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Research Week 2012

Linda Gardiner

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RESEARCH WEEK 2012

“Advancing Together Through
Cutting Edge Interdisciplinary Research”

APRIL 2 — 5, 2012



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



TEXAS SOUTHERN UNIVERSITY

3100 CLEBURNE STREET • HOUSTON, TEXAS 77004

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RESEARCH WEEK 2012

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

TSU RESEARCH WEEK 2012

ACTIVITY SCHEDULE

"Advancing Together Through Cutting Edge Interdisciplinary Research"

April 2, 2012 - Monday

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, 2012 - Tuesday

Faculty Oral Presentations	Sterling Student Life Center Board Room #207	9:00 am-12:00 pm
Staff/ Student Oral Presentations	Sterling Student Life Center Board Room #207	1:00 pm -5:00 pm

April 4, 2012 - Wednesday

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 #127	10:00 am—12:00 pm
BJ-ML School of Public Affairs	Public Affairs Building Room #114	10:00 am—12:00 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	5:00 pm-6:30 pm

April 5, 2012- Thursday

Awards Program/ Luncheon	Sterling Student Life Center Tiger Room (3rd Floor)	11:00 am-1:00 pm
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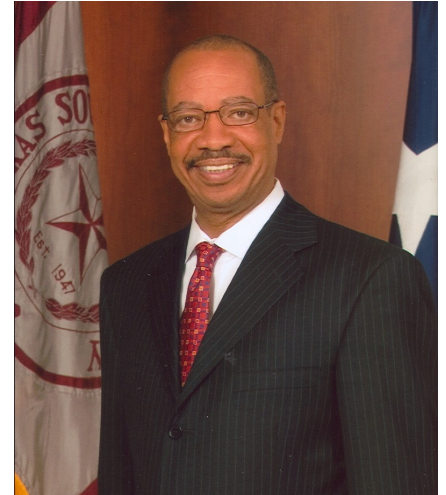
TSU's Northwest Campus Sessions

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

PRESIDENT OF TEXAS SOUTHERN UNIVERSITY



Dr. John M. Rudley
President



March 20, 2012

Dear Texas Southern University Community:

I am pleased to offer my full and complete endorsement of Texas Southern University's Research Week 2012, *"Advancing Together Through Cutting Edge interdisciplinary Research."* Annually, Texas Southern's Research Week provides an avenue for promoting national and local awareness of the exciting research and outreach activities transpiring at our institution. Moreover, 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.

During these tumultuous times of global economic, political and social realignment it is more important than ever that institutions and individuals remain committed to investing in research. 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. Within this global context the theme of Research Week 2012, *"Advancing Together Through Cutting Edge interdisciplinary Research,"* will speak to a growing awareness of institutional views of research partnerships as providing the greatest return on research dollars invested.

Research Week 2012, 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 2012 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 2012.

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, 2012

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, "Advancing Together Through Cutting Edge Interdisciplinary Research."

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,

A handwritten signature in purple ink, which appears to read "Sunny E. Ohia".

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:

I would like to welcome you to this year's Research Week which promises to be full of activities that showcase the research gravitas of TSU faculty, staff, and students. A university exists to convey 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 showcase Texas Southern University's strengths in the creation of knowledge with the ultimate goal of promoting *Excellence in Achievement*. In keeping with the University's strategic goal of providing high-quality basic and applied research, the University is reaping the benefits of the efforts made to increase the number and quality of scholarly and creative works by faculty and students. Chief among these are an increase in the amount of annual research funding received and the promotion of interdisciplinary research across several colleges and schools. This year's theme, "*Advancing Together through Cutting Edge Interdisciplinary Research*," aptly captures the essence of a vibrant research enterprise on campus. With each year, Texas Southern grows closer to its goal of being recognized as a major research institution in the state of Texas and beyond.

In order to vigorously enrich research culture and enterprise on campus, faculty acquisition of extramural funding remains a top priority. To this end, Proposal Development Officers have been employed by the Office of Research to assist faculty seeking extramural funds with the logistical details of grant applications. These details, which can demand considerable amounts of faculty time, include locating appropriate funding sources, refining elements of research proposals to agency specifications, and editing proposal content.

In recognizing the need to foster greater interaction among faculty, an institutional interdisciplinary research seminar series has been initiated—one that involves joint seminars for faculty from all colleges and schools. The realization that there is a need to produce the next generation of academicians, professionals, and opinion leaders among undergraduate students led to a campus-wide summer undergraduate research program that commenced Summer, 2010. Now entering its third year, the program enjoys measurable success and plans are underway to widen this initiative's intake of students. 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 2012—up 66% for faculty and 46% for students over last year's numbers.

I urge faculty, staff, and students to continue to take full advantage of the resources being provided to support—and accelerate—the dynamic research enterprise at Texas Southern University.

Sincerely,

Adekunle Oyedun

Interim Associate Provost/Associate Vice President for Research

The image shows three flags flying on tall poles against a clear blue sky. From left to right: the first flag is red and white with a circular seal; the second flag is blue with a large white star; the third flag is the United States flag. The text 'ACADEMIC ADMINISTRATION' is overlaid at the bottom in a red, serif font.

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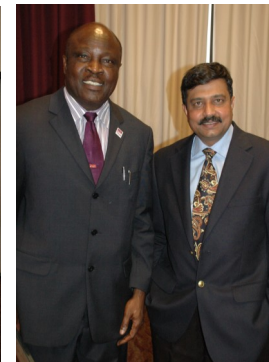
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RESEARCH WEEK 2011 REPORT

The Research Week 2011 (RW2011) program, sponsored by the Office of Research on April 5-8, 2011 proved to be an exciting time as external and internal colleagues alike presented and shared in their areas of expertise. The program welcomed visiting scientist, faculty, student and community supporters to contribute in their own ways to the program. The theme “Research Discovery: Analyzing The Building Blocks of Future Trends” set the tone of the program as we continue to pursue multiple funding pathways to enable our researchers to conduct cutting-edge research that will lead to the establishment of Texas Southern as a first tier research institute in the State of Texas.

The enthusiasm and participation in the program were extraordinary with an attendance of over 1000 faculty, staff, student and external researchers. The Office of Research wholeheartedly thanks all guest participants and presenters: Ms. Debra Mansfield (Houston Technology Center), Dr. Steve Cox (Rice University), Dr. Montgomery Pettitt (University of Houston), Dr. Shubhashis Sarkar (University of Texas Medical Branch Galveston), and the representatives of the Russian Space Agencies, and documentary producer Nikola Knez with his new documentary “*Between Moon and Earth*”. Additionally, we give special thanks to the distinguished panel of judges: Dr. Halcyon Watkins (Attending Veterinarian), Dr. Pamela Denkins, (NASA), Dr. Wei Wayne Lei (College of Science and Technology), Dr. Nathaniel Shelton, (Department of Biology), Dr. Collette Bloom (College of Education), Dr. Vera Hawkins, (School of Communications), Dr. Michael O. Adams, and Linda Smith of Florida International University, Dr. G. Solomon Osho, Ms. Doris Blanchard and Ms. Sharece V. Downey of Prairie View A&M University, and Mr. Shola Ewulo, Dr. Albertina Hughey, and Dr. Linda Gardiner of the Office of Research. Finally we congratulate the oral and poster presentation winners.

RESEARCH WEEK 2011 WINNERS

PLACE	NAME
1st Place Faculty Oral	Amruthesh Shivachar , Associate Professor, Pharmaceutical Sciences, “Hypoxia/ Reoxygenation Differentially Modulates Astroglial -Soluble Epoxide Hydrolase Expression”
2nd Place Faculty Oral	Huan Xie , Assistant Professor, Pharmaceutical Sciences, “Integrin $\alpha_v\beta_3$ -Targeted Gold Nanoshells for Tumor Vasculature-Specific Imaging and Therapy”
3rd Place Faculty Oral	Rockell Brown Burton and Kimberly Campbell , Assistant Professor, Radio TV Film and Speech Communication, “Female Representation in Tyler Perry’s “Diary of a Mad Black Woman:” A Negotiated Response”
1 st Place Faculty Poster	Zivar Yousefipour , Assistant Professor, Health Sciences/Environmental Health, “Involvement of Serum Response Factor (SRF) in Acrolein-mediated Activation of NF κ B in vascular Smooth Muscle Cells (VSMC)”
2nd Place Faculty Poster	Kasturi Ranganna , Director, Molecular Biology Core Facility and Assistant Professor, Pharmaceutical Sciences. “Impact of Epigenetic Histone Modifiers on Histone Deacetylases (HDACs) and Histone Modifications in Vascular Smooth Muscle Cells (VSMC)”
3rd Place Faculty Poster	Fengxiang Qiao , Assistant Professor, Transportation Studies, “Campus Transportation Information System Using Social Media”
1st Place Staff Oral	Khosro Godazi , Associate Director for Center for Transportation Training, “Developing Transportation Games for High School Students.”
2nd Place Staff Oral	Antoinette Roberson , Career Resource Specialist/ Adjunct Professor Speech Communication, “The Influence of Music Curriculum on the Academic Achievement of High School Minority Students”
1st Place Staff Poster	Omana P. Mathew , Research Associate, “Epigenetic Histone Modifiers Upregulate Clusterin /Apolipoprotein J Expression in Vascular Smooth Muscle Cells (VSMC)”
2nd Place Staff Poster	Ketal Patel , Drug Information Resident, “Place In Therapy: A Retrospective Chart Evaluation of Pioglitazone”
3rd Place Staff Poster	Yubian Wang , Graduate Research Assistant, Transportation Studies “Safety of Dual Right-Turn Lanes”
1 st Place Student Oral	Nina M. Alaniz , Graduate Student, Biology, Impact of Simulated Microgravity on Caenorhabditis Elegans Growth and Reproduction
2nd Place Student Oral	Latisha Clark , Graduate Research Assistant and Student, Transportation Studies, Analysis of Hazardous Materials in the Gulf Coast Region: A Case Study of Houston, TX
3rd Place Student Oral	Sara Land, Graduate Student , Transportation Studies, Evaluating the Texas Triangle Megaregion and Its Effect on Airport and Airspace Capacity
1st Place Student Poster	Dan Mao , Graduate Pharm.D. Candidate, Pharmacy, Study of Rehospitalization Rates of Schizophrenic Patients Discharged on Typical Versus Atypical Antipsychotics
2nd Place Student Poster	Meril Philip , Undergraduate, Health Sciences, “Role of PKC/PKA Signaling Pathway in PPAR α -ligand-Mediated Increase in NO Production”
3rd Place Student Poster	Olaide Sanusi, Randa Sorour, Beatrice Talai, Keondra Williams, Hamineta Traore , Graduate Pharm.D. Candidates, Pharmacy “The Prescribing Patterns of Acetaminophen Use ”

MONDAY, APRIL 2, 2012**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 Pathogenic Yersiniae in Space:
What Could Happen and What Can We Learn?”**

Jason A. Rosenzweig, Ph.D.**Assistant Professor of Biology, Texas Southern University**

Manned space exploration has created a need to evaluate the effects of space like stress (SLS) on pathogenic and opportunistic microbes which astronauts could carry with them to the International Space Station and beyond. To date, an insufficient number of bacterial pathogens have been characterized after SLS exposure. *Yersinia pestis* (YP) causes bubonic, septicemic, and pneumonic plague capable of killing infected patients within 3 to 7 days. In this study, low shear modeled microgravity (LSMMG), a SLS, was used to challenge various YP strains, and its effects on YP proliferation, cold growth, and type three secretion system (T3SS) function and secretion were evaluated. YP was grown to saturation in either LSMMG or normal gravity (NG) conditions prior to being used for macrophage (RAW 246.7) cell infections, HeLa cell infections, effectors protein secretions assays, and cold growth plate assays. A mutant strain of YP ($\Delta yopB$) lacking the ability to inject Yops into the targeted host cell was used as an internal control in cell infection experiments. Our experimental results showed that YP cultivated under LSMMG had retarded cold growth induced less HeLa cell rounding, and demonstrated an impaired T3SS (required for full virulence). IN fact, LSMMG was even able to attenuate the virulence potential of a hyper-virulent YP *ymoA* deletion mutant strain with a de-repressed T3SS. Taken together, LSMMG appears to be directly affecting the T3SS; however, the mechanism by which this is done remains unknown

11:00 A.M. Questions and Answers**11:05 A.M.**

**“Wrong Complexion for Protection: How the Government
Response to Disaster Endangers African Americans”**

Robert D. Bullard, Ph.D.**Dean, Barbara Jordan-Mickey Leland School of Public Affairs, TSU**

When the images of desperate, hungry, thirsty, sick, mostly black people circulated in the aftermath of Hurricane Katrina, it became apparent to the whole country that race did indeed matter when it came to government assistance. In *The Wrong Complexion for Protection*, Robert D. Bullard and Beverly Wright place the government response to natural and human-induced disasters in historical context over the past eight decades. They compare and contrast how the government responded to emergencies, including environmental and public health emergencies, toxic contamination, industrial accidents, bioterrorism threats and show that African Americans are disproportionately affected. Bullard and Wright argue that uncovering and eliminating disparate disaster response can mean the difference between life and death for those most vulnerable in disastrous times (NYU Press July 2012). <http://nyupress.org/books/book-details.aspx?bookId=1183>.

11:50 Questions and Answers**Closing Remarks**

FACULTY, STAFF, AND STUDENT



POSTER PRESENTATIONS

MONDAY, APRIL 2, 2012

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



Study of Uncertainties in Therapeutic Absorbed Dose and Secondary Neutron Production by Nuclear Physics Model in Proton Radiotherapy using Monte Carlo Techniques

Mark Harvey, Ph.D.

Assistant Professor, Physics

College of Science and Technology

Co-Authors: Dr. Stephen M. Avery, Dr. Paul L. Guèye

Secondary neutrons are the main source of stray and leakage radiation outside the proton treatment fields 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 radiation fields in proton radiotherapy is not well understood. The general-purpose Monte Carlo N-Particle eXtended (MCNPX) code was 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 cascade-exciton model (CEM), and the Liège cascade model (INCL4). The purpose of this study was to quantify differences in predictions from these models for an unmodulated and a range modulated 160 MeV proton therapy beam in 1) the dosimetry 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 was calculated in a water phantom 20 cm downstream of the nozzle exit, whereas the neutron spectral fluence was calculated in air. The ambient dose equivalent per therapeutic absorbed dose ($H^*(10)/D$) from secondary neutrons produced by the nozzle components was calculated for each model. Based on these calculations, we determined $H^*(10)/D$ at the isocenter, 1 m downstream from the isocenter, and at lateral distances of 1 m from the isocenter. Our results indicated that calculations of the therapeutic absorbed dose ratios were in close agreement ($\sim 1\%$ difference) for all three nuclear models. The $H^*(10)/D$ values differed only by 1 – 2 mSv Gy⁻¹ at the isocenter with or without range modulation. However, the neutron spectral fluence calculations typically varied by about a factor of two or more using the two alternative models for intranuclear cascade processes.



Virtual and Remote Laboratory Development at Texas Southern University

Xuemin Chen, Ph.D., Daniel Osakue, Osman Ahmed, and Chenyu Wang

Assistant Professors, Engineering Technology

College of Science and Technology

Co-Authors: Yuhong Zhang, Shahyar Darayan and David Olowokere

With the support from National Science Foundation (NSF) HBCU-UP, IEECI and CCLI programs, a state of the art Virtual and Remote Laboratory (VR-Lab) has been established at Texas Southern University (TSU). The VR-Lab has great impact on Science, Technology, Engineering, and Mathematics (STEM) Education at TSU. It facilitates a flexible and remote laboratory for enhance the teaching and learning. In this poster, progresses and development made in the VR-Lab for Engineering Technology are presented.



MicroRNA (miRNA) Expression Profiles of Butyrate-Arrested Vascular Smooth Muscle Cell (VSMC) Proliferation

Kasturi Ranganna, Ph.D.

Assistant Professor, Pharmaceutical Sciences

College of Pharmacy and Health Sciences

Co-Author: Dr. Omana Mathew, Dr. Shirlette Milton, and Dr. Frank Yatsu

MicroRNAs (miRNAs) are 21-23-nucleotide non-protein-coding short RNA molecules, which are negative regulators of gene expression by altering the translational efficiency and/or the stability of target mRNAs. A wide range of biological functions and processes including cell proliferation and differentiation are modulated by subsets of miRNAs implicating their potential role in proliferative diseases. Atherosclerosis, the principal cause of heart attack and strokes, involves activation and proliferation of vascular smooth muscle cells (VSMC) and are important contributors to vascular remodeling and restenosis. Our studies have shown butyrate, a histone modifier and a histone deacetylase (HDAC) inhibitor, arrest VSMC proliferation by altering expression of cell cycle and other cell proliferation-associated genes. Investigation of miRNAs expression and functions specific to butyrate arrested VSMC proliferation will promote our understanding of the molecular mechanisms activated by butyrate. Therefore, here we treat rat VSMC with butyrate to determine expression profile of 670 miRNAs. Results of our studies indicate 3.0- to 20.0-fold differential expression change of 63 miRNAs. Of these, 22 miRNAs were upregulated and 41 miRNAs were downregulated. Moreover, some of the miRNAs, which are known to affect translation of proteins linked to cell proliferation were affected in butyrate treated VSMC. We are confirming the expression of several of the miRNAs to understand their mechanism of action in butyrate arrested VSMC proliferation. Utilization of this information is beneficial in targeting miRNAs, aimed to decrease the level of pathogenic or aberrantly expressed miRNA or to increase miRNAs with valuable functions in the intervention of occlusive vascular diseases.



Observation and Modeling of Potential Conflicts Between Pedestrians and Motor Vehicles at Intersections

Fengxiang Qiao, Ph.D.

Assistant Professor, Transportation Studies

College of Science and Technology

Co-Author: Lei Yu, Po-Hsien Kuo

Intersection safety is always a considerable issue in urban traffic operations. In 2009, 33,808 fatalities occurred on nation's roadways in the U.S. Of these, 20.8% percent of all traffic fatalities with about 7,043 were intersection or intersection related. Even though pedestrian crossings at intersections are not with high volumes in this country, there is still a relatively high rate of pedestrian related potential conflicts at intersections. The purpose of this study is to develop an explicit technical method to model and estimate the potential conflict rates between pedestrian and vehicles at intersections. The main objectives are: (1) to study the behaviors of pedestrians and identify the potential conflicts for pedestrians' crossings at typical intersections; (2) to establish a fuzzy logic scheme table to simulate and examine the potential conflicts rate at the intersections; and (3) to provide recommendations and level of safety treatments for different potential conflict rates related to pedestrian crossings. In this research, the pedestrian behaviors at intersections are well studied based on field observations, and the fuzzy logic scheme is employed to model the pedestrian related potential conflicts. Case studies in Houston, TX illustrate that the predicted types of potential conflicts are very close to the real observations. This will help field engineers to not only quickly screen the problems and prepare suitable treatments for pedestrian safety, but also properly identify suitable traffic control strategies to better fit for the performances of pedestrians at intersections.



Perception of Risk for Cardiovascular Complications Among African Americans with HIV

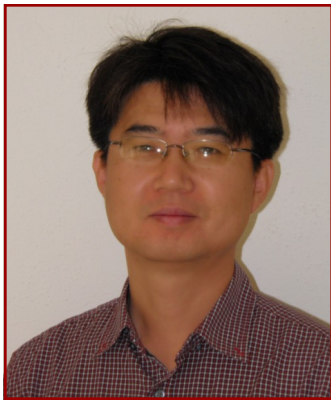
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Highly active anti-retroviral drugs (HAART) have contributed to increased life expectancy among persons living with human immunodeficiency virus (HIV). The use of HAART carries with it side effects associated with cardiovascular disease (CVD) as well as an increase in the illnesses of aging such as hypertension, elevated cholesterol, and diabetes. People living with HIV may also have existing co-morbidities and behaviors that increase their risk for CVD, such as substance abuse and cigarette smoking. A qualitative study was undertaken in Houston, Texas, among 50 African American adults living with HIV to investigate the factors that contribute to their CVD risk. Demographic and HIV/CVD risk profile data and physiologic data were also obtained. Fifty African American men and women, ages 21 to 65 years, participated in six focus groups conducted at residential and counseling centers utilized by persons with HIV. Each group was audiotaped, transcribed, and analyzed using theme and domain analysis. Results revealed that participants had experienced medication side effects including elevated cholesterol and previous cardiovascular disease complications. Although, overall, they were aware of the behaviors that increase CVD risk, a history of unhealthy eating and sedentary lifestyles were barriers to CVD prevention. Practices to reduce CVD risk included blocking negative media, communing with nature through gardening, and joining support groups. Effective and efficacious risk reduction health education strategies that focus on CVD risk reduction are needed to help persons living with HIV prevent or delay CVD.



