P < 0.001$). Serum hemoglobin and SpHb were not correlated (r equals 0.235, $P = 0.364$). **CONCLUSION:** Immediately following OLT, SpHb overestimates serum hemoglobin and was not correlated. This study does not support routine SpHb monitoring in this patient population.



Incidence of Rituximab Infusion Reactions in Patients with Autoimmune Versus Oncologic Diseases

Patti D. Richardson (Abstract 156P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor and Co-PI: Joshua Swan, Pharm.D., BCPS

College of Pharmacy and Health Sciences

Co-PI: Smitha Kuriako, Dr. Hanna Zaghloul, Dr. James Cox, Dr. Jose Murillo, Jr.

PURPOSE: Rituximab is indicated for Non-Hodgkins Lymphoma, Chronic Lymphocytic Leukemia, Rheumatoid Arthritis, Wegeners Granulomatosis, and Microscopic Polyangiitis. The objective of this study is to evaluate the rituximab infusion reactions between autoimmune and oncologic diseases. The hypothesis is that the incidence of infusion reactions will be higher for infusions indicated for autoimmune diseases versus oncologic diseases. **METHODS:** This retrospective, cohort study consisted of rituximab infusions administered at a tertiary care academic medical center from June 2010 to July 2011. The primary endpoint includes the incidence of infusion reactions (Grade 1 to 4) between autoimmune and oncologic diseases using the National Cancer Institutes Common Terminology Criteria for Adverse Events version 4.0. The data was analyzed using the Chi-square test. **RESULTS:** Of 688 infusions administered, 33.6% ($n = 231$) were for autoimmune indications and 66.4% ($n = 457$) were for oncologic diseases. Infusion reactions occurred during 7.4% (51 of 688) of infusions. The incidence of infusion reaction for indications that were autoimmune versus oncologic were similar (6.5% [15 of 231] versus 7.9% [36 of 457], $P = 0.513$). For initial infusions, the incidence of infusion reaction was higher for oncologic diseases versus autoimmune diseases (21.1% [28 of 133] versus 11.1% [11 of 99], $P = 0.045$). **CONCLUSION:** There was no significant difference in the incidence of infusion reactions between autoimmune versus oncologic diseases. For initial infusions, the incidence of infusion reaction was higher for oncologic diseases compared with autoimmune diseases.



Evaluation of Comprehensive Provision of Care and Pharmacist-Guided Intervention Among Subjects with Diabetes Mellitus at a Local Non-Profit Community Health Clinic

Emmanuel U. Aniemeke (Abstract 157P)

Pharm.D. Candidate, Pharmacy Practice

Faculty Advisor: Dr. Portia N. Davis

College of Pharmacy and Health Sciences

Diabetes mellitus is a complex, chronic metabolic disease that affects an estimated 25.8 million people in the United States, according to the Center for Disease Control. Studies have shown that, diabetes is the principal contributor to several metabolic abnormalities and complications. The risk of complications and mortality increases if glycemic control is not adequately achieved. The objective of this study is to determine if diabetic patients of San Jose Clinic are receiving comprehensive medication therapy management, biochemical laboratory assessments, immunizations and referrals for specialist care according to the American Diabetes Association (ADA) standards of care and practice guidelines. Based on the analyzed data thus far, a pharmacist guided in-service would be beneficial in order to educate clinic providers on the significance of specialist care referrals in accordance with the Standards of care and practice guidelines in order to optimize DSM patient outcomes. This study was conducted as a retrospective, patient chart review. Thirty-Five patients were randomly selected to represent a 10% interim sample of the DSM diabetic population of San Jose Clinic. The data collected from Sevocity® includes patient age, gender, laboratory values, immunization status, and evidence of specialist referrals. Based on the analyzed data thus far, a pharmacist guided in-service would be beneficial in order to educate clinic providers on the significance of specialist care referrals in accordance with the Standards of care and practice guidelines in order to optimize DSM patient outcomes.

The Day in the Life of a Advanced Pharmacy Practice Experience Student (APPE)

Ogechi Nwagwu (Abstract 158P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor: Sondip Mathur

College of Pharmacy and Health Sciences

The purpose of my research project is to give students and other members of the pharmacy profession insight to the many career avenues that are available in the world of pharmacy. The various careers that will be presented will be rotations that I have completed this academic year which began May 2012 to March 2013. The rotations that will be researched will be community pharmacy, ambulatory pharmacy, hospital pharmacy, family medicine, academia pharmacy, geriatrics pharmacy, and advanced pharmacy community. Each of these rotations were six (6) weeks long and required 240 hours to be completed. At each rotation, a diary of my activities were documented. Activities that were documented ranged from number of prescriptions filled to number recommendations made to physicians. It was expected to see a level of repetition due to the nature of the current rotations demands. The overall end result was to hopefully help students make wiser decisions in selecting their rotations or decisions in their career path in pharmacy.

Anthracycline Dosing in Special Patient Populations

Hoan Huynh, Trinh Nguyen, Mieng Tieu, and Joseph Tran (Abstract 159P)

Pharm.D. Candidates, Pharmacy

Faculty Advisor and Co-PI: Dr. Rodney Hunter

College of Pharmacy and Health Sciences

Proper dosing of chemotherapy drugs for patients with breast cancer is important to prolonging their overall survival and improving their quality of life. The purpose of this retrospective chart review will be to examine the various weight-based dosing regimens for patients undergoing chemotherapy for breast cancer, with anthracyclines in particular. The Committee for the Protection of Human Subjects (CPHS) at Texas Southern University has approved this study. Various studies were reviewed using Medline to analyze the data used in this research. Chemotherapy regimens recommended by the National Comprehensive Cancer Network (NCCN) will be evaluated in this study. Efficacy and toxicity will be the primary outcomes evaluated in the patient below 20% of their calculated Ideal body weight compared to patient above their ideal body weight. Efficacy in the form of response rates, disease free survival, and overall survival will be analyzed in both patients groups. Toxicity will be analyzed using complete blood cell counts, liver function tests, mucositis, and episodes of febrile neutropenia.

A Systematic Review of the Association between Serum Anticholinergic Activity with Delirium

Huyeny Van (Abstract 160P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor and Co-PI: Dr. Joshua Swan

College of Pharmacy and Health Sciences

Background: Delirium is defined as an acute confused state and may lead to long-term cognitive dysfunction. Identifying risk factors for delirium will lead the medical team to improve clinical interventions that will minimize hospital duration, and eventually reduce medical expenses. Thus, a systematic review of the association between serum anticholinergic activity levels and the risk of delirium is needed. **Objective:** This study will compare serum anticholinergic activity (SAA) levels of inpatients with and without delirium. It is hypothesized that patients with delirium will have higher SAA levels. **Methods:** A systematic review and meta-analysis will be conducted to analyze studies that report SAA levels of patient with and without delirium. All articles will be obtained from MEDLINE and EMBASE databases using the search terms: "serum anticholinergic activity," "delirium" and ("critical ill," "critical illness," "inpatients", or "intensive care unit"). In addition, articles may also be obtained from the review of bibliographies from the references of selected studies. Studies containing SAA level obtained inpatients that were assessed for delirium using the Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria or the Confusion Assessment Method (CAM) were included. Studies that do not report SAA levels or presence of delirium were excluded. Trials of outpatients or patients in long-term care facilities were excluded. **Results:** Research in progress. **Conclusions:** Pending. **Key Words:** serum anticholinergic activity, delirium, intensive care units, critical illness **Disclosure:** The authors have nothing to disclose financially or otherwise the results of this project have not been presented previously.

An Inquiry into Generic Substitution vis-à-vis Brand Name Medication: Why Prescribers Still Write "Brand Name Medically Necessary"

Augusta U. Anosike (Abstract 161P)

Pharm.D. Candidate, Pharmacy

College of Pharmacy and Health Sciences

Background: The research was able to examine the differences between brand name medications and their generic equivalents and the reasons that most prescribers specifically ask for brand names of medications they prescribe for their patients or simply write on the script: "Brand Name Medically Necessary". Despite the fact that the generic medications are molecularly, pharmacologically and therapeutically equivalent to their brand name versions. And a generic medication version would not pass FDA scrutiny if it does not meet the brand name version it purports to represent. Specifically asking for brand name medications raises some serious questions: is it a thing of the mind for both patient and prescribers or for either of them? **Literature and Method used:** The literature search were pulled from PubMed resources, clinical trials, Pharmacy publications like Pharmacy Times, Drug Topics, US Pharmacist, journals, magazines. This research project was able to examine FDA patent approval process and juxtapose it with development of generic equivalent medication of the same entity. The research was based on a retrospective study and a collation of other experts review. **Results:** The end result of this research was both objective and subjective. Objective in the sense that some patients who prefer brand name medications have peculiar reasons and most associated serious adverse effects to generic as compared to brand name. Subjective in the sense that they just do not want to have anything to do with generics, because they felt that the generic versions might be very inferior to the brand named drugs, regardless of the cost.

Examining Modifiable Socioeconomic, Lifestyle, and Biological Risk Factors for Post Traumatic Stress Syndrome (PTSD) Disease Management: a Homeostasis Approach

Michael Nguyen (Abstract 162P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor and Co-PI: Dr. Sondip Mathur

College of Pharmacy and Health Sciences

Post Traumatic Stress Syndrome (PTSD) is a type of anxiety disorder resulting from both physiological and mental past events. It is an individual's inability to cope with overwhelming physical, mental, and spiritual /personal beliefs/worship factors. Modern medicine claims to be able to treat most disease states by regulation the homeostasis necessary for "normal" body functions. PTSD is not just a one step approach treatment. The disease (if we can call it that) is a fairly new diagnosis and has only surfaced recently as a major disorder during times of conflict, specifically war time. Treatment is a multistep approach encompassing physical, emotional, and psychological change and/or management. The goal of this presentation is to examine modifiable socioeconomic, lifestyle, and biological risk factors for PTSD disease management using homeostasis as the approach.

Review of Physicians' Prescribing Pattern of Latuda® (Lurasidone) an Atypical Antipsychotic in Schizophrenia Patients at a Private Hospital

Kudirat Alabi, Modupe Alabi, Betty Aladetoun, Motolani Arogunjo (Abstract 163P)

Pharm.D. Candidates, Pharmacy

College of Pharmacy and Health Sciences

Faculty Advisor: Dr. Angie Eaton

Purpose: Review of physicians' prescribing pattern of Latuda® (Lurasidone) an atypical antipsychotic in schizophrenia patients at a private hospital. **Background:** Latuda® (lurasidone) is one of atypical class of antipsychotic for the treatment of schizophrenia after four major six weeks trials demonstrated its effectiveness in adult patients with schizophrenia and one trial was inconclusive due to large dropouts. We considered patients admitted at the Menninger Clinic diagnosed with DSM-IV psychotic disorders and evaluated their responses to therapeutic doses of lurasidone as reported by patients and physicians. **Methods:** This was a retrospective observational study in which data was collected by medical chart review over a 15-month period for patients treated with lurasidone at Menninger Clinic for schizoaffective, schizophrenia, and thought disorder that met inclusion and exclusion criteria. Clinical efficacy and tolerability were assessed based on patient responses and physician assessment. **Results/Conclusion:** Out of a sample of 56 adult inpatients reviewed, only 16 patients (52.9% men) met the inclusion criteria for analysis with mean final daily dose, 53.6 ± 20.4 mg for schizoaffective disorder / schizophrenia and thought disorder. Efficacy of lurasidone in women was $57.14 \pm 0.5\%$ and $50 \pm 0.5\%$ in men after average duration of therapy of two weeks. Tolerability overall was noted with minor adverse effect of sedation only recorded in one patient and another patient reported increase in negative thoughts after one week of treatment. About 56.25% continued with medication at discharge. Preliminary results suggest that physicians' preference of lurasidone over previously available atypical antipsychotics is not efficacy driven.

Ruxolitinib Induced Anemia and Treatment Options

Nkechinyere Okafor, Chizi Okpobiri, Derek David (Abstract 164P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor and Co-PI: Dr. Rodney Hunter

College of Pharmacy and Health Sciences

In November of 2011, the FDA approved the first drug to specifically treat myelofibrosis, Jakafi (ruxolitinib). Ruxolitinib acts by inhibiting enzymes called JAK 1 and 2 (Janus Associated Kinase) that are involved in regulating blood and immunological function. Myelofibrosis is associated with the deregulation of JAK 1 and 2. Ruxolitinib is proven to drastically reduce splenomegaly and other common symptoms of the disease; however, severe, sometimes life-threatening anemia has been associated with the administration of the medication. The objectives of the study are to evaluate the degree that ruxolitinib induces anemia, to assess the efficacy of current treatment strategies for ruxolitinib-induced anemia, and to identify an ideal approach for managing this common adverse drug event. The Committee has approved this study for the Protection of Human Subjects (CPHS) at Texas Southern University. This study will be conducted on patients with myelofibrosis previously or currently being treated with ruxolitinib. At least 227 patients will be analyzed through the pharmacy system to ensure an adequate sampling. The subjects will be evaluated for baseline hemoglobin and hematocrit levels. Patients developing ruxolitinib-related anemia (which will be defined as a hemoglobin of 12 mg/dL or less with or without symptoms) will be evaluated for erythropoietin stimulating agent use and blood transfusions. Complete blood cell counts will be analyzed and documented on all patients included in the study from each follow-up visit.

The Use of Aspirin To Reduce the Risk of Colorectal Cancer

Ngoc-Diem Do, Dieu-Linh Vo, Phuong-Nga Tran (Abstract 165P)

Pharm.D. Candidates, Pharmacy Practice

Faculty Advisor: Dr. Sondip Mathur

College of Pharmacy and Health Sciences

Background: According to the Centers for Disease Control and Prevention, colorectal cancer is the second leading cause of cancer-related deaths and is the third most common cancer affecting men and women in the United States. Many studies have examined aspirin as a cancer chemo-preventive agent in colorectal cancer. Aspirin is an affordable generic drug that is widely available to everyone. **Objective:** To summarize the influence of aspirin in the prevention of colorectal cancer. **Methods:** Journal articles are being collected from databases such as Pubmed, Ovid Medline, JAMA, and Lancets, guidelines.gov. Keywords such as "aspirin", "colorectal" and "prevention" are being used for the article searching process. **Results:** A total of 869 articles were found through electronic literature search using specified keywords. Of the 869 articles, five articles were qualified. Aspirin is shown to be effective as a chemoprevention drug especially in its use for colorectal prevention. However, there is not sufficient data on the risk versus benefit of long term use of aspirin for colorectal cancer prevention. Current clinical guidelines do not have definitive recommendation. **Conclusion:** The use of aspirin can reduce the risk of colorectal cancer. Additional studies should be completed and evaluated to further determine the risk versus benefit of aspirin use in the prevention of colorectal cancer.

National Survey on the Use of Expired Drugs in the United States Hospital Systems

Ndidi Uwadia and Helene Muoneke (Abstract 166P)

Pharm.D. Candidates, Pharmacy

Faculty Advisor: Dr. Uche Anadu Ndefo

College of Pharmacy and Health Sciences

Purpose: Drug shortages have become routine in pharmacy practice which has led to the question of using expired drugs in this situation as one that demands some investigation. The objective of this study is to determine if policies exist on the utilization of expired drugs in hospital systems to combat the exponential increase in drug shortages nationwide and to determine if boards of pharmacy have policies on the use of expired drugs and if they exist, under what conditions. **Methods:** Prior to beginning, this study has been submitted and approved by the Institutional Review Board and exempted because it only involved the use of survey procedures. A random sample of 100 large public hospital systems nationwide has been surveyed electronically and by phone. A selection of two public hospitals from each of the 50 states was chosen randomly to participate in the study. Participants include pharmacy buyers or individuals responsible for inventory orders at the hospitals. These hospitals were telephoned and the email addresses of the participants were collected. A 14 question survey is being used to gather responses that reflect the approach hospitals use to combat the exponential increase in drug shortages across the nation. The following information is being collected: policy on their use of expired medications, expired medication use on drug shortage, drugs with shelf life extension, and emergency situations allowing use of drugs passed the manufacturer's expiration date. Participants' documentation will be evaluated and data received will be recorded without identifying the participants or the hospitals.

Comparison of the Effectiveness of Different Delivery Models (Home Blood Pressure Monitors, RPHs, RNs) for Controlling Hypertension in Minorities

Gregory Magare (Abstract 167P)

Pharm.D. Candidate, Pharmacy

Faculty Advisor: Dr. Inyang Osemene

College of Pharmacy and Health Sciences

BACKGROUND: Insufficient control of blood pressure in minority communities has contributed immensely to morbidity and mortality associated with this disease in the United States. Apart from the traditional healthcare settings where blood pressure is regularly monitored, home based measurements and delivery of care by Registered Nurses and Pharmacists, or both, has been associated with improved achievements in BP goals. **OBJECTIVE:** To analyze the effectiveness of different delivery methods i.e. HBPM (Home Blood Pressure Monitoring), Pharmacists or Nurses or a combination of any of these to combat hypertension in minorities. **METHODS:** We performed a meta-analysis of greater than 20 randomized controlled trials (RCTs) on patients with uncontrolled hypertension allocated to various groups i.e. self-monitoring of BP, educational and health interventions by physicians, pharmacists and nurses and health system interventions. Overall data was compiled from averages of the weighted results from these trials. **RESULTS:** On comparison, we determined that nurse or pharmacist led care may be promising, with the majority of RCTs being associated with improved blood pressure control and mean SBP, and DBP but these interventions require further evaluation since considerable data is to the contrary. Changes in BP were minimal when comparing these three parameters (between -2.5 to -5 mm Hg) within SBP and DBP of target scores. HBPM was the leading candidate in terms of efficacy; however, adherence by patients was not optimal. **CONCLUSION:** Care by pharmacists, nurses and via HBPM require further evaluation as a result of this. Nonetheless, modest gains were reached using these control formula.

An Evaluation Analysis: The Effectiveness of Nutraceuticals Versus Usual Care in the Treatment of Diabetes

Adaora Ebiogwu (Abstract 168P)

Pharm.D. Candidate, Pharmacy

College of Pharmacy and Health Sciences

Diabetes is a chronic progressive disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. When not adequately managed, over time, type I and II diabetes can lead to microvascular and macrovascular complications. The role of nutraceuticals in the treatment of diabetes have become of increasing interest and have been evaluated in many randomized controlled trials. The aim of this study is to evaluate the effectiveness of nutraceuticals versus usual care in the treatment of diabetes. PubMed database was searched using systematic approach. Only randomized, controlled, double blind trials were selected. A total of 15 trials were identified as suitable for the topic and the results of these trials were evaluated. Key search terms like dietary supplements, diabetes, and treatment of diabetes and alternative medicine were used. Among the products evaluated are alpha lipoic acid, green tea, vitamin C, beta-carotene, Momordica charantia, conjugated linoleic acid, cinnamon, Korean red ginseng, isoflavones, etc. There were trends towards a reduction in diabetes risk associated with the use of beta-carotene. Cinnamon extract showed a significant reduction in fasting blood glucose and HbA1C after 4 months of treatment. Isoflavones were found to be as effective as estrogen in improving insulin resistance and glucose tolerance. The review of previous trials identified positive effects of nutraceuticals on various outcome measures relating to diabetes treatment. This means that there is evidence that nutraceuticals may be beneficial to the treatment or prevention of diabetes.



Levels of Emergency Preparedness Among TSU Students: A Pilot Study.

Gayle M. Lawrence and Rooney Zhirun Chen
(Abstract 169P)

Ph.D. Candidate, Urban Planning and Environmental Policy

Faculty Advisor and Co-PI: Dr. Olurominiyi Ibitayo

Barbara Jordan— Mickey Leland School of Public Affairs

Emergency Preparedness, often described as the building block of emergency management, refers to the state of readiness at the national, state, community and family levels to respond to a disaster, crisis or other types of emergency situations. The purpose of this study, a class research project, is to investigate the level of preparedness of a sample of TSU students (mostly School of Public Affairs) at the family and/or individual level. The elements of the survey instrument are drawn from past research and the requirement of Community and Family Preparedness (CFP) program operated by the Federal Emergency Management Agency (FEMA). Regarding TSU Emergency Management Plan and the institution's Emergency Evacuation Plan, the results show that virtually all the respondents (more than 90%) have never seen nor obtained any information about these plans. Also, more than 90% of the respondents do not know the location of TSU's shelter. Many of the respondents (more than 60%) do not keep at least a 5-days supply of non-perishable food, flash lights, sanitary items, medicines, and generators as required by FEMA's CFP program. Most (69%) of the respondents that have pets indicate that they will definitely evacuate with their pets. The implications of these and other findings, and suggestions that may strengthen the levels of emergency preparedness at the both the institutional, family and individual levels are discussed in the paper.



The Forensic Science Behind the Mass Graves of Bosnia

Joneen McIntosh and Tamara Solomon (Abstract 170P)

Undergraduate, Administration of Justice

Barbara Jordan— Mickey Leland School of Public Affairs

Forensic Science is a prominent aspect of investigation in the criminal court of law. Forensic science laid the foundation for the outcome of the court proceedings, so without any forensic evidence the case does not exist. The Mass Graves of Bosnia, found by pathologist, was a prime example of a modern day genocide that occurred in 1995. Several men, women and children were executed in the massacre by gunshots to the back of their heads. Pathologists revealed and expounded the skeletal remains that were discovered in Bosnia, and some survivors helped with details identification of the bodies. An additional way the forensic pathologists identified the bodies in the mass graves was through odontology; for the reason that the decayed bodies were rather difficult to identify. Through this extensive research of the Mass Graves in Bosnia; it will reveal the importance of forensic science and highlight how forensic science is used in court cases and criminal proceedings. Forensic Pathology, Forensic Anthropology, and Behavioral Sciences have proven to be an essential part in determining war crime prosecutions in Bosnia. Through further insight each of these topics will be emphasized in further detail.

Transportation and Environmental Justice: Identifying Equitable Target Zones in Houston Transportation Management Area

Jamaal Schoby, M. S. (Abstract 172P)

Ph.D. Candidate, Urban Planning and Environmental Policy

Faculty Advisor: Dr. Carol Lewis, Transportation Studies

Barbara Jordan— Mickey Leland School of Public Affairs

In 1994, President Clinton issued Executive Order 12898, directing Federal agencies to incorporate Environmental Justice (EJ) in their transportation planning process. The mission is to identify and address the effects of all programs, policies, and activities on "minority and low-income populations." In terms of regional transportation planning, Metropolitan Planning Organizations (MPOs) are to 1) enhance their analytical capabilities to ensure that the long-range transportation plan with Title VI; 2) identify residential, employment, and transportation patterns of low-income and minority populations so that their needs can be identified and addressed, and the benefits and burdens of transportation investments can be fairly distributed; and 3) evaluate their public involvement processes to eliminate participation barriers and engage minority and low-income populations in transportation decision making. Traditionally, data were collected from the U.S. Census Bureau and the U.S. Department of Health and Human Services to classify EJ zones. In 2010, the U.S. Census Bureau eliminated the long-form, which reduced the necessary decennial data to perform adequate EJ analyses. The purpose of this research is to identify new variables and a methodology for determining EJ zones within the Houston eight-county region. The first section defines EJ, transportation planning, and EJ in the transportation planning process. Section 2 conducts a national comparative regional analysis to identify new variables and methodologies MPOs developed subsequent to the 2010 U.S. Census publication. The third section recommends new variables for identifying EJ zones. The research concludes with presenting EJ zones within the Houston Transportation Management Area

Bias in Fingerprint Analysis

Michael Calvillo and Marvin Hamilton (Abstract 173P)

Undergraduate, Administration of Justice

Faculty Advisor: Dr. Ashraf Mozayani

Barbara Jordan— Mickey Leland School of Public Affairs

The purpose of this research will examine the topic of bias on fingerprint analysis within the Criminal Justice System, specifically highlighting the FBI Investigation of Brandon Mayfield (Oregon). Overtime fingerprinting evidence has long been considered the epitome of substantial evidence. With fingerprint evidence, historically, no other proof was necessary to convict an individual of a crime. There is no empirical evidence as to how often examiners botch the tests with a bias mind. In today's fingerprint world, scanners, not ink, collect prints, and gigantic automated databases — like the FBI's Integrated Automated Fingerprint Identification System — spit out the closest matches in seconds. IAFIS has the prints of more than 55 million subjects in its Criminal Master File. Despite all that technology, it then falls to fallible human beings to step in and make visual comparisons and the ultimate judgment calls on matches. This research attempts to demonstrate and support the hypotheses that mistakes have been made when fingerprints are the sole evidence in a criminal case. In addition, what are the chances of partial prints from one person matching someone else's? If Brandon Mayfield's case should cause the judicial system to look for better information and proceed with caution that is a step in the right direction. Most experts have resisted the need for additional investigation and research of fingerprinting. This research attempts to understand how bias on fingerprint analysis has become a serious concern for forensic science professionals.

The Role of Juvenile Courts in Minimizing Recidivism

Jose Cavazos (Abstract 171P)

Master's Candidate, Administration of Justice

Faculty Advisor: Dr. Helene T. Greene

Barbara Jordan— Mickey Leland School of Public Affairs

Current research shows and proves that Juvenile delinquency is a concerning problem for the field of Administration of Justice because many of these young offenders put extra pressure on administrators to address problems associated with juvenile crime. Delinquents account for criminal behavior that is associated with truancy, family violence, gangs, running away, curfew violations, and most status offenses because these issues put a tremendous burden on juvenile courts to deal with these growing issues. It is important for the criminal justice system to address this issue because juveniles are being incarcerated three times as much in this era as in the previous decade (Grisso & Young, 2007). Juveniles are not given adequate punishments for the crimes in which they are involved, and thus posing as serious problem for communities in which they live because if these crimes are not adequately addressed, or even dealt with at a young age, then these offenders will only keep engaging in criminal activity, and there will not be much the courts can do once the offender becomes an adult. If something is not done soon to eliminate this ongoing issue, the Juvenile Justice System will have a plethora of problems. This research will investigate the current sentencing guidelines and determine the need for changes for reducing recidivism. In particular, this study will examine the role of juvenile justice system in developing sentencing options such as counseling, family therapy and rehabilitation.

FACULTY, STAFF, AND STUDENT



ORAL PRESENTATIONS

WEDNESDAY, APRIL 3, 2013

FACULTY/STAFF ORAL PRESENTATIONS

CONTINENTAL BREAKFAST REGISTRATION

EDUCATION #318

8:00 AM — 9:00 AM

FACULTY/ STAFF ORAL PRESENTATIONS

EDUCATION #318

9:00 AM — 12:30 PM

STUDENT ORAL PRESENTATIONS

EDUCATION #318

1:30 PM — 5:10 PM

FACULTY ORAL PRESENTATIONS

TIME	PRESENTER	DEPT.	FACULTY ORAL PRESENTATIONS TITLE
9:05 AM	Cassandra L. Hill	Law	The Elephant in the Law School Assessment Room: The Role of Student Responsibility and Motivating Our Students to Learn
9:20 AM	Jeffrey S. Lowe	Urban Planning and Environmental Policy	The Foreclosure and Affordable Housing Crisis: Formulating a Sustainable Response for New York City
9:35 AM	J. Kenyatta Cavil and Charles McClelland	Health and Kinesiology	Athletic Director's Leadership Perceptions of Variables Determining the Effectiveness of Administering HBCU Athletic Programs
9:50 AM	Hyun-Min Hwang	Environmental Science and Technology	Source Identification of Carbon in Size-Fractionated PM and Time-Resolved Bulk PM10 Using Radiocarbon and Molecular Source Markers
10:05 AM	Krystal T. Cook and Denika Y. Douglas	Psychology	Learning from Columbine to Newtown: Responding in the Face of Crisis
10:20 AM	Sondip Mathur	Pharmacy Practice	Dimensions of Product Differentiation in OTC Pain Medication: Congruence Between Labeled Marketing Claims and Drug Facts
10:35 AM	Rasoul Saneifard	Engineering Technology	Traveler's Luggage Identification System Design
10:50 AM	Rochelle Parks-Yancy and Delonia Cooley	Business	An Examination of Online versus F2F Academic Performance of First Generation, Non-Traditional Undergraduate and Graduate Business School Students
11:05 AM	Joyce Finch	Counseling	My Baby's Daddy: Understanding the World of Teen Dads
11:20 AM	Germaine Gray, Carlton Perkins, Ladelle M. Hyman	Business	Is Student Loan Debt the Next Economic Bubble in the Education Industry?

STAFF ORAL PRESENTATIONS

11:35 AM	Kimberly Fain	English	"Richard Wright and Ann Petry: The Forefather and Foremother of Street Lit"
11:50 AM	Latisssha V. Clark	Transportation	Petrochemical Incident Location System (PILS): A National Systems Integrated Incident Monitoring Tool
12:05 PM	Poonam Sarkar	Pharmaceutical Sciences	Acrolein-Induced Alterations in DNA Damage and Repair Genes in Lung Adenocarcinoma Cells
12:20 PM	Omana P. Mathew	Pharmaceutical Sciences	Modulation of Glutathione Peroxidase Antioxidant Enzymes, Glutathione and Reactive Oxygen Species in Butyrate Arrested Vascular Smooth Muscle Cell Proliferation

9:05 A. M.

The Elephant in the Law School Assessment Room: The Role of Student Responsibility and Motivating Our Students to Learn

Cassandra L. Hill, J.D. (Abstract 001O)

Associate Professor of Law and Director of Legal Writing

Thurgood Marshall School of Law

My research (and forthcoming article) posits that to assess academic programs' effectiveness, assessment must evaluate the contributions of students and not just professors. With such data, professors could target students' progress and motivation strategically, making strides in both teaching and learning. In the context of legal education, the American Bar Association's proposed new accreditation standards call for law schools to assess the effectiveness of their academic programs. Law schools are now doing so, quickly giving rise to an assessment movement that closely examines desired educational outcomes and professors' efforts to attain them. But assessment has to date focused on the professor, who is just one part of the professor-student partnership. All but ignored are the contributions and motivation of the other critical component—the student. In this presentation, I will address the responsibility for learning shared between professor and student and examine existing research in the field of student responsibility for learning (including undergraduate studies). I also will explain the profound benefits of assessing student responsibility, present methods for measuring student perspectives and participation, and identify practical strategies for igniting students' motivation and commitment to learning. Assessment in legal education aims to prepare students for legal practice. But unless law professors consider the level of responsibility students take for their own education, any assessment results will lack proper context. By assessing students' contributions too, professors can take the necessary steps to enhance their students' academic and professional competence. This approach to and perspective on assessment applies equally to undergraduate education.

9:20 A. M.

The Foreclosure and Affordable Housing Crisis: Formulating a Sustainable Response for New York City

Jeffrey S. Lowe, Ph.D. (Abstract 002O)

Associate Professor, Urban Planning and Environmental Policy

Barbara Jordan—Mickey Leland School of Public Affairs

The calamity of foreclosures that have destabilized U.S. communities is just another epoch in the continuity of the housing crisis. The end to this epidemic is not close at hand. Bocian, Li, Reid and Quercia (2011) estimated approximately 6 million families lost homes due to foreclosure, and various projections indicate another 12-15 million families could lose homes before its end. Communities of color have been hit the hardest. Nationally, about 8 percent of African-American and Latino families have lost their homes in comparison to 4.5 percent of white families, ultimately resulting in a massive loss of wealth and an increase in poverty (Gilderbloom and Squires 2011). Furthermore, two of every three pre-foreclosure notices (66 percent) in New York City were sent to homeowners in communities of color (Iwanisziw and Ludwig 2012). This presentation will offer theoretical underpinnings that place the foreclosure epidemic within the context of the longer-term affordable housing crisis. Given the local nature of planning, the paper seeks to inform scholarship and practice of the potential of Community Land Trusts in a global city where market demand remains strong and the local political economy is arduously pro-growth over community development. Subsequently, the presentation will illuminate the role of planning and offer alternatives for transformative policy formulation that prioritizes a right to housing and community sustainability over speculative gain.

9:35 A. M.

Athletic Director's Leadership Perceptions of Variables Determining the Effectiveness of Administering HBCU Athletic Programs

J. Kenyatta Cavil M.B.A., Ed.D. Assistant Professor, Health and Kinesiology
and Charles F. McClelland, Jr., M.B.A., Ph.D., Director of Athletics

(Abstract 003O)

College of Education



This study was designed to identify variables that athletic directors perceived would determine the athletic program's potential, through their leadership, for effectiveness in the current NCAA Division I FCS structure. Employing a concurrent mixed design, a questionnaire and phone interviews were used to collect data from athletic directors at HBCUs with Division I programs. Findings of the investigation included variables that were perceived to determine the effectiveness of athletic programs. Data were analyzed through descriptive and nonparametric inferential statistics to describe and report findings. For the question, "Do athletic directors at HBCU Division I and non-Division I football institutions differ in the proportion of their perceptions of the important variables that influence program effectiveness and the potential for program survival," the researcher found that directors did not differ in their leadership perceptions of variables that influence program effectiveness. Other findings that resulted from application of the

Chi-square test were as follows: 1. Statistically significant differences were not found with respect to age, gender, or institutional size for any category variables. 2. Statistically significant differences were not found with respect to years of experience for variable categories except for the influence of NCAA policies. Participants' comments were analyzed for similar themes and supported that the variables associated with revenue/funding and revenue generating determined the program's effectiveness. Participants also commonly acknowledged that tutorials and other support services for student-athletes influenced program effectiveness. These results may be useful to athletic directors and others engaged in planning for the sustainability of athletics at HBCUs.

9:50 A. M.

Source Identification of Carbon in Size-Fractionated PM and Time-Resolved Bulk PM₁₀ Using Radiocarbon and Molecular Source Markers

Hyun-Min Hwang Ph.D. (Abstract 004O)

Assistant Professor, Environmental Science and Technology

College of Science and Technology



To improve understanding of the sources of atmospheric carbonaceous particulate matter (PM), size-resolved PM (0.056 to 1.8 μm) and time-resolved bulk PM₁₀ collected from a site in Sacramento, California were analyzed for radiocarbon and source markers such as levoglucosan, alkanes, and elemental carbon (EC). The contributions of modern (non-fossil) carbon sources were much greater than that from fossil carbon sources in all samples. Radiocarbon and source marker measurements confirm that the greater contribution of non-fossil carbon sources in November samples was due to residential wood combustion. Results of the present study provide additional evidence that wood combustion was likely a significant source of EC in November samples, which demonstrates that using EC as a diesel emission tracer may not be appropriate in areas where wood combustion could be a confounding source of EC. Levoglucosan to organic carbon (Levo/OC) ratios in all PM₁₀ samples showed a strong negative correlation with fossil carbon content. Fossil originated carbonaceous PM₁₀ could account for about 40% of the total carbonaceous PM₁₀ in the study area when the contribution from wood combustion is zero. The results of the present study demonstrate the value of combining radiocarbon and conventional source markers for more robust and detailed source attributions for ambient PM.



10:05 A. M.

***Learning from Columbine to Newtown:
Responding in the Face of Crisis***

**Krystal T. Cook, Ph.D. and Denika Y. Douglas, Ph.D.
(Abstract 005O)**

Visiting Assistant Professor, Psychology

College of Liberal Arts and Behavior Sciences

Recent events at schools in the United States have caused a growing level of concern for much of the country. From Columbine High School in Littleton, CO to Sandy Hook Elementary in Newtown, CT, these once tranquil towns located in Middle America became infamous for tragic circumstances. The emergence of mass shootings and violence, especially at schools, was thrust to the forefront and as a result, started a national conversation on how to ensure the safety of students, faculty, and staff when they are in our schools. The purpose of this talk is, primarily, to understand the mental health components that lead a person to homicidal and suicidal behaviors. Learning to recognize the “red flags” of students or others in crisis can assist school personnel in identifying those who may be a potential threat and to possibly prevent a crisis situation from occurring. The second component of the talk is to share intervention strategies for those in the classroom when a crisis occurs. There will also be discussion on how to access support from local and university resources. The speakers are both licensed psychologist who specialized in crisis intervention services with the Houston Independent School District. While working in that capacity, the clinicians were responsible for not only intervening with suicidal and homicidal clients, but leading the strategic planning phases for handling a school-wide crisis situation after it occurred.



10:20 A. M.

***Dimensions of Product Differentiation in OTC Pain Medication:
Congruence Between Labeled Marketing Claims and Drug Facts***

Sondip Mathur, Ph.D. (Abstract 006O)

Associate Professor, Pharmacy Practice

College of Pharmacy and Health Sciences

Prolific amounts of over the counter (OTC) pain and other medications are available to customers in a variety of active ingredients, brand names, dosage, formulation, and packaging. The primary purpose is to quantify consumer choice for OTC pain medication. A secondary objective is to appraise product packaging to assess congruence between labeled marketing claims in the front with the drug facts on the back. Data is collected by appraising product line displays on pharmaceutical manufacturer websites and on view over the counter in a community pharmacy. Only brand name OTC analgesics is considered. A spreadsheet is developed to map product differentiation. Variation in combination or single active ingredients, including dosage deviations, quantified horizontal product differentiation. Each horizontally differentiated product is distinguished vertically by listing out other differentiating attributes such as brand name, dosage formulation, and package color. Spreadsheet cell counts are developed to size up available consumer choice. Next, a cohort of OTC pain medications, determined by the convenience of viewing product displays on manufacturer websites, is examined to match a product’s labeled marketing claims with its drug facts sticker. Exhibits illustrate that product boxes serve as billboards to attract patient attention. Marketing a product’s differences with the intent to create a sense of value among potential buyer segments is widely practiced in the OTC drug market. Purchasing OTC pharmaceutical products, however, is not the same as buying breakfast cereals, as it is contingent on the patient’s medical needs and the drug’s side effect profile.



10:35 A. M.

Traveler's Luggage Identification System Design

Rasoul Saneifard, Ph.D. (Abstract 007O)

Professor, Engineering Technology

College of Science and Technology

A design is presented to improve the identification process beginning at the check-in counter and baggage claim station at the airport, and also to constantly track the location of luggage during travel. In the current luggage handling system, passengers may worry that their belongings may not have been loaded on-board, or that the carrier may lose their bags. Furthermore, upon arrival to the destination, the customer cannot be certain if his/her luggage has arrived. And even though it may be on the conveyor belt, it is sometimes difficult to identify one's own property, due to the similarities that exist among the bags. Finally, there is a possibility that another passenger may accidentally claim someone else's luggage. In this research, a pager, tag, and conveyor system are utilized to monitor the location of the luggage. A pager is handed to the passenger after an electronic tag has been attached to the luggage at the check-in station. The pager illuminates as the luggage goes from the conveyor to the airplane cargo compartment after check-in. As soon as the bags arrive at their proper destination, the passenger's pager produces a buzzing sound. After being unloaded from the plane, the luggage is placed on a conveyor belt, causing the pager to flash, alerting the passenger that his luggage has arrived and is on the conveyor belt. Utilizing this system will reduce the loss of luggage by the carriers, aid in proper bag identification, and ultimately provide greater customer satisfaction.