Is the Indoor Environment Safe for Children

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Recent findings revealed that indoor dust contains wide range of toxic chemicals, including endocrine disrupting chemicals such as phthalates, polybrominated diphenyl ethers (PBDEs), pesticides, and polycyclic aromatic hydrocarbons (PAHs). Indoor exposure to these chemicals is much likely to be higher than outdoor exposure. Elevated exposure through ingestion of dust can be linked to many adverse effects especially in children. This study was to investigate the occurrence of endocrine disrupting chemicals in indoor dust and estimate exposure to these chemicals. Indoor dust samples were directly collected using HVS-III samplers or indirectly from household vacuum cleaner bags donated from urban homes. Sieved (100 μ m) dust samples were measured for phthalates, PBDEs, PAHs, pyrethroid pesticides, tris-organophosphorus compounds using GC-MS. Phthalates, especially di(ethylhexyl)phthalates (DEHP), were found to be most abundant. DEHP concentrations ranged from 0.01 to 25 mg/g. Samples collected from homes in South Korea had much higher levels of DEHP presumably due to the use of plastic flooring. PBDEs in dust from U.S. homes were much higher than those found in other counties due to common use of penta-mix PBDEs in many household products like sofa and mattress. In almost all samples, DEHP concentrations exceeded U.S. EPA guideline value set for oral ingestion. Concentrations of DEHP in samples collected from California homes showed a strong correlation with autism incidence in children. Further investigations are needed to identify whether the exposure of children to DEHP and other chemicals through inadvertent ingestion of indoor dust can be possibly linked to other adverse effects.



Dissertation Research In Education: A Comparative Assessment

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The goal of this research was to conduct a comparative, critical analysis of selected Doctor of Education Degree dissertations completed during the years 1977 through 1998, in five areas: Counselor Education, Curriculum and Instruction, Educational Administration, Higher Education, and Urban Education, in the College of Education at Texas Southern University in Houston, Texas. Following is a report of the findings of the study, "Dissertation Research In Education: A Comparative Assessment," wherein, six experienced, former and current university professors and/or administrators served as the expert evaluators of the 30 studies randomly selected from the 321 dissertations completed in the College to date, which constituted the population for this study. **Results and Discussion:** In response to the research question, To what extent are there differences in research design and methodological approaches between academic areas of doctoral dissertation studies in education conducted at Texas Southern University, during the period 1977 through 1998?, the following results were indicated. A critical element in the assessment and evaluation of the several dissertations selected for inclusion in this study, was a team of experienced educational researchers and practitioners in Higher Education. This team of six (6) were designated "Dissertation Evaluators." Each Evaluator examined five (5) dissertations, one from each of the five areas: Counselor Education, Curriculum and Instruction, Educational Administration, Higher Education, and Urban Education. The "Dissertation Assessment Scale," consisting of twelve (12) characteristics critical to effective dissertation preparation, focuses on: importance, scope, advisement, originality, perspective, logic, objectivity, depth of preparation, mechanics, documentation, organization and clarity. It was used by the Evaluators to assess the research design, methodological approaches and other critical aspects of dissertation development and preparation. The following results were reported: for purposes of analysis, the twelve (12) characteristics were summed into a total rating score, as well as, individual scores. To treat the data, the one-way Analysis of Variance was employed. Mean score rating analysis and comparisons were also completed. And, while no significant differences were noted when the Analysis of Variance was employed, nor the total characteristics when examined comparatively, a number of differences in mean rating scores resulted.



Performance Measure of Mobility Management Systems

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Barbara Jordan-Mickey Leland School of Public Affairs

Performance measurement has become critical in the assessment of the use of scarce public finance to support public transportation , especially the demand responsive transit systems which are costly. The research examines the performance measures which may assist in developing ways to assess and improve performance measures and determine changes to reduce cost and improve output for a subsidized but essential service. The presentation will discuss overall performance measures using national and Texas examples.



Instability, Innovation, and Business Education

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During the last few decades financial prosperity and technological advances in the U.S have resulted in long periods of stability for business schools and business education. Complacency with long periods of stability has led to established business schools continuing to pursue sustainable innovation while upstart organizations gain ground with disruptive innovation. Globalization of markets and products, advances in technology and weak ethical foundations have built fingers of instability in existing educational models and enabled disruptive innovations. This follows a historical trend of continuous cycles of periods of stability followed by periods of instability (Minsky, 2001), where the greatest danger is the extent of correction required when the trend fails. Business schools will find themselves in situations that will require dramatic, post hoc change approaches in order to avert large disruptions in the future. Our ad hoc, inter-disciplinary, project-based learning framework provides an approach to change that could avert coming disruptions.



A Study of of Retention & Intervention through Self Regulating Learning: Helping College Students Succeed

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In order for many young Americans to succeed in this society, they must remain competitive in a global market. For them to reach that objective, they have to develop discipline of expertise in areas such as business, technology, health, education, science, and industry. Competency and knowledge of these units are imperative and the most effective method to achieve them is through higher education. The nationwide college graduation rate for African American students is 42 percent. It is 20 percentage points below the 62 percent rate for white students. Therefore this study that was done at two major HBCU's in Texas investigates the utilization of a developmental perspective to identify, define, and understand the process of school completion and dropout. Empirical outcomes were used to assess which risk factors increase the likelihood of college dropout and compare them to protective factors like self regulating learning.



The Validity and Reliability of Athletic Identity Measurement Scale (AIMS) In Iranian Disabled Athletes

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The purpose of the present investigation was to examine the validity and reliability of the Athletic Identity Measurement Scale (AIMS) of 120 Iranian disabled athletes. Based on the results in this study, the Confirmatory Factor Analysis (CFA) showed the favorite goodness of fit ($\chi^2=16.83$, $DF=21$, $P=.72$) for 4-factor model of AIMS. In addition, the gender differences that were used for discriminate validity also showed that there were significant differences ($T^2=44.6$, F_4 , $97=10.81$, $P<.0001$) between males and females in all subscales. In conclusion, present findings revealed that the AIMS is multidimensional and valid and reliable for this population.



Explaining Off Peak Hospital Design, Services, and Health Outcomes: An Ethnographic Approach Identifies Economic Models

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For more than 30 years, a negative “off-peak effect” on patient outcomes has been associated with weekend and/or nighttime hospitalization in more than 25 diagnostic groups. Descriptive studies have verified the presence of this off-peak effect on patient outcomes but have done little to explain its cause. The study aims to uncover previously overlooked knowledge to better understand off-peak mortality in hospitals. Institutional ethnography is a promising method for describing challenges health care providers encounter and deal with on off-peak shifts and exploring how these challenges arose in institutions designed to avoid any such outcomes. Ethnographic data from 14 nurse interviews provides the basis to discover the various models from the economic theory of the firm that shed light on what and how things happen in the off-peak hospital. The study team comprised of an interdisciplinary team from several institutions and was funded by the Robert Wood Foundation’s Interdisciplinary Nursing Quality Research Program. Study discussion suggests a number of steps that hospital administrators might take to enhance their knowledge and capacity for handling off-peak challenges in hospitals. A broad recommendation is to adopt an interprofessional education and training approach to provide healthcare services. In this approach two or more professions learn with, from, and about each other to improve collaboration and the quality of care.



Low Frequency Quantum Stabilization of the Hydrogen Atom in a Microwave Field: Scarred States and Classical Stability Island Overlap

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Excited hydrogen atoms in pulsed microwave electric fields exhibit a nonclassical increase of stability over a relatively wide range of frequencies even around and below the classical Kepler frequency $1/n^3$ where Anderson-like localization due to quantum interference plays no role. I show that the increased stability for microwave frequencies in the whole frequency range $0.7/n^3 - 0.85/n^3$ is due to selective population of long-lived ‘scarred’ states that are associated with the chaotic separatrix band surrounding the principal classical resonance zone in phase space. A quantum explanation is given in terms of adiabatic evolution of Floquet states and the destabilizing effect of two-level quantum resonances is investigated. The role of neighbouring classical resonance zones in defining the frequency range of stabilization is revealed both by quasienergy curves and by Husimi functions for the instantaneous quantum states. Nonclassical stability peaks as a function of microwave frequency are thus explained as transition points from one classical resonance to another.



The FreeON Code Initiative A General Purpose Quantum Chemistry Code

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We report on the development of the Linear Scaling quantum chemistry code suite, FreeON. FreeON has been in continued development for the last nine years. FreeON is fully linear scaling in all parts of the computation, is able to utilize the most advanced hybrid functionals, and is in the process of being parallelized. Other features of the FreeON code suite include: periodic in all dimensions, an efficient atomic and cell optimizer, linear scaling computation of response functions, transition state finder and our new time-reversible ab initio molecular dynamics. Next generation developments to the FreeON code suite include; an advanced symplectic ab initio molecular dynamics, hybrid Gaussian-Wavelet basis sets and a novel correlated method for going beyond DFT.



HIV/AIDS in the Correctional Facilities-Double Public Health Tragedy

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In the United States, more than two-thirds of all new HIV infections occur among minorities because of the increasing imprisonment of drug users. The disproportionate incarceration of minorities, the number of people with HIV/AIDS behind bars in the United States, is more than three times higher than in the general population. Correctional inmates' engagement in drug-related and risk behaviors increase the transmission of HIV and other STD's in correctional facilities. Whether, infection was acquired within or outside correctional facilities, the prevalence of HIV and other infectious diseases is much higher among in the correctional facilities than in the general community. In this study, an attempt is made to highlight the prevalence and transmission of HIV/AIDS and other STD's in the jurisdiction of criminal justice system. Attempts are also made to provide a profile of HIV/AIDS persons in the correctional facilities.



Adapting Clinical Practices to a Changing World

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The mass displacement and emotional turmoil caused by natural disasters such as hurricane Katrina, recent shootings (nationally and internationally) at public schools and Universities, an increasing number of incarcerated minority women, and other threats to the well-being of children are a sign of the times. Clinicians can no longer work in a vacuum assuming that traditional therapeutic methods meet today's challenge, especially for those of minority descent. Revitalizing and reclaiming our communities necessitates that clinicians adapt clinical practices to meet the challenges and changing needs of the community. ASK (Always think Safe Kit) and other nontraditional techniques developed by the presenters to address issues in clinical practices, will be presented.



Estimating Right Turn on Red Capacity for Dual Right-Turn Lanes at Signalized Intersections

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Co-Author: Dr. Yi Qi

Dual right-turn lanes are increasingly used as a design alternative at urban intersections, primarily for accommodating high right-turn demand. For dual right-turn lanes, an accurate estimate of right turn on red (RTOR) capacity can contribute to better decisions on whether RTOR should be allowed/prohibited and may lead to refined delay estimation and improved signal timing. A gap-acceptance model was formulated for predicting lane-specific RTOR capacities at dual right-turn lanes. The proposed model is capable of representing the unequal effects of conflicting traffic streams from different cross-street lanes on RTOR capacities of dual right-turn lanes. Existing probabilistic methods were adapted to adjust RTOR capacity for shared through/right-turn lanes. Micro-simulation models were developed, calibrated based on field data, and used as benchmarks to validate the proposed model. Numerical experiments indicated that the proposed model exhibited a significantly improved capability of predicting RTOR capacities for dual right-turn lanes compared to the classical Harders's model (*It was accepted for publication in Transportation Research Record: Journal of the Transportation Research Board*)



Lanes at Signalized Intersections

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The poster will introduce our NSF project: A study of security countermeasure for cyber-physical systems. In this project, we develop techniques for secured real-time services for cyber-physical systems. We leverage the characteristics of cyber-physical systems and consider solutions that especially address the mission critical needs of the cyber-physical systems. In particular, we propose to incorporate real-time traffic modeling techniques into the security service, consequently enhancing both system security and real-time capabilities in an adverse environment.

Using Social Media to Enhance the Scope of Public Participation in Community Projects

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Visiting Adjunct Professor and Professor, Public Administration

Barbara Jordan-Mickey Leland School of Public Affairs

Public involvement using social media is gaining much popularity in an era of e-governance. Advancements in communications technology have made it possible for many organizations and state agencies to use varied social media tools like Facebook, Twitter, Flickr, You Tube videos and others to provide information to the public, educate, and seek their inputs and ideas in the design, development, and implementation of community projects. Despite the potential of social media tools to broaden the scope of public involvement they are always not available or easy to use because of differences in age, education, income, and ethnicity of people. The aforementioned social factors create a digital divide in the society and pose serious challenges in including the underrepresented segments of population and to be in compliance with NEPA and other federal regulations that require public involvement in community projects. Removal of access barriers to social media calls for intervention by government and other private agencies. In the U.S., some agencies have already started using innovative strategies to overcome such barriers and engage the public in an interactive dialog. This study will investigate the case of metropolitan planning organizations that have integrated social media as a tool to enhance the scope of public participation in community projects. Their use of resources, supporting policies, and guidelines to promote the safe and effective use of social media will be examined in the study. Analysis of information will help the researchers to make recommendations of those best practices in the use of social media to involve more people in decision making for public projects. The study's findings will be made available in the form of a report and relevant information can be presented at workshops, conferences, and/or webinars to help public officials make efficient and effective use of social media besides the traditional methods used in public participation.



PTEN/PI3K/Akt Signaling in Vascular Smooth Muscle Cells (VSMC): Influence of Histone Modifiers

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Co-Author: Dr. Kasturi Ranganna, Dr. Shirlette Milton, and Dr Frank Yatsu

Activation and proliferation of VSMC are principal contributors to vascular remodeling and restenosis. Evidence indicates PTEN/PI3K/Akt signaling is important in the regulation of VSMC proliferation and contractility. Several epigenetic histone modifiers with HDAC inhibitory activity arrest VSMC proliferation and alter gene expression implicating involvement of epigenetic mechanism in vascular remodeling. Accordingly, butyrate and trichostatin A (TSA), well-studied histone modifiers, arrest VSMC proliferation and alter cell cycle proteins expression. Since PTEN/PI3K/Akt signaling is important in the regulation of VSMC proliferation, here we investigate whether butyrate and TSA alter PTEN/PI3K/Akt signaling fittingly to cause arrest of VSMC proliferation. Proliferating VSMC treated with butyrate or TSA for different lengths of time were used to determine the activation state and expression levels of signaling proteins by western blotting. Analysis of phosphorylation states of PTEN, Akt and PDK1 reveals time-dependent inhibition of Akt/PKB and PDK1 phosphorylation and stimulation of PTEN phosphorylation. Regarding downstream effectors, while phosphorylation of FOX3 is inhibited, no change in GSK3 α/β phosphorylation state was observed in treated VSMC in addition to downregulation of NF-KappaB. Taken together, it appears that by dampening several actions of Akt that are linked to its pro-cell proliferation effects, butyrate and TSA cause arrest of VSMC proliferation. *SUPPORT: G12RR003045-21 and C06RR012537 from NIH/NCRR*



Distributed Kalman Filtering for Wireless Sensor Networks

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Distributed estimation and tracking is one of the most fundamental collaborative information processing problems in wireless sensor networks (WSNs). In R. Olfati-Saber's paper "Distributed Kalman Filtering for Sensor Networks", the author proposed three novel distributed Kalman filtering (DKF) algorithms for sensor networks. The DKF algorithm proposed by the same author before was only applicable to sensors with identical observation matrices which meant the process had to be observable by every sensor. The modified DKF algorithm uses two identical high pass consensus filters for fusion of the sensor data and covariance information and is applicable to sensor networks with different observation matrices. This enables the sensor network to act truly as a collective observer. Then, the author introduced a continuous-time distributed Kalman filter that uses local aggregation of the sensor data but attempts to reach a consensus on estimates with other nodes in the network. This peer-to-peer distributed estimation method gives rise to two iterative distributed Kalman filtering algorithms with different consensus strategies on estimates. In this poster, these three algorithms are simulated by Matlab on a target tracking problem. The simulation results can show the different properties of these three algorithms. The performance and effectiveness of these distributed Kalman filtering algorithms are compared. The future direction and application are proposed.



Characteristics of VSP Distributions in Networks with Different Signal Densities

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In response to the increasing need for accurately estimating fuel consumption and emissions in dynamic traffic networks, research has been conducted to characterize driving and traffic conditions by Vehicle Specific Power (VSP) distributions. This paper is intended to examine the impact of different traffic signal densities on VSP distributions in arterial and grid networks. After carefully categorizing the second-by-second speed data collected from study networks in Houston into VSP bins, it is found that in arterial networks, the highest VSP fraction always appears in the VSP bin of 0, which shows an interrupted decreasing trend for the network with low signal density, as opposed to an interrupted increasing trend for the network with high signal density, during the transitioning period from non-peak to peak hours. A further comparative analysis between estimated pollutant emissions and real-world data has found that the VSP fraction in the VSP bin of 0 is an effective determining factor for estimating emissions in arterial networks with various traffic signal densities. Finally, an initial study on grid networks demonstrates that VSP fractions in the negative part are similar for two studied grid networks with distinguished traffic signal densities. The findings of this paper can help evaluate emissions on unrestricted access roadways with signal controls where actual speed data are accessible.



Effects of Driving Behaviors on Vehicle Emissions: A Case Study in Houston, Texas

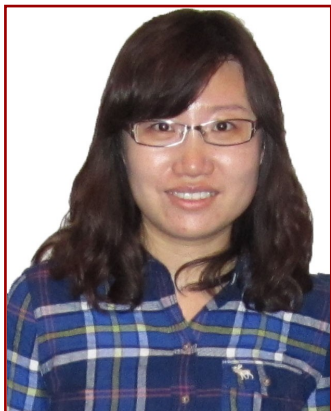
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The Defensive Driving Course (DDC) strives to improve drivers' driving behaviors so that they drive in a way to save lives, time, and money, regardless of conditions around them and actions of others. Since different driving behaviors may lead to different operating modes that affect vehicle emissions, the implementation of DDC may change the real-world vehicle emissions. This paper is intended to analyze the effects of defensive vs. non-defensive driving behaviors on vehicle emissions based on the field tests at different locations and time periods. It is shown from the analysis that (1) the defensive driver's primary consideration is safety, thus may increase emissions of some pollutant types in the real world; (2) emissions from the non-defensive driving increase more significantly than those from the defensive driving during peak hours in the downtown area, while in the highway area, emissions from the defensive driving increase more significantly than those from the non-defensive driving; and (3) while the defensive driving can decrease emission rates in the unit of emission mass per unit time, since the increase in travel time by the defensive driving may outweigh its decrease in emission rates for some pollution types, the defensive driving may end up increasing total vehicle emissions for certain pollution types.



When Should Right Turn on Red (RTOR) Be Used? Synthesis on the Safety of RTOR

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Since Right Turn on Red (RTOR) was legalized and applied widely throughout the United States in the 1970s, several studies have been conducted on the safety performance of RTOR. To further investigate the safety issues associated with RTOR, in this study, we compiled the existing studies on the safety of RTOR and the existing guidelines for the use of RTOR, and we conducted a survey of traffic engineers to collect information about current RTOR practices. The existing studies revealed that RTOR does not lead to an increase of crashes at signalized intersections for either motorists or pedestrians. According to the existing guidelines and the results of the survey of traffic engineers, several restrictive conditions were identified that could lead to the prohibition of RTOR at individual locations. Finally, based on the results of the literature review and the survey of traffic engineers, comprehensive guidelines were developed to support the decision-making on the use of RTOR.



Using RFID to Enhance Vehicle to Roadside Communication at Intersections for Better Air Quality and High Safety

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Traffic safety and vehicle emissions are always concerns at urban intersections. Intelligent Transportation Systems (ITS) can provide efficient tools to enhance the vehicle to roadside communication, and thus improve safety and air quality. The Radio Frequency Identification (RFID) is one of the high-tech tools used in transportation system. Its widest usage is in inventory management and toll collections. Due to its short range communication ability, it can be easily used as a sensor for vehicle to roadside communications. In this research, the test scenarios and test beds are carefully selected, followed by a set of real world tests. Factors that possible affect the operations of the system are identified and the system implementation plan for real applications is proposed. The next step will be to identify quantitatively the relationships between the use of RFID and vehicle emissions



Tau (sub-n) Factorization Over the Integers

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Co-Author: Nathan Bishop, Mary Bohlke, Aqeeb Sabree, Alexander Sistko, Dr. Dan Anderson, and his graduate students: Ross, Chris, Jason, and Alaina

We introduce the theory of tau (sub-n) factorizations, focusing on the set of integers. Using this theory, we then show which values of n make the set of integers a tau (sub-n) atomic domain, meaning that each integer can be tau (sub-n) factored into tau (sub-n) irreducibles.