10:50 A. M.

Is Student Loan Debt the Next Economic Bubble in the Education Industry?

Germaine Gray, Professor, Management

Carlton Perkins, Ph.D., Professor, Accounting and Finance

Ladelle M. Hyman, Ph.D., Professor, Accounting and Finance (Abstract 008O)

Jesse H. Jones School of Business

Over the last decade, the U.S. economy has seen economic bubbles in the dot com and housing industries. Could education be the next bubble on the horizon? Currently, student loan debt surpasses total consumer debt and as of March 2012, student loan debt exceeds \$1 trillion dollars. The focus of this presentation is to aid in preparing students for successful student loan debt repayment. The content included discusses strategies to aid students in avoiding student loan delinquency or default in an effort to enhance student engagement and learning. Many who pursue higher education and professional certification require a monetary subsidy. Saving to finance higher education takes a longer time than borrowing to finance higher education. As a result of life happening, the repayment of the student loan(s) is more difficult than imagined at the time of borrowing(s). This presentation includes a literature review of current U. S. student loan indebtedness status and best practices for informed borrowing and repayment of student loans. It includes no discussion of saying "no" to university matriculation.



11:05 A. M.

My Baby's Daddy: Understanding the World of Teen Dads

Joyce Finch, Ed.D., MA, BS, LPC Intern, CSC (Abstract 0090)

Assistant Professor, Counseling

Collaborator: Riley Venable, Ph.D., MA, BS, RN, LPC, Retired Associate Professor, Counseling
College of Education

A plethora of research has been done on teen mothers, yet very little discussion of teen fathers is found in the literature. Teen fathers have received little consideration, with much of the research presented portraying them negatively. Six teen fathers were interviewed. Each discussed his circumstances, concerns, stressors, and pressures to meet familial, social, and economic responsibilities. Solutions for teen fathers are discussed. Positive outcomes would be to graduate, to become successful, and to become actively involved with their child.



11:20 A. M.

An Examination of Online versus F2F Academic Performance of First Generation, Non-Traditional Undergraduate and Graduate Business School Students

**Rochelle Parks-Yancy Ph.D., Associate Professor, Management;
Delonia Cooley, Ph.D., Associate Professor, Marketing
(Abstract 0100)**

Jesse H. Jones School of Business

Studies have found that online collegiate education offers many benefits for students. Students have access to higher education that they may, otherwise, not have because they are not physically close to the institution. Students learn to interact professionally in the online setting, thereby improving their electronic communication skills. They also have the opportunity to “meet” classmates from around the globe, given that online education attracts students from various geographic locations. This increases their network of contacts to whom they may access for future academic and professional endeavors. However, the results are mixed regarding the academic performance of students in online courses, relative to courses that are taught face to face. This issue is particularly important for non-traditional, first-generation student populations. They benefit from access to online education because they often work full time and are parents of young children. Online education enables them to earn a degree, in spite of their work and familial obligations. But, these students are generally not online education-savvy. They may require extensive orientation to online learning norms and processes, in addition to large quantities of professor-student online interactions. Failure of a university and/or its professors to recognize these students’ needs and/or to institutionalize the responses to their needs can affect students’ academic performance in online courses, relative to face to face courses. This study examines these issues by comparing the academic performance of undergraduate Marketing and Management majors and MBA students at a Historically Black College and University (HBCU) in online and F2F courses.



11:35 A. M.

"Richard Wright and Ann Petry: The Forefather and Foremother of Street Lit"

Kimberly Fain, JD (Abstract 011O)

Adjunct English Professor, M. A. Candidate of English

Faculty Advisor: Dr. Charlene Evans

College of Liberal Arts and Behavior Sciences

Although Richard Wright and Ann Petry were considered protest writers, the American Dream was not vulnerable to their disparagement. Instead, early urban writers, such as Wright and Petry, were protesting the treatment of African-Americans as strangers in their native land. Secondly, both Wright's *Native Son* and Petry's *The Street* emphasized the inaccessible nature of the American Dream. By highlighting, the inner-city blight, in a gritty, monstrous and violent way, Wright and Petry reinforced the necessity for equal access in the corporate, government and domestic spheres. Unlike some contemporary street literature, forebear narratives present brutal violence as a cautionary tale for those who reinforce and create barriers to equality. Wright and Petry challenge their readers to lift the veil of racism, sexism and capitalism in order to widen the monetary and social benefits of the American Dream. By barraging the audience with a confrontational narrative, Wright and Petry challenge the status quo and overturn cultural, historical and social transgressions perpetrated by the establishment. Hopefully, once the audience is enlightened, society will suppress the depravity and delinquency that results from economic oppression. With Wright's protagonist, Bigger Thomas, and Petry's protagonist, Lutie Johnson, there exists two characters' failed attempt to achieve liberty and pursue happiness within the concrete confines of the city. Thus, dynamic characters struggle for survival despite the psychological and material denial of the American Dream. For those reasons, my paper will discuss how both classic novels expose the topical and fantastical delusion of insisting that America's racism has dissipated and the nightmarish pursuit of the American Dream for everyday black folks.



11:50 A. M.

Petrochemical Incident Location System (PILS): A National Systems Integrated Incident Monitoring Tool

Latisha V. Clark, M.S. (Abstract 012O)

Research Assistant, Center for Transportation Training and Research

College of Science and Technology

Collaborator: National Transportation Security Center of Excellence – Petrochemicals (NTSCOE-P)

The Petrochemical Incident Location System (PILS) is designed as an interoperable system that will be available to first responders all over the country to acquire information as to the historic occurrence of incidents involving hazardous materials. This program incorporates Geographic Information Systems (GIS) facilitating companies and agencies as they visualize and monitor the system as a whole vis-à-vis physical and demographic data. PILS provides information to assist policy makers, emergency personnel or route planners in improving the efficiency and security of petrochemical transportation routes. This system allows users to query, analyze and display petrochemical incidents on a base map. The PILS program is intended to help speed recovery and response by creating a program database that will be available on the World Wide Web accessible by first responders and other authorized agencies. In its full nationwide implementation and ultimate application, it will allow for pattern detection.

12:05 P. M.

Acrolein-Induced Alterations in DNA Damage and Repair Genes in Lung Adenocarcinoma Cells**Poonam Sarkar, Ph.D. (Abstract 0130)**

Research Associate, Pharmaceutical Sciences

College of Pharmacy and Health Sciences

Co-PI: Barabara E. Hayes, Ph.D.



Acrolein (Acr), is a highly reactive α , β -unsaturated aliphatic aldehyde that is ubiquitous in the environment and a product of threonine metabolism at sites of inflammation in vivo. Acr is a major component of cigarette smoke and constituent of vehicle exhaust has been implicated in the development of various lung diseases and disorders including chronic obstructive pulmonary disease. Earlier studies in our laboratory showed that Acr increases the expression of inflammatory and apoptotic markers in rat lung epithelial cells. It is well- documented that Acr forms DNA adducts which can result in the disruption of transcriptional regulation of the genome. In the present study a real time PCR array was used to screen DNA damage and repair genes in human lung adenocarcinoma cells. A total of 11 out of 84 genes analyzed showed significant changes following treatment with 100 μ M Acr for 24 h. There was a significant decrease in 3 genes and a 2 to 4-fold increase in 8 genes compared to control. Interestingly, stress responsive gene GADD45G decreased by 3-fold and RAD50, a DNA repair gene, increased by 4-fold. These findings show that Acr affects DNA damage responsive genes and there are plans to explore the biological functions of these genes in future studies. Acknowledgment: Research infrastructure support was provided by grants G12RR003045 and CO6RR012537 awarded by the National Center for Research Resources, (NIH). The G12 program is now a part of the NIMHD and the C06 program is in the Office of Research Infrastructure Programs in the Office of the Director, NIH.

12:20 PM

Modulation of Glutathione Peroxidase Antioxidant Enzymes, Glutathione and Reactive Oxygen Species in Butyrate Arrested Vascular Smooth Muscle Cell Proliferation**Omana P. Mathew, Ph.D. (Abstract 0140)**

Research Associate, Pharmaceutical Sciences

College of Pharmacy and Health Sciences

Co-PI: Kasturi Ranganna and Shireltte G. Milton



Purpose: Vascular smooth muscle cells (VSMC) proliferation is one of the key etiological factors in primary atherosclerosis and in the pathophysiology of clinical conditions. Our studies have shown that butyrate, a bacterial fermentation product of dietary fiber and a chromatin modulator is a potent inhibitor of VSMC proliferation. Because oxidative stress plays an important role in the pathogenesis of atherosclerosis and reactive oxygen species (ROS) have been shown to stimulate proliferation, we hypothesized that butyrate may modulate cellular redox state by altering the levels of antioxidant enzyme system, and cellular glutathione and ROS levels to cause inhibition of VSMC proliferation. Methods: To test the hypothesis, we determined the levels of glutathione peroxidase 3 (GPX3) and glutathione peroxidase 4 (GPX4) enzymes by Western analysis and immunostaining, and intracellular concentrations of glutathione and ROS by fluorometric method and by using 2'7'-dichlorofluorescein, respectively. Inhibition of VSMC proliferation was assessed by cell counting. Results: Exposure of VSMCs to butyrate causes inhibition of VSMC proliferation and upregulation of GPX3 and GPX4 along with increase in intracellular glutathione levels. In contrast, butyrate treatment reduces intracellular ROS levels. Conclusions: Taken together, butyrate treatment-related increase in glutathione content, reduction in ROS level, and upregulation of members of the GPX family imply that butyrate's antiproliferative action involves modulation of cellular redox state suggesting a link between antioxidant action and antiproliferative effect of butyrate.

This Work is supported by National Center for Research Resources/ National Institutes of Health/RCMI G12RR0345 and C06RR012537-01grants

WEDNESDAY, APRIL 3, 2013

STUDENT ORAL PRESENTATIONS

STAFF/STUDENT ORAL PRESENTATIONS

EDUCATION ROOM #318

1:30 PM – 5:00 PM

STUDENT ORAL PRESENTATIONS			
TIME	PRESENTER	DEPT.	STAFF/ STUDENT ORAL PRESENTATIONS TITLE
1:35 PM	Trang Mai	Pharmacy	Effectiveness of Strategies for Enhancing Patient Adherence to Medication Management: A Systematic Review and Meta-analysis of Randomized Controlled Trials
1:50 PM	Noel M. Estwick	UPEP	Evaluating Shelter Provisions for Populations with Access and Functional Needs in the Greater Houston Region
2:05 PM	Elenar C. Ettinoffe	Pharmacy	Comparison of the Effectiveness of Community Based Health Education to Reduce Disparity in Diabetes
2:20 PM	Jarrauri W. Curry	Public Administration	Levels of Education, Socioeconomics, and Family Life Impacts on Juvenile Delinquency
2:35 PM	Thanh Pham, Muhammad Qudoos, Okeke Chukwunwike, James Son	Pharmacy	The Relationship Between Medication Adherence and Pharmacist Home Visits in African American Communities with Resistant Hypertension
2:50 PM	Shantell Phillips	Biology	Cross-Presentation of Peptides Chaperoned by Heat Shock Protein gp96
3:05 PM	Njekeh F. Caspa	Environmental Toxicology	The Impact of Environmental Stressors on Maternal and Infant Health Outcomes: A Pilot Study of Residents in Sunnyside, Third and Fifth Wards in Houston, Texas
3:20 PM	Jenaye Robinson	Biology	Hydrogen Sulfide Increases Aqueous Humor Outflow in Porcine Trabecular Meshwork
3:35 PM	Vincent Hassell	Transportation	Solar Power Moving Sidewalk (SPMS)
3:50 PM	Chelsea Brown	Health Administration	Knowledge, Beliefs, and Attitudes about Shaken Baby Syndrome
4:05 PM	Rachael Sears	English	Chinua Achebe's Things Fall Apart: What Was Lost
4:20 PM	Jashaad Gaines	Engineering	Toddler Notification System (T.N.S) Design
4:35 PM	Jeannie Fong Nam Tran	Pharmacy	Assessment of Factors Influencing Pharmacists' Interest in the Pursuit of Preceptorship
4:50 PM	Quoc Duong	Administration of Justice	Innocence Project of Texas (IPOT) and Forensic Science
5:05 PM	Naga Naidu	Environmental Toxicology	Instrumental Analysis of Bisphenol A and Metabolites in Rats Feces and Urine



1:35 P. M.

Effectiveness of Strategies for Enhancing Patient Adherence to Medication Management: A Systematic Review and Meta-analysis of Randomized Controlled Trials

Trang Mai, B.S. Biology (Abstract 0150)

PharmD. Candidate

Faculty Advisor and Co-PI: Dr. Inyang Osemene

College of Pharmacy and Health Sciences

Background: Patient compliance is one of many important aspects in pharmaceutical care. By adhering to treatment regimens, patients are expected to have improving outcomes. There are many different approaches to improving patient adherence. This research is conducted to compare the effectiveness of these strategies for enhancing patient adherence to medication management. **Methods:** A total of 16 randomized controlled trials and one retrospective cohort study was gathered in this research. MEDLINE database was utilized via PubMed and OVID by applying appropriate MeSH terms, such as adherence and strategies. Each source was then evaluated using the PICO structure, thus creating a meta-analysis. **Results:** Interventions were composed of 8 studies involving mobile phone text messaging reminders, 4 studies using home electronic monitoring devices, and 8 studies providing health-care workers. Of the interventions, 18 studies (90%) reported positive outcomes, whereas only 2 trials (10%) showed no effect of the intervention on adherence. All 8 studies involving healthcare professionals as consultants demonstrated positive patient adherence to medication management. **Conclusion:** Any intervention that engages patient reminders on medication-related concerns generates positive outcomes. Innovative strategies for managing patient medication plans are constantly sought. Researchers are making use of technological advances to mitigate patient non-adherence. Providing patients with suitable options to manage their medications have and continue to greatly improve adherence.



1:50 P. M.

Evaluating Shelter Provisions for Populations with Access and Functional Needs in the Greater Houston Region

Noel M. Estwick (Abstract 0160)

Ph.D. Candidate, Urban Planning and Environmental Policy

Faculty Advisor: Dr. Lalita Sen

Barbara Jordan-Mickey Leland School of Public Affairs

The frequency and intensity of natural disasters demand a more proactive approach to shelter provisions for special needs populations (SNPs). Over the years, emergency management planning for this population group has been inadequate. This study evaluated shelter provisions for persons who required Functional Needs Support Services (FNSS) in the Greater Houston Region. It considered natural disasters that occurred between 2000 and 2011. The study utilized an exploratory case study approach in a mixed methods design to answer six research questions. The Critical Incident Technique (CIT) was selected as the method of enquiry for the case study. Field data was collected from Shelter Managers, Emergency Managers/ Planners and a Nursing Home Administrator through a combination of online surveys, face to face interviews and a telephone interview. The findings revealed that while the sheltering process for persons who require FNSS is effective, it is often improvised. In addition, adequacy of facilities, personal care and communications/equipment emerged as the major CIT themes to catering the target population. The study makes recommendations on how shelter provisions and services for persons who require FNSS can be improved.



2:05 P. M.

Comparison of the Effectiveness of Community Based Health Education to Reduce Disparity in Diabetes

Elenar C. Ettinoffe (Abstract 0170)

Pharm.D. Candidate

Faculty Advisor and Co-PI: Dr. Inyang Osemene

College of Pharmacy and Health Sciences

Introduction: Data has shown that diabetes mellitus is a growing concern that demands immediate attention. This illness currently affects approximately 25.8 million people in the United States alone; and that number is projected to increase four fold in the next 40 years. Diabetes most commonly affects African Americans, Hispanics, and Native Americans. Therefore, it is imperative that something is done to reduce disparities in diabetes, and thus reduce the amount of people that will develop this disease. This study investigated the effectiveness of community base health education on reducing these disparities. **Methodology:** The results from several randomized controlled trials were reviewed and analyzed. The studies compared the effectiveness of various diabetes health education practices versus standard of care in which diabetics were seen by their physician at intervals during the year. We used Meta analysis to evaluate the value of education in reducing disparities in diabetes. **Results:** The seventeen studies reviewed, yielded a total of 11 628 participants. A large percentage of these trials showed that when community based health interventions are used to educate diabetics, greater reduction in HbA1c levels occurred. **Conclusion:** The review and analysis of the studies have shown that community based health education is vital in reducing inequalities within the diabetes population. Through education diabetics gained insight into their chronic disease; are able to recognize symptoms of hypoglycemia and hyperglycemia, and receive proper techniques on glucose monitoring, diet and exercise.



2:20 P. M.

Levels of Education, Socioeconomics, and Family Life Impacts on Juvenile Delinquency

Jarrauri Wayne Curry (Abstract 0180)

Master's Candidate, Public Administration

Faculty Advisor: Dr. Don Woods

Barbara Jordan-Mickey Leland School of Public Affairs

In today's society, youth meet with intricate challenges that often go unnoticed. Some youth face varying levels of psychological distress due to their home or school environments, and consistent peer pressure. With limited rights afforded to youth in the United States, many youth are unable, unwilling and do not have access to effective coping strategies and methods to help release their mounting levels of stress. Consequently, some youth begin to engage in delinquent behaviors either for attention or as a way of coping with their stress. Several factors can be attributed to the delinquent behaviors that are often revealed in the daily lives of adolescent youth in the United States. Embarrassment, disdain, starvation and deficiency are some of the effects that youth face growing up in a family with limited or low income. Inattention, boredom, disconnection and low grades are some of the effects as a result of low levels of education. Also, neglect is one of the primary effects faced by youth in single-parent homes. This study has made an attempt to determine how socioeconomic status, single-parent homes, and levels of education impact juvenile delinquency or contribute to its recidivism. Analyses of current research and statistics reveal that there exist some causal relationship between socioeconomic status, single-parent home, and low levels of education and delinquent behaviors exhibited by America's youth.

Keywords: juvenile delinquency, recidivism, socioeconomics, single-parent, education



2:35 P. M.

The Relationship Between Medication Adherence and Pharmacist Home Visits in African American Communities with Resistant Hypertension

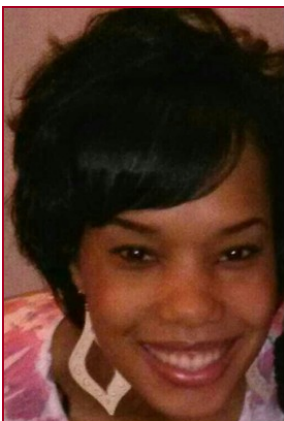
Thanh Pham, Muhammad Qudoos, Okeke Chukwunwike, James Son

Pharm.D. Candidate (**Abstract 0190**)

Faculty Advisor and Co-PI: Dr. Inyang Osemene

College of Pharmacy and Health Sciences

Background: Patients with resistant hypertension are at highest risk for complications such as stroke, retinopathy, and renal disease. **Purpose:** Pharmacist home visits may be beneficial for those who have resistant hypertension by improving their medication adherence and hypertension knowledge. The purpose of this study is to describe our experience with a sub-cohort of patients with resistant hypertension and pharmacist home visits. **Methods:** Patients were identified from an existing database in the Managing Your Blood Pressure program at TSU. The intervention includes two in-home pharmacist visits and telephone counseling. The primary outcome measure was a change from baseline in blood pressure after 6 months from the first pharmacist home visit. Inclusion criteria were men and women aged 65 and above and had resistant hypertension. Resistant hypertension is defined as receiving at least three anti-hypertensive and presented with elevated blood pressure on day of first home visit. Results were analyzed descriptively using percentages. **Results:** A total of 65 individual patients were identified to have resistant hypertension. Overall 47% of patients (n = 30) had a ≥ 5 mmHg drop in systolic blood pressure (SBP) at six months goal after the intervention. For those with baseline SBP ≥ 160 mmHg (n=12), 10 patients (83%) had a ≥ 5 mmHg drop in SBP at six months. 86% of patients (n = 55) had an improved hypertension knowledge score as well as medication adherence score. **Conclusions:** Pharmacist home visits have a positive impact on blood pressure control and medication adherence in patients with resistant hypertension.



2:50 P. M.

Cross-Presentation of Peptides Chaperoned by Heat Shock Protein gp96

Shantell Phillips (**Abstract 0200**)

Undergraduate, Biology

Faculty Advisor: Vera McDaniels and Collaborator: Robert J. Binder

College of Science and Technology

Cross-presentation is the ability of Dendritic Cells (DCs) to uptake and process extracellular antigens and present them on their major histocompatibility class I molecules (MHC). Heat shock protein (HSP)-chaperoned peptides are cross-presented by DCs. It has been demonstrated that CD91 acts as a cell surface receptor for heat shock protein gp96, binding gp96 directly and allowing the HSP-peptide to be up taken by the cell into the endosome. Previous studies have shown that HSP90 is critical for the translocation of peptides from the endosome to the cytosol for proteasomal degradation. These peptides are then translocated to the endoplasmic reticulum where they are loaded onto the MHCs for cell surface display. The fate of gp96 after endocytosis is unknown and is the focus of this study. In the current study, we investigate the fate of gp96 after internalization. We used selective cell fractionation of DCs to identify the location of gp96. Through this procedure, we were able to initially separate the intracellular membranes and plasma membranes of the DCs and showed that gp96 was primarily associated with intracellular membranes. With further fractionations, we were able to isolate the cytosol, mitochondria, and nucleus and showed that at 30mins gp96 was primarily located in the cytosol and not the nucleus or mitochondria. These study results show the route of trafficking gp96 associated with cross-presentation.

3:05 P. M.

The Impact of Environmental Stressors on Maternal and Infant Health Outcomes: A Pilot Study of Residents in Sunnyside, Third and Fifth Wards in Houston, Texas

Njekeh Franklin Caspa, M.S. Health Administration

(Abstract 0210)

Ph.D. Candidate, Environmental Toxicology

Faculty Advisor and Co-PI: Dr. Maruthi S. B. Bhaskar and Dr. Andrea Shelton

College of Science and Technology

The environment is a key determinant in human health and disease. Exposure to many environmental stressors are known to endanger human health and cause negative impacts on health that can range from mild psychological effects, to effects on morbidity, and to increased mortality. Despite their public health relevance and importance, there is less research conducted on neighborhood environmental stressors and health. The effects of air pollution, lead, and chemicals have been studied, but there has been less emphasis on the effects of sound pollution, overcrowding, neighborhood quality, etc. The aim of the study is to determine whether environmental stressors such as noise, overcrowding, pests/rodents can contribute to maternal and infant health outcomes (hypertension, depression, stress/anxiety, low birth weight, prematurity, Asthma, etc). The prevalence of different neighborhood environmental stressors and associations between the stressors and maternal and infant health outcomes are described in a representative sample (N= 537) of minority low income women with ages of 15-44 years and their infants who reside in the Sunnyside, Third and Fifth Wards in Houston, Texas, and are enrolled and receiving/received case management services in the SUNY FUTURES Healthy Start program. Data was collected by case managers between January 1, 2009 and December 31, 2011. It is hypothesized that those women who were exposed to those stressors in these Houston neighborhoods were more likely to report poor health and birth outcomes than those not reporting that exposure.

3:20 P. M.

Hydrogen Sulfide Increases Aqueous Humor Outflow in Porcine Trabecular Meshwork

Jenaye Robinson (Abstract 0220)

Undergraduate, Biology

Faculty Advisor: Dr. Sunny E. Ohia and Dr. Ya Fatou Njie-Mbye

Co-PI: Ya F. Njie-Mbye, Anita Okpobiri, Madhura Kulkarni, Catherine Opere, Sunny Ohia

College of Science and Technology

We have evidence that the colorless gas, hydrogen sulfide (H₂S), can produce pharmacological actions in the eye. In the present study, we tested the hypothesis that the intraocular pressure lowering effect of H₂S (using H₂S-releasing compounds as donors) is mediated by an increase in aqueous humor (AH) outflow in porcine trabecular meshwork (TM) tissues. Methods: Porcine ocular anterior segments explants were perfused with Dulbecco's Modified Eagle's Medium maintained at 37°C, 5% CO₂ and constant pressure of 7.35 mmHg. Once outflow was stable, explants were administered with H₂S-releasing compounds; sodium hydrosulfide (NaHS, 100 nM, 1 μM, 10 μM), L-cysteine (1nM, 100 nM, 1μM,), and outflow was monitored for 4 hours. Vehicle (0.1% saline) was run in parallel. Results: NaHS (10 μM), a fast-releasing H₂S compound significantly increased AH outflow for 3 hours when compared to vehicle. Furthermore, there was a concentration-dependent increase in AH outflow with administration of NaHS (100 nM-10 μM). L-cysteine (1 nM-1μM), a slow-releasing H₂S compound also caused a significant (p<0.01) dose-dependent increase in outflow facility. Interestingly, the effects of L-cystiene on AH outflow were more potent than that of NaHS. Conclusion: H₂S-releasing compounds can increase AH outflow in porcine TM indicating a pharmacological role for H₂S in the regulation of IOP.



3:35 P. M.

Solar Power Moving Sidewalk (SPMS) (Abstract 023O)

Vincent Hassell, B.S. Civil Engineering Technology

Master's Candidate, Transportation Planning and Management

Graduate Research Assistant, Center for Transportation Training and Research

College of Science and Technology

Sustainable living can include many aspects of the environment. This research will focus on evaluating the possibility of using Solar Power Moving Sidewalks (SPMSs) as an energy and environmentally friendly alternative transportation format. We plan to provide an economical and easily acceptable form of transportation for short commutes. Today there is an increasing migration towards moving into sustainable communities. Increasingly, more seniors are aging in place and many "Baby Boomers" will follow suit. These seniors will also alter their living and transportation behavior as they grow older. While the benefit to seniors will be observed, the study will also show how this product may allow people of all ages to utilize and encourage environmentally friendly transportation modes. In addition, reducing emissions released by school buses and passenger vehicles will also reduce vehicle-miles-traveled per day. The integration of the system components has the potential to reduce the environmental impact of vehicles in this area. For example, SPMSs generating 1 kilowatt of solar power for approximately 46 ft would compare to carbon dioxide emissions by electricity of 18 pounds a year. This is the equivalent of carbon dioxide emitted from an automobile vehicle driving 20 miles. This study hopes to create an environmental friendly means of transportation.



3:50 P. M.

Knowledge, Beliefs, and Attitudes about Shaken Baby Syndrome

Chelsea T. Brown (Abstract 024O)

Undergraduate, Health Administration

Faculty Advisor and Co-PI: Dr. Andrea Shelton

College of Pharmacy and Health Sciences

Shaken baby syndrome is a serious public health concern for newborns, with the greatest risk to babies between the ages of two to four months. Shaking a baby is considered a violent form of physical child abuse with severe consequences for the infant including permanent disability and premature death. It is estimated by the Centers for Disease Control and Prevention that between 1200 to 1400 infants suffer injuries or killed as a result of shaking each year in this country. Parents and their partners account for the majority of perpetrators. This study is a descriptive analysis of data collected from surveys distributed to women who had given birth to a child in the last three years. The survey instrument was developed and pretested before distribution to a convenient sample of women. Participants were asked about triggers, consequences, and referrals for cases of shaken baby syndrome. It is hypothesized that those who received information about shaken baby syndrome before discharge from the hospital after delivery will be more informed about the triggers and adverse effects of shaking a baby compared to those who were discharged without receiving the information. It is also hypothesized that the means by which the mothers received the information (oral vs. written presentation) may influence their knowledge, beliefs and attitudes about shaking a baby.

4:05 P. M.

*Chinua Achebe's Things Fall Apart: What Was Lost***Rachael Sears, B.S. English (Abstract 0250)**

Master's Candidate, English

Faculty Advisor and Co-PI: Dr. Charlene Evans

College of Liberal Arts and Behavioral Sciences



The British colonizers and missionaries of the 1800s had a profound and enduring effect on Nigerian culture. By directly undermining the gods of the traditional Nigerian religion, *odinani*, the British colonizers and missionaries were able to subjugate the entire culture--from politics and economics, to social status and customs. Using Chinua Achebe's novel *Things Fall Apart* as a platform, this paper systematically demonstrates how each Nigerian god was toppled either by colonial or religious attacks and the continuing effects of this loss in present day Nigeria.

4:20 P. M.

*Toddler Notification System (T.N.S) Design***Jashaad Gaines (Abstract 0260)**

Undergraduate, Engineering Technology

Faculty Advisor: Dr. Rasoul Saneifard

College of Science and Technology



One of the major problems with the existence of children in the household is periods of non-supervision. Usually both parents must work to provide the children with the basic necessities of life (food, clothing, adequate living arrangements, and etc.). Even when parents are home, they are working and unable to constantly monitor the whereabouts of their toddler. During these few moments of non-supervision, children may be subject to many dangers of the household: pools, stairways, doors that lead to dangerous places, or cabinets filled with dangerous objects and chemicals. To address this problem, a Toddler Notification System (TNS) has been proposed and designed. The TNS is set of devices that will notify the parent or guardian if the child approaches dangerous areas in the house. The child wears a watch-style wristband which contains a receiver that will capture an FM radio signal from transmitters strategically placed around the house. The transmitters may be installed in any vicinity where danger may exist. Anytime the child nears a transmitter, it will notify the parent or guardian, not only by alerting their cell phone, but also by a preset ringtone alert on the receiver. The TNS can also be programmed to send different alerts for each separate transmitter in the house to inform the parent or guardian exactly what location in the house the child is nearing, and he/she may act accordingly for the safety of the child.

4:35 P. M.

*Assessment of Factors Influencing Pharmacists' Interest in the Pursuit of Preceptorship***Jeannie Fong and Nam Tran (Abstract 0270)**

Pharm.D. Candidate

Faculty Advisor and Co-PI: Dr. Flora Estes

College of Pharmacy and Health Sciences



PURPOSE: Pharmacists have the option to become a preceptor after working at least one year in practice. Some factors for choosing preceptorship are to build career profiles, continue a lifelong learning, or to take advantage of free labor. Some factors for not choosing preceptorship are the lack of time, training, pay incentive and the risk of liability. The purpose of this study is to determine what influences Texas pharmacists to choose the path of preceptorship and why others do not. **METHOD:** 500 Texas pharmacists with active licenses were randomly chosen from the Texas State Board of Pharmacy database to participate in a 10-question survey. The randomization of the selection process of the participants was based on every 5th name on the database. Pharmacists with inactive, delinquent, expired, or restricted licenses were excluded from selection. Survey letters were mailed out during December and the deadline for response submission was on January 11, 2013. Participants had the option to mail back the survey, fax, or complete it online. **RESULTS:** 47 participants responded. 14 participants were current preceptors, 8 participants foresee becoming a preceptor in the future while 22 participants did not. Most common reason for choosing preceptorship was the intent to give back to the profession and instill professionalism to the next generation. Most common reasons for not choosing preceptorship were that it is time consuming and have not had the opportunity. **CONCLUSION:** Majority of pharmacists did not wish to become preceptors because it was time consuming. Those who did choose to become preceptors intended to give back to the profession.

4:50 P. M.

Innocence Project of Texas (IPOT) and Forensic Science**Quoc Duong (Abstract 0280)**

Undergraduate, Administration of Justice

Barbara Jordan-Mickey Leland School of Public Affairs

Recent years, DNA is the main key to exonerate almost wrongfully convicted victim in Texas. Many victims are free after twenty years sentencing in prisons. According to Texas Legislature, the state leads the nation in convicting innocent people. Seventy percent of wrongfully convicted victims are African-American. They are all poor. 2005, Texas Legislature provided funds to four public law schools in Texas to create litigation and public policy organizations, commonly referred to as Innocence Project of Texas, IPOT, to review and investigate wrongful convictions. The IPOT is trying to prove the commitment their mission is nothing less than to free the staggering number of innocent people who remain incarcerated and bring substantive reform to the system responsible for their unjust imprisonment. After eight years, the Texas Legislature created the IPOT to help innocent victims and reform Texas criminal system. It also created opportunities for law students to achieve fulfilling educational experience. The IPOT at law schools from University Texas, University of Houston, Texas Tech University and of Thurgood Marshall at Texas Southern University are looking for another grant to keep this system operating and also to get many students in TSU involved in the project. In fact, Texas doesn't have public defense officers in counties: Missouri, Galveston. Even though Fort Bend county which is known as the rich and fastest growing county in Texas but it doesn't have public defense office. For a long time, Texas hasn't believed public defense officers. We need to open more offices so that limit the cases of wrong convictions. In this paper, I will use interviewing, investigating, researches, observations to discuss how the innocent people get wrong fully convicted. The reasons can be eyewitness misidentification, un-validated or improper forensics, false confessions/admissions, government misconduct, informants/snitches. Secondly, I will also discuss the role of DNA that exonerate innocent victims.



5:05 P. M.

Instrumental Analysis of Bisphenol A and Metabolites in Rats Feces and Urine**Naga Naidu, B. S. (Abstract 0290)**

Ph.D. Candidate, Environmental Science and Technology

Faculty Advisor and Co-PI: Momoh A. Yakubu

College of Science and Technology

Bisphenol A (BPA) is a weak estrogen. Pharmacokinetic studies of BPA have demonstrated a rapid and extensive metabolism of BPA to the nonestrogenic BPA-monoglucuronide (BPA-gluc). BPA was reported to be found in ppb in the tissues or urine of humans without known exposure. We have developed a rapid and sensitive method for the determination of BPA and its metabolites in urine and feces samples using HPLC and MALDI-TOF. The HPLC-Uv-Vis was used for the quantification of BPA and its metabolites and further characterized by MALDI-TOF. The samples were collected from rats (n=6) treated with 160 mg/kg BPA orally. Using acetonitrile, BPA and its metabolites were extracted by LPE from urine and SPE from feces samples and subjected to HPLC analysis. HPLC spectrum of standard BPA peak (RT 7.7) was determined and compared with the samples' (R.T 7.5-7.7). The HPLC spectra of samples confirmed the presence of BPA and its metabolites in different concentrations in urine (8.22ppm - 24.93ppm) and feces samples (3.48ppm - 29.95ppm). No peaks corresponding to BPA was detected in control. To increase the peak intensity and to reduce interference of metabolites, the eluent from R.T 7-9 was collected and analyzed on MALDI-TOF for mass confirmation. MALDI-TOF analysis of standard BPA showed a peak at 223.8 m/z, urine samples showed 2 major peaks at 223.8m/z and 245 m/z and a minor peak at 223.8 m/z. Feces samples showed major peak at 215 m/z. Thus, HPLC-UUV-Vis is a very sensitive tool for identifying BPA and its metabolites in urine and feces samples and confirmed by MALDI-TOF.

COLLEGE/ SCHOOL



SPECIFIC SESSIONS



THURSDAY, APRIL 4, 2013

THURGOOD MARSHALL SCHOOL OF LAW

DEAN'S CONFERENCE ROOM - THURGOOD MARSHALL SCHOOL OF LAW

9:00 AM - 11:00 AM

In conjunction with the theme of TSU's research week, "Creating a Collaborative Research Culture 2013," the Thurgood Marshall School of Law (TMSL) will present a panel discussion on the recent flowering of collaborative research on student learning, spurred by the work of Director Docia Rudley and the TMSL Office of Assessment. Charged with training law faculty in best practices in law teaching, Director Rudley has collaborated with several units of the law school, including the Lawyering Process (LP) program since 2009, the professors of Business Associations, a doctrinal course, since 2011, and the clinical legal studies program since 2012. Cutting-edge research (collaborative and solo) on student learning has been but one of the happy and organic outgrowths of these teaching collaborations, as illustrated by the attached visual. Therefore, TMSL's program for research week will feature a panel to showcase and to discuss these teaching and research collaborations that will include:



Fernando Colon-Navarro
Professor, TMSL



Emeka Duruigbo
Professor, TMSL



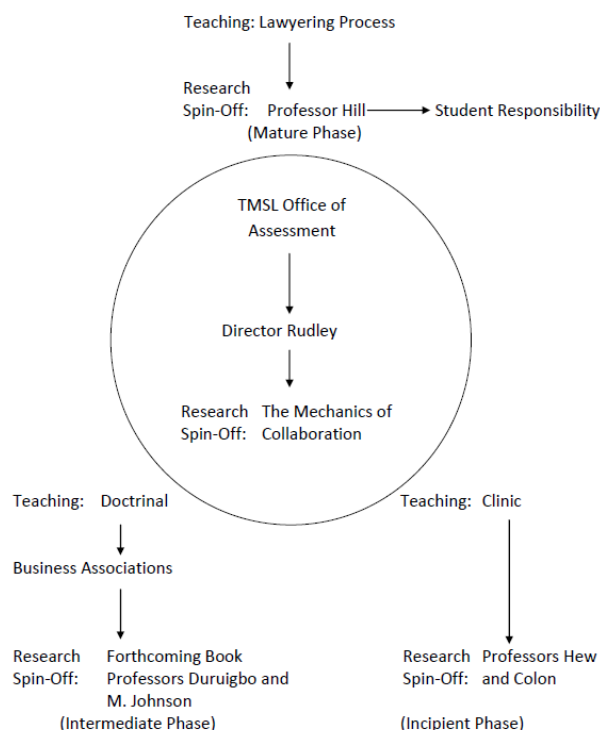
Docia Rudley
Executive Director,
TMSL Office of
Assessment



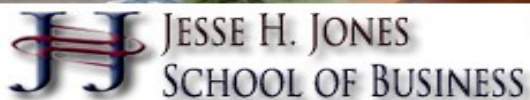
Cassandra Hill
Associate Professor,
TMSL and Director,
Legal Writing Program



Asmara Tekle
Professor, TMSL and
Associate Dean for
Research and Faculty
Development,
Moderator



All students and faculty are cordially invited to attend. Hot breakfast will be provided.