Implementing Right-turn Signal Control at Signalized Intersections

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The primary objective of this study is to explore the critical conditions of implementing right-turn signal control and the selection of two different control strategies. The methodology of determining the critical condition based on the effectiveness of right-turn vehicle is firstly proposed by means of comparing the delay of right-turn vehicles before versus after setting right-turn control. Then, according to the principle that the pedestrian arriving at the intersection should cross the street successfully during pedestrian phase, the methodology determining the critical conditions based on the effectiveness of pedestrians are also provided by modeling the maximum throughput of pedestrians crossing the street. Finally, a special case study is conducted to explore the critical flow curve of setting right-turn signal control, and the effect of the width of crosswalk is also discussed in this study.



Pharmacological Actions of GYY4137, a Slow Releasing Hydrogen Sulfide Donor on Isolated Bovine Ciliary Artery

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Faculty Advisor: Dr. Sunny E. Ohia

College of Pharmacy and Health Sciences

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Hydrogen sulfide (H₂S) donors can exert pharmacological effects on non-ocular smooth muscles. Purpose: To investigate whether the slow releasing H₂S donor, GYY4137 can induce pharmacological actions on isolated bovine ciliary artery. Method: Isolated bovine posterior ciliary arteries were set up in organ baths containing oxygenated Krebs buffer. Changes in longitudinal isometric tension were recorded with Force-displacement Transducers and analyzed using the Grass PolyView software. The relaxant action of GYY4137 on phenylephrine induced tone was studied in the absence or presence of KATP channel inhibitor and inhibitors or activators of enzymes of the biosynthetic pathways for H₂S, prostanoids and nitric oxide (NO). Results: GYY4137 (10 nM-0.1 μM) elicited a concentration-dependent relaxation of bovine ciliary artery. This response was significantly (p < 0.05) enhanced in the presence of the cyclo-oxygenase inhibitor, flurbiprofen (3μM). The KATP channel antagonist, glibenclamide (100μM) and inhibitors of cystathionine γ-lyase (propargylglycine, 1 mM), cystathionine β-synthase (CBS; aminooxyacetic acid, 30 μM) significantly (p < 0.01) attenuated the relaxation action of GYY4137 on ciliary artery. Interestingly, the activator of CBS, S-adenosylmethionine (100 μM) and the NO inhibitor, L-NAME (100 μM) had no significant effect on the relaxation action of GYY4137. Conclusions: The slow releasing H₂S donor, GYY4137 can relax isolated bovine ciliary artery, an effect dependant on endogenous production of H₂S. Furthermore, prostanoids and KATP channels are involved in the inhibitory action of GYY4137. The observed vascular relaxation induced by GYY4137 suggest that slow releasing H₂S molecules might serve as potential therapeutic agents to increase ocular blood flow, consequently alleviating vision loss.



Effects of Drinks on Dissolution Rates of Drug Products

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Co-Author: Tristan Lim and Nancy Lim

Purpose: Generic drug products contain the same amount of active ingredient as the brand drug, but generally have different formulation designs. Claiming bioequivalence, generic products must demonstrate similarity in standardized in vitro dissolution and in vivo bioequivalence studies. Due to dosage formulation differences, in vitro dissolution profiles may differ between the brand and generic products if the drugs are co-administered with various types of soft drinks or wines. The purpose of this study is to determine whether different beverages affect dissolution profiles of a generic drug (Nifedipine ER) and its brand name drug (Procardia®). **Methods:** Dissolution profiles of 90 mg Nifedipine ER and 90 mg Procardia® in Coca cola, cranberry juice, grapefruit juice, and wine were examined by the United States Pharmacopeia dissolution test, using a paddle method. Dissolution profiles in simulated gastric fluid (SGF) and simulated intestinal fluid (SIF) were performed as comparison groups. Nifedipine concentrations in dissolution medium were quantitated by HPLC method. Percent of Nifedipine released in 4 hours were statistically compared using student t-test. **Results:** Nifedipine ER and Procardia® had almost identical % drug released in 4 hours in both SGF and SIF. The dissolution profiles significantly differ between products among various drinks. Procardia® had significantly slower mean % drug released compared with Nifedipine ER in grapefruit juice (0.92% vs. 3.75%), wine (1.54% vs. 11.6%) and Coca cola (1.08% vs. 5.12%). **Conclusion:** Dissolution medium could play significant role in evaluating dissolution profiles of drug products. Thus, clinical pharmacists should be aware of such discretions when switching from brand to generic products.



Using RFID to Improve Safety and Air Quality in Work Zone Areas

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A work zone is an area of a traffic way with highway construction, maintenance, or utility-work activities. According to the National Highway Traffic Safety Administration, many traffic accidents and fatalities happened in work zone areas. Traditional safety countermeasures include setting up special signs, installing barriers and a lower speed limit in work zones. However, many accidents still happen despite of these traditional methods. What's more, excess emissions always occur when vehicles queue to enter the work zone. The excessive emissions have a negative impact on the economy, the environment and the health of workers and drivers in work zone areas. Radio Frequency Identification (RFID) is a globally accepted technology, which has a great success in business management after its first use. RFID can provide effective solutions to reduce emissions and improve the air quality in work zones. The purpose of this research is to identify how to improve the traffic safety and achieve better air quality in work zones by using RFID. RFID devices would provide the opportunity to communicate between vehicles and roadside in real-time and compensate with GPS and other sensors in traffic management. This paper evaluates the two different scenarios: with and without RFID. The effectiveness of RFID can be found by comparing the traffic performance and emission data in these two different scenarios.



The EnHANTs Project

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In this project we are developing Energy-Harvesting Active Networked Tags (EnHANTs). EnHANTs are small, flexible, and energetically self-reliant devices that can be attached to objects that are traditionally not networked (e.g., books, furniture, walls, doors, toys, keys, clothing, and produce), thereby providing the infrastructure for various novel tracking applications. Examples of these applications include locating misplaced items, continuous monitoring of objects (items in a store, boxes in transit), and determining locations of disaster survivors. Recent advances in ultra-low-power wireless communications, ultra-wideband (UWB) circuit design, and organic electronic harvesting techniques will enable the realization of EnHANTs in the near future. In order for EnHANTs to rely on harvested energy, they have to spend significantly less energy than Bluetooth, Zigbee, and IEEE 802.15.4a devices. Moreover, the harvesting components and the ultra-low-power physical layer have special characteristics whose implications on the higher layers have yet to be studied (e.g., when using ultra-low-power circuits, the energy required to receive a bit is significantly higher than the energy required to transmit a bit). The objective of the project is to design hardware, algorithms, and software to enable the realization of EnHANTs. This interdisciplinary project includes 5 PIs in the departments of Electrical Engineering and Computer Science at Columbia University with expertise in energy-harvesting devices and techniques, ultra-low power integrated circuits, and energy efficient communications and networking protocols.



The Effects of Osteopathic Lymphatic Pump Techniques (LPT) on Blood Leukocyte Numbers in Rats with Lung Disease

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The ability to fight off foreign infection in the body is determined by the immune system. Lymphatic Pump Techniques (LPT) were created by doctors of osteopathic medicine to enhance lymph flow in distinct areas of the body. The treatments are meant to assist in the removal of cellular wastes, toxins, and bacteria from interstitial fluid. Previously, members of the lab demonstrated that LPT reduced lung bacteria in rats with pneumoniae and the reduced numbers of solid lung tumors in rats with cancer. The purpose of this project was to determine if this LPT-mediated clearance of disease was related to increased immunity. In project 1, rats were infected intranasally with *Streptococcus Pnuemoniae*, a bacterium that infects the upper respiratory tract. Twenty-four hours following infection, rats received no treatment (control), four min of light touch under anesthesia (sham), or four min of LPT under anesthesia, for three consecutive days. On day four post-infection, blood was measured for immune cells. In project 2 rats were intravenously injected with MADB106 tumor cells, a cancer that forms tumors in the lungs. Rats received control, sham, and LPT as above for seven days. On day eight-post tumor injection, blood was measured for immune cells using a Hemavet cell analyzer. There were no differences in immune cell number in the blood between control, sham, or LPT in either project. Our results show that LPT is protective in the lungs of rats with either pneumoniae or lung cancers, but this effect is not associated with blood leukocyte numbers.



Managing Medication Adherence in Elderly Hypertension Patients Through Pharmacists Home Visits

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The purpose of the study was to reduce health disparities in blood pressure control, by improving medication adherence in elderly African American population. **Objective** was to: Achieve blood pressure control rate of 50%, patient medication adherence rate of 90%; a 95% patient report on home blood pressure monitoring; and improve hypertension awareness and knowledge among patients by 10%. This was an educational intervention study. **Method:** African-American Seniors in the greater Houston areas were recruited and enrolled. Inclusion criteria for the enrollees are African American, Medicare beneficiaries, 65 years or older with hypertension, and currently taking antihypertensive medication. Exclusion criteria are hospitalization, nursing or assisted living facility, receiving any home health service for high blood pressure, have severe hearing or speech impairment, do not have a phone, or demonstrate inability to read, write, or speak the English language. Intervention includes a baseline pharmacist home visit, Bi-weekly telephone follow-ups, educational mailings, followed by final pharmacist home visit. The duration of the intervention for each participant was 6 month. The primary endpoint of the study was blood pressure control rates. **Preliminary Results:** The program started March in 2011. As of August 10th, 2011, 321 seniors were recruited into the program. 59 completed their first home visits and two follow-up calls. 69.5% had their blood pressure controlled by the second telephone follow-up call compared to only 49.2% that had controlled blood pressure at baseline. In conclusion, this research provided important evidence for policy stakeholders when considering reimbursement for pharmacist home visits.



Experimental Measurement of Thermal Diffusion Across Human Teeth Due to Drilling and other Restorative Procedures

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With advances in modern dentistry, it is important to study dental thermo-mechanical reactions and thermal properties of teeth to help in the design of new treatment techniques such as laser- assisted procedures, which have now become more prevalent. The goal of our study is to characterize the thermal conductivity of human dental tissue. Human teeth were autoclaved then stored in a saline solution: HBSS [Hank's Balanced Salt Solution]. Once sterilized, the teeth were embedded in caroplastic, then cut and polished into workable sample sizes. To test thermal conduction, the prepared dental samples were held in place by a non- obtrusive adhesive on a hotplate held at 70 degrees Celsius and the temperature was monitored until the temperature of the base and surface were constant. The thermodynamic behavior showed a slow conduction of heat throughout the volume of the tooth, as there was a ± 6.7 degree Celsius difference between the heated surface and the non-heated surface. These experiments were repeated on 2 different samples and 9 times per sample. Interestingly, the properties changed with repeated measurements, which suggest that repetitive exposure to heat is detrimental to the dental tissue. As time increased, the thermo-speed in the tooth decreased. Understanding these results allows for interpretation of the limitations of thermal conductivity resulting from dental procedures.



An Assessment of Medication Adherence as it Relates to Motivation and Knowledge

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Medication adherence is defined as taking medication exactly as directed or prescribed. It is estimated that only 1 out of 4 patients are adherent to their medication. The purpose of this study is to gather baseline medication adherence information as it relates to motivation and knowledge in an effort to improve and continuously assess community intervention programs designed to improve adherence. A survey to evaluate medication adherence was conducted by 50 students over the span of 6 weeks. A convenience sample of patients from local pharmacies completed a Modified Morisky Score (MMS) questionnaire to assess medication adherence. The MMS score was analyzed by health care professionals according to patients' level of knowledge and motivation. Patients taking less than one prescription were excluded from the study. Of the 1309 patients included in the study, 46.3% (590) reported taking 3 or more prescription medications and 55% (726) felt that their health was not good. The questionnaire analysis revealed that 17.4% (223) lacked knowledge and motivation; 27% (352) lacked either knowledge or motivation; 54% (704) expressed high knowledge and motivation; and 2% (30) of the respondents did not complete the entire MMS questionnaire. Non-adherence can result in serious financial and health-related consequences. Results indicate that 44% of patients lack knowledge and/or motivation, providing an opportunity for targeted intervention programs. This survey will allow for continuous assessment of these interventions potentially improving medication adherence.



Examining the Benefits of Having Pharmacy interns as part of the Healthcare Team

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BACKGROUND: Clinical pharmacists have been shown to contribute substantially in reducing healthcare cost and improving patients' quality of care. However, the benefits of having pharmacy interns as part of the healthcare team have not been evaluated. **OBJECTIVE:** To analyze and show the economic and therapeutic benefits of having pharmacy interns as part of the healthcare team. **METHOD:** A survey questionnaire was designed targeting clinical pharmacists, pharmacy residents and pharmacy interns. The survey contained demographic questions, the years of experience/practice, the various drug related therapeutic interventions performed, as well as the estimates of how much they had saved their respective institutions through their drug therapeutic interventions. **RESULTS:** A total of 52 responses were collected within a three month period. There were 32 students (62%), 17 pharmacists (32%), and three residents (6%). On a scale of 0-10, 31% of the pharmacy interns indicated that they had impacted the quality of lives of their patients at a level of 9-10. In addition, 88% reported that through their interventions, their respective institutions saved money by reducing the patients' length of hospital stay and 12% were not able to quantify in monetary terms, how much they had saved their institutions by implementing their interventions. **CONCLUSION:** The results from the study showed that it is beneficial to have pharmacist interns as part of the healthcare team. They play a significant role in reducing healthcare cost and improving patient outcomes.



Retrospective Chart Review to Assess Meropenem Utilization in a Community Hospital

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The Harris County Hospital District (HCHD) consists of numerous clinics and hospitals that largely impact and shape the practice of medicine in the Houston area. HCHD has the responsibility to prescribe antibiotics according to protocol, to prevent resistance to more potent antibiotics. The district has setup an Antimicrobial Approval Program, where certain antibiotics require approval from an infectious disease physician prior to being prescribed. Meropenem (Merrem) is a broad-spectrum intravenous beta-lactam antibiotic of the carbapenem class. Currently it is restricted to pediatrics and patients being treated for meningitis. The goal was to evaluate if meropenem is being utilized according to the antimicrobial approval program criteria. A retrospective review was performed on all patients admitted into Ben Taub General Hospital, who received meropenem during their duration of treatment from May 2011 to August 2011. Forty-four patient charts were reviewed and only two patients met the criteria of being pediatric or having a diagnosis of meningitis. The most common reasons for treatment included sepsis (30%), multi-drug resistant urinary tract infection (15%), and pneumonia (11%). The most prevalent organisms found were E.coli (31%), extended spectrum β -lactamase bacteria (25%) and acinetobacter (13.6%). After reviewing charts of patients on meropenem it is clear that meropenem is not being used according to guidelines set by the antimicrobial approval program. It has been recommended that additional training and education be given to prescribing physicians on HCHD preferred antimicrobial treatment. However, since the time of the study, meropenem usage guidelines have been changed by Analysis of Lindane and Metabolites in Rats Urine the antimicrobial approval program.



Comorbidity: A Study on the Relationship of Mental Disorders and Chemical Dependence

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This study focuses on the growing issues of comorbidity of mental disorders and chemical dependence. Data on patients in a treatment center for mental disorders and chemical dependence will be used in this investigation. The significance of this correlational study is its potential to provide information on which mental disorder and chemical dependence seem to be more prevalent for the client group sample relative to their ethnicity, age, and sex. Primary questions addressed in this investigation are 1) what mental disorder seems to be more prevalent for the group sampled? 2) which chemical dependence is more prevalent in the group sampled? 3) which gender is more likely to suffer from what specific mental disorder? and 4) which ethnic group seemed to suffer from comorbidities most?



An Assessment Designating Minimum Path Routing From Zone A

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During Hurricane Rita in 2005, four million residents evacuated southeast Texas causing mass hysteria and traffic jams. This amped situation stemmed from Hurricane Katrina devastating Louisiana and New Orleans, a few weeks earlier, killing some and stranding countless thousands. Despite Texas officials ordering mandatory evacuations of Galveston city, Galveston County, and zones A, B, and C in Harris County, other residents in the Greater Houston region also started evacuating. This resulted in massive traffic jams. To alleviate traffic congestion, officials contraflowed 45 south allowing residents to go northbound; this strategy worked temporarily before I-45 was overrun again with congestion and frustrated drivers. In 2008, Hurricane Ike reached the Greater Houston Galveston area, and people were asked to evacuate. With Hurricane Rita's evacuation not forgotten, most residents refused to leave despite the mandatory evacuation. Only half the amount of people evacuated during Ike than during Rita, making the evacuation process less stressful and confusing. Since then, several evacuation models emerged to improve future evacuations. The TRANSIMS model, currently used for New Orleans, is the next generation of travel modeling, micro simulation and air quality analysis tools. TRANSIMS models individual travelers, their multi-modal transportation based on synthetic populations, and their activities. CTTR, working alongside LSU and Houston Galveston Area Council (HGAC), developed a GIS based map of Galveston and Galveston County to predict where traffic should go, the number of vehicles traveling on a certain route, and at which times. With an effective procedure in place, future evacuations should be easier to implement.



The Effect of Multivitamin and Multivitamin Plus Antioxidant in Managing Hypertension

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Hypertension has been related to oxidative stress, but antioxidant-rich foods and supplements have shown variable effects on blood pressure in intervention trials. We investigated the effect of multivitamin and antioxidant treatment on hypertension in two-arm randomized cohort study. We tested one group with multivitamin alone and the other group received multivitamin plus antioxidant. Subjects received aforementioned supplements daily for 12 weeks. We monitored changes in blood pressure weekly. Our primary endpoint was blood pressure reduction in this 12 weeks period. Subjects receiving multivitamin alone experienced 5.3 % decrease in mean systolic blood pressure (SBP) compared with multivitamin plus antioxidant group that experienced 7.5% decrease in SBP. We did not observe significant difference in reduction of diastolic blood pressure among the smokers in both groups: multivitamin and multivitamin plus group. Results from this cohort study suggests that multivitamin supplement and antioxidant therapy may be an effective short-term intervention for reducing blood pressure and needs to be explored further in larger controlled studies.



Investigation on the Effects of Molar Ratio in Aqueous Synthesis of CdS Quantum Dots

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College of Science and Technology

REU SENSORS Program at Drexel University Summer 2010, Advisors: Dr. Wei-Heng Shih and Dr. Wan Y. Shih
Graduate Mentor: Giang Au, School of Biomedical Engineering Science and Health Systems, Drexel University

Today photo luminescent probes are used in biomedical application as powerful tracking and imaging tools. There is an organic dye approach, which is limited by their short lifetime and their low fluorescence, and then there is a quantum dot approach. Quantum dots are semiconductor Nan crystals very small in size (2-10nm), in comparison to organic dyes it has a longer lifetime and better fluorescence. The original organic solvent approach used to make quantum dots was complex and very harmful to the environment, which motivated the development of the environmentally friendly aqueous approach. Though these quantum dots work fine in biomedical applications, there is always a need for something better or brighter, than those used in today's current applications. Knowing this, we must expand the amount of reliable biomedical imaging and tracking aqueous quantum dots for the future of biomedical research. This experiment was conducted in order to investigate the synthesis of aqueous cadmium sulfide quantum dots under different conditions including pH, time, and molar ratio in order to optimize the photoluminescence properties. The results proved that the quantum dots synthesized with a pH of 12 showed the best qualities, they also showed that the quantum dots, which ratio is MPA:Cd:S, where there was more cadmium present than the capping molecule, MPA, had a higher intensity than those where there was more of capping molecule present in the molecule. The best ratios proved to be 2:4:1 on Day 0 and 4:9:1 on Day 7.



Local Structure Determination of Oxygen Deficient Perovskites Using the Pair Distribution Function

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Anion deficient perovskites show promise for application as anode materials in solid oxide fuel cells. The oxygen deficient perovskites $\text{Sr}_3\text{SbO}_{5.5}$, $\text{Sr}_2\text{CaSbO}_{5.5}$, $\text{Sr}_2\text{BaSbO}_{5.5}$, $\text{Sr}_3\text{NbO}_{5.5}$, and $\text{Sr}_3\text{TaO}_{5.5}$ all have the ideal cubic double perovskite crystal structure. However, these compounds also have tolerance factors that are too small for octahedral tilting not to be present, as well as a large amount of diffuse scattering in their neutron powder diffraction patterns, both of which suggest a large amount of local disorder must be present. The goal of this research is to determine how the local structures of these compounds differ from their long range average structures. We are particularly concerned with understanding any short range ordering of oxygen vacancies that occurs, as this would directly affect their ionic conductivities. We performed neutron total scattering experiments on each sample and used this data to obtain the pair distribution function (PDF) of each compound. The PDF gives the distribution of inter-atomic distances in the material and allows us to determine the short and medium range order within the sample.