THURSDAY, APRIL 4, 2013

10:00 AM — 12:00 PM

LOCATION: JHJ ROOM #239

Is Student Loan Debt the Next Economic Bubble in the Education Industry?**Mrs. Germaine Gray, Carlton Perkins, J.D., Dr. Ladelle M. Hyman**

Over the last decade, the U.S. economy has seen economic bubbles in the dot com and housing industries. Could education be the next bubble on the horizon? Currently, student loan debt surpasses total consumer debt and as of March 2012, student loan debt exceeds \$1 trillion dollars. The focus of this presentation is to aid in preparing students for successful student loan debt repayment. The content included discusses strategies to aid students in avoiding student loan delinquency or default in an effort to enhance student engagement and learning. Many who pursue higher education and professional certification require a monetary subsidy. Saving to finance higher education takes a longer time than borrowing to finance higher education. As a result of life happening, the repayment of the student loan(s) is more difficult than imagined at the time of borrowing(s). This presentation includes a literature review of current U. S. student loan indebtedness status and best practices for informed borrowing and repayment of student loans. It includes no discussion of saying "no" to university matriculation.

The Use of Mobile Technology to Integrate Compliance into Daily Business Processes**Dr. Karma Sherif**

The ubiquitous and pervasive nature of mobile technology is motivating organizations to use the technology to integrate regulatory compliance into daily business operations. Companies fail to comply because of lack of training, lack of monitoring, and lack of discipline for non-compliance. In this paper we explore the impact of mobile technology in reducing barriers to compliance through improved training, remote monitoring and timely feedback on compliance status that can be used to reward/ punish compliance/non-compliance in the oil and gas industry.

Application of Fishbone Diagram to Address U.S. and Global Supply Chain Issues**Dr. Mayur S. Desai**

Supply chain management is not a new phenomenon. However, the advent of the global networking environment has created a new challenge to address the issues related to managing the participants in the supply chain management. The new challenge is further convoluted by the globalization of business activities. In order to address this challenge it is imperative for the business executives to understand the risk, the risk mitigation and sustainability in the turbulent global environment. This research uses the fishbone diagram to understand the underlying factors affecting the risk, risk mitigation and sustainability. It is believed that this understanding will help develop greater mutual understanding of the interests and problems of all supply chain partners and a better balance between opportunities and threats.

An Examination of Charismatic Leaders' Effects on the Job Engagement and OCB of Pressured Followers**Dr. Dewayanna Horny, Dr. Christopher Mathis, Dr. Sammie Robinson, Dr. Natasha Randle**

Prior research has explored how employees' perceptions of their leaders impact their work attitudes and behaviors. Studies have shown that charismatic leaders motivate individuals to be more engaged and to exhibit more organizational citizenship behaviors. This study considers how a moderator, citizenship pressure, affects how charismatic leaders might inspire their followers to go above and beyond and be more engaged in their work. Using a sample of 246 workers, our findings show that charismatic leadership has a stronger effect on job engagement when employees perceive less citizenship pressure. Citizenship pressure did not moderate the relationship between charismatic leadership and organizational citizenship behavior. Implications, limitations, and future research suggestions are discussed.

The Impact of Financial Education Exposure in a Required Business Course**Mrs. Germaine Gray**

College students oftentimes begin their higher educational pursuits without having any experience handling their own personal finances and likely lack basic financial knowledge. At Texas Southern University, a significant number of the student population is on financial aid. Furthermore, TSU students are most likely required to make financial decisions regarding their education prior to starting classes, so there is a need for financial knowledge for sound financial decision-making. The U.S. Treasury Department reported "the recent economic crisis and the increasing complexity of our financial system make it clear that strengthening the financial knowledge and skills of our young people is critical to their future success and to the future financial stability of our country." The U.S. Treasury further explained that "to better navigate their financial futures and be prepared to make smart choices, students need to learn more about earning and spending, saving and investing, using credit wisely, avoiding fraud, paying for college, and more." Given this present concern for increased understanding of financial education in the U.S. and specifically for the TSU student population, this research presentation will discuss the development of an financial education impact survey on financial education exposure in a business curriculum required course (BADM 101).

CEO Age, Education, and Introduction of Hedging in the Oil and Gas Industry**Dr. Zahid Iqbal**

This study examines if CEO age and education explain introduction of hedging program in the oil and gas industry. We compare age, degree, and educational institutions of CEOs that introduced hedging against those that did not hedge during periods of major declines in oil prices. Our findings show that the "introduction" CEO is younger than the "non-hedge" CEO. We also find evidence that a smaller percentage of the "introduction" CEOs received their college degree in business and in oil-producing regions when compared to the "non-hedge" CEOs. Also, a higher percentage of the "introduction" CEOs have degrees related to petroleum than the "non-hedge" CEOs. The results of our logistic regressions provide evidence that CEO age and educational background explain risk taking in the oil and gas industry.

New Old Frontier: Opportunities for America's Small and Medium-Sized Enterprises (SME's) in Africa**Dr. Lucy Ojode**

This research explores the strategic response of America's Small and Medium-sized Enterprises (SMEs) to emerging opportunities in Africa. With less than 500 employees, SMEs are more numerous than their larger counterparts, more entrepreneurial, the source of growth in employment, and the engine for wealth creation in the US. We propose that these firms have suffered disproportionately from globalization pressures and the global economic crisis, a factor that may contribute to their search for emerging opportunities in Africa.

Can Student Teams Learn to Think Critically?**Dr. David Hansen**

Soft skills such as critical thinking and team process are important aspects of business education because they are in demand by most corporations. However, critical thinking and team process are not usually considered together because the focus of teams is to get things done as amicably as possible which makes a critical mindset difficult. This is an area in need of more study because critical thinking is more likely to occur in groups where discussion can occur than in situations where no teamwork is happening or people are just doing the work on their own. Critical thinking is a skill needed in all areas of business because it concerns the assumptions and logic used to develop business proposals, plans or other business tools used to deal with future uncertainty. This presentation reviews the state of critical thinking and team learning processes in business school teaching and research. Using that information we offer a two-step model in which team exercises are used to prepare students for critical thinking exercises in which they learn to consider the plans and ideas of others from various viewpoints before agreeing to a final plan or proposal.

THURSDAY, APRIL 4, 2013**COLLEGE OF SCIENCE AND TECHNOLOGY****11:00 AM — 1:30 PM****TSU Science Center Room #156**

How much data/research should/must be incorporated into undergraduate curriculums to make them more meaningful and current?

I. TSU COST Faculty Presentations:

Opening Remarks	Dr. Jason A. Rosenzweig	(Facilitator)	11:00 am - 11:05 am
Greetings	Dr. Lei Yu	Dean COST	11:05 am - 11:10 am
Presentation 1	Dr. David Olowokere	Engineering Technology	11:10 am - 11:20 am
Presentation 2	Dr. Christopher Tymczak	Physics	11:20 am - 11:30 am
Presentation 3	Dr. Bobby Wilson	Chemistry	11:30 am - 11:40 am
Presentation 4	Dr. Marian Hillar	Biology	11:40 am - 11:50 am
Presentation 5	Dr. Aladdin Sleem	Computer Science	11:50 am - 12:00 pm

Break (snacks/refreshments available)**12:00 pm - 12:15 pm****II. TSU COST Faculty panel discussion (Dr.'s Hyun Min Hwang, Miao Pan, Audrey Player, and Maria Burns):**

Introduction to panelists	Dr. Jason A. Rosenzweig	12:15 pm - 12:20 pm
Interactive panel discussion with audience engagement		12:20 pm - 12:50 pm
Closing remarks	Dr. Shishir Shishoida	12:50 pm - 1:00 pm

THURSDAY, APRIL 4, 2013**College of Pharmacy and Health Sciences****11:00 AM—1:00 PM****LOCATION: Gray Hall 1st Floor Lecture Auditorium Room # 100**

The College of Pharmacy and Health Sciences strongly encourage the involvement of our students in any aspect of research; whether basic science or clinical. The primary purpose of involving the student in a research project is to introduce the individual to the problem solving process and in so doing, develop appreciation and the necessary skills involved in a systemized and scholarly research. The College of Pharmacy and Health Sciences had over eight-six students to work independently or in groups on projects they identified of interest or by their research preceptors. Poster and oral presentations of student projects will be held during the TSU Research Week College Breakout Session

NAME/GROUP	YEAR	TITLE
Mays, Carrie	P4	Comparison of the Effectiveness of Different Disease State Management Strategies in Improving Adherence to and Value Of Pharmacologic Treatment In The Elderly
Vy Pham and Gildardo Bazan (*)	P4	Pharmacist impact on overall quality of life on elderly African American patients through medication reconciliation
Omawunmi, Joanne(*) and Vu, John(*)	P4	Pharmacokinetic studies of selected medications before and after gastric bypass surgery

(*) ASHP Mid-Year Clinical Meeting Presenter

THURSDAY, APRIL 4, 2013

TSU
BARBARA JORDAN
MICKEY LELAND
 SCHOOL OF PUBLIC AFFAIRS

SCHOOL OF PUBLIC AFFAIRS**10:00 AM — 3:00 PM****Public Affairs, Walter McCoy Auditorium Room #114**

Opening Statement **Dr. Robert Bullard**

Dean, BJ-ML School of Public Affairs

We are looking forward to 12 presentations by 13 faculty and students on a wide range of topics across the various departments (and programs) within the Barbara Jordan-Mickey Leland School of Public Affairs: Administration of Justice, Political Science, and Urban Planning and Environmental Policy. The Research Week topics represent various research interests within the school. The topics are as follows:

- Human Trafficking
- Effects of Mass Incarceration and Prison Reentry on the Children of Prisoners
- Juvenile Courts: Issues in Juvenile Delinquency
- Racial Profiling in the City of Houston: An Assessment Using Chi Square Statistical Analysis
- Diversity in Minority Serving Institutions
- Assessing the Effects of Culture on Public Opinion toward Immigration and Non-Citizens
- Understanding the Psychology Behind Suicide Terrorism: Perspectives from Muslims in Northern Ghana
- Perennial Floods in the Accra Metropolis of Ghana: Dissecting the Possible Causes and Solutions
- Disaster Management Personnel Observations in Support of High Reliability Organizational (HRO) Statistical Result Concerning Coordination
- Superfund Sites in Houston: In whose Backyards?
- Levels of Emergency Preparedness Among TSU Students: A Pilot Study
- Levels of Emergency Preparedness of TSU Student Homeowners

Closing Remarks

COLLEGE OF LIBERAL ARTS AND BEHAVIORAL SCIENCES**1:00 PM — 3:00 PM****Public Affairs, Walter McCoy Auditorium Room #114****“Building Bridges Between the Humanities and the Behavioral Sciences.”**

Moderator: Daniel Adams, DMA

Department of Music

Opening Remarks: Daniel Adams

Presentations:

“Kafkaesque Absurdity in the Aesthetics of Beckett and Giacometti “ Michael Sollars, Ph.D. Department of English,
 Interim Assistant Dean for Research, COLABS.

“Cancer Prevention Dramas: Collaboration with The Baylor College of Medicine, American Cancer Society and One
 Hundred Black Men”. Prof. Thomas Meloncon, Department of Visual and Performing Arts.

“Beyond Belief: A Proposal for an Interdisciplinary Approach to the Role of Ideas in Collective Self-Fashioning”, Roger
 Hart, PhD. Department of History.

“Music Department Foundations lead to broad-based success: An overview of the Texas Southern University Music
 Graduate” Jason Oby, DM, Department of Music.

Questions and Discussion



College of Education Research Week Presentations

Lillian B. Poats, Ed.D., Dean

Collette M. Bloom, COE Research Coordinator

THURSDAY, APRIL 4, 2013 | 5:30 PM | R. R. PAIGE EDUCATION BLDG. | ROOM 318

The COLLEGE OF EDUCATION is pleased to present faculty and students' research papers, posters and proposals. All students presenting are currently enrolled in a doctoral program at TSU.

FACULTY

HEALTH AND KINESIOLOGY DEPARTMENT

- Jafus K. Cavil, Assistant Professor

Title: A Critical Book Review of "The New Plantation: Black Athletes, College Sports, and Predominantly White NCAA Institutions" by Billy Hawkins

COUNSELING DEPARTMENT

- Joyce Finch, Professor

Title: My Baby's Daddy: Understanding the World of Teen Dads

EDUCATIONAL ADMINISTRATION AND FOUNDATIONS DEPARTMENT

- Yoruba Mutakabbir, Assistant Professor

Title: Latino Students' Knowledge, Opinions, and Perceptions of HBCUs

STUDENTS

DEPARTMENT OF COUNSELING

- Ashley Sutton: B. S., Psychology, University of Houston, 2007; M.Ed.; Counseling, Texas Southern University, 2009

Title: Psychological Distress by Gender: The Impact of Cyberbullying on Adolescents

- LaQuetta Wright: BA – English University of Houston, 2009; MA – Counseling Psychology University of Houston-Victoria, 2012

Title: Sex Education and Early Childhood Interventions

DEPARTMENT OF EDUCATIONAL ADMINISTRATION AND FOUNDATIONS

Teryana Lamb: B. A., Biological Science, University of Houston, Clear Lake, 1999; M. Ed., Educational Administration, Texas Southern University, 2011

Title: Using Path Models to Examine the Impact of Research Dollars on Retention and Graduations Rates at Historically Black Colleges and Universities (HBCUs)

- Derrick Wilson: B.S. - Electronic Engineering Technology, 2003 – (TSU) College of Science & Technology; M.S. - Management Information Systems, 2009 – (TSU) JHJ School of Business

Title: The Impact of Local, State & Federal Funding on Retention and Graduate Rates at HBCUs.

FRIDAY, APRIL 5, 2013
AWARD/ LUNCHEON PROGRAM

STERLING STUDENT LIFE CENTER, TIGER ROOM, 3RD FLOOR

11:00 AM – 1:00 PM

Facilitator **Linda M. Gardiner, Ph.D.**
Director, Research Enhancement and Regulatory Services
Greetings **Sunny E. Ohia, Ph.D.**
Provost, Vice President for Academic Affairs, Vice President for Research
Opening Remarks **Adebayo O. Oyekan, Ph.D.**
Interim Associate Provost and Associate Vice President for Research

Introduction of Speakers

11:10 A.M.

**Effects of Antiseptic Bathing on Hospital Acquired Infections in the
Intensive Care Unit**

Joshua T. Swan, PharmD., BCPS

Assistant Professor, Pharmacy Practice

College of Pharmacy and Health Sciences, Texas Southern University

Co-PI: Lan Bui (P2 pharmacy student), Nourhane Badawi (P3 pharmacy student), Vy Pham (P4 pharmacy student), Jolene Blackshear, RN, Rubie Pomer, RN, Jimmy Bersamin, RN, Audrey Magtoto, RN, Robert Ochoa, MD



11:30 A. M.

Dr. Norvella Carter

Associate Professor and Endowed Chair in Urban Education

Department of Curriculum and Instruction

College of Education, Texas A&M University

12:00 P.M.

~Lunch Served~

12:35 P.M. AWARD PRESENTATIONS

FACULTY ORAL PRESENTATION

STAFF ORAL PRESENTATION

STUDENT ORAL PRESENTATION

FACULTY POSTER PRESENTATION

STAFF POSTER PRESENTATION

STUDENT POSTER PRESENTATION

CHRIS CHINWE ULASI, PH.D.



Dr. Ulasi has been a professional communicator, scholar and researcher for over twenty-eight years. Dr. Ulasi is a screenwriter, producer, and poet. He was from 1993-1996 journal editor and book editor of the **Journal of Nigerian Affairs** formerly **CONPO REVIEW**). He is the Executive Editor of **USAfricaonline**, a community newspaper, and **The Black Business Journal** both based in Houston. He has published scholarly articles, book chapters, and presented papers at numerous conferences. He has been a consultant on International Communication and Development for the International Education Foundation in Austin, Texas. Since 1988, he has taught courses in Media, Culture & Society, International Communication, Screenwriting, Film Theory, Media Aesthetics, and Media Criticism at Texas Southern University's School of Communication. Ulasi holds a B.Sc. in Mass Communications, MA in Telecommunication Policy and Administration, and Ph.D. from the University of Texas at Austin in International Communications. He has served as Graduate Studies Advisor in the School of Communication and is currently the **Interim Chair** of the Department of Radio, Television and Film. A film producer/director, Chris has to date produced seven & co-directed three feature length films: *"Material Witness"* (Songhai Filmworks, 1994) and *"The Kangaroo"* (Songhai Filmworks, 1995), *"The Stalk Exchange 419"* (Songhai Filmworks, 1997). His fourth film as a producer, *"Return of the Exile"*, which he co-wrote with Don Okolo was shortlisted at the 2005 Nigerian International Film festival, New York. Other films include *"Blood "n" Destiny"* in 2009 and *"The Land"*, 2011 by Insurmountable Filmworks. He has just recently premiered a new feature film titled *"Page Thirty-Six"* in Houston with screening in Los Angeles and Oakland, CA in November 2012. Another project by Ulasi, a five-year documentary film examining the lives of the Nigerian emigrant community in Houston, is currently in production. Chris is currently working on a book about the Nigerian film industry. An avid and published poet, his new book of poetry **"Fragments of the Rainy Season"** is forthcoming in Fall 2013.

JOSHUA T. SWAN, PHARM.D., BCPS



Dr. Swan currently serves as an Assistant Professor of Pharmacy Practice at Texas Southern University (TSU) and a Clinical Pharmacist Specialist in the Department of Pharmacy at The Methodist Hospital. Dr. Swan received a Bachelor of Science in Pharmaceutical Sciences (2007) and a Doctor of Pharmacy (2009) at The University of Mississippi (Oxford, MS). He completed a Postgraduate Year 1 Pharmacy Residency (2009 – 2010) and a Postgraduate Year 2 Critical Care Pharmacy Residency (2010 – 2011) at The Methodist Hospital (Houston, TX). Dr. Swan is a critical care clinical pharmacist in the Surgical Intensive Care Unit at The Methodist Hospital and is actively involved in multi-disciplinary education efforts and clinical research. His performance improvement projects and clinical trials have led to the development of new hospital policies and services. He is an active preceptor for the Postgraduate Year 1 Pharmacy Residency and the Postgraduate Year 2 Critical Care Pharmacy Residency at The Methodist Hospital. During his first 2 years as a faculty member at TSU, Dr. Swan published in the high-impact international journal of *Critical Care*, garnered two intramural grants, and served as principal investigator on a large randomized controlled trial that has enrolled over 250 patients. His research focuses on describing the prevalence of disease, improving healthcare services, and advancing medical knowledge on treatment of diseases that affect critically ill patients. His research interests are delirium, sedation, analgesia, and nosocomial infection.

CLEVERICK D. JOHNSON, MS DDS



Dr. Johnson an alumnus of TSU volunteered his services to the Department of Biology BIOL 300 class during the 2008 Fall Semester. Dr. Johnson earned his degree in Biology in 1979 and his Master's in Biology in 1981. Following his masters he completed a Minority Fellowship at the University of Houston College of Pharmacy in 1982; taught in the Department of Biology as a Lecturer from 1980-1982 at Texas Southern University and also earned a dental degree from the University of Texas Health Science Center, at Houston Dental Branch in 1986; and he has a private practice in Houston, Texas in General Dentistry. Dr. Cleverick is also an Associate Professor at the Dental Branch in the Department of Restorative Dentistry and Biomaterials where he is the Director of the Urgent Care Clinic. He has published extensively on oral diagnosis and substance abuse; received numerous awards and honors including the nationally recognized "Jefferson Award" for public and humanitarian service in 2002.