Analysis of Lindane and Metabolites in Rats Urine

Naga V. Naidu

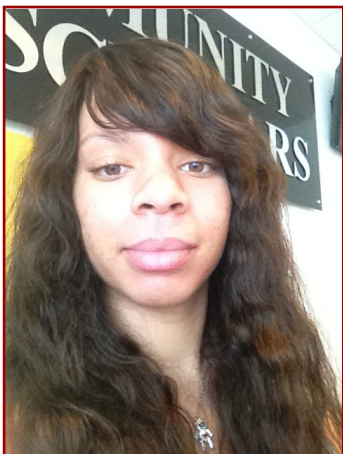
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Co-Author: Charlotte Smith-Baker Crime Laboratory, Institute of Forensic Sciences, Houston, TX and Dr. Momoh A Yakubu, Department of Environmental Science and Technology and Vascular Biology Unit, Center for Cardiovascular Diseases, TSU

Introduction: Lindane (hexachlorocyclohexane) is a persistent environmental toxicant and has been implicated as a neurotoxicant. High levels of Lindane have been detected in postmortem human brain from Parkinson disease patients. Biotransformation of Lindane produces several metabolites which are still imperfectly identified. Therefore, easy, fast and sensitive method to detect Lindane is highly desirable. We determined Lindane and its metabolites in urine by HPLC-UV-Vis and characterized it with MALDI-TOF. **Methods:** Rats received Lindane (17.6 mg/Kg) or vehicle orally for 4 wk and urine collected for analysis. Lindane and metabolites extracted by Hexane were subjected to HPLC-UV-Vis analysis followed by MALDI-TOF characterization. **Results:** HPLC spectrum of standard Lindane peaked at 6.0 min. and urine samples (n=6) peaked at 6.10-6.30 min. Control urine did not show any peak corresponding to Lindane (6.0-6.30 min, n=5). MALDI-TOF analysis of standard Lindane showed a peak corresponding to 293 m/z whereas the urine samples showed major peaks at 292-293 m/z corresponding to Lindane along with minor peaks at 259, 269, 277, and 318 m/z corresponding to Lindane metabolites: -chlorobenzene, -chlorophenol, -hexachlorohexane, and other derivatives. **Conclusion:** These results show that HPLC is sensitive for detecting Lindane and its metabolites and MALDI-TOF can identify specific metabolites of Lindane in urine by matching spectrum peaks generated to the molecular weights of the metabolites. Thus, HPLC-UV-Vis-MALDI-TOF analysis can be a reliable, non-invasive method of detecting lindane exposure and burden.



HDAC3's Interaction with N-COR and GR using Co-Immunoprecipitation

Shelby Hill

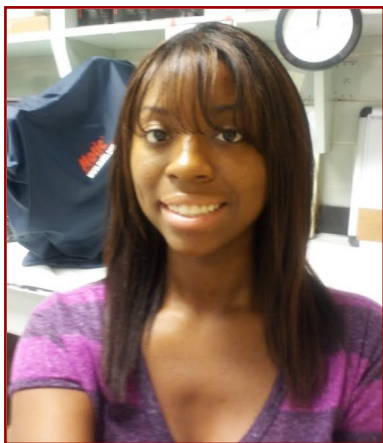
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Co-Author: Shreyas Bhawe, Rosalie M. Uht

HDAC3 is a histone deacetylase that plays a critical role in transcriptional regulation, cell growth, cell cycle progression, and apoptosis. It is one of the four members of the human class I HDACs, which regulate gene expression. Histone acetylation/deacetylation alters chromosome structure and affects transcription factor access to DNA. This is important because DNA is wrapped around histones, and DNA expression is regulated by acetylation and de-acetylation. Histone deacetylases catalyze the removal of acetyl groups from lysine residues in histones resulting in transcriptional repression. In general, HDAC3 does not act alone, but as a component of large multi-protein complexes that are coupled with the signaling of stress related factors, which represses transcription when tethered to a promoter. To assess these interactions, we evaluated the protein-protein interactions between N-CoR and GR with HDAC3 by using co-immunoprecipitation (Co-IP) followed by Western Blotting. The cells were treated with dexamethasone (DEX) then Co-IP's were run by immunoprecipitating N-CoR, and Glucocorticoid Receptor (GR). Precipitates were analyzed for HDAC3 and for the effect of Dex treatments by using western blots for HDAC 3. Technical difficulties were encountered which we believe we have resolved. We plan to show data that demonstrates protein-protein interactions of GR and N-CoR with HDAC3 after the treatment of DEX.



Immunoreactive Detection of Microsomal Epoxide Hydrolase and Soluble Epoxide Hydrolase Expression in Glioblastoma Tumor Cells

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Glioblastoma Multiforme (GBM) is a devastating prognosis for human brain tumors known for rapid proliferation, tumor invasiveness, cell migration, and ability to become drug resistant. It appears that angiogenesis, creation of blood vessels from already existing vessels, is the main contributor of Glioblastoma's aggressive tumor proliferation. Despite combinatorial therapeutic strategies such as radiation, chemotherapy, and surgery, the tumor evades all attempts and often becomes drug resistant and fatal. Epoxide Hydrolases (EHs) constitute an important class of drug metabolizing enzymes, mainly distributed in liver and other extrahepatic tissues, including the brain. Of the several different EHs, microsomal epoxide hydrolase (mEH) metabolizes xenobiotic drugs, while the soluble epoxide hydrolase (sEH) metabolizes endogenous lipid molecules, including vasoactive and neuroprotective arachidonic acid epoxides. However, the expression and the possible role of these EHs in GBM's drug resistance and angiogenesis remain unclear. The aim of this pilot study was to detect mEH and sEH proteins expressed in a GBM-derived U118MG cultures by immunocytochemical and western blotting analyses. U118MG cell culture were grown to 70% confluency and used for detection of mEH and sEH immunoreactivity, followed by western blot analysis verifying the existence of both enzyme proteins. Our results show U118MG cells stained positive for both mEH and sEH the results were confirmed by western blot analysis. These results suggest cells express both mEH and sEH. Future goals are to elucidate the roles of sEH and mEH in Glioblastoma's drug resistance and angiogenesis.



A Review of Literature on African American Students Pursuing Bachelor Degrees in STEM Fields

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A survey of the literature indicates that nearly 20 percent of African Americans awarded bachelor's degrees in Science, Technology, Engineering and Mathematics (STEM) fields have attended Historically Black Colleges and Universities (HBCUs) compared with other institutions of higher learning. We hypothesize that there is a low percentage of African American students pursuing degrees in STEM fields due to 1) a limited amount of financial resources, 2) lack of guidance and support mechanisms over the course of their K-12 education and, 3) apathetic recruitment efforts from universities before and after these students complete high school. We have used an initial cohort of data from the literature to provide a comprehensive metric for assessing the current level of participation of African Americans pursuing undergraduate degrees in STEM fields. However, the results of this work go on to suggest strategies for matriculation, retention, and graduation of African American students in STEM fields based on modern pedagogical techniques. In conclusion, we offer a resource-based solution that can be implemented at universities for this segment of underrepresented STEM students, which emphasizes both strong outreach and scholarship programs, respectively.



Evaluation of the Vascular Effects of Bisphenol An Exposure in Rats

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Bisphenol A (BPA) has been implicated in varied toxic effects but with limited understanding of the mode of actions leading to cellular and vascular dysfunction. Using the whole rat and cerebral microvascular endothelial cells (EC), we investigated the possible signaling pathways for BPA. The effects of BPA (160 mg/kg in feed 8 weeks) were determined on blood glucose, tissue perfusion, plasma, and urine NO and bilirubin. Signaling pathways for BPA were determined in EC derived from piglet's brain. Confluent cells received BPA (10^{-8} – 10^{-4} M) in the presence or absence of calphostin C (10^{-5} M), tyrphostin (10^{-5} M), Apocynin (10^{-4} M); NO and ET-1 levels were determined in the media and cells analyzed for protein expression. In the animal studies, BPA elevated blood glucose from 81 ± 6 to 92 ± 4 mg/dL, urinary bilirubin from 599 ± 30 to 1047 ± 154 μ M/mL as well as urinary excretion of NO. Tissue eNOS, pphox22 and NF- κ B protein expression were elevated in BPA-treated rats. In EC, BPA increased NO levels in a dose-dependent manner which was enhanced by pretreatment with tyrphostin but not with apocynin at 12 hrs but longer BPA (24 hrs) in the presence of apocynin increased NO level. BPA increased ET-1 production as well as eNOS protein expression. These results inconclusively indicate that BPA could adversely affect diverse vascular signaling pathways possibly involving eNOS, ROS, protein tyrosine kinase and NF- κ B in EC. The effects of these changes on adverse vascular functions are yet to be fully linked and would require a longer treatment time.



Effects of Low-dose Radiation in Inhabited Environments Near Nuclear Power Plants

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A number of countries are ushering in a new era of rapid proliferation of nuclear power plants as their main source of energy. An analysis of published data assessing low-dose effects to human populations in inhabited areas near nuclear facilities suggest the following questions: a) What is a low dose in terms of cellular exposure? b) What are the cellular responses at low doses? c) What type of airborne radioactive materials are being produced? d) What happened to humans in the past when accidents took place near nuclear power plants? e) How long did it take the low doses to effect the human population in that region? The purpose of this work is two-fold: 1) to review the health physics literature for methodology delineating the experiences, accomplishments, and current research in detection, evaluation, and control of environmental radioactivity and 2) to define the objectives and future direction of environmental surveillance programs in inhabited communities near the vicinity of nuclear facilities. These analyses consider both the damaging and protective radiation effects at low doses. The results of the data indicate that current technical competencies permit accurate measurement and control of environmental radioactivity in the environs of present and future nuclear power plants.



Using Google Docs to Streamline Workflow in the Drug Information Call Center

LaKendra Brown

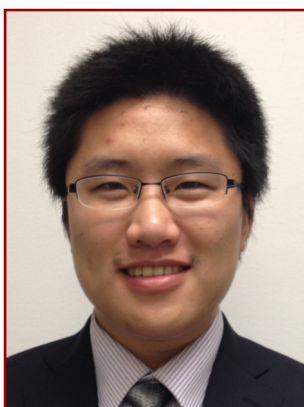
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Google Docs is a web-based program introduced by Google that allows users to create a variety of documents and securely store data online. The use of Google Docs allows multiple users to quickly and easily enter data into one medium simultaneously. Currently, Harris County Hospital District's (HCHD) Drug Information (DI) call center receives an average of 100 calls per day as part of its Formulary Command Center (FCC) and drug inquiry services. The FCC is utilized by physicians in the HCHD as a way to obtain approval for the use of restricted formulary drugs. The physician must call the DI call center with a valid reason for replacing the standard formulary drug with the restricted formulary drug in order to acquire approval. The HCHD DI call center also offers an inquiry service that is utilized by health care professionals and the general public. Calls are received by 2-4 representatives and information for each call is recorded on a paper form and transferred to an Excel spreadsheet at the end of the day. In replacing the current method of data collection with Google Docs, we will be able to eliminate the use of paper forms. Using Google docs, we will create an online form in which the DI representatives will directly enter data received during the phone call. Upon submittal of the online form, the information received will automatically update an Excel type spreadsheet. We will use this spreadsheet to better sort, filter and analyze the data collected.



Identifying Procedures for Emission Estimation Using Driving Simulator

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Driving Simulator is widely used in transportation studies, which is proven to be excellent practical and effective educational tools to impart safe driving training techniques for drivers. There are lots of studies about driving simulator such as the driver behaviors, driver responses, evaluation of user performances in different conditions. However, there is no research on how to use driving simulator for emission estimation. Driving simulators can generate speed and acceleration data, that can be used as a base to calculate the Vehicle Specific Power (VSP), and then through the Operating Mode ID so that vehicle emissions can be estimated. The procedure for emission estimation using simulator can be identified. First, because the speed in driving simulators may be different from that in the real world, a set of suitable scenarios for simulator should be established that can reflect the real world roadways. Second, the scenarios should be tested in the simulator and the speeds from both the simulator and the real world will be compared, and the speed calibration approaches should be identified. Third, the relationships between simulator speed and real speed will be established. Fourth, the VSP and Operating Mode ID under both simulator tests and real world tests will be generated and compared. Fifth, The vehicle emission estimations from simulator and vehicle emission testing from the real word will be compared and emission calibration framework will be established.



The Application of Traffic Software: Assessing Effectiveness of Bus Rapid Transit (BRT) in Addressing Congestion in a Freeway Corridor

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Co-Author: Dr. Thomas Graham

The purpose of this paper is to determine how using an Integration Model simulation (traffic software) to analyze an urban freeway problem compares to assessments done using other transportation simulation software. The author seeks to determine whether this information will contribute to the body of knowledge for decision making on how best to improve the freeway. It will take into consideration designs other than simply adding more lanes in order to alleviate traffic by getting more people off the roads and into other modes of transportations, specifically a Bus Rapid Transit (BRT) system. The author takes into consideration that there are many traffic simulation models that exist but sees that the INTEGRATION software, which has both macroscopic and microscopic capabilities, has advantages to explore. This paper will address the components of simulation modeling which will provide background data and information leading to improved mobility. Also the study will concentrate on considering whether BRT is capable of altering traffic issues that exist on a major south freeway (SH 288) in the Houston area.



Advantages of Moves For Emission Estimation

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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 that the US Environmental Protection Agency (EPA) will maintain and support. This research identifies the advantages and possible problems using MOVES for vehicle emission estimation, from the aspect of the use of MOVES and the advantages. It explains the existing practices in the mobile source emissions estimation. MOVES2010 has improves the understanding of in-use emission levels and the factors that influence them. The research attempts to conduct a comparative analysis on emission estimate and the accuracy between MOBILE6.2 and MOVES2010 based on comprehensive literature review. By this research, one can understand why MOBILE6.2 was eliminated and MOVES2010 was released. As EPA has adopted the MOVES2010, the finding from this research will help the engineers and researchers in the process of understanding MOVES2010, its accuracy and emission estimate.



VSP Characteristics in the Houston-Galveston-Brazoria Area

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Air pollution is a global issue for which several methods of analysis have been identified. Though air pollution can be caused by many factors, Carbon Dioxide emitted from vehicles is one of the primary pollutants. Researchers have used several tools to analyze and calculate emissions. This research focuses on the analysis of vehicle emission using the Vehicle Specific Power approach (VSP) based on the real data from GPS tests. VSP is a mathematical formula that incorporates speed to help analyze emissions. GPS is used to calculate VPS. The study area will be within the Houston-Galveston-Brazoria area. Each study vehicle is equipped with a GPS. Participants will use GPS during their daily travel routes to collect data. The study will last roughly several weeks, during which the GPS devices will be collected every other weeks for data analysis. Data output will be contingent upon a number of factors: vehicle type, speed, road conditions, and driving behaviors.



Intervening Factors in the Relationship Between Life Expectancy and GDP Per Capita

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Previous research has established that there is a relationship between GDP per capita and Life expectancy. People who live in high income countries on the average live longer than people who live in low income countries. The purpose of this research was to explore the factors which are directly responsible for this relationship. A total of ten countries; five high income and five low income countries from across eight geographical regions of the World Bank were looked at as case studies.

Understanding the Need for a Preceptor Awards Program

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Objective: In determining the factors that influence why some pharmacists choose to become preceptors, while most others do not, our goal is to find ways that could be utilized in pharmacy programs to reward and encourage continued preceptor participation and implement such a program within the TSU College of Pharmacy and Health Sciences. **Methods:** Utilizing the data analysis from four hundred and eighty five (485) surveys mailed out to Texas pharmacists to obtain information related to the choice to be/or not to be a pharmacy preceptor, and the information obtained from other colleges/schools of pharmacy regarding their preceptor program, the information will be analyzed to provide a descriptive analysis of current programs in place, how they can be improved upon, and measures put in place to begin a preceptor award program within the TSU College of Pharmacy and Health Sciences. **Results:** IN PROGRESS **Conclusion:** IN PROGRESS

Bladder Cancer Incidence In Controlled And Uncontrolled Diabetic Patients

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The linkage of pioglitazone and bladder cancer poses a challenge due the public's increased awareness and level of uncertainty associated with limited published literature. To date, only two studies have been conducted in human subjects; Kaiser Permanente Northern California (KPNC) study and the French study. These two studies focused more on retrospective pioglitazone intake data. The main purpose of this case control study is to evaluate the incidence of bladder cancer in patients with uncontrolled diabetes (uncontrolled being defined as $A1C \geq 7$) receiving antidiabetic medications. Additionally, an assessment of a possible link between worsening of diabetes and an increased risk of bladder cancer will be analyzed. ICD-9 codes will be used in the healthcare system's database to identify patients with diabetes and bladder cancer, respectively. The study group will include 250 patients with diabetes (as defined by ADA specifications) from the VAMC database. The baseline characteristics are men ≥ 40 years old with an $A1C \geq 7$ who have never used pioglitazone and with no prior diagnosis of bladder cancer. Diagnosis of bladder cancer will be a result of pathological analysis and incidence will be analyzed to exclude any link to identifiable co-morbidities. Additional baseline characteristics will be determined and subsequently included. Focus will be placed on whether the patient suffers from controlled or uncontrolled diabetes. Definition for uncontrolled diabetes will be based on the ADA guideline specifications. Patients will undergo further analysis to evaluate the possible links between pioglitazone and bladder cancer.

Health Literacy and its Relationship to Hypertension Awareness

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Health care professionals are tasked with making decisions that affect their patient's life. For the past few years, more emphasis has been placed on involving patients themselves in deriving these health decisions because it promotes a better outcome. One of the contributing factors individuals need in order to making good health a decision is health literate. Health literacy as defined by Healthy People 2010 is "the degree to which an individual have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions". The focus of this study is hypertension, which is a chronic disease state characterized by persistent elevation in arterial blood pressure. The goal is to determine if there is a correlation between hypertension awareness and patient's level of education, level of income, and length of diagnosis. Data was obtained from the 'TSU Managing your Blood Pressure Program'. 340 subjects enrolled in the study and 279 met the inclusion criteria which are provision of their complete demographic information and answering the ten hypertension questions. A standard grading scale was established: a high score (grade 9 or 10), an average score (grade 7 or 8), and a low score (grade 6 or less). Education levels were categorized by highest degree accomplished: College degree, Associate/Certificate degree, and High school diploma. The length of time individuals have been diagnosed is broken into intervals of 5, up to 15 years, and level of income is divided into increments of \$25,000.

Bisphenol A- Induced Nitric Oxide (NO) and Endothelin-1 (ET-1) Production from Cerebral Microvascular Endothelial Cell Culture is Mediated via Activation of Reactive Oxygen Species (ROS) and Protein Kinase C (PKC) Pathways

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The toxic effects of Bisphenol A (BPA) - weakly estrogenic and systemic toxicant is still evolving. But its effects on vascular signaling molecules are unknown. We investigated the effects of BPA on nitric oxide (NO) and endothelin (ET-1) production from cultured cerebral endothelial cells. Confluence cells were incubated with BPA (10^{-8} - 10^{-4} M), Calphostin C (PKC inhibitor, 10^{-5} M), Resveratrol (antioxidant, 10^{-4} M), Tempol (10^{-4} M, antioxidant) alone or in combination for 4 hrs. Levels of NO and ET-1 were determined. BPA significantly increased NO levels dose-independently; the increase was not affected by Resveratrol but Calphostin C prevented BPA (10^{-8} and 10^{-6} , not 10^{-4} M) effects. Resveratrol plus Calphostin C incubation reduced BPA-induced NO production at 10^{-6} and 10^{-4} M but not at 10^{-8} M. Higher concentration of BPA significantly elevated ET-1 level and Tempol attenuated it. Thus, BPA regulated NO production was not mediated via ROS generation as Resveratrol had no significant effect. However, BPA-induced NO production seems to be mediated in part via PKC activation as Calphostin C partly blunted it. Though, ROS alone had no effects on BPA-induced NO production but in the presence of PKC inhibition NO production was attenuated indicating possible interactive PKC-ROS pathways in modulating BPA action. ROS generation plays a role in BPA-induced ET-1 production as Tempol blunted it. In conclusion, this data indicates that the mechanism of BPA-induced toxic effects is probably mediated through activation of both PKC and ROS pathways and the functional and molecular consequences of BPA mediated regulation of vascular regulatory agents need further investigation.

Incremental Analysis of CPOE Implementation

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In U.S. patients, medication errors are considered to be responsible for a significant amount of adverse events. The traditional paper approach of medication ordering process involves multiple phases that include ordering or prescribing an appropriate medication and dose by the clinician, transcribing the order by another healthcare team member, dispensing of the medication from the pharmacy, and administration of the medication to the patient. This process involves a complex set of communications and errors can occur at each point of this process. A study involving inpatient medication errors showed that 90% occurred at either the ordering or transcribing stage. In theory, computerized physician order entry (CPOE) can help to remove factors that may lead to errors, such as order illegibility, inappropriate dose, incomplete orders, and drug interactions. We will be performing an incremental analysis with the traditional paper prescribing method with post CPOE implementation in an inpatient setting in terms of a reduction of cost, safety, and time.

ADHD Therapies: Do They Work?

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Attention Deficit Hyperactivity Disorder (ADHD) is a developmental disorder that is characterized by inattentiveness, impulsiveness, hyperactivity, or a combination that is not appropriate and considered normal for a child's age and stage in life. According to the National Institute of Mental Health (NIMH), ADHD is said to be "one of the most common childhood disorders and can continue through adolescence and adulthood." This study will look into the prevalence of ADHD, the controversies surrounding its existence and diagnosis, and pharmacologically used in its treatments. There will be a study of non-stimulant use vs. stimulant used in the treatment of ADHD with a comparison of efficacy.



Methods of Public Involvement: Engaging Communities for a Better Tomorrow

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Transportation, as we know it, is fundamentally designed to accommodate two purposes: 1) to offer humans access to and from various places; and 2) to facilitate 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. Inclusive transportation planning also fosters involvement by all users of the system, such as the businesses, community groups, environmental organizations, and general public. Public Involvement is one of the core elements that strategic transportation planning must contain. Public Involvement in an organization requires consulting with interested or affected individuals, organizations, and government entities before making a decision. Public involvement also encourages two-way communication and collaborative problem solving with the goal of achieving better and more acceptable decisions. This prevents or minimizes disputes and creates a process for resolving issues. Federal regulations, like the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), require that public involvement occurs prior to the development of the project or for transportation planning. SAFETEA-LU emphasizes that the lead agencies must comply with National Environmental Policy Act (NEPA) regulations when determining the final purpose and need for the project/plan and the range of alternatives. This must be done after considering input from the public, participating agencies, and stakeholders. Their opinions, comments, complaints, and or concerns must be heard and addressed by the lead agency. This paper discusses the methods agencies use to involve the public, while exploring techniques to creatively engage the public participation to new ideas, diversities, technologies, and limited funding for a better tomorrow.



An Investigation of Career Choice and Education Level as Impacting Factors upon Marriage among African American Women

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There has been a decline in marriage among African Americans within the last two decades, and African Americans do not fit in the traditional family structure. Therefore, vital information about the characteristics that African Americans rationalize as reasons for marriage have been overlooked. This study will take a look at the impact, if any, that educational level and career choice have on the age of a woman when she first marries. With the change of the job opportunities available for the advancement of women and the independence they obtain from education, there should be a closer look at the option of women choosing to wait until a later time in life as opposed to the traditional timing. This study may also be grounds for new definitions of family structures. This study will attempt to answer four research questions: 1. What is the relationship between career choice, education level, and the age of first marriage? 2. What is the relationship between career choice and age of first marriage? 3. What is the relationship between education level and age of first marriage? and 4. Is there a relationship between career choice and level of education?



Testing the Evolutionary Position of *Chaetomella* and *Pilidium* Based on the Mitochondrial Cytochrome B Gene

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The phylogenetic relations and affiliations of the fungal coelomycetous genus *Chaetomella* and *Pilidium* have been in question in fungal diversity studies. *Chaetomella* and *Pilidium* share many common fungal characteristics such as production of black pycnidia generally opening by a raphe, acropleurogenous conidiogenous cells, and non-septate, hyaline, usually fusiform to falcate, rarely ellipsoid, conidia. A recent molecular study based on the Small Subunit (SSU) and Large Subunit (LSU) of the nuclear ribosomal RNA suggested that *Chaetomella* and *Pilidium* constitute a unique lineage closely allied with the Leotiomycetes. Together forming a sister group with Sordariomycetes. That clade then forms a sister group with a monophyletic group comprising Eurotiomycetes, Chaetothyriomycetes, Dothideomycetes, and Lecanoromycetes. To test that hypothesized phylogeny with the proposed position of *Chaetomella* and *Pilidium*, we employed an independent dataset based on the mitochondrial cytochrome b. We sequenced 400 bps of the Heavy Strand (H) and the Light Strand and generated phylogenetic trees based on Distance method Maximum Parsimony (MP) and the Maximum Likelihood (ML) optimality criteria. We sequenced nine representative taxa belonging to *Aspergillus*, plus two representative species of *Chaetomella* and three representatives of *Pilidium*. Our analyses agreed with the rRNA SSU and LSU data on the monophyly and sister relationship of *Chaetomella* and *Pilidium*, lending strong support that the similarities of the two genera based on morphology represent shared derived characters. However, our phylogeny disagrees with the rRNA data by the *Chaetomella*/*Pilidium* clade in several points, 1) *Chaetomella*/*Pilidium* clade was basal and possible ancestral to the Eurotiomycetes/*Dothiomycetes*/*Sordariomycetes* clade, 2) Eurotiomycetes and *Dothideomycetes* were not monophyletic. Sequencing of homologous cytochrome b gene from a broader range of representatives within Ascomycota should further shed light into this unresolved phylogeny of the whole group.



Marijuana Testing Initiative

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The validity and feasibility of using DNA collection cards in the field for preservation and analysis of *Cannabis sativa* genotypes were investigated using a highly specific hexanucleotide marker. Pollen, DNA, ICP-MS and GC-MS analysis sampling were done. Collection cards were submitted to the National Marijuana Initiative, which selectively trained and managed the collection of specific types of samples from a variety of participating agencies. Samples collected at seizure sites included fresh marijuana leaf samples, dried “dispensary” samples, U.S. border seizures, and hashish. Using a standardized PCR kit with custom-labeled oligonucleotide primers specific to marijuana, collection cards produced eight genotypes and 13 different alleles, extremely low baselines, and no cross-reactivity with control plant species. Results were produced from all sample types with the exception of hashish. Plant DNA collection cards represent an easily implementable method for the genetic identification and relatedness of *C. sativa* street and grow site-seized samples with applications for databasing and market disruption.



Leading, Following and Gender in the Tango Embrace

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In the video *En tus brazos*, Elba finds the connection between now and what Jorge used to be and undertakes the task of bringing him back to life. In this way, Elba becomes like the West African goddess Oshun, “Mother of the Mirror, Owner of the Dance, who Transforms” (Fatunmbi 14). Oshun’s love brought her husband back from madness and transformed him. Elba, instead of letting Jorge go mad with reminiscing, picks him up and makes him dance one more time. When Jorge is brought back to reality after his delirious but tangible experience, he asks Elba not to stop; he wants to stay in her arms. Jorge must relive his experience to reconnect with himself in Elba’s arms, recalling his moments of control and power that have now to be handed over to his partner. As in *En tus brazos*, Tango today seems to have transcended its machista roots of physical confrontation and has opened a path to a postmodern interpretation, an intellectual silent dialog where the dominator/ dominated relation remains established by gender rules, but the practice of the dance has become flexible. Tango has become ambivalent as life itself. Displaying what Paulo Freire, in his talks about education as a form of liberation, calls “the contradiction between the oppressors and the oppressed, and how it is overcome; oppression and the oppressors; oppression and the oppressed; liberation: not a gift, not a self-achievement, but a mutual process” (Freire, 53).



Radiation and Radon Gas: An Impediment for Human Health

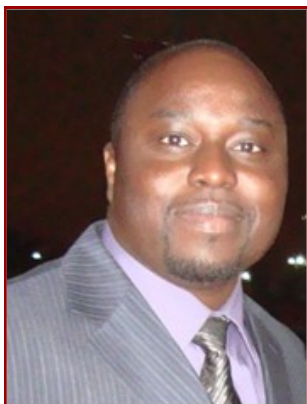
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Radiation and radon gas are environmental risk factors for disease; after some crucial ecological disasters, human beings may be exposed directly or indirectly to imperceptible chemical effects, jeopardizing their health for decades. Cancer is the number one stochastic and non-communicable disease that results, but other deterministic illnesses are suffered by irradiated individuals. Historically, there have been many exposures involving protracted or short-term exposures to nuclear radiation doses that are found to be an explanatory key point of cancer pathogenesis or pathophysiology. For example, many survivors from Nagasaki-Hiroshima received approximately 300,000 millirem; those from the Chernobyl nuclear accident received 1,600,000 millirem (10,000 Millirem/year or greater is harmful). More recently, it has been suggested that the devastating amount of radiation released by the Fukushima nuclear reactors explosion in Japan in 2011 may also have global significance. The incident has threatened individuals overseas, including Americans, who are driving Japanese imported vehicles after the disaster. The intent of this study is to identify perceived long and short term health risks associated with radiation exposure among college students. This research will assess beliefs, attitudes, and knowledge about radiation exposures in a sample of students at Texas Southern University.



The Link Between Atypical Antipsychotic Mediations and Obesity in Children with Schizophrenia

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Childhood obesity has more than doubled over the past three decades with currently over nine million youths over six years of age considered obese (Institute of Medicine, 2005). Children with schizophrenia have a greater risk of obesity because of their dependency on antipsychotic drugs which help in managing various schizophrenic symptoms including hallucinations, delusion, and distorted speech. A serious side-effect of second-generation or “atypical” antipsychotic drugs (such as Zyprexa, Seroquel, and Geodon) in pediatric schizophrenic patients is severe weight gain. Pediatric patients have a significantly higher risk of becoming obese with prolonged use of these agents. Although there are treatment options for schizophrenic patients, some researchers contend that other treatment options should be considered. This paper investigates the correlation between atypical antipsychotic drugs and weight gain in children with schizophrenia and recommends viable treatment alternatives (pharmacological and nonpharmacological methods) if available. It is hypothesized that children with schizophrenia that depend on atypical antipsychotic medications will have a higher risk of obesity (and obesity related illnesses) than children who do not depend on atypical medications. Data was retrieved from national and international studies done on the topic. Available literature on obesity, schizophrenia in children, and antipsychotic medications were reviewed using MEDLINE, Pub Med, psychINFO, and EBSCOhost and other electronic databases from 1994 to 2011. Healthcare professionals were also consulted for secondary information in this study. The findings showed an increased number of children becoming obese as a result of using atypical (second-generation) antipsychotic drugs for the treatment of schizophrenia which further exposes this population to obesity related illnesses (e.g. type 2 diabetes, hypertension, and cardiovascular disease).



The Parenting Styles of Urban African American Families and Their Effect on Social Behaviors of Pre-School Children

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Parenting influences many things in the life of children. Since parents are the primary teachers of their children, they have significant impact on their children. While several studies have been conducted on parenting styles of low income African Americans, few have focused on the parenting styles of urban American parents in other income and educational levels. This study will investigate the relationship between the parenting styles of urban African American parents and the effect that those parenting styles have on the demonstrated cognitive and social behaviors of pre-school children based on several factors. Factors explored are income level of the parents, educational level of the parents, age of the parents; and marital status of the parents. Results from this study can add to the body of research in this field and provide parents, educators and caregivers with data to support more effective parenting and nurturing of children, especially African American children.



NOAA/ESRL, Safety Basis: CATS , (Chromatograph for Atmospheric Trace Species)

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The project for the summer was to create a Safety Basis for the NOAA Earth System Research Laboratory (ESRL). A Safety Basis contains several different documents, the NRC License, Document Safety Analysis (DSA) and Technical Safety Requirements (TSR). Normally a Safety Basis is usually only created when dealing with nuclear power plants but the NRC Confirmatory Action Letter (CAL 4-08-003) to NOAA/ESRL required them to develop and maintain an appropriate Safety Basis for each custom instrument with an Electron Capture Detector (ECD) in it. An outline created based off of the Department of Energy (DOE) Safety Basis guide was followed to ensure that it would be thorough and accurate. The bulk of the time on the project was spent on the DSA. The DSA involved many different sections including a facility description, evaluation of normal operations, risk assessments, etc. Two finalized Safety Basis were created, one for CATS in Boulder, Colorado and one for CATS in Summit, Greenland. These documents will be used this fall to renew NOAA/ESRL's license with the NRC. Additionally they will be used to quickly answer any questions that may be asked during a site inspection. Since there are other unique instruments, such as LACE, UCATS, ACATS and Panther, the documents that have been created so far can be used as a foundation to help create each instruments Safety Basis.



Development and Validation of a Sensitive LC/MS/MS Method for the Determination of γ -Tocotrienol in Rat Plasma: Application to Pharmacokinetic Studies

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γ -Tocotrienol is one of the vitamin E constituents and it has attracted great attention due to its multiple health benefits, especially anticancer activity. This study developed and validated a simple, sensitive, reproducible and reliable LC/MS/MS method to analyze γ -tocotrienol in rat plasma. Plasma samples (50 μ L) were extracted with 25 ng/mL internal standard solution (itraconazole) in acetonitrile (200 μ L) with an average recovery of 44.7% and an average matrix effect of -2.9% . The separation of γ -tocotrienol and internal standard from the plasma components was achieved with a Waters XTerra® MS C18 column (3.5 μ m, 4.6 x 150 mm) with acetonitrile/water as mobile phases. Analysis was performed under positive ionization electrospray mass spectrometer via the multiple reaction monitoring. The standard curve was linear over a concentration range of 10 – 1000 ng/mL. The method was validated with intra- and inter-day accuracy (relative error) ranged from 1.79 to 9.17% and 2.16 to 9.66%, respectively. The intra- and inter-day precision (coefficient of variation) ranged from 1.94 to 9.25% and 2.37 to 10.08%, respectively. This LC/MS/MS method was further applied to analyze γ -tocotrienol plasma concentrations in rats at various time points after administration of a 2 mg/kg single intravenous dose, and a pharmacokinetic profile was successfully obtained.



Impurities Analysis of ⁹⁰Y-Labeled Microspheres, TheraSphere and SIR-Spheres, Used in Liver Cancer Treatment

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Yttrium-90 microsphere brachytherapy procedures have increased in number due to their efficacy in treating some unresectable metastatic liver tumors. The discovery of impurities in two popular microsphere products, first reported between 2006 and 2007, has resulted in some radiation safety concerns. Since then, microsphere production processes have been refined, which could lead to a reduction in detectable by-products. In this study unused vials of TheraSphere (Nordion, 447 March Rd, Ottawa, Ontario, Canada K2K 1X8) and SIR-Spheres (Sirtex Medical, Level 33, 101 Miller St, North Sydney NSW 2060, Australia), manufactured in early January 2011, were analyzed to identify and quantify the low-level radioactive impurities. Absorbed dose calculations were performed to assess the potential for a medical event. Results showed that while the SIR-Spheres vials contained no detectable impurities, the TheraSphere vials contained 18 radionuclides in one sample and 15 in the other. The dominant impurities were ⁹¹Y and ⁸⁸Y, with specific activities ranging from 0.99 to 6.30 kBq/mg at vendor assay date. Other impurities were on the order of Bq/mg. Based on Medical Internal Radiation Dose (MIRD) liver and lung dose estimates for all impurities, the administered dose would be expected to increase by less than 0.1% from prescribed doses, thus ruling out the risk of a medical event.



The Impact of Parental Education and Cultural Assimilation on Parental Involvement for Hispanic Pre-School Children

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This study focuses on the effect of parental education and cultural assimilation on parental involvement in Hispanic children's school readiness. Four research questions are posed in this article: (1) Does the level of education of a parent affect the degree of parental involvement in a Hispanic child's school success? (2) Does the cultural assimilation of a parent affect the degree of parental involvement in a Hispanic child's school success? (3) What factors seem to contribute to immigrant Hispanic parents' lack of involvement in the education of their children? (4) What factors seem to contribute to first-generation Hispanic parents' lack of involvement in the education of their children? Data on Hispanic parenting practices and school readiness as well as the analysis of random surveys will be used to investigate these questions. The empirical analysis demonstrates that parental involvement is critical for school readiness and success and that Hispanic parents are less likely to participate in the child's academic success due to cultural beliefs. This pilot study will attempt to close the literature gap on parental involvement of Hispanics in school readiness and school success, as well as provide implications for early- childhood specialists seeking to improve parental involvement in Hispanic families



What Impact Do Parents Have on Their Child's Academic Success?

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The purpose of this study was to examine the relationship between parental involvement and violent behavior of middle school students in sixth, seventh and eighth grades. The information obtained by completing this study will be beneficial to parents, students, and educators. If parents are aware of how their involvement and learning activities with their students affects their students' coping skills and future, they may be more apt to actively participate in their students' education. The findings of this research may also be beneficial to educational institutions, correctional institutions, state and federal governments. The results can be utilized to develop school programs associated with parental involvement in school activities, decisions and violence prevention. Programs such as these can be implemented to bridge the gap between home and school while improving students' self-concept, lifelong as well as being positive members of society and increasing academic achievement.



Solvent Extractions of Tar Sand

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The purpose of this study is to extract the organic substance, bitumen from tar sand. The extractions were carried out using a Soxhlet extractor with five different solvent systems, which were deionized water, toluene, a 2-methyl tetrahydrofuran/water co-solvent, an acetone/water co-solvent, and a butanone/water co-solvent. Approximately 1.00 gram of tar sand was used in each extraction and the experiment was carried out for 5 days. Before and after the extractions, the organic content was determined by thermogravimetric analysis. Scanning electron microscopy was utilized to compare the surface textures of the samples after the extractions. Energy-dispersive X-ray spectrometry was applied to analyze the changes of C/Si ratio after the extractions. It has been proven that the 2-methyl tetrahydrofuran/water co-solvent presented a safe and efficient method to extract and separate the bitumen from the tar sand.



Assessment of Environmental Estrogens in the Galveston Bay Watershed

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College of Science and Technology

Co-Author: Renard Thomas, Ph.D. and Bobby Wilson, Ph.D.

The primary goal of this study was to investigate the potential impact of environmental estrogens (EEs) in the lower Galveston Bay Watershed. The research objectives were to assess concentration EEs in the lower Galveston Bay Watershed, specifically San Jacinto River and the Trinity River Systems, and to investigate the toxicity of low level concentrations of EEs found in the watershed on fish cellular model (RTG-2, a reproductive cell lines). Three estrogenic compounds, estrone, ethinyl estradiol and estriol, were discovered throughout the Lower Galveston Bay Watershed in concentrations that cellular viability test indicate a potential significant ecological concern for the Galveston Bay ecosystems.



A Kinetics Study of Cytochrome C and Cytochrome C Oxidase

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Co-Author: Maria Williams and Francis Millett, Ph.D., Lois Geren, Ph.D., Jeffrey Havens, Ph.D. and Mrs. Marilyn Davis, Chemistry Department, University of Arkansas - Fayetteville, Arkansas, Texas Southern University - Houston, Texas

The basis of this experiment is the study of the reaction of cytochrome c and cytochrome oxidase, using site-directed mutagenesis and steady-state kinetics. The goal was to characterize the electrostatic interaction between cytochrome c and cytochrome oxidase. The mutants that were expressed in this project were E89T/E90Q and E89T/E90K. These mutants replaced the native negative charge on glutamic acid 90 [E90] with a neutral charge, glutamine [Q], or a positive charge, lysine [K]. By gathering data from the kinetic experiments, we will be able to determine if the mutations had an effect on the reaction between cytochrome c and cytochrome oxidase. Steady-state kinetics generally displays saturation kinetics at sufficiently high cytochrome c concentrations and often obeys Michaelis-Menten kinetics with a Michaelis constant, K_m , and a maximum velocity, V_{max} [2].



An Assessment of Evacuation Path Routing From Galveston County

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Faculty Advisor: Dr. Carol Able Lewis

College of Science and Technology

Evacuations from recent hurricanes since 2005, has shed light on issues with clearing large numbers of residents from urban area roadways and public transportation systems. Historically evacuation models are used to find stagnant traffic areas that take on the conditions or the demand of the roadways during an evacuation. A number of models exist that forecast evacuation under a variety of scenarios but not all show the meso-level. Much work has been done to improve evacuation times and experiences when the need to evacuate occurs. History has showed us that in the case of emergency citizens do not know what steps are needed to evacuate securely, timely, and safely. This work examines the application of TRANSIMS Evacuation Model which utilizes GIS in Galveston County and discusses future direction for improving the use of arterial streets to help alleviate the main road network. The focus area is Galveston County.

Therapeutic and Diagnostic Modalities of Ultrasound in Medicine: A Study and Review of the Literature

Hieu T. Nguyen

Student, Physics

Faculty Advisor: Dr. Mark C. Harvey

College of Science and Technology

Medical sonography is a technique using ultrasonic waves to visualize tissues in the human body. It has been used widely as an effective diagnostic tool in modern medicine for at least 50 years. Moreover, ultrasound has therapeutic applications, which include treatment of cancerous tumors and palliative therapies for chronic pain conditions. The purpose of this study was to review the literature on state-of-the-art ultrasound treatment and imaging modalities. To that end, a general background on the physics of ultrasound is presented for 2D and 3D imaging, part of which is the result of research carried out at the University of Minnesota during the Summer of 2011. Highlights of therapeutic techniques will also be presented in this work. These techniques include High Intensity Focused Ultrasound (HIFU), acoustic targeted drug delivery, and teeth cleaning methods in dental hygiene.