TEXAS SOUTHERN UNIVERSITY

ALLIANCE OF INSTITUTES AND CENTERS FOR RESEARCH

Name of Institutes and Centers	Director
Institute for Education and Legal Studies	Professor Sarah R. Guidry
Center for Strategic Advances in Education (CSAE)	Dr. James J. Cunningham Dr. Jay R. Cummings
Earl Carl Institute for Legal and Social Policy (ECI)	Professor Sarah Guidry
Center on Legal Pedagogy (CLP)	Professor Anthony Palasota
Institute for International and Immigration Law (IIIL)	Prof. Fernando Colon-Navarro
Institute for Business and Human Services	Hon. Jew Don Boney
Mickey Leland Center on World Hunger and Peace (Global)	Hon. Jew Don Boney
Economic Development Center	TBA
JP Morgan Chase Center for Financial	Prof. Germaine Gray
Institute for STEM, Environmental Research, and Biotechnology	Dr. Bobby Wilson
NASA Center for Bio-Nanotechnology and Environmental Research (C-BER)	Dr. Adebayo Oyekan
Environmental Research and Technology Transfer Center (ERT ² C)	Dr. Bobby Wilson
Institute for Biomedical and Health Disparities Research	Dr. Barbara E. Hayes
Center for Biomedical and Translational Research	Dr. Dong Liang
Center for Cardiovascular Diseases	Dr. Adebayo Oyekan
Center for Health Disparities Research: Cardiovascular Diseases & HIV	Dr. Adebayo Oyekan
Institute of Computational Science and Engineering (ICSE)	Dr. David Olowokere
Center for Research on Complex Networks	Dr. Wei Wayne Li
TSU High Performance Computing Center	Dr. Christopher Tymczak
Engineering Resource Center	Dr. David Olowokere
Institute of Transportation Studies	Dr. Lei Yu
Center for Transportation Training and Research	Dr. Carol Lewis
National Transportation Security Center of Excellence and Petrochemical Transportation	Dr. Carol Lewis
Aviation Research Center	Dr. Charles Glass
Innovative Transportation Research Center	Dr. Lei Yu

UNIVERSITY INSTITUTE FOR EDUCATION AND LEGAL STUDIES/POLICY

EARL CARL INSTITUTE FOR LEGAL AND SOCIAL POLICY

INTERIM DIRECTOR: SARAH R. GUIDRY

ESTABLISHED: 1992

PHONE: 713-313-1139

FAX: 713-313-1153

WEBSITE: www.earlcarl.org

GOALS: The Earl Carl Institute (ECI) was established in 1992 as a research and writing think tank at the Thurgood Marshall School of Law. The mission of the Institute is to help solve legal and social problems facing the urban community through scholarship and advocacy. The Earl Carl Institute seeks to identify, address, and offer solutions to issues that affect traditionally urban and disenfranchised communities.

TASKS: ECI's focus is on providing research based policy advocacy through direct legal services and written materials addressing issues that have a disproportionate impact on minorities locally, statewide and nationally. ECI generally undertakes projects that are interdisciplinary in nature and have one of three outcomes (1) Student Development, (2) Public Policy Initiatives, and (3) Community Education. In addition, these projects fall into ECI's priority research areas: (1) Criminal Justice, (2) Education, (3) Family, and (4) housing. ECI's operations are primarily facilitated through its three centers: (1) Center for Civil Advocacy, (2) Center for Criminal Justice, and (3) Center for Government Law. ECI provides law students opportunities to gain experience working with clients, lawyers and courts through the Opal Mitchell Lee Property Preservation Project, the Juvenile Justice Project and the Thurgood Marshall School of Law Innocence Project. The Center for Government Law provides law students integrated academic and practical skills training in government administration and regulation. ECI also undertakes Special Projects involving interdisciplinary partnerships and collaborations. Current special projects include the ECI Interdisciplinary Journal for Legal & Social Policy, annual symposiums on juvenile justice, indigent defense, and an ECI special journal issues. ECI policy or position papers target academia, the Texas Legislature, other political actors, Texas Department of Criminal Justice, Judges, attorneys and other vested interests, including civil rights and advocacy groups, and individuals from other disciplines as well as the urban community in general.

INSTITUTE FOR INTERNATIONAL AND IMMIGRATION LAW (IIIL)

ESTABLISHED: 2002

DIRECTORS: CRAIG L. JACKSON AND FERNANDO COLON-NAVARRO

PHONE: 713-313-1918

GOALS: The Institute (IIIL) is dedicated to providing specialized academic and practical legal training for students planning a career in international or immigration law. The Institute is dedicated to encouraging scholarly research in the fields of international law and immigration law; therefore, IIIL prepares students for positions with law firms practicing international or immigration law; U.S. government agencies, foreign governments, private organizations, and foundations working to advance social and economic justice. The IIIL also provides a scholarly atmosphere for the study of international and immigration law as well as a forum to discuss problems facing those disciplines. The IIIL offers an extensive inventory of international law courses, including but not limited to: International Litigation, International Tax, International Human Rights, Comparative Law, International Law, Employment-Based Immigration, Criminal Law and Immigration, NAFTA, Family-Based Immigration, Basic Mexican Business Law, Naturalization and Citizenship, Treaty Law as well as a Civil Externship Clinic at the Consulate of Mexico, an Administrative Law Clinic: Immigration Law Concentration, and the American and Caribbean Law Initiative, which is a Consortium dedicated to study comparative law issues. The Institute also recognizes students who have demonstrated a deep interest and scholastic achievement in the areas of international law or immigration law through its Certificate Program in International and Immigration Law.

TASKS: Among the many scholarly programs of the Institute is the Genocide Prosecution Project. Under this project, the Institute is planning to sponsor two programs involving the ad hoc tribunals hearing criminal cases on episodes of genocide in the former Yugoslavia and Rwanda. The International Criminal Tribunal for the former Yugoslavia Program, pending ABA approval, is scheduled to start in the summer of 2006. Tentative plans the International Criminal Tribunal for Rwanda program are being made with that program possibly starting in the summer of 2007. Both programs will involve classroom study of international criminal law, the cases from each tribunal, and the procedures for bringing cases to the tribunals. Students will attend tribunal hearings in The Hague, Netherlands (where the Yugoslavia Tribunal meets) and Arusha, Tanzania (where the Rwanda Tribunal meets).

CENTER ON LEGAL PEDAGOGY

DIRECTORS: ANTHONY PALASOTA AND DANNYE HOLLEY

ESTABLISHED – 1999

PHONE: 713-313-1022 OR 713-313-7388

GOALS: Dedicated to the study of instructional design for legal education, the Center for Legal Pedagogy uses principles from the cognitive sciences about learning and discourse theory to study, implement, and evaluate law school teaching methodologies. The primary research aim of the Center is to investigate how legal knowledge becomes organized; how the cognitive processes that accompany legal knowledge develop with learning and experience; and how the acquisition of legal knowledge is measured and assessed. The Center has an inter- and multi-disciplinary focus. It recognizes that we now have many of the investigative tools needed for the advanced study of legal pedagogy. It employs computer-based technologies that have been developed to enhance educational research. And, it uses the cognitive sciences - including cognitive psychology, artificial intelligence, and linguistics - to provide the theoretical means for studying formal process theories of human cognition. Turning to recent advances in the understanding of the nature of competence and the phenomena of expertise, the Center seeks to provide a thorough analysis of the objectives of instruction and to offer a solid basis for studying the learning of law, for designing conditions for learning, and for assessing acquired competence in the law.

TASKS: The Center has developed a series of initiatives and educational programs to enhance the law school's curriculum and instruction, including pre-law programs, academic support programs, educational workshops, and collaborative teaching and instructional projects. In addition to providing educational support to deliver mentoring and advising programs to students, the Center has implemented faculty development forums to enable faculty members to share and impart teaching innovations, to encourage research, and to foster scholarship. To assist with assessment, the Center has established the Teaching and Learning Effectiveness Program (the TLE Program) – a faculty professional development initiative that presents faculty with opportunities to become acquainted with the latest research concerning matters of teaching, learning, and assessing, and to learn new instructional strategies that may be applied to their fields of expertise. Each year, the Center measures the skills and abilities of the law school's in-coming students through a battery of diagnostic tests that examine learning strategies and styles, critical thinking, and writing. In addition to reporting about the data collected from these diagnostic tests and making the data available to faculty members in order to mentor and to plan teaching methodologies, the Center uses this data to advise students and to help students identify areas in which students could benefit most from educational interventions. The Center is also conducting two on-going studies: (1) A Correlation Study of the students' performance on LSAT, UGGPA, INDEX, LSI, LASSI, Watson Glaser, Writing Diagnostic, Mid-term Grades, First-Year GPA, Second-Year GPA, and Third-Year GPA, using the SPSS statistical package. (2) A Bar Passage Study of the students' performance on LSAT, UGPA, INDEX, Second and Third Year Required Course Performance, and Third-Year LSGPA as predictors of TMSL Bar Performance. Through its research studies and publications, the Center offers faculty and students pedagogical assistance with academic performance and skills by providing information about instructional design and outcomes assessment. Its publications include: (1) Law School Teaching Innovations/Tips, (2) Law School Teaching Quick Tips, (3) New Directions in Legal Education, and (4) Legal Writing Tips.

UNIVERSITY INSTITUTE FOR BUSINESS AND HUMAN SERVICES

MICKEY LELAND CENTER ON WORLD HUNGER AND PEACE

ESTABLISHED – 1989

ASSOCIATE DIRECTOR: MR. JEW DON BONEY

PHONE: 713-313-7370

GOALS: To provide on-going opportunities for projects, programs and research by students and faculty that increase awareness and understanding, leading to innovative projects and programs that address the enduring critical problems of world hunger and peace; and to offer advanced leadership development training to TSU students to prepare them to learn and lead in while providing a means to outreach to today's diverse global community.

TASKS: The Leland Center is the custodian of the Mickey Leland Archives and is currently working to digitize the Leland Collection. Through the Texas Legislative Internship Program (TLIP) the Mickey Leland Center provides undergraduate and graduate students intensive training and unique exposure as staff members to local, state and national government and elected officials, to increase the number of graduates prepared and available to work in government and public service. The Leland Center also supports the development of International Study Abroad Programs for TSU students through the Mickey Leland International Enhancement Program (MLIEP).

ECONOMIC DEVELOPMENT CENTER

ESTABLISHED – 1981

CONTACT: MS. AGNES CONNOR

PHONE: 713-313-7785

GOALS: To foster economic growth and development throughout the Houston-Galveston area by developing viable and effective community and economic development projects that provide capital resources, technical assistance and training to the small business sector, Houston's inner-community organizations, and other undeveloped sectors of the community such as the unemployed, underemployed, and the homeless.

TASKS: Projects primarily emphasize job creation, business development and expansion, entrepreneurship, higher education, career development, neighborhood revitalization, technology and community involvement. The current project provides:

- economic development in business planning and financial management;
- revitalization of a Third Ward community daycare center;
- technical assistance to eight (8) minority business expansion grant recipients;
- career planning and skills development in computer technology and office administration;
- housing for homeless women with children; and
- GED/college preparation.
- The partnerships and collaborations included in this project are:
- TSU Jesse H. Jones School of Business faculty team;
- Martin Luther King Jr. Community Center; and
- Houston Community College System.

This project is funded by the U. S. Department of Housing and Urban Development.

JPMORGAN CHASE CENTER FOR FINANCIAL EDUCATION

ESTABLISHED – 2003

DIRECTOR: GERMAINE GRAY

PHONE: 713-313-6877

MISSION:

- To promote lifelong financial education through teaching, research and community outreach programs
- To contribute to an individual's knowledge of personal finances, money management, credit awareness and estate planning.

TASKS: The Center has developed a series of initiatives related to financial education to enhance the business curriculum and the overall understanding of personal finance content. The current programs of the Center include a semi-annual guest lecture series, an annual financial education conference along with educational workshops for students, teachers and community members. In an effort to address the personal finance knowledge gap of college students, a financial education module has been included in the freshman level business course. Stand alone seminars on personal finance are also conducted throughout the fall and spring semesters for students and community members. Another initiative focuses on facilitating teacher workshops on personal financial management and economic education. Semi-annual teacher train-the-trainer workshops on the Stock Market Game and Investing are conducted throughout the academic year.

UNIVERSITY INSTITUTE FOR STEM, ENVIRONMENTAL RESEARCH AND BIOTECHNOLOGY

ENVIRONMENTAL RESEARCH AND TECHNOLOGY TRANSFER CENTER (ERT²C)

EST., 1991

DIRECTOR: DR. BOBBY WILSON

PHONE: 713-313-1060

The goal of the center is to address training, research problems, and technology transfer issues as they relate to the environment and to increase the number of under-represented minority graduates in science, technology, engineering and mathematics (STEM). ERT²C research projects focus on the analysis of toxic elements and compounds in a closed environment, investigation of the potential impact of environmental estrogens (EEs) in the lower Galveston Bay Watershed, novel approaches to water treatment technology using photocatalytic carbon nanotubes (CNTs) with antimicrobial properties to combat the problems associated with infectious microorganisms in drinking water, and dependence of radiation quality on charged particle-induced early and late damage in Chromosomes. The Core Analytical Facility is an important component of the center. The Core's mission is to achieve regional, community, and national recognition as a quality environmental analytical laboratory and environmental research program. This mission is achieved through the characterization of environmental toxicants in the ambient environment (air, soil, and/or water) and the investigation of the mechanisms involved in the toxicity effect. The facility is equipped with Chromatographic Equipment: Gas Chromatography: 2-Agilent 6890 Gas Chromatographs with w/Mass Spectrometry; GC accessories: Entech 7100 Pre-concentrator for air monitoring with 32 6L Silonite Canisters, Tekmar Doorman- Velocity XPT Purge and Trap. Liquid Chromatographs: Dionex DX-600 Ion Chromatograph, Agilent 1200 High Performance Liquid Chromatography w/Mass Spectrometry. Spectrophotometric Equipment: Agilent 7500 Inductively Coupled Plasma w/Mass Spectrometry, and Thermo Electron Nexus 470 FTIR with a 10-meter gas cell Nicolet Almega Raman Spectrometer, and Bruker Maldi-TOF Mass Spectrometer. Miscellaneous Equipment: Glove Box, Dionex Accelerated Extraction System, and Guava easyCyte flow cytometers are also available.

Collaborators: Dr. Renard Thomas, TSU, Dr. Xin Wei, TSU, Dr. Govindarajan Ramesh, Norfolk State University, Dr. Honglu Wu, NASA/JSC

C-BER: CENTER FOR BIONANOTECHNOLOGY AND ENVIRONMENTAL RESEARCH

ESTABLISHED DATE: OCTOBER 2008

INTERIM DIRECTOR & PI: DR. ADEBAYO OYEKAN

PHONE: 713-313-7499 FAX 713-313-7932

WEBSITE: [HTTP://COST.TSU.EDU/WEBPAGES/NASA_URC_CBER.HTML](http://cost.tsu.edu/webpages/nasa_URC_CBER.html)

The NASA Center for Bionanotechnology and Environmental Research (C-BER) comprises a team of faculty researchers and educators from the colleges of Science & Technology, Business, Education, Law, and Public affairs as well as collaborating faculty from the University of Houston, University of California Santa Cruz, Norfolk State University, Jackson State University, Texas A & M University and Stanford University.

MISSION: The mission, which is closely aligned with NASA's Exploration Systems Mission Directorate is to evaluate environmental and human health concerns related to manned exploration of space. Thus, techniques for detecting, monitoring and controlling microorganisms are being developed; and the effects of microgravity, radiation and other space travel-induced stress factors on living organisms are investigated with the intent of developing countermeasures. In collaboration with NASA, the mission is to train and educate future Scientists, Engineers, Mathematicians and Technology (STEM) while integrating molecular biology, bioinformatics, bionanotechnology with chemical and biochemical analysis. In this current effort we will develop advanced technologies to enable novel solutions to the great health challenges facing humans during long-term space duration missions.

TASKS: The research of C-BER focuses on

- key environmental factors such as microgravity, radiation and other space travel-induced stress factors on living organisms.
- The effects of microgravity and radiation on the cell at the genome, proteome, cell, tissue, organ, and organism levels
- identification of biomarkers of stress factors and development of countermeasures.
- Development of bioassays and devices for microbe detection and monitoring, building upon current hardware developed at various NASA Centers.
- Biosensors for pathogen and microbe detection
- chemo-sensors of environmental stress.
- training opportunities for students, postdoctoral fellows and faculty.

Investigators:

Shishir Shishodia, Ph.D., Dept. of Biology
Fawzia Abdel-Rahman, Ph.D., Dept. of Biology
Hector C. Miranda, Jr., Ph.D., Dept. of Biology
Marguerite Butler, JD, MLIS, TMS of Law
Jason A. Rosenzweig, Ph.D., Dept. of Biology

Mahmoud A. Saleh, Ph.D., Dept. of Chemistry
Nancy L. Glenn, Ph.D., Dept. of Mathematical Sciences
Demetrio Kazakos, Ph.D., Dept. of Mathematical Sciences
Claudette Merrell Ligons, Ed.D., Curriculum and Instruction

UNIVERSITY INSTITUTE FOR BIOMEDICAL & HEALTH DISPARITIES RESEARCH

CENTER FOR BIOMEDICAL AND TRANSLATIONAL RESEARCH

ESTABLISHED – 1986

DIRECTOR: DR. DONG LIANG

PHONE: 713-313-1885

The purpose of the Institute for Biomedical and Health Disparities Research grant is to provide the research infrastructure needed to increase faculty competitiveness in biomedical and behavioral research. The grant supports core facility development in molecular biology and tissue engineering; biosensor and biomarker technology; computational research; and proteomics and genomics. The grant also supports graduate student development. Recruitment of biomedical research faculty and their development is another goal of the project. The Institute is supported by a grant from the National Institutes of Health, National Institute on Minority Health and Health Disparities, Research Centers in Minority Institutions Program. The resources in the facilities are intended to aid in biomedical research and training programs that responds to current and future needs of the field. This involves continued creation of course materials for the current curriculum as well as specialized courses, training sessions and hands-on-workshops. Furthermore, investigators affiliated with the facility are committed to developing and applying cutting-edge technologies that will benefit human and social endeavors.

CENTER FOR CARDIOVASCULAR DISEASES

ESTABLISHED – 1999

DIRECTOR: DR. ADEBAYO OYEKAN

PHONE: 713-313-4258

The Center for Cardiovascular Diseases (CCD) is a joint initiative of the National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health (NIH) and Texas Southern University with a mission to discover solutions to health and other problems that disproportionately affect urban minorities. The goal is consistent with the mission of TSU to academically prepare and develop diverse, predominately African American students to discover solutions to health and other problems that disproportionately affect urban minorities through scholarship, research, and outreach programs to the community.

GOALS: To expand and strengthen the University's biomedical research capabilities in order that significant contributions may be made to the improvement of the cardiovascular health status of all Americans, especially African Americans. The Center serves as the hub of research activities on cardiovascular diseases providing intensive laboratory training experiences for graduate and undergraduate students and serves as a site for structured and supportive faculty development.