Reviewing, Analyzing and Updating Marketing Strategies to Increase Public Transit Ridership

Sandra Onyejekwe

Graduate Student, Transportation Planning Management

Center for Transportation Training & Research (CTTR)

Faculty Advisor: Dr. Carol Able Lewis

College of Science and Technology

Co-Author: Dr. Carol Lewis and Grace Arthur

Ridership in the United States has been fluctuating over the last decade. With fuel prices increasing, urban and suburban settlements growing, global warming and other environmental impacts getting special attention, it is important to increase our knowledge of best marketing practices to attract riders to public transit as a better alternative to the use of cars. Houston Metro is adding roughly 30 miles of light rail, offering new quick lines and routes and in general improving efficiency and reducing costs. But in order to move people out of their cars for all or some of their travels, a deeper analysis of the variables and a strategy to promote the public transit is required. Downtown Houston is the primary focus of the bus service and will serve as the nucleus for the rail service. The Galleria and Greenway Plaza areas have very large concentrations of employment, as well. METRO provides express Park and Ride service from a few locations to the Galleria and Greenway areas. The Galleria and Greenway Plaza areas have very large concentrations of employment, as well. Secondly, of those persons indicating their willingness to ride, what variables work against their choosing METRO service and what their personal perspectives about riding transit.

An Investigation of the Performances of 5th Grade Black Students on TAKS Math as Predictors of Disproportionate Discretionary In-School Suspensions of Black High School Students

Lori P. Rochelle

Doctoral Student, Curriculum and Instruction

College of Education

Purpose: The purpose of this study is to determine if achievement on TAKS Math assessments predicts in-school suspension (ISS) occurrences of Black students. The study will analyze discipline and TAKS data for Black students enrolled in Texas Education Service Center (ESC) Region 4 Districts. Analyses will be performed to compare Black students TAKS Math assessments passing rates and discretionary ISS occurrences.

Significance of the Study: This study contributes valuable insight into one of the predictors the high rate of discretionary discipline consequences seen among Black students. Research is unclear regarding whether the academic performance in early grades has a substantial impact on discipline occurrences in later grades. Educators need to know if poor academic performance exacerbates the high rate of discretionary discipline occurrences and contributes to the pressing problem of closing the discipline gap between Black students and other student groups.

Method: The design for this study is the causal comparative quantitative research paradigm examining independent variables that cannot be manipulated. Participants in the study will include more than 375,000 Texas Region 4 high school students enrolled during the 2010-2011 school year. Grade level, ethnicity, discretionary ISS occurrences and TAKS Math data will be obtained from the Texas Education Agency as well as from the Academic Excellence Indicator System report.

FACULTY, STAFF, AND STUDENT



ORAL PRESENTATIONS

TUESDAY, APRIL 3, 2012

FACULTY/STAFF ORAL PRESENTATIONS

CONTINENTAL BREAKFAST REGISTRATION	STERLING STUDENT LIFE CENTER BOARD ROOM #207	8:00 AM – 9:00 AM
FACULTY ORAL PRESENTATIONS	STERLING STUDENT LIFE CENTER	9:00 AM— 12:00 PM
STAFF/STUDENT ORAL PRESENTATIONS	STERLING STUDENT LIFE CENTER	1:00 PM – 5:00 PM

FACULTY ORAL PRESENTATIONS			
TIME	PRESENTER	DEPT.	FACULTY ORAL PRESENTATIONS TITLE
9:05 AM	Qisheng Pan	Urban Planning and Environmental Policy	<i>The Impacts of Light Rail on Residential Property Values in a Nonzoning City: A New Test on the Houston METRORail Transit Line</i>
9:20 AM	<i>Ya Fatou Njie-Mbye</i>	Pharmaceutical Sciences	Hydrogen Sulfide-Induced Increase in Cyclic AMP Production in RPE-J Cells: Role of Prostanoids, Adenylyl Cyclase and KATP Channels
9:35 AM	Rockell Brown Burton	Radio, Television, and Film	From Clair Huxtable to Michelle Obama: 21st Century Images of African-American Women
9:50 AM	Zivar Yousefipour	Health Sciences	Role of Serum Response Factor (SRF) and NFkB in Acrolein-induced Modulation of Inflammatory Gene Expression Profiling
10:05 AM	Ericka Kelsaw	<i>Law School</i>	Out of Our Right Minds: The Effects of Cognitive Bias on Social Problems and How Taking the Middle Road Can Help
10:20 AM	Monica L. Rasmus	Health Sciences	Second, Do Less Harm - The State of States Medical Errors
10:35 AM	<i>Holim Song, S. Nina Saha, Emiel Owens</i>	Curriculum and Instruction/ Education Administration and Foundations	Educational Technology Integration into Educator Preparation Programs
10:50 AM	Daniel Vrinceanu	Physics	<i>Angular Momentum Changing Transitions in Proton-Rydberg Hydrogen Atom Collisions</i>
11:05 AM	Maruthi S. B Bhaskar	Environmental Science and Technology	Monitoring Water Quality Using Remote Sensing
11:20 AM	Byron E. Price	Political Science	Revisiting Prison Privatization: Resource-based and Political-Based Approaches
11:35 AM	Arthur L. Whaley	Psychology	Academic Achievement and Behavioral Health Among Asian-American and African-American Adolescents: Testing the Model Minority and Inferior Minority Assumptions

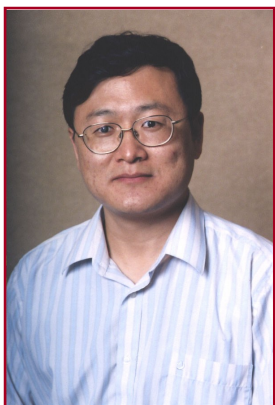
9:05 A. M.

The Impacts of Light Rail on Residential Property Values in a Nonzoning City: A New Test on the Houston METRORail Transit Line

Qisheng Pan, PhD

Professor, Urban Planning and Environmental Policy

Barbara Jordan– Mickey Leland School of Public Affairs



The impacts of rail transit system on residential property values have been examined in many metropolitan areas crossing the world. But there were few studies on the effects of light rail in a non-zoning city. As the rail transit in a non-zoning city, Houston's light rail transit line, or so-called METRORail, has not received much attention in planning research society ever since it opened to public in 2004. This study employed the most recent 2010 InfoUSA household data to reexamine the effects of Houston's METRORail line on residential property values. Similar to the previous study, the author adopted a traditional ordinary linear regression (OLS) to investigate the contribution of a set of variables representing the physical, neighborhood, and accessibility characteristics of properties, and also employed a multi-level regression model (MLR) to examine the hierarchical structures of spatial data explicitly. Due to the spatial dependence of the variables in the models, this study also examined the spatial autocorrelation in the modeling process and analyzed its effects on the results. The modeling results suggest that the METRORail line has had significant net positive effects on some residential property values. MLS model captures the difference of the effects with more spatial details. Spatial regression model improves model fit but spatial autocorrelation cannot be completely eliminated.

9:20 A. M.

Hydrogen Sulfide-Induced Increase in Cyclic AMP Production in RPE-J Cells: Role of Prostanoids, Adenylyl Cyclase and KATP Channels

Ya Fatou Njie-Mbye, PhD

Research Assistant Professor, Pharmaceutical Sciences

College of Pharmacy and Health Sciences



Ya Fatou Njie-Mbye¹, Madhura Chitnis¹, Catherine A. Opere², and Sunny E. Ohia¹ ¹Department of Pharmaceutical Sciences, College of Pharmacy and Health Sciences, Texas Southern University ² Department of Pharmacy Sciences, Creighton University Medical Center, Omaha, NE

We have evidence that hydrogen sulfide (H₂S) plays a regulatory role in signal transduction processes in mammalian retina. However, the mechanism by which it exerts this effect is not clear. In this study, we investigated the mechanism of action of H₂S on cyclic AMP (cAMP) formation in rat retinal pigment epithelial (RPE-J) cells. Cultured RPE-J cells treated with the cyclic nucleotide phosphodiesterase inhibitor, IBMX were exposed to varying concentrations of the H₂S donor (sodium hydrosulfide, NaHS), in the presence or absence of cyclooxygenase (COX) inhibitors, the diterpene activator of adenylyl cyclase, forskolin or the KATP channel antagonist, glibenclamide. Cell homogenates were prepared for cAMP content by EIA. In RPE-J cells, NaHS (1nM, 100nM) caused an inhibitory effect on cAMP production when compared to basal levels. Interestingly, the COX inhibitors, indomethacin (10μM) and flurbiprofen (3μM), elicited a reduction of basal cAMP production and unmasked an excitatory activity of NaHS on cAMP. In the presence of prostaglandin synthetase inhibition, NaHS (1nM-100μM) elicited a significant (p< 0.05) concentration-dependent increase in cAMP when compared to basal levels. Effects caused by forskolin (10μM) on cAMP production were potentiated by addition of low concentrations of NaHS. Furthermore, glibenclamide (100μM) significantly (p< 0.01) attenuated the NaHS-induced-increase on cAMP production. We conclude that H₂S can increase cAMP production in RPE-J cells, and this effect involves the production of endogenous prostaglandins which functionally oppose the H₂S response. In addition, both the adenylyl cyclase pathway and KATP channels are involved in mediating the observed effects of H₂S on cAMP production.



9:35 A. M.

From Clair Huxtable to Michelle Obama: 21st Century Images of African-American Women

Rockell Brown Burton, PhD

Assistant Professor, Radio, Television, and Film

School of Communications

In February 2009, Michelle Obama's March Vogue cover sparked questions regarding the intersection of mainstream notions of race and class. The image represented the dawning of a pre-conceived Obama era of social change: a change that would correspondingly be reflected on television and film. First Lady Michelle Obama's image could potentially demystify and deconstruct African-American female stereotypes; thus, paving the way for strong, feminine and intellectual Black women characters to emerge. Conversely, reinforcements by formulaic media representations still persist. Reality television is one such culprit of this formula of seemingly modern-day sapphires and jezebels. Atypical of the prescribed images, Michelle Obama has been defined a "social enigma" (Ulysee, 2009) confusing, contradicting, and shattering pathologically stereotyped representations of African-American women. She is the actualized Claire Huxtable, the welcoming validation of the educated black woman that had easily been written off as fictional some sixteen years prior. Her personification as the black exception, feminism, and realism challenges long standing 19th and 20th century mythical images. These mythical representations reinforce negative stereotypes of African-American women. Myth analysis, similar to textual analysis, is used to examine mediated representations of First Lady Michelle Obama as well as Black female characters prominently featured in reality television programming such as *The Real Housewives of Atlanta* to illuminate the various extremes in portrayals of African-American women that remain prevalent in the 21st century.



9:50 A. M.

Role of Serum Response Factor (SRF) and NFκB in Acrolein-induced Modulation of Inflammatory Gene Expression Profiling

Zivar Yousefipour, PhD

Assistant Professor, Health Sciences

College of Pharmacy and Health Sciences

Co-PI: Mohammad A. Newaz, College of Pharmacy, Chicago State University. Chicago, IL

Inflammatory signaling in acrolein toxicity in VSMC has been proposed but signaling mediators are unknown. Emergence and understanding of inflammatory proteins made it difficult to identify signal transductions in acrolein toxicity. Previously we have shown acrolein-induced vascular toxicity requires SRF dependent activation and expression of NFκB. We confirmed that inhibition of SRF attenuates NFκB. In this study we explored expression of genes involved in inflammatory process and the connection with SRF or NFκB. VSMCs were treated with acrolein (0.5 μg/ml; 24 hrs) with or without pre-incubation with Helenalin (NFκB inhibitor; 2 μM) or CCG (SRF inhibitor; 300 nM) for 30 min. RNA was isolated, gene expression was measured using PCR array examining 84 genes. Acrolein causes over-expression of 6 genes (4-16 fold) and under-expression of 8 genes (7-48 fold). Casp1 (Caspase 1; 12 fold) and Cx3cl1 (Chemokine Ligand 1; 12 fold), involved in cell death and exaggerated immune response, were over-expressed. IL11 and Spp1 were reduced 36 and 24 fold respectively. SRF inhibitor enhanced expression of Abc1, a gene responsible for ATP binding and mRNA transcription by 15 fold. SRF and NFκB inhibition reduced Cx3cl1 expression (7 fold and 4 fold respectively) which was over expressed in acrolein treated cells. Based on these observations we suggest that acrolein induced activation of inflammatory signaling involves expression of Cx3Cl1 gene and is SRF and NFκB dependent.



10:05 A. M.

Out of Our Right Minds: The Effects of Cognitive Bias on Social Problems and How Taking the Middle Road Can Help

Ericka Kelsaw, J. D.

Assistant Professor, Law

Thurgood Marshall School of Law

My interdisciplinary research provides a framework that government can use to help alleviate today's social problems by designing laws and policies using behavioral decision theory (BDT). Insights from BDT reveal various motivations behind citizens' behavior. For example, people do not always make decisions in a rational manner, considering all options. Instead, we are boundedly rational. That is, we often make decisions without fully analyzing problems or comprehending risks. Rather, we use mental shortcuts, known as heuristics, which lead to predictable and systematic errors, known as cognitive biases. These cognitive biases, in turn, can be the basis for many social problems including poverty, gun control, and drugs. Many current laws and policies either ban boundedly rational conduct or ignore it. However, a middle-road solution—"debiasing through law"—can be used by government to design and enact laws that eliminate or reduce people's boundedly rational behavior. Applying the knowledge gained from BDT, debiasing through law contemplates changes to our legal system that complement people's natural inclinations and mental processing. My research applies BDT and the concept of debiasing through law to the social problem of road deaths and injuries, with a specific focus on motorcyclists and safety helmets. The framework proposed in my article, which can be applied to a variety of social problems, analyzes the unique heuristics and cognitive biases of bikers and then provides empirically proven debiasing recommendations to help reduce bikers' judgment errors, encourage their use of helmets even without mandatory laws, and ultimately, increase road safety.



10:20 A. M.

Second, Do Less Harm - The State of States Medical Errors

Monica L. Rasmus , DrPH, MEd

Assistant Professor, Health Sciences

College of Pharmacy and Health Sciences

BACKGROUND: Hospitals were designed to be a safe haven and respite from disease and illness. However, a large body of evidence points to preventable errors in hospitals as the eighth leading cause of death among Americans. The Institute of Medicine's publication, *To Err is Human*, was the nationwide impetus for hospitals implementing measures to increase patient safety and reduce medical errors in their facilities. This paper looked at the factors needed to reduce the IOM formulae rates. **METHODS:** A meta-analysis was conducted to identify the changes in overall patient safety rates since the 1999 IOM report. Data analysis was performed to quantify expected injury and mortality rates due to adverse events and medical errors according to IOM formulae. Rates of the twenty-one states in 2006 with medical error reporting systems were compared to the last published data from 2010 for these same states. **RESULTS:** All of the twenty-one states with medical error reporting systems in 2006 with the exception of one state showed trends of increasing numbers for expected adverse events, medical errors and deaths due to medical errors. The aggregate data for the United States also demonstrated the increased trend in these rates. **CONCLUSIONS:** Although changes have occurred in patient safety a dozen years after the IOM report, the changes have not had an overall impact on reducing injury and deaths from preventable medical errors. Recommendations are made for the revision of the IOM formulae.

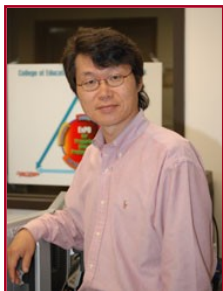
10:35 A. M.

Educational Technology Integration into Educator Preparation Programs

Holim Song, S. Nina Saha, Emiel Owens, Ed.D.

Professors, Curriculum and Instruction and Education Administration and Foundations

College of Education



Technology use and integration is a critical issue in educator preparation programs. Teachers are expected to leave preparation programs with an understanding of technology and an ability to integrate it with the content they teach. Thus, it is imperative for faculty members in colleges of education to model technology usage in their own courses. Technology integration in K-12 teaching is more likely to occur when prospective teachers are exposed to a wide variety of new technology and technology integration into their courses. How can we expect teachers to integrate technology into their teaching if we in teacher education programs do not provide them with a variety of experiences in technology integration. Thus, universities have a responsibility to provide pre-service teachers relevant exposure to technology integration and appropriate classroom use. It is also critical that there is research conducted to study the effectiveness of this technology integration, both at the university level and in K-12 classrooms. This presentation will focus on a discussion of the issues that emerged as critical factors regarding technology integration in Higher Education, and their impact on teachers' use of technology in K-12 classrooms. In order to understand this issue of technology integration, data were drawn from the Educational Technology in Teacher Education Programs for Initial Licensure Survey sponsored by the National Center for Education Statistics. This survey data provides an excellent resource for examining issues related to technology integration in educator preparation programs. The presentation will be geared towards faculty in educator preparation programs. The three presenters will present the critical issues that emerged from the data and connect that to their own experiences with technology integration into their courses.

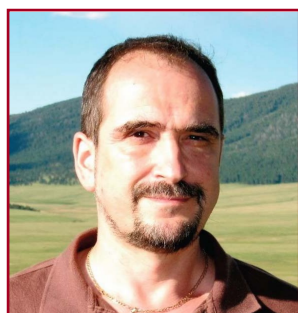
10:50 A. M.

Angular Momentum Changing Transitions in Proton-Rydberg Hydrogen Atom Collisions

Daniel Vrinceanu, PhD

Assistant Professor, Physics

College of Science and Technology



Collisions between electrically charged particles and neutral atoms are central to understand the dynamics of neutral gases and plasmas in a variety of physical situations of terrestrial and astronomical interest. Specifically, redistribution of angular momentum states within the degenerate shell of highly excited Rydberg atoms occurs efficiently in distant collisions with ions. This process is crucial in establishing the validity of the local thermal equilibrium assumption and may also play a role in simulations of primordial recombination. We provide an accurate, non-perturbative rate coefficient for collisions between protons and $H(nl)$ leading to a final state $H(n'l')$ represented by the formula $q_{n \rightarrow n'}(T) = \frac{3.992 \times 10^{-4}}{\sqrt{T[K]}} \frac{n^2 [n^2(l+l') - l^2(l+l' + 2|\Delta l|)]}{(l+1/2)|\Delta l|^3} \text{ cm}^3/\text{s}$, where $l_<$ is the smallest between l and l' , and $\Delta l = l - l'$. The validity of this formula is confirmed by results of classical trajectory Monte Carlo simulations. Previous results (Pengelly & Seaton), obtained only for dipole-allowed transitions $\Delta l = l - l'$ overestimate the l -changing collisional rate coefficients, and the physical origin of this overestimation is discussed.



11:05 A. M.

Monitoring Water Quality Using Remote Sensing

Maruthi Sridhar Balaji Bhaskar, PhD

Assistant Professor, Environmental Science and Technology

College of Science and Technology

Mapping the water quality of the lakes, rivers and oceans of a large spatial scale at frequent and periodic intervals is labor intensive, expensive and is very difficult. The focus of our study is; to determine the biological and chemical characteristics of water samples collected across Lake Erie over a period of time; and to determine if satellite imagery such as Landsat and Modis can be used to map the several water quality characteristics. Water samples were collected from geo referenced locations across the Lake Erie on the days of satellite overpass and were analyzed for predicting several biological and chemical concentrations of water. Regression equations were established to search for algorithms that could map the water quality parameters using the dark-object-subtracted (DOS) satellite bands and the non-reciprocal spectral ratios derived from the satellite spectral bands. The models that were developed are successfully tested for robustness by applying it to withheld data sets. This research has significant implications in mapping the water quality characteristics.



11:20 A. M.

Revisiting Prison Privatization: Resource-based and Political-Based Approaches

Byron E. Price, PhD

Associate Professor, Political Science

Barbara Jordan-Mickey Leland School of Public Affairs

U.S. state governments have a long history engaging in prison privatization, but the justifications for the growth of private prisons have remained inconclusive. This study examines the effects of resource-based and political-based factors on prison privatization decisions through extending the first generation of empirical research. This study found that prison capacity and regional identities are significant factors for predicting on-going private prisons, while correction expenditures and government ideology are not significant factors for supporting the steady growth of private prisons. The results imply that decisions to hold private prison operations become institutionalized over the period, once prison privatization was adopted.

11:35 A. M.