TASKS: The CCD seeks to

- expand and strengthen TSU's biomedical research capabilities so that the University can make significant contributions to the improvement of cardiovascular health status of all Americans, especially African Americans.
- increase the quality of research and publication efforts of TSU,
- strengthen the overall biomedical research infrastructure
- provide intensive laboratory training for graduate and undergraduate students; and
- foster collegiality and collaboration among TSU faculty and local institutions.

Ongoing projects are evaluating nitric oxide/cytochrome P450 interactions in the cardiovascular system, peroxisome proliferator activated receptors (alpha and gamma) in hypertension, diabetes/obesity, and renal failure, role of humoral factors in subarachnoid hemorrhage (stroke) and diabetes mellitus.

Investigators/Collaborators

Adebayo Oyekan DVM, PhD, FAHA (Director)

Momoh Yakubu PhD (Visiting Scientist)

Weimin He MD, PhD (Research Assistant Professor/Scientist)

Choi Myung PhD Research Associate

Katsuri Rangana PhD (Collaborator)

Zivar Yousefipour MS, PhD (Collaborator)

CENTER FOR HEALTH DISPARITIES RESEARCH: CARDIOVASCULAR DISEASES AND HIV ESTABLISHED – 2011

PRINCIPAL INVESTIGATOR: DR. ADEBAYO OYEKAN

PHONE: 713-313-7156 AND 713-313-4258

The Center for Health Disparities Research is a joint initiative of the National Heart, Lung, and Blood Institute of the National Institutes of Health and Texas Southern University (TSU) with the goal that the Center for Health Disparities Research will synergize with ongoing research activities at the Center for Cardiovascular Diseases. The center will augment and strengthen TSU's research capabilities and resources in biomedical and behavioral research.

GOALS: The goal of the Center for Health Disparities Research in Cardiovascular Disease and HIV is to reduce disparities in HIV and CVD among disparate populations in the city of Houston. In addition, the Center seeks to enhance the biomedical research capability of TSU in discovering solutions to health and other problems that disproportionately affect urban minorities. These efforts should close the gap in mortality and morbidity associated with HIV and CVD among disparate populations, including African Americans and Hispanics.

TASKS: Working collaboratively with professional and lay communities to develop cutting edge biomedical and behavioral science research, the major tasks are:.

- Prevention and control of cardiovascular disease through healthy eating and physical activity
- Promotion of cardiovascular healthy living behaviors
- Professional education and community service

KEY FUNCTIONS

- Creation of new scholarly works that provide results that push the frontiers of public health science
- Research and development
- Translation and dissemination of evidence-based programs and practices
- Collaboration with community partners
- Policy development and analysis

Investigators/Collaborators

Adebayo Oyekan DVM, PhD, FAHA (Director)

Angela Meshack DrPH, Assistant Professor, Department of Health and Kinesiology

James Essien DrPH, Professor, University of Houston (Member, Advisory Board)

Mustafa Lokhandwala PhD Professor, University of Houston (Member, Advisory Board)

Ronald J. Peters, Jr., Dr.P.H. Associate professor of behavioral sciences at the University of Texas School of Public

UNIVERSITY INSTITUTE FOR COMPUTATIONAL STUDIES AND NETWORKING

ENGINEERING RESOURCE CENTER

ESTABLISHED – 2010

DIRECTOR: DR. DAVID OLOWOKERE

PHONE: 713-313-7995

The TSU Engineering Resource Center is the research and social outreach arm of the Department of Engineering Technology at Texas Southern University. The Center manages, facilitates, and operates the TSU College of Science and Technology's (COST) mission to spearhead sustainable engineering research and development by providing pool of experts and facilities. It actively collaborates with institutions for technological advancements, and responds to the pressing engineering needs of communities. It pursues top-notch and significant researches and innovation opportunities in next-generation technologies, services, and social outreach programs. It serves as avenue for dialogue on the application, the socio-economic and ethical impacts of technology. Three active research activities are ongoing within the center. These are Development of Virtual and Remote Laboratory for Engineering Students NSF); Development of Sensors for Homeland Security Applications (NSF), and a pre-engineering program (DoD). Key researchers in this center are Dr. Chen, Dr. Olowokere and Dr. Zhang.

TSU HIGH PERFORMANCE COMPUTING CENTER

ESTABLISHED – 2008

DIRECTOR: DR. CHRISTOPHER J. TYMCZAK

PHONE: 713-313-1849 WEBSITE: <http://hpcc.tsu.edu>

Texas Southern University's High Performance Computing Center (TSU-HPCC) was established to promote research and teaching on campus through integrating leading-edge high performance computing and visualization for the faculty, staff and students of Texas Southern University. The HPCC provides consulting and assistance to campus researchers with experimental software and/or hardware needs. We also provide training in parallel and grid computing. HPCC will serve as a liaison between various teams that are engaged in research. We work to support, configure and port applications to HPCC resources. HPCC has computational resources which include two Linux clusters. Ares, installed in December 2008 has sixteen dual-slot quad-core nodes with Intel Xeon 5350 2.0 Ghz processors with 8 Gigabytes of memory connected via dual Gigabit ethernets. The full parallel cluster has a total of 128 cores and a total memory of 128 Gigabytes, with a peak speed of 0.672 Teraflops. Hades, installed on January 2010, has eight dual slot hyperthreaded quad core nodes with the Intel E5520 2.33 GHz Xeon Processor with 12 Gigabytes of Memory connected via a 10 Gigabit ethernet using an Ultra low latency Arista 7124S switch. The full parallel cluster has a total of 128 virtual cores and a total memory of 96 Gigabytes, with a peak speed of 0.783 Teraflops.

The High Performance Computing Center at TSU has been awarded a grant of \$220,000 by the National Science Foundation for expanding its research capabilities. The funding secured will allow a doubling of the present computational resources, lifting TSU to a competitive position in terms of capabilities, similar to ones offered by Rice University and surpassing University of Houston's. Directed by Dr. Tymczak (Physics), and co-directed by Dr. Vrinceanu (Physics) and Dr. Khan (Computer Science); the High Performance Computing Center's goal is to enhance learning and improve student achievement at Texas Southern University by integrating state-of-art technology into the classroom. Computational Sciences and High Performance Computing are rapidly becoming more and more relevant in many industries, and therefore TSU students have a chance to get first hand training in modern computational techniques, giving them a strategic advantage in the labor market. Our resources have been supporting a growing community of researchers who apply the intensive computational techniques to solve complex problems in Physics, Chemistry, Computer Science, Biology and Engineering. Our vision is that Texas Southern University becomes a regional leader in promoting a mobile learning environment, outside the traditional classroom, by integrating new innovative technology and advanced computational concepts.

CENTER FOR RESEARCH ON COMPLEX NETWORKS

ESTABLISHED – 2011

DIRECTOR: DR. WEI WAYNE LI

PHONE: 713-313-1871

Our goal is to conduct innovative and multidisciplinary research of national significance in the area of complex networks and expand the pool of minority and underrepresented students to pursue advanced graduate studies to meet the future needs of the nation in critical principles and technologies of network research, and to become a nationally recognized center of excellence in multidisciplinary research developing and using advanced networking methodology, integrating research with education and profoundly impacting society via the advancement of technologies by enabling transformation in science and environmental diagnostics. The tasks of the Center include (1) To perform cutting-edge research and develop a technology platform through implementation of a cross-disciplinary and synergistic infrastructure at TSU and to establish TSU as an internationally renowned center of research in the areas of wireless, computational, and urban transportation environmental networks; (2) To develop novel theoretical models and computer simulation algorithms for the study of complex networks in wireless, computational and urban networks and to use these algorithms in practical real world applications, to achieve the advancement of the knowledge of the complex networks; integration of knowledge from diverse scientific areas to focus on the understanding of complex networks, and targeted practical applications in real world complex networks; (3) To positively impact underrepresented minority (URM) undergraduate, graduate and Ph.D. students by improved and enriched Center related research and educational experiences. In this regard, the existing Ph.D. program in environmental toxicology will be enhanced and a new interdisciplinary Master's degree program in Computational Science and Engineering (CSE) will be developed toward computational environmental toxicology and monitoring and modeling of environmental issues; (4) To implement and promote diversity in STEM disciplines, through innovative and relevant educational outreach initiatives and to recruit, retain and train members of URM groups. This will create a nationwide workforce and prepare minority students for leadership positions in the fast-changing global, scientific, engineering, and government sectors.

UNIVERSITY INSTITUTE FOR TRANSPORTATION STUDIES

AVIATION S. T. E. M. RESEARCH CENTER
ESTABLISHED – 2010
DIRECTOR: DR. CHARLES GLASS
PHONE: 713-313-1847 OR 713-385-4028

The Aviation S.T.E.M. Research Center combines virtual laboratory airport simulation and a rigorous academic curriculum in a unique, fun, and educational experience. Our goal is to stimulate student interest in S.T.E.M. (science, technology, engineering, and mathematics) related careers and create avenues that attract diverse populations to our campus. Additionally, educators, industry professionals, and students examine current and new applications of transportation concepts. The Research Center provides a platform to establish new partnerships and nourish new ideas between the academic and professional communities.

Students explore job opportunities such as airport management, flight, air traffic control, and homeland security through the use of our state-of-the-art virtual simulation labs, field excursions to aviation facilities, classroom interaction, and guest speakers. This approach to aviation education gives the student added value over traditional flight training programs by focusing on interactive hands-on activities in a virtual airport environment. This environment supports the development of management, communication, planning, problem solving, team work, and flight operations skills. Furthermore, the Center prepares students for their chosen S.T.E.M. career, while building confidence and discipline in the workforce of tomorrow.

**CENTER FOR TRANSPORTATION TRAINING AND RESEARCH AND
 NATIONAL TRANSPORTATION SECURITY CENTER OF EXCELLENCE AND PETROCHEMICAL TRANSPORTATION**
ESTABLISHED – 1983
DIRECTOR: DR. CAROL LEWIS

GOALS: To provide an interdisciplinary cadre of professionals that serve as a focal point to advance the transportation industry and add to the body of knowledge through research. Also provide an experiential laboratory for students facilitating critical exploration and subsequent dialog about transportation issues.

TASKS: Active projects in homeland security, transit oriented development and land use planning, emergency evacuation, transportation policy, intelligent transportation systems, freight and logistics, and sustainable transportation initiatives. Research results in state-of-the-art knowledge and projects at the forefront of the transportation field. Of note is the Petrochemical Incident Location System -- PILS, an interactive web-based tool, providing the database of reported hazardous incidents on a GIS platform.

CTTR has developed a broad-based expertise in public participation and marketing techniques for transportation career training; findings exist on various aspects of public transit usage, demographic and attitudinal studies. CTTR examines interrelationships between public transportation and social, economic, and physical environments. Research outcomes are disseminated through conferences, symposia, and workshops; journal publications, published reports, books and a periodic newsletter (Transcript). The center maintains liaison with urban community organizations and agencies throughout the nation.

Center researchers have established close ties between secondary education and the transportation workforce. Part of this effort is TSU's designation as a host site for the National Summer Transportation Institute, which celebrated its 11th anniversary last year. CTTR also established the Transportation Security Institute (TSI) Program for K-12 students, which was hosted last summer. Committed to remain on the forefront of transportation arena, A recent examined the deployment of **solar-powered traffic control devices** and evaluated the installation and maintenance costs of solar panels and LED retrofits versus traditional incandescent bulb installations. Using data gathered in Houston, Texas researchers found that retrofitting traditional incandescent bulbs to LED, while initially costly, will yield benefits in less than five years. And with the installation of solar panels, energy consumption would be pushed to virtually zero. With the solar panel's 35-40 year life span, the long-term benefits of their installation outweigh the initial costs. Also, researchers are investigating critical questions about the aging population and driving safety.

COLLABORATIONS: CTTR leads the TSU National Transportation Security Center of Excellence (NTSCOE), an initiative of the Department of Homeland Security. NTSCOE explores and proposes solutions to the unique security issues surrounding the transportation security of petrochemical products and public transportation systems. CTTR is a member of the Southwest Region University Transportation Center – a consortium with Texas A&M University and the University of Texas, the Hazards Center for Disasters at the University of North Carolina and the Severe Storm Center (SSPEED) with Rice University.

INNOVATIVE TRANSPORTATION RESEARCH INSTITUTE

ESTABLISHED – 2000

DIRECTOR: DR. LEI YU

PHONE: 713-313-7282

CO-DIRECTOR: DR. FENGXIANG QIAO

PHONE: 713-313-1915

PROJECT COORDINATOR: MINERVA CARTER **PHONE: 713-313-7927**

<http://itri.tsu.edu/ITRI/ITRI.htm>

GOALS: The Innovative Transportation Research Institute (ITRI) at TSU was developed in the fall of 2006 by expanding the former Urban Traffic and Air Quality Lab (UTAQL), which was first established in 2000. Recently, ITRI received funding as a member of five-institution consortium Trans-LIVE (Transportation for Livability by Integrating Vehicles and the Environment), a Tier One National University Transportation Center (UTC) funded by U.S. Department of Transportation, which also includes University of Idaho, Virginia Tech, Old Dominion University, and Syracuse University. The goals of ITRI are to develop, evaluate, optimize, and recommend comprehensive strategies for traffic congestion mitigation, mobile source emission reduction, fuel consumption saving, urban transportation planning, and ITS development, through the smart utilization of advanced technologies, large scale computer simulation methods, complex modeling systems, and state-of-the-art lab equipments.

TASKS: ITRI conducts research and outreach through five designated efforts: (1) transportation modeling and simulation, (2) vehicle emission testing and air quality analysis, (3) Intelligent Transportation System (ITS) technology applications, (4) driving behavior studies, and (5) education, training, and technology transfers. ITRI is equipped with state-of-the-art lab facilities such as: mobile traffic van, full-motion driving simulator, MiniTranStar (real-time traffic surveillance system through Houston TranStar), and portable emission measurement systems. ITRI has conducted research projects for Federal Highway Administration (FHWA), National Science Foundation (NSF), National Institute of Standards and Technologies (NIST), Air Force Research Laboratory (AFRL), Texas Department of Transportation (TxDOT), Houston Advanced Research Center (HARC), Southwest Region University Transportation Center (SWUTC), and other public and private entities. Beginning 2012, ITRI cosponsors a Joint Maritime and Trans-LIVE Summer Transportation Academy (STA) program for high school junior and senior students to promote their interests in transportation studies. In 2013, ITRI has launched a K-12th grade educational outreach by implementing a transportation and environmental curriculum for primary and secondary schools.

OTHER RESEARCH CENTERS

CENTER ON THE FAMILY **ESTABLISHED – 1990** **INTERIM DIRECTOR: DR. NAJLA NAJIEB** **PHONE: 713-313-7870**

GOALS: To offer opportunities for advancing and implementing multi- and interdisciplinary studies and research on family life issues and to become the University's vehicle for building public support and advocacy through direct service provisions and comprehensive planning for crisis intervention. **TASKS:** Research and service efforts focus on life challenges of children, youth, and the elderly.

THE MINNIE T. METTERS WRITING CLINIC **Established – 1986** **DIRECTOR: LANA REESE** **PHONE: 713-313-7981**

GOALS: The Writing Clinic, provides Computer-Assisted Instruction (CAI) and Traditional Instruction (TI) in writing skills—sentence structure, grammar, usage, mechanics, and basic organization and development of compositions. The Clinic's primary objective is to assist students in becoming responsible writers who can organize and correct their own errors and apply composition principles and concepts to their writing assignments. The Clinic is developing a databank of information on student performance. The Writing Clinic is NOT a proofreading, editing, correcting, quick-fix service and does not assist in preparation of specific class assignments on which the student will receive grades. When students have questions or concerns about specific class assignments, they are encouraged to arrange a conference with their classroom instructors. Students can call the Grammar Hotline (713-313-7981), if they have a question concerning grammar and composition. In addition to CAI and TI, students may view videos or CDs or listen to audio cassettes on both composition and literature. **TASKS:** Measuring Student Progress in Compositional Essay Writing. Web-based learning.

UNIVERSITY COUNSELING CENTER **ESTABLISHED: 2003** **DIRECTOR DR. SHAYNA LEE, M. D.** **PHONE 713-313-7817**

Our Mission University Counseling Center (UCC) exists to help students enhance their academic and personal well-being. The UCC seeks to provide counseling and support services, crisis intervention, outreach, accommodations and support for students with disabilities, support services for alcohol and drug related issues, and referral services for TSU students. We also offer consultation, education, training, and prevention strategies to faculty, staff, and the university community. We seek to promote an environment of inclusion, personal development to positively impact student retention.

Our Vision It is our vision to be of significant value to the TSU community, nationally recognized as a leader among University Counseling Centers and to provide effective resources to enhance students' progress towards the fulfillment of their personal development and academic goals. In striving to expand the roles of helping professionals, our staff will be proactive and responsive to the changing needs of the growing and diverse student population resulting in student retention and graduation. The University Counseling Center is committed to the continual development of services and training programs, which represent the highest standards of excellence.

Our Motto "Real People. Real Problems. Real Solutions!"

Our Goals To provide a safe and therapeutic environment that is comfortable, aesthetically pleasing, and accessible to all enrolled students.

CENTER FOR STEM EDUCATION AND OUTREACH (C-SEO) **ESTABLISHED DATE: OCTOBER 2009** **DIRECTOR(S): DR. ROBERT L. FORD** **PHONE: 713-313-7593 WEBSITE: <http://cost.tsu.edu/WebPages/C-SEO.php>**

Mission and Vision: Preparing the next generation of science, technology, engineering, and mathematics (STEM) professionals through comprehensive engagement of educators and community stakeholders. The Center for STEM Education and Outreach (C-SEO) is an arm of the TSU Office of Academic Affairs, established to provide campus-based STEM program coordination and community training and public outreach. C-SEO's mission is to conduct our work with the end in sight, i.e., we envision an educational system with appropriate supports from the full complement of stakeholders, working strategically and synergistically to prepare the nation's technical workforce of the future.

COLLEGE OF SCIENCE AND TECHNOLOGY



The College of Science and Technology (COST) is dedicated to integrating sciences and contemporary technologies, through education, scholarly activities, and community service; meeting the needs of a diverse graduate and undergraduate student population while addressing critical urban issues within a global economy. The College offers 10 B.S. degrees, 5 M.S. degrees, and one interdisciplinary Ph.D. degree through 10 academic departments, Aviation Science and Technology, Biology, Chemistry, Computer Science, Engineering Technology, Environmental Science and Technology, Industrial Technology, Mathematics, Physics, and Transportation Studies.

The College is engaged in several areas of basic and applied research. Research activities in the college revolve around a number of Research Centers. These include the NASA Research Center for Biotechnology and Environmental Health (NASA/URC), the Center for Research on Complex Networks (CRCN), the Center for Transportation Training and Research (CTTR), the National Transportation Security Center of Excellence for Petro-Chemical Transportation (NTSCE-P), the Innovative Transportation Research Center (ITRC), the High Performance Computing Center (HPCC), and the Environmental Research and Technology Transfer Center (ERTTC). There also exist many stand alone research programs managed by individual faculty members.

The College has developed numerous laboratory facilities that support the faculty and students in their research endeavor, including Cell Signaling Research Lab, Enhanced Core Analytical Lab, MiniTranStar Lab, Full-Motion Driving Simulation Lab, Mobile Traffic Lab, Portable Emission Measurement System Lab, Full-Motion Flight Simulation Lab, Virtual and Remote Accessible Lab, Advanced Networking Lab, and IPTV and Multimedia Networking Lab. Some of the major equipment available on campus to our researchers and collaborators include a Preconcentrator System 7100 and Canister equipment, Agilent 6890 with MSD GC, Agilent 7500A ICP/MSD, Agilent Series 1100 HPLC/MSD, Dionex DX-600 Ion Chromatograph, FTIR Spectrometer, Centrifuges, Scintillation Counter, Differential Scanning Calorimeter, Tensile Strength Analyzer, Thermal gravimetric Analyzer, SEM as well as others too numerous to list.

COLLEGE OF EDUCATION



The mission of the College of Education at Texas Southern University is "to provide competent career professionals for effective service in urban schools, utilizing research, collaboration, and application in seeking solutions to teaching, learning, and behavioral challenges facing urban populations". The College provides courses of study leading to academic degrees in four instructional departments.

The Department of Counselor Education prepares counselors, who value equity and equality, to meet the demands of a culturally and linguistically diverse clientele. Graduates are prepared for a wide range of positions, such as community/school counselors, counselor educators, advocates, consultants, and administrators.

The Mission of the Department of Curriculum and Instruction is to provide an education for pre-service teachers, post-baccalaureate teachers, educators and specialists that will enable them to assure a developmentally appropriate and equitable education for students from diverse populations. The Master of Education and Doctor of Education degree programs offer advanced studies for experienced educators.

The Department of Educational Administration & Foundations offers Masters' and Doctoral degrees in Educational Administration. The mission is to prepare individuals who are competent and capable, and who possess a strong awareness of their responsibility to organize, lead and manage efficient and effective educational institutions.

The Department of Health and Kinesiology prepares majors in both Health and Human Performance and serves the general needs of fitness and skill development for the general student body. The department's mission is to prepare students as competent teachers, leaders, researchers, behavioral scientists and health administrators who are able to serve urban and non-urban populations.

Three broad categories frame the research activity in the College of Education. These include Student Achievement, Professional Development and Leadership. Specific research areas include adult learning styles, homeless students, retention and graduation patterns, especially in STEM fields, significance of HBCUs, critical race theory, licensure examination passage rates, American Muslims at HBCUs, reducing HIV stigma, and exercise programs for seniors.

THURGOOD MARSHALL SCHOOL OF LAW



The mission of the Thurgood Marshall School of Law is to expand opportunities for the underserved in the legal profession; prepare a diverse group of students for leadership roles in the legal profession, business and government; and offer leadership in teaching, research, and service. Since 1947, Thurgood Marshall School of Law has been a catalyst for initiating courageous conversations and a progenitor of equality, diversity, and opportunity. As a community of change agents, our law school community has empowered the disenfranchised and underserved by preparing lawyers to practice law and to shape social policy. With this empowered heritage, our highly diverse law school faculty is a community of internationally and nationally recognized scholars whose legal scholarship enriches, embraces, and celebrates an array of legal issues in energy, legal pedagogy, health care, and the U.S. Constitution, among others. Thurgood Marshall School of Law's primary degree offering is the Juris Doctor (J.D.). The law school's Immigration and International Law Institute also offers a certification in International and Immigration Law. Moreover, the law school's Earl Carl Institute for Urban and Social Policy provides students the opportunity to research various social policies in conjunction with their law studies. TMSL also offers a joint J.D.-M.B.A. degree in conjunction with TSU's Jesse H. Jones School of Business as well as a joint J.D.-M.P.A. degree from the university's Jordan-Leland School of Public Affairs.



BARBARA JORDAN - MICKEY LELAND SCHOOL OF PUBLIC AFFAIRS

The Barbara Jordan - Mickey Leland School of Public Affairs (BJ-ML SOPA) was originally established in 1974 and reestablished in 2002 as a cornerstone to fulfilling Texas Southern University's special purpose mission as an institution of higher education for urban programming. The school offers degrees in Administration of Justice, Public Affairs/Public Administration, Political Science, and Urban Planning and Environmental Policy. The mission of the Barbara Jordan-Mickey Leland School of Public Affairs is to educate a new generation of global change agents committed to addressing and offering solutions to the global urban challenges of the 21st century. To fulfill this mission the faculty of BJ-ML SOPA is actively engaged in theoretical and practical research in our degree granting areas. To support this research the school has established the Barbara Jordan Institute (BJI) which assist its faculty and other scholars efforts to create, enhance, and expand intellectual capital in America and globally. An academic journal will be published by BJ-ML SOPA through the BJI as a part of its commitment to academic achievement and the intellectual pursuit of knowledge

THE SCHOOL OF COMMUNICATIONS

"Believe in the dream and create the opportunity"

The mission of the School of Communication, which includes the Center for Professional Media Studies, is to educate professionals to a high level of excellence in the disciplines of mass and human communication. Ranging from human communicative interaction to digitally driven mass communication. The unique and rich history of Texas Southern University, and the individual and collective perspectives of its students, allows the school to prepare and position its graduates for leadership in communications industries throughout the state, nation and world. The Center for Professional Media Studies is home to the 35 year -old plus radio station KTSU-FM, a state-of-the-art radio station. The School of Communication also houses a multi-million dollar cable television production and broadcast facility, production and laboratory facilities for print media. The School is committed to an interdisciplinary academic experience dedicated to the development of leaders and skilled practitioners in the several disciplines of human and mass communication. The vision of the School is to foster a collegial community of faculty, staff and students who collectively and individually strive for leadership in the fields of communication, scholarship, education, and information services. We work to develop and evaluate programs that foster students' ethical, social, professional, and intellectual development in the communications fields. While nurturing students' capacities to think skillfully, and critically, we also strive to deepen their commitment to social values such as kindness, helpfulness, personal responsibility, and respect for others. We believe these qualities are essential to leading humane and productive lives in a democratic society.

COLLEGE OF PHARMACY AND HEALTH SCIENCES

The TSU College of Pharmacy and Health Sciences (COPHS) plays an integral role in providing the health profession industry manpower for the city of Houston, the State of Texas and the nation. The mission of the COPHS is to produce quality health care professionals, especially African-Americans and other ethnic minorities, who are competent in health care delivery, including the provision of patient-centered care and other health care services and programs.

The School of Pharmacy was established in 1949 and graduated its first class consisting of 13 students in 1952. For over 60 years, the College has distinguished itself by graduating 27% of the Black pharmacists practicing nationwide and 55% of Black pharmacists currently practicing in Texas. The college has also produced an impressive list of graduates from diverse racial and ethnic backgrounds. TSU through the College of Pharmacy and Health Sciences is the 42nd member institution of the Texas Medical Center (TMC) and has expanded its programs to a 30,000 square foot facility located on the TMC John P. McGovern campus, only eight minutes from the TSU main campus.

The mission of the COPHS is to produce quality health care professionals, especially African-Americans and other ethnic minorities, who are competent in health care delivery, including the provision of patient-centered care and other health care services and programs. In fulfilling its purpose, the College is committed to providing an innovative, productive and receptive learning environment for research and scholarly activities and services; and developing cross disciplinary programs to reduce health disparities among minority and other disadvantaged populations

In Fall Semester 2009, the College had an enrollment of over 1,500 pre-professional and professional students. Notably, the COPHS is the only academic college in the state to offer the doctor of pharmacy (PharmD) degree and five health sciences programs leading to bachelor of science degrees in environmental health, health administration, health information management, clinical laboratory sciences and respiratory therapy. Currently, the TSU environmental health program is the only National Environmental Health Science and Protection Accreditation Council (EHAC) accredited program in Texas. The college also offers graduate programs leading to a MS degree in health care administration and MS and PhD degrees in pharmaceutical sciences.

The instructional and research objectives for the COPHS are achieved by 48 full-time and 14 part-time faculty. The COPHS also benefits from the instructional efforts of a large cadre of voluntary faculty and preceptors.

The research programs in the College are anchored by the RCMI Institute for Biomedical and Health Disparities Research; the NHLBI Center for Cardiovascular Diseases and the NCMHD Center of Excellence in Health Disparities Research- Community Cardiovascular Disease and Stroke. Areas of research of particular interest to the college include asthma, atherosclerosis, cancer, hypertension, neurotoxicology, novel drug delivery systems, pharmacokinetics, renal disease and stroke.

The following is a list of academic program accreditations and a certification: BS Clinical Laboratory Science (National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) ▪ BS Environmental Health (National Environmental Health Science and Protection Accreditation Council (EHAC) ▪ BS Health Information Management (Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)

JESSE H. JONES SCHOOL OF BUSINESS

Half a century following its establishment, the Jesse H. Jones School of Business (JHJ) at Texas Southern University (TSU) continues to make history as the first Historically Black College and University business school to receive accreditation in 1967, and the fastest-growing school within TSU with approximately 1,900 students. Since its inception, JHJ has produced leaders and learners who have helped shape communities, cities, states, and nations around the world.

In recognizing the demands that leadership imposes on managers and the special challenges that face our students, the School of Business emphasizes the development of self-confidence, poise, and communication skills. Our commitment is not just jobs for our graduates, but providing them a foundation for life-long leadership.

That foundation begins with our building, which is the showpiece of the Texas Southern University campus. The 78,000 square foot building on three floors, features 23 classrooms, as well as complete facilities for the Department of Business Administration, Department of Accounting, Gerald B. Smith Center for Entrepreneurship and Executive Development, Economic Development Center, Center for Economic Education, Business Student Services, Career Services Center, and an Administrative Suite. All classrooms are state-of-the-art, including the latest in multimedia, and networked to allow links to a vast number of capabilities such as distance learning.

The building is a learning teaching environment that simulates the corporate environment. In addition, this facility enhances the community by having space such as the 75-seat Lecture Hall that is utilized for community functions. The building strongly reinforces the mission of the Jesse H. Jones School of Business, which is "to provide the professional education essential to those who aspire to positions of responsibility in business, government and community service".

The concept of the building as a first-class facility is carried through all areas, from the 200-seat auditorium with its cherry wood paneling, to the two Executive Classrooms designed to meet the needs of Houston's business community or the busy executive pursuing an MBA. The Jesse H. Jones School of Business projects a business ambiance, combined with the capability to implement current and emerging technologies.



THOMAS F. FREEMAN HONORS COLLEGE

The program in the Thomas F. Freeman Honors College includes elements that ensure that scholars develop and apply research perspectives and skills that prepare them for their lives as citizens and leaders in their local, national and world communities in the age of the global. At the center of that preparation is a background in the liberal arts and sciences that students need to develop in order to understand the universe. They secure that background in their general education (university core) courses, courses on the three major themes in the College (the Interdisciplinary, Ethics/Aesthetics/Philosophy, and Local/National/Global, themes), and a computer skills course. In HON 101, Multidimensional Phenomena and Interdisciplinary Studies, students clarify aspects of, and examine imperatives in, their majors. In HON 202, Ethics, Aesthetics and Philosophy in the Age of the Global, they study ideals that guide understanding, judgment and practice in the imperatives. In HON 203, Relationships Among the Local, National and Global, they place the imperatives within such contexts as local, national and global communities. In HON 207, Computer Use in Research, Presentations and Multimedia, they develop the skills applicable in conducting research, preparing reports and presentations, and preparing and publishing electronic portfolios. In at least two courses in general education, two upper-level courses within their majors, and one approved upper-level course outside their majors, students apply the themes, and if possible, the skills. They ideally would do so in ways that enhance their understandings of the imperatives. Students also must complete a terminating course in which they apply their education. This course may be an internship, or a research or creative or professional project, in which they focus on one of the imperatives they will have studied in earlier courses. They will receive guidance from faculty members (for the projects) or from faculty members and site supervisors (for the internships). One result of this course will be a special document that follows the conventions of the research report. In addressing the imperative in the internship or project and the related document, students will meet the following requirements: they will identify its local or proximate, regional or nation-al, and global, aspects; they will apply qualitative and quantitative meth-ods; they will integrate insights from at least three disciplines; they will apply at least one ethical, aesthetic or philosophical principle in clarifying the objective(s), describing the methodology, and discussing the implications. Thus they will apply the range of insights and research skills they will have acquired in the College and University. During their programs of study, students in the Honors College will make presentations to College, University and external audiences, who will offer them feedback on their work on the imperatives. The College plans to give special awards to students who produce exemplary internship reports or research/creative/professional project reports. The College also plans to compile these reports into special collections, and to publish their highlights. Through the terminating course, students will develop insights and skills they will use as they pursue further education and as they develop and implement new ideas in the work place. In addition, in the Honors College program that culminates in the terminating course, students will develop the habit of acquiring sound knowledge over extended periods in preparation for making critical differences as members of their local, national or global communities.

COLLEGE OF LIBERAL ARTS AND BEHAVIORAL SCIENCES

The College of Liberal Arts and Behavioral Sciences is the most diversified instructional unit at the University. Its aim is to educate every individual to live more knowledgeably, responsibly and humanely. In an effort to have highly employable graduates, the College seeks to provide the knowledge and understanding necessary for its majors to perform successfully in their specific discipline, as well as in education, mass communications, politics, the international areas and the performing arts. The College of Liberal Arts and Behavioral Sciences is composed of the departments of English, Fine Arts, Foreign Languages, History, Geography and Economics, Human Services and Consumer Sciences, Psychology, Social Work, and Sociology. Through general and specialized courses and programs, the College endeavors to acquaint students with the scope, knowledge, and methods of the humanities, arts, communications, and social and behavioral sciences. The College prepares students at the pre-professional level for further study in the professional schools within the University with academic majors, minors, interdisciplinary programs, and course sequences. Above all, it seeks to stimulate and develop intellectual curiosity, research skills, and imaginative creativity in the students and in the various other constituents of the University community. The College strives to enrich the cultural atmosphere of the University by providing lectures, concerts, theatrical production, and art exhibits. The College of Liberal Arts and Behavioral Sciences offers sixteen baccalaureate degrees and seven master degrees: Bachelor of Arts in English, Bachelor of Arts in French, Bachelor of Arts in Spanish, Bachelor of Arts in Art, Bachelor of Arts in Music, Bachelor of Arts in Theater, Bachelor of Arts in History, Bachelor of Arts in Economics, Bachelor of Arts in General Studies, Bachelor of Science in Dietetics, Bachelor of Science in Human Service and Consumer Sciences, Bachelor of Arts in Psychology, Bachelor of Arts in Social Work, and Bachelor of Arts in Sociology. Graduate Degree offerings include Master of Arts in English, Master of Fine Arts in Music, Master of Arts in History, Master of Science in Human Services and Consumer Sciences, Master of Arts in Psychology and Master of Arts in Sociology. Aiding the above departments in providing specialized training in selective areas of knowledge is the College Research Center. The mission of the Research Center is to stimulate, produce and enhance research in respective disciplines within the College. Given the capabilities within the College, the focus of the Center is on, but not limited to, the study of African Americans. The capabilities are as follow: African American History, African History, African American and African Art, African American Literature, Slavery and Religion History, Latin American History, Women History, Race Riots, Afro-Texan History, European History, Jazz, Music Composition and Percussion, American Literature, Foods and Nutrition, Drug and Substance Abuse, Micro and Macro Economics, and Family and Domestic Violence. The Ronald E. McNair Program is also housed in the College within the Department of Human Services and Consumer Sciences under the direction of Dr. Shirley Nealy. The purpose of this program is to provide support services to facilitate the entry of an increased number of first generation and/or low-income students into graduate and terminal degree academic programs. To advance the research goals of the college as well as the university, research and/or graduate faculty have been given a reduced workload.

RESEARCH SEED GRANT AWARD RECIPIENTS 2012-2013

Primary Investigator	Title of Research Topic	Award Amount
College of Liberal Arts and Behavioral Sciences		
Alvia Wardlaw	Where Humanities Engender Esthetic License (WHEEL): Digitally Capturing New Artists in Visual Arts, Theater, Literature, Music, Film, Dance, Fashion, and Architecture	\$10,000
Jesse H. Jones School of Business		
Lucy Ojode	African Business Opportunities for America's Small and Medium Size Enterprises	\$7,000
Karma Sherif	The Impact of Mobile Technology on Health, Safety, and Environmental Regulatory Compliance in the Oil and Gas Industry	\$5,000
College of Science and Technology		
Shodimu-Emmanuel Olufemi	An Alternative Method for the Identification of Non-Coding RNAs (ncRNAs) in Cancer Cells	\$8,500
Miao Pan	Spectrum Management in Multi-Hop Cognitive Radio Networks: Architecture, Modeling and Design	\$5,700
Oyodotun Sodipe	The Effect of Genotoxic Compounds on Gene Expression and Cellular Structure in Yeast Model	\$7,500
Audrey Player	Characterization of Aggressive Triple Negative Breast Cancers in Search of Reliable Genetic Signatures	\$7,500
College of Pharmacy and Health Sciences		
Selvam Chelliah	Development of Chemically Modified Small Interfering RNAs (siRNA) to Enhance Gene Silencing Potency and Nuclease Stability	\$9,000
Momoh Yakubu	Cerebrovascular Complications in Diabetes	\$8,000
Shalondria Simpson	CARDIO (cardiovascular and Related Diseases in Our) Youth: An Afterschool Wellness Program Designed to Reduce Cardiovascular Risk	\$9,000
School of Communications		
Michael Berryhill	"What's the Story About?" Is a Project to Create A Set of Animated Digital Instructions on the Fundamentals of Journalistic Reporting and Writing	\$4,000
University Academic Village		
Robert L. Ford	Assessment of Relative Impacts of On-Line Student Assessment Tools on Student Development	\$7,500
College of Education		
Bernnell Peltier-Glaze	Program Evaluation of Clinical Practice and Internship	\$5,000
Ingrid Haynes-Mays	Interdisciplinary Approach to Performance-Based Assessment of Student Learning Outcomes	\$4,000
Total		\$97,700

RESEARCH TRAVEL GRANT AWARD RECIPIENTS 2012-2013

RECIPIENT	TITLE OF GRANT/ PRESENTATION	AMOUNT
Collette Bloom	Examining Factors that Influence Hispanic Ninth Grade Students Enrollment in Math and Science College Preparation Courses"	\$614.91
Alexis Brooks de Vita	34 th Annual Conference for the Fantastic in the Arts, attendance, panel chairing, presentation of two most recently published books	\$1,425.00
Jay Cummings	Anti-Bullying Braintrust, entitled "Sticks and Stones: The Changing Face of the 21 st Century"	\$1,671.94
Mayur Desai	Using Fishbone Diagram to Develop Change Management Strategy to Achieve Student One-Year Persistence	\$1,544.11
Emeka Duruigbo	Reforming Texas Law on Natural Gas Drilling	\$834.30
Sewon O	Research Presentation	\$1,250.00
Emiel Owens Jr.	Examining Factors that Influence Hispanic Ninth Grade Students Enrollment in Math and Science College Preparation Courses"	\$614.91
Matthew Rothwell	Hacia una critica de la historiografia del movimiento comunista internacional" (Towards a Criticism of the Historiography of the International Communism Movement"	\$1,500.00
Joshua Swan	Distinguishing Comatose from noncomatose improves validity of delirium screening with the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU)	\$500.00
Momoh A. Yakubu	Central Actions of H2S: Cerebral Pertusion, Aging, and Subarachnoid Hemorrhage	\$1,250.00
TOTAL		\$11,205.17