Academic Achievement and Behavioral Health Among Asian-American and African-American Adolescents: Testing the Model Minority and Inferior Minority Assumptions

Arthur L. Whaley, PhD, DrPH

Professor and Chair, Psychology

College of Liberal Arts and Behavioral Sciences

The present study tested the model minority and inferior minority assumptions by examining the relationship between academic performance and measures of behavioral health in a subsample of 3,008 (22%) participants in a nationally representative, multicultural sample of 13,601 students in the 2001 Youth Risk Behavioral Survey, comparing Asian Americans (N = 408) and African Americans (N = 2600). Specifically, the study examined associations of students' self-reported grades with suicide risk, substance abuse, and violent behaviors. The findings revealed that high academic performance is a protective factor against behavioral health problems for both ethnic groups. The results raise questions about the focus on high achievement among Asian Americans versus academic underachievement among African Americans. Implications for theory, research, training and practice in addressing the mental health implications of achievement behavior in Asian American and African American youth are discussed.

TUESDAY, APRIL 3, 2012

STAFF/STUDENT ORAL PRESENTATIONS

STAFF/STUDENT ORAL PRESENTATIONS

STERLING STUDENT LIFE CENTER

1:00 PM – 5:00 PM

BOARD ROOM #207

STAFF ORAL PRESENTATIONS

TIME	PRESENTER	DEPT.	STAFF/ STUDENT ORAL PRESENTATIONS TITLE
1:05 PM	Latisha Clark	Transportation Studies	Petrochemical Incident Location System (PILS)
1:20 PM	Poonam Sarkar	Pharmacy	Proteomic Profiling of Mouse Brain in Simulated Microgravity Environment
1:35 PM	Subria Lapps Dr. Michael Adams Mellany Patrong	Public Affairs	Exploring Study Abroad Opportunities At HBCUs: Making The Transition at Home and Abroad

STUDENT ORAL PRESENTATIONS

1:50 PM	Kedarious Colbert	Public Affairs	Zoning as a Factor of Urban Injustice: An Analysis of the City of Houston Zoning Ordinances
2:05 PM	Destinee Stroud	Biology	Pharmacological Actions of Isolated Bovine
2:20 PM	Pamela Mbonu	Chemistry	Characterization of Anti-Cadherin 11 Antibodies for Inhibition of Prostate Cancer Bone Metastasis
2:35 PM	Cassandra Oduola	Physics	Finding Symmetry in Quantum Turbulence
2:50 PM	Xiaomei Bian	Pharmaceutical Sciences	Peg-Gold Nanorod's-Anti CA IX Conjugates for Tumor Targeting and Therapy
3:05 PM	Christina Randall	Biology	The Study of ER Stress in the P23H + \ RHO + Transgenic Mouse
3:20 PM	Angela C. Offurum	Health Sciences	Operational Decisions in Healthcare: The Impact of Knowledge Assets
3:35 PM	Shantell Phillips	Biology	The Effects of Titanium Dioxide Carbon Nanotubes on Human Fetal Osteoblast Cells
3:50 PM	Samrawit Yeshitla	Biology	Heart Mitochondrial Mutations in CB57BL/6 Mouse Due to 6 Gy Proton Radiation
4:05 PM	Corey Williams	Biology	Fabrication and Characterization of Nanoporous Alumina for Biosensor Applications
4:20 PM	David Taylor	Chemistry	Identification of Cell Cycle Regulators in Yeast
4:35 PM	Mahoganyne Galentine	Mathematics	On The Solution of $x_{n+1}=f(x_n)/x_n-1$ Where f is Piecewise Linear



1:05 P. M.

Petrochemical Incident Location System (PILS)

Latisha Clark, M.S.

Research Staff, Transportation Studies, National Transportation Security Center of Excellence
– Petrochemicals (NTSCOE-P)

College of Science and Technology

Co-PI: Antarr Byrd, Tingting Gu, Jarvis Scott, Dr. Yi Qi, Dr. Oscar Criner

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 occurrence of incidents involving hazardous materials chemicals. 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. 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.



1:20 P. M.

Proteomic Profiling of Mouse Brain in Simulated Microgravity Environment

Poonam Sarkar, PhD

Research Associate, Pharmacy

College of Pharmacy and Health Sciences

Co-PI: Dr. Kim H., University of Alabama, Birmingham

0' g environment experienced by astronauts are known to induce deleterious effect to the flight crew. The brain experiences a tremendous fluid shift leading to obvious changes in physical activity of the astronauts and this has remained a question for investigation. The microgravity stress therefore may be detrimental in inducing changes in the brain proteome that affect the brain function. Proteomics have evolved as a major cutting edge methodology to study global changes in protein expression and, have gained as one of the important platform for protein expression analysis. In the present study an effort is made to understand the global protein changes in two important regions, mainly hippocampus and hypothalamus of mouse brain subjected to simulated microgravity for seven days. Proteomic analysis in the hippocampus and hypothalamus revealed major changes in proteins involved in metabolism, oxidative stress and cellular structure. Proteins showing significant changes as determined by proteomics analysis were further validated by western blot analysis. These preliminary results lead to an understanding of the alteration of proteins in response to microgravity stress in mouse brain, and can partially explain some of the physiological outcome.



1:35 P. M.

Exploring Study Abroad Opportunities At HBCUs: Making The Transition at Home and Abroad

**Subria Lapps, MPA; Michael O. Adams, PhD;
Mellany Patrong**

Adjunct Professor, Professor, and Program Coordinator
Public Administration

Barbara Jordan-Mickey Leland School of Public Affairs

Study abroad programming is critical to the academic and administrative development of universities. Professors, administrators, and students are challenged simultaneously to adapt to processes and procedures both domestically and abroad. With minorities at both HBCU's and non-urban institutions consistently displaying low participation in study abroad programming, HBCU's have the unique challenge to address this disparity and potentially reverse it by introducing specific steps in strategic planning. This panel will explore many of the challenges and opportunities for developing and enhancing study abroad programming at HBCU's.



1:50 P. M.

Zoning as a Factor of Urban Injustice: An Analysis of the City of Houston Zoning Ordinances

Kedarious Colbert, B.S.

Graduate Student, Ronald McNair Scholars Program/Public Affair

Mentor and Co-PI Dr. Theophilus Herrington

Barbara Jordan– Mickey Leland School of Public Affairs

Although it is the fourth largest city in the United States, Houston is the only city of its stature that does not have zoning laws. This has become an attraction and also deterrence for those who commute or plan to develop within this area. Strategic city planning determines the future plans and continuity of progression within a city. This study was conducted to identify areas within the city of Houston where there has been an occurrence of structural injustices based upon demographical differences (i.e., race, socio-economic status, educational level, etc.) and how these key factors determine area development, but also create injustices. Two different Houston communities were examined to identify differences in area development, such as community development, land use, educational facilities, business development and recreational sources. Distinctions owing in part to lack of enforcement of zoning due to nonexistent and unfair arbitrary rules were observed.



2:05 P. M.

Pharmacological Actions of Isolated Bovine

Destinee Stroud

Undergraduate Student, Biology

College of Science and Technology

Evidence from literature has shown that hydrogen sulfide (H₂S), can exert pharmacological effects on mammalian smooth muscles. Studies in our laboratory report that H₂S can relax pre-contracted porcine irides, an effect dependent on the biosynthesis of H₂S. Purpose: In the present study, we further investigated the relaxant action of L-Cysteine, a substrate for the production of H₂S on isolated bovine irides. Methods: Iris smooth muscle strips were removed from freshly excised bovine eyeballs and set up in 25 ml organ bath containing oxygenated Krebs buffer solution. The smooth muscle preparation was connected to a Grass FT03 transducer under resting tension of 1g and allowed to equilibrate for 30 minutes. Changes in isometric tension were recorded and displayed on the Grass PolyView Computer software program. The relaxant action of L-Cysteine on basal and carbachol-induced tone was studied in the presence and absence of inhibitors of cyclo-oxygenase and H₂S biosynthesis enzymes. Results: L-Cysteine elicited a concentration-dependent relaxation of both basal and carbachol-induced tone in bovine irides; however, this same relaxation was not seen in the porcine irides. Inhibition of cyclo-oxygenase with flurbiprofen had no significant effect on relaxation induced by L-Cysteine on basal tone in bovine irides. The inhibitor of cystathionine β -synthase, aminooxyacetic acid significantly reduced the relaxation of bovine irides induced by L-Cysteine. Conclusion: L-Cysteine can relax basal tone of isolated bovine irides. Furthermore, prostanoids are not involved in this relaxant effect induced by L-Cysteine on basal tone. Bovine irides appear to be more sensitive to the inhibitory action of L-Cysteine than its porcine counterpart, indicating that species differences.



2:20 P. M.

Characterization of Anti-Cadherin 11 Antibodies for Inhibition of Prostate Cancer Bone Metastasis

Pamela Mbonu

Undergraduate Student, Chemistry

College of Science and Technology

Prostate cancer is the most common cancer among men. The effects from this disease usually results mostly from the proliferation of tumor cells to secondary sites, particularly bone. Adhesion molecules are said to play a major role in cancer metastasis by making it easier for the interaction between the metastatic cancer cells and cells present in target organs. The innate manner of prostate cancer migrating to bone suggests that prostate cancer cells may interact with specific cells in the bone microenvironment. The most likely candidates are the osteoblasts. The interaction of disseminated prostate cancer cells with osteoblasts may be one of the steps that lead to colonization of bone by prostate cancer cells. Previous studies by Lin lab has shown that an osteoblast adhesion molecule, cadherin-11, plays a role in the metastasis of prostate cancer cells to bone, likely by enhancing the adhesion between prostate cancer cells and osteoblasts. The significance of this experiment is to see if the inhibition of the interactions between prostate cancer cells and osteoblasts may prevent or decrease the incidence of bone metastasis in prostate cancer and improve patient's survival. It was hypothesized that antibodies against cadherin-11 can be used to block the interactions between prostate cancer cells and bone and decrease the probability of bone metastasis. The extracellular domain of Cadherin-11 protein was generated and was injected into mice for the generation of monoclonal antibodies. The antibody was screened for their ability to block cadherin-11-mediated adhesion in an aggregation assay. Expression and purification of the extracellular domain fragments was used to map the 2C7 antibody binding region. The research is ongoing and no results have been obtained yet. But the 2C7 antibody is one of the antibodies that blocked the aggregation.



2:35 P. M.

Finding Symmetry in Quantum Turbulence

Cassandra Oduola

Undergraduate Student, Physics

College of Science and Technology

Turbulence is a phenomenon associated with chaotic and stochastic change in properties. The unpredictability of natural disasters such as hurricanes and tsunamis are due to turbulence in weather patterns. This same sort of turbulence is exhibited at the quantum level in interactions of electrostatic waves with quantum dots. Quantum dots are nano-particles, with a small amount of free electrons, with excitations exhibited through different wavelengths of light. The control of where the electrons are located, versus where they are not located, "holes", could revolutionize the semiconductor industry where traditional semiconductors are inadequate. Thus an understanding of the interaction of turbulent electrostatic fluctuations with the probability of electron locations is important for efficient fabrication of semiconductors. This research employs the non-linear Schrödinger coupled with Poisson's equation for two dimensional quantum turbulence simulations. A turbulence model has been started. Research has found evidence of soliton solutions to the non-linear Schrödinger coupled with Poisson's equation. Solitons are self-reinforcing waves in nature that are also symmetric. Solitons are also found in quantum turbulence therefore symmetry can be found in quantum turbulence.

2:50 P. M.

Peg-Gold Nanorod's-Anti CA IX Conjugates for Tumor Targeting and Therapy

Xiaomei Bian

Doctoral Student, Pharmaceutical Sciences

Faculty Advisor: Huan Xie

College of Pharmacy and Health Sciences

Co-PI: Dr. Amit Anil Deorukhkar and Dr. Sunil Krishnan



Purpose: Gold Nanorods (GNRs) are new type of nanomaterial with unique dimension and optical properties. They are ideal for targeting and near-infrared thermal ablation agent to tumors. Carbonic anhydrase IX (CA IX), strongly induced by hypoxia, is overexpressed in many cancer cells membrane, but barely present in normal cells, which makes CA IX becoming an attractive target for cancer diagnosis. Therefore we applied PEG-GNRs-anti CA IX conjugates to cancer diagnosis and therapy for better tumor targeting and therapy efficacy. **Method:** In conjugation process, GNRs were used as scaffold, OPSS-PEG-SVA as cross linker, and anti CA IX antibody as targeting moiety; PEG-2K-SH was added to the spare space of GNRs afterwards. The binding affinity and selectivity of the PEG-GNRs- anti CA IX conjugates were tested by ELISA, cell binding assay, and cell photothermal therapy. HT29 cell line (overexpressing CA IX) and NIH3T3 cell line (no expressing CA IX) were tested in our study as well. **Result:** ELISA demonstrated the actual binding ratio of anti CA IX to each GNR was around 1.46. In the cell binding assay, PEG-GNRs-anti CA IX only showed selectively binding to HT29 cells whereas not to NIH3T3 cells. NIR laser treatment at 800nm for 6 minutes caused remarkable photodestruction of HT29 cells incubated with PEG-GNRs-anti CA IX; whereas no significant cell photodestruction of HT29 cells incubated with medium or GNRs-PEG. **Conclusion:** PEG-GNRs-anti CA IX conjugates could be a therapeutic nanoconstruct for efficient tumor targeting and photothermal therapy.

3:05 P. M.

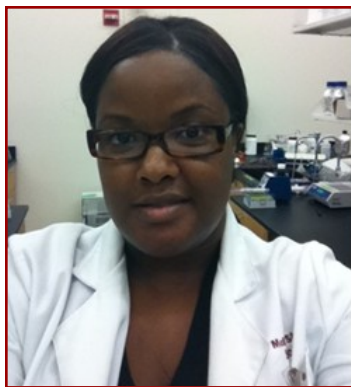
The Study of ER Stress in the P23H +\ RHO + Transgenic Mouse

Christina Randall

Undergraduate Student, Biology

Faculty Advisor: Dr. Bobby Wilson

College of Science and Technology



The Rhodopsin gene mutations are one of the most prevalent causes of Retinitis Pigmentosa. The Human P23H Rhodopsin (RHO) is a misfolded protein that leads to Autosomal Dominant Retinitis Pigmentosa (ADRP). This mutation causes protein misfolding provoking endoplasmic reticulum (ER) stress and activation of the unfolded protein response (UPR) which may lead to apoptosis and eventually result in rod photoreceptor degeneration. Exploring ER stress will engender key information for pathology of ER stress related retinopathies. Endoplasmic reticulum stress activated indicator (ERAI) was developed to facilitate the analysis of ER stress. The ERAI mice carry the human XBP1 and Venus (a variant of green fluorescent protein) transgene. The P23H+/- ERAI+/- RHO+/+ mice were generated by crossing the P23H+/- RHO+/+ and ERAI+/- RHO +/+ mice. The P23H +/- ERAI+/- RHO+/+ were sacrificed at postnatal day 15 and 30. Retinas were fixed in 4% paraformaldehyde and then were sectioned with a cryostat (12μm). The green fluorescent protein was observed by fluorescence microscopy after immunohistochemistry with antibodies against GFP and rhodopsin proteins. This finding indicates that the P23H+/- rhodopsin in the RHO+/+ mouse photoreceptors causes ER stress and activates the UPR at P30. No fluorescence was observed at postnatal day 15. Further study is required to determine the initial time point of the ER stress in P23H transgenic mice.

3:20 P. M.

Operational Decisions in Healthcare: The Impact of Knowledge Assets

Angela C. Offurum

Graduate Student, Health Sciences

College of Pharmacy and Health Sciences



Introduction: Healthcare professionals make critical decisions daily. Decisions are affected by Knowledge Assets. The goal of the study was to determine whether the use of Knowledge Assets would have a positive impact on operational decisions. Knowledge Assets refer to data collection and environmental items in the workplace.

Methods: A questionnaire was given to a convenience sample of 17 decision makers from healthcare and other business settings as part of this pilot study. A five-point Likert scale was used for the measurement of usage capacity of the assets, ranging from 'Always' to 'Never.' Responses to the questionnaire were analyzed and results categorized as 'Positive,' 'Negative,' or 'No Impact.'

Results: Findings indicated a significant difference in usage capacity between guidelines and other assets. For the assets with high usage capacity, respondents indicated positive impact on operational decisions. For the assets with low usage capacity, the range of responses was 'Negative' to 'No Impact,' or 'Uncertain'. Patterns emerged in the study results as the use of Knowledge Assets fell into 'Positive,' 'Negative,' and 'No Impact' response categories depending on the set indicator assigned to the asset by the respondent. Results suggest that guidelines have positive impact on operational decisions, presumably because compliancy is emphasized.

Conclusion: The model can be applied to any business setting. Proper use of Knowledge Assets can result in positive impact on operational decisions, affecting lives, especially in health settings. Other recommendations: standardize set indicators and research the financial impact of Knowledge Assets on patient care and employee morale.

3:35 P. M.

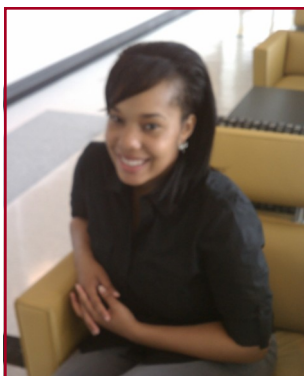
The Effects of Titanium Dioxide Carbon Nanotubes on Human Fetal Osteoblast Cells

Shantell Phillips

Undergraduate Student, Biology

Faculty Advisor: Dr. Renard L. Thomas

College of Science and Technology



Regenerative medicine creates functional human tissues to repair tissues or organs due to damage and injury. Bone injuries are a very common human health disorder, and often take months to fully heal. Thus, the need for enhanced bone regeneration is of great interest. This project will investigate titanium dioxide coated carbon nanotubes (TiO₂-CNTs) as a bone regeneration agent. Carbon nanotubes have been reported as a bone growth accelerator with enhanced flexibility and high structural integrity. At the same time, titanium is the most common metal used for human bone and joint implants. TiO₂-CNTs are synthesized with Texas Southern University proprietary process of electrodeposition of titanium dioxide onto the surface of carbon nanotubes. This new composite material is anticipated to synergistically combine these two structural agents into an enhanced bone growth scaffold. The objective of this project is to perform a dose-response assessment of single walled carbon nanotubes (SWCNT), TiO₂ and TiO₂-CNT with the Human Fetal Osteoblast (hFOB) cell model using the Neutral Red Assay. At this point, the study results show a significant hFOB cell growth enhancement with lower concentrations of SWCNTs. Future studies will further assess the toxicity of TiO₂ crystals and TiO₂-CNTs to the hFOB cells and determine if improved cell growth can be realized.

3:50 P. M.

Heart Mitochondrial Mutations in CB57BL/6 Mouse Due to 6 Gy Proton Radiation

Samrawit Yeshitla

Graduate Student, Biology

Faculty Advisor: Dr. Hector C. Miranda, Jr.

College of Science and Technology

Co-PI: Dr. Adebayo Oyekan and Dr. Hector C. Miranda, Jr.

The mitochondrial genome is an ideal biomarker of diseases and environmental stressors such as proton radiation. Cardiac muscles have relatively large amounts of mitochondria, and many point mutations are linked to cardiovascular diseases. To understand the immediate effect of proton radiation on mammalian cardiovascular system at the molecular level, we sequenced the whole mitochondrial genome (16.3 kb) of C57BL/6 mouse heart tissue irradiated with 6 Gy and sacrificed after 4 hours. The sequenced mitochondrial genome was 16,301 bases, 2 bases longer than the published sequence for the same mouse strain. At the ND2 gene, one homoplasmic silent transitional mutation was found at site 04891T>C and one heteroplasmic site (C/A) at 04897. Both mutations were silent located at the 3rd codon position. A single Adenine heteroplasmic deletion at the L-strand origin of replication polyA tract between 05172 and 05182 and a two-base Adenine insertion at the tRNAArg polyA tract between 09821 and 09830 were found. The proton-irradiated mouse mutation rate was calculated at 1.2×10^{-4} . Although all mutations detected were selectively neutral and not pathogenic, the rate of mutation was 8 times higher than normal, and higher than published somatic mutation rates observed in mice brain cancer cells and experimentally-induced mice tumor cells. Additional analyses substituting dominant nucleotides with variant nucleotides to account for non-dominant novel mutations suggested that the mutation rate in mice induced by proton-radiation could be as high as 12 times than normal in a relatively short period of time (4 hrs). These values predict high likelihood of fatal mutations to occur over a short period of time, suggesting that proton radiation for cancer therapy, and on biological systems during space travel, should be further evaluated.

4:05 P. M.

Fabrication and Characterization of Nanoporous Alumina

Corey Williams

Undergraduate Student, Biology

Faculty Advisor: Dr. Olufisayo Jejelowo

College of Science and Technology

Co-PI: Dr. Jejelowo. Dr. Pourmand. Dr. Jessica koehne Adam Seger Boaz Vilozony PaloActis

Nano-porous Alumina (Al_2O_3) is fabricated from sheets of aluminum, which is anodized to achieve films with ordered hexagonally packed nanoscopic pore arrays. We are interested in Al_2O_3 because with the desired pore length ($\sim 6 \mu\text{m}$ deep) and diameter ($\sim 60 \text{ nm}$), the Al_2O_3 can be transformed into a label free biosensor to detect and convert analyte binding into a quantifiable signal by purely electrical means. This biosensor will be useful in applications that rely on detecting, measuring, and differentiating between chemical components in the environment. To improve the biosensor, we need to control pore length, diameter, and density. To fabricate the Al_2O_3 , we control current density, time, and temperature of different electrolytic species and use Scanning Electron Microscopy (SEM) and Atomic Force Microscopy (AFM) to analyze and characterize the physical properties of Al_2O_3 , such as pore size and shape. Ultimately, we want to determine the parameter best apt for fabricating the Al_2O_3 with desired pore diameter and length. Data obtained from the electrical detection methods will be recorded and plotted in I-V curves to highlight the relationship between the electrolyte and current density on pore size.

4:20 P. M.

Identification of Cell Cycle Regulators in Yeast

David Taylor

Undergraduate Student, Chemistry

College of Science and Technology

Co-PI: Scott Hoose, Michael Polymenis, Deepika Kaushal



Saccharomyces cerevisiae (yeast) contains 6,000 genes in its genome. Determining which genes affect the cell cycle can be correctly ascertained by using deletion strains to remove a single gene at a time, and analyze these strains individually. Flow cytometry reveals how much the cell cycle is affected by a given gene by comparing any changes in the mutants to the original wild type. In this experiment, G1% was used as the primary criterion for comparison. It is measured by collecting DNA fluorescence intensity and cell size data, which are obtained by the flow cytometer, and then taking the number of cells in G1 over number of cells in G1 plus the number of cells in G2/M to get the G1%. Results show that many genes affect the cell cycle, which were not identified previously. By this process, human cell cycle-related diseases can be better understood because yeast cells are eukaryotic and many of their genes that regulate the cell cycle are similar to those of humans.

4:35 P. M.

On The Solution of $x_{n+1} = f(x_n)/x_{n-1}$ Where f is Piecewise Linear

Mahogany Galentine

Faculty Advisor: Dr. Willie E. Taylor

Undergraduate Student, Mathematics

College of Science and Technology

Co-PI: Dr. Willie E. Taylor and Jessica Poole



This work investigates the solutions of the second order difference equation

$$x_{n+1} = \frac{f(x_n)}{x_{n-1}}$$

where f is a piecewise linear function. The major focus will be on examining how the initial values x_{-1} and x_0 determine solution behavior. The study will consider f when f is defined in the following ways:

(A) $f(x) = \begin{cases} Ax, & x > 0 \\ Bx, & x < 0 \end{cases} \text{ where } A > 0, B < 0$

(B) $f(x) = \begin{cases} Ax, & x > 0 \\ Bx, & x < 0 \end{cases} \text{ where } A > 0, B < 0$

(C) $f(x) = \begin{cases} Ax, & x > 0 \\ Bx, & x < 0 \end{cases} \text{ where } A > 0, B < 0$

COLLEGE/ SCHOOL



DISCIPLINE SPECIFIC SESSIONS

WEDNESDAY, APRIL 4, 2012



"OUR BUSINESS IS EXCELLENCE"

10:00 AM — 12:00 PM

LOCATION: JHJ ROOM #127

An Analysis of Key Outsourcing Service Providers

Dr. Mayur S. Desai, Professor of MIS

Dr. Kwadwo Ofori-Brobby, Associate Professor of Management

This study reviews the companies providing application services to outsourcers worldwide. The research specifically focuses on the companies that outsource their applications to companies offshore. The research findings should help understand the outsourcing trend and its current status. The results of the yearly surveys conducted by International Organization for Outsourcing Professionals (IAOP) will be used to identify the key outsourcing service providers. A sample of the key outsourcing providers will be further analyzed to investigate the types of services they offer and consequently the factors such as project size, complexity, technology type, cost, and project completion time frame could be identified. These factors may then be used as guidelines to develop strategy for making outsourcing decisions.

Ad Strategy for Multi-Ethnic Markets: The Influence of Cosmopolitanism

Dr. Delonia Cooley, Assistant Professor of Marketing

Multi-ethnic markets present marketers with an advertising strategy conundrum. Should they use ethnic specific ads or standardized ads? Ethnic specific ads use spokespersons, cues, language, and/or idioms specific to the targeted ethnicity and thus, the firm must create ads for each ethnic group. Standardized or integrated ads are not tailored to any specific ethnic group. Standardized ads use the same spokespersons, cues, language, and/or idioms for all ethnic groups. Findings on the effects of ethnic specific ads are not conclusive though. Some studies find that members of one ethnicity prefer ads with models of another ethnicity. Results on standardized ads come from cross-country studies but findings on standardized ads in multi-ethnic markets are scant. In addition, within-country consumer variations tend to be greater than between-country consumer variations. Therefore, consumer similarities cross-countries may warrant an ad standardization strategy while consumer differences within a market, intensified by widespread online communications, may not. But concluding that ethnic specific ads should be used in multi-ethnic markets instead of standardized ads lacks empirical validation. The conflicting information on using ethnic specific ads versus standardized ads warrants further scrutiny to determine the optimal advertising strategy for a multi-ethnic market.

Memory-Based Consideration Sets: The Role of Recall Order and Brand Attitude

Dr. David Hansen, Professor of Marketing

Consideration Sets (CS) contain the product alternatives or brands that a consumer considers for purchase in the early stages of the consumer choice process. The CS is important because the final choice depends on the CS. Recent research on memory-based consideration sets has focused on factors that influence the formation of the CS (e.g., number and nature of brands, etc.). These factors include the consumption situation and goals, familiarity with product category and purchase situation, and mood. Despite the importance of brand attitude in choice, there has been no research indicating that brand attitude is a factor in CS formation. However, we propose that brand attitude plays an important role in the CS, and that this is related to a new variable, the recall order of brands in the CS. We propose that brand attitude is inversely related to the order in which brands are recalled in the CS, and that this is due to brand-related affective information stored in memory and its impact on the accessibility of brands in memory. In several experiments we found that brand attitude (measured by purchase intentions and ratings of brand liking), decreased with recall order, and that this occurred in several different brand categories, over three experimental replications. The importance of this research is that it establishes that brand attitude, an otherwise important variable in choice, plays a role in consideration set formation.

WEDNESDAY, APRIL 4, 2012



10:00 AM — 12:00 PM
LOCATION: JHJ ROOM #127

Continued

Energy Price Shocks and Economic Activities in Texas Cities

Dr. Zahid Iqbal, Professor of Finance

It is not known how exogenous shocks in oil price impact city economies. This study examines unemployment rates in Texas cities in relation to oil price movements during the period 1995-2008. We find that unemployment in the bigger cities, namely, Austin, Dallas, and Houston is not related to oil price in a significant way when compared to unemployment in the smaller border cities especially in Laredo. Although Texas economy has become more diversified and less vulnerable to oil price movements in the last two decades, smaller border cities still experience the effect of oil price shocks possibly through the neighboring economy of Mexico. Our data indicate significant variations in the unemployment rate in Laredo due to movements in oil price. We observe improvements in the unemployment rates in Laredo as oil price increases.

Cross-Sector Collaborations and ERM – Strategies for NPO to Effectively Partner with For-Profit Organizations

Dr. Kamala Raghaven

Cross-sector collaborations between nonprofit (NP) and for-profit (FP) organizations are growing in popularity in the United States. The synergies of such collaborations allow NPs to more effectively use their capabilities to serve the needs of stakeholders, including donors and volunteers. Despite the popularity of cross-sector collaborations, NP management must maintain, and further reinforce its internal control policies when seeking collaborative partnerships. Reliable internal control policies, along with coherent enterprise risk management (ERM), will enable NP organizations to sustain efficient operations. The balance between growing operations through cross-sector collaborations, while maintaining sound ERM policies, is crucial for today's NP organization. This paper outlines strategies NPs should follow to achieve effective and efficient collaborations with FP entities. We also discuss the inter-relationship between internal control, ERM, and corporate governance within the NP sector. Lastly, we suggest a template for NP organizations to implement sound risk management policies when contemplating cross-sector collaborations.

Can IT Controls Create an Ethical Corporate Environment?

Dr. Karma Sherif, Associate Professor of MIS

Given the recent corporate scandals that erupted in the last decade, there has been considerable interest in tools, processes, and policies that enforce ethical behavior in organizations. More than twenty five scandals has been reported involving high profile organizations like WorldCom, Enron, Arthur Andersen, Fannie Mae, Adelphia, and Dynegy; to name just a few. The main category for charges against these companies has been financial scandals of accounting fraud. Despite the wide adoption of enterprise systems and IS controls by major corporations, it remains unclear why these systems have not been successful in enforcing ethical behavior within organizations. This research explores the impact of control systems on ethical decision-making examining the technical configuration of systems to enforce controls like authorizations defined by an employee role and responsibility, segregation of duties, cross validation of documents created across the life-cycle of a business process, and audit trails. The research also studies the administrative controls that need to be setup to support IS controls in enforcing ethical behavior. Among the controls are defining an ethics policy and detailing procedures for implementing it throughout the different business processes.

WEDNESDAY, APRIL 4, 2012



SCHOOL OF PUBLIC AFFAIRS

10:00 AM — 12:00 PM

Public Affairs, Walter McCoy Auditorium Room #114

ADMINISTRATION OF JUSTICE

Economics, Justice, and Public Opinion: The Future of Private Prison Industries

Robert B. Cain II, Doctoral Student, Administration of Justice, TSU

Conceptualizing the Militarization of Nigeria through the Framework of the Counter-Colonial Thesis

Jason M. Williams and Heather Alaniz, Doctoral Students, Administration of Justice

Sex Offending Among Female Juveniles: A Preliminary Study

Kashley L. Brown, Doctoral Student, Administration of Justice,

A Critical Inquiry: An Examination of the Contributions of White Supremacy to Theoretical Criminology and Criminal Justice

Jason M. Williams, Doctoral Student, Administration of Justice

African American Incarceration: A Content Analysis of the factors contributing to Disproportionate Minority Confinement (DMC)

Lucy Tsado, Doctoral Student, Administration of Justice

URBAN PLANNING AND ENVIRONMENTAL POLICY

Management of Prolonged Disaster-induced Displacement in Host communities: A Case Study of Houston (Texas) after Hurricane Katrina

Dr. Chandrasekhar, Divya, Assistant Professor, Urban Planning and Environmental Policy

The Sectors Sustainability Measures: Does it Matter in Respect to Municipalities.

Anthony M. Rodriguez, PhD Candidate, Urban Planning and Environmental Policy

Illegal Dumping in Third Ward, Harris County, Houston: More Than an Eye Sore

Shaniquea Aldrich, Garson Myles Fiquare, Olaotan Oduola, Samuel Osho, Urban Planning and Environmental Policy

The Impact of Sustainable Neighborhood Development on Housing Affordability

Amal Abed, Urban Planning and Environmental Policy

POLITICAL SCIENCE

Revisiting Prison Privatization: Resource-based and Political Approaches

Dr. Byron E. Price, Associate Professor, Political Science

The Political Economy of Presidential Declaration of Disasters for the State of Texas: Past, Present and Future

Dr. Agyemang Frimpong, Assistant Professor, Political Science

PUBLIC ADMINISTRATION

Managing Emergencies: Using High Reliability Organizational (HRO) Performance As An Accountability Gauge

Antoinette Christophe, Political Science

Should FEMA- approved Plans be Mandated to Include Elements of Evacuation on Hazard Mitigation Action Plans? A Discussion of Evacuation in FEMA- approved Plans under the Disaster Mitigation Act of 2000

Ponmile Olonilua, Assistant Professor, Political Science, and LaToya Smith-Shields, MPA Student

WEDNESDAY, APRIL 4, 2012



SCHOOL OF PUBLIC AFFAIRS

10:00 AM — 12:00 PM

Public Affairs, Walter McCoy Auditorium Room #114

Continue

PUBLIC ADMINISTRATION

Imperceptible Government: An Analysis of Employing Non-Profits for Service Delivery

Rayanne Darensbourg, Dr. Michael O. Adams, Professor, Eboni Barnes, Political Science,

Cloud Computing: Are Historically Black Colleges and Universities Prepared?

Dr. Michael O. Adams, Professor and Subria Lapps, Assistant Professor, Political Science

Exploring Study Abroad Opportunities at HBCUs: Making The Transition at Home and Abroad

Dr. Michael O. Adams, Professor and Dr. Subria Lapps, Assistant Professor, Political Science

BARBARA JORDAN RESEARCH INSTITUTE

School Discipline and its Impact on Criminal Justice

Dr. Helen Greene, Professor and Dr. David Baker, Associate Professor, Administration of Justice

Technology as a Tool for Education Reform

Dr. Michael O. Adams, Professor; Carroll G. Robinson, Esq., Associate Professor, Political Science; Jay Aiyer, Esq. Barbara Jordan Research Institute

Technological Functions in Public Sector Service Delivery, Professional Development and Minority Civic Engagement

Dr. Michael O. Adams and Jay Aiyer, Esq., Barbara Jordan Research Institute



THURGOOD MARSHALL SCHOOL OF LAW

9:00 AM — 11:00 AM

TMSL - Dean's Conference Room #227

Advancing Together Through Cutting Edge Interdisciplinary Research

- | | |
|--------------------|--|
| 9:00 – 9:30 a.m. | Public Policy Law & Medicine and the Elderly
Martina Cartwright |
| 9:30 – 10:00 a.m. | The Earl Carl Institute Interdisciplinary Journal for Legal & Social Policy and the
Benefits of Interdisciplinary Online Publishing
Sarah Guidry |
| 10:00 – 10:30 a.m. | Out of Right Minds: The Effects of Cognitive Bias on Social Problems and How
Taking the Middle Road Can Help
E. Ericka Kelsaw |
| 10:30 – 11:00 a.m. | Racial Disparity in Provision of Healthcare
Constance Fain |

For More Information Please Contact

Associate Dean L. Darnell Weeden, TMSL Research Week Coordinator lweeden@tmslaw.tsu.edu at 713-313-4249 or
Ms. Pearly Pendenque, Administrative Assistant ppendenque@tmslaw.tsu.edu at 713-313-1076

WEDNESDAY, APRIL 4, 2012**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 produces quality health care professionals who are competent in health care delivery, including the provision of patient-centered care and other health care services and programs. The College prepares students to be leaders in their fields and to be good citizens who utilize their knowledge, skills and abilities to improve the health and well-being of local, state, national and global communities. Many students participate in research projects, covering a variety of topics throughout the College. Faculty and students will be presenting on these projects. Below are a few faculty highlights:

Publications

Dong Liang, Larissa Meyer, David W Chang, Jie Lin, Xia Pu, Yuanqing Ye, Jian Gu, Karen Lu, Xifeng Wu. Genetic Variants in MicroRNA Biosynthesis Pathways and Binding Sites Modify Ovarian Cancer Risk, Survival, and Treatment Response. *Cancer Research*, 70(23):9765-9776, 2011.

S. Fike, PhD, Kenneth L. McCall, PharmD, Flora G. Estes, PharmD, Uche Anadu Ndefo, PharmD, Cynthia L. Raehl, PharmD, Paul R. Lockman, PhD. Promoting minority student learning gains in a prescription practice course. *Currents in Pharmacy Teaching and Learning* 3: 17–22, 2011.

Xie, H., Parmeswaran, P., Deorukhkar, A.A., Goins, B., Bao, A., Phillips, W.T., Wang, Z., Schwartz, J., Krishnan, S. “Integrin $\alpha\beta3$ -targeted Gold Nanoshells Augment Tumor Vasculature-Specific Imaging and Therapy”. *Int. J. Nanomedicine*, 6, 259-269, 2011.

Xie, H., Wang, Z., Bao, A., Goins, B., Phillips, W.T. Radiolabeled Gold Nanoshells for In Vivo Imaging: Example of Methodology for Initial Evaluation of Biodistribution of a Novel Nanoparticle. *Nanoimaging-Biomedical Nanotechnology Book Series*, invited book chapter, in press, 2011

Presentation

Jose A. Torres-Hernandez, MS and Amruthesh Shivachar, PhD. Co-localization of Cannabinoid Receptor Subtypes in Cultured Rat Cortical Astroglial Cells. 50th Society of Toxicology Annual Meeting, Washington, D.C., March 6–10, 2011.

Grant

Dr. Omonike Olaleye, assistant professor of pharmacology, was awarded (2011) a R.A. Welch Foundation Chemistry and Biology Collaborative Grant of \$100,000 for a proposal titled “The Development of Bacterial MetAP Inhibitors as Functional Probes of NME”. The Welch Collaborative Grant Program and the generous support from the Dunn Foundation for the Gulf Coast Consortium for Chemical Genomics (GCC CG) is part of an effort to promote chemical genomics and drug discovery at the GCC CG institutions. TSU is a GCC CG institution.

THE SCHOOL OF COMMUNICATIONS**2:00 PM—4:00 PM****LOCATION: MLK Building Room # 114**

For more information please contact Dr. Vera Walker-Hawkins, Communications Research Week Coordinator hawkinsvw@tsu.edu or 713-313-7247

WEDNESDAY, APRIL 4, 2012

TSU-COST 2012 Research Week Program



**The Texas Southern University
College of Science and Technology**

Presents

The COST 2012 Research Program

*“Advancing Together through cutting edge
interdisciplinary research, and how that impacts
research capabilities and teaching in the COST”*

Presentations will be made by

Dr. Bobby L. Wilson and Dr. Demetrios Kazakos

Panel Discussion will include:

Dr. Yu Li, Dr. Lila Ghemri, and Dr. Shishodia

WHEN: Wednesday, April 4th, 2012

WHERE: Texas Southern University
Science Building, Room 158

TIME: 10:00 AM-12:00 PM

All students and faculty are cordially invited to attend

WEDNESDAY, APRIL 4, 2012**THOMAS F. FREEMAN HONORS COLLEGE****11:00 AM—1:00 PM LOCATION: Honor's College Auditorium**

**Commuting the Death Sentence:
An Alternative for Funding Higher Education**

Jameisha Jones

Freshman, Political Science Major

Project Advisor: Dr. Candy Ratliff

The cost of a college education is cheaper than the cost of executing a criminal. The average cost of a death sentence is \$1.5- \$1.8 million per prisoner. Since the death penalty was reinstated in 1976, there have been 1273 executions in the United States. As of January 1, 2011, there were 3251 prisoners on death row, 62 of which were women; of this total, 321 were in Texas. In Texas, the average cost of the death penalty is \$2.3 million per case. Moreover, the average cost of attending an undergraduate public four year institution is \$15,000 per student, per year. Research shows that in 2008 taxpayers bore the cost of \$37.2 million to execute both the innocent and guilty. Since the death penalty executes the innocent as well as the guilty, it is imperative that states use every precaution to ensure that an innocent person is not executed. Executing an innocent person takes away funds that can otherwise be used to provide financial assistance to students attending Historically Black Colleges and Universities, Predominantly Black Institutions and Hispanic Serving Institutions since these institutions are underfunded. Affording underserved students the opportunity to attend and graduate from college will greatly improve United States education standing globally. For example, "Between 1995 and 2008, the United States slipped from ranking second in college graduation rates to 13th." Investing in education will give the United States a globally competitive advantage. This paper will add to the discourse on ways to fund the education system.



Bone Loss in Microgravity Environments

Chi-Tam Paul Nguyen

Sophomore, Biology Major

Project Advisor: Dr. Alamelu Sundaresan

The adverse effects of microgravity on bones have become a road block for long term spaceflights including those to the Moon and the planet Mars. In particular, microgravity leads to osteopenia, a decreased level of osteocytes such as osteoblasts. Osteoblasts are cells responsible for the formation of bones. When subjected to microgravity, osteoblast growth and differentiation is inhibited through altered gene expression and signal transduction. Documented cases in the Apollo and Skylab flight missions revealed a 1-2% total bone loss per month in addition to increased levels of calcium in urine. Researchers have turned to other components of bone formation, such as the enzyme alkaline phosphatase (ALP). ALP performs optimally in alkaline environments and dephosphorylates molecules such as nucleotides, proteins, and more importantly, alkaloids. Alkaline environments encourage calcification in bones. ALP is inactive in the blood stream as blood is too acidic for ALP to perform its normal functions. Osteoblasts will function optimally when there is a higher concentration of ALP as evident in children and pregnant women. However, a decrease in ALP results in decreased calcification of bones. Without calcification, osteoporosis will begin affecting the individual, causing bone damage and loss especially in microgravity environments. A recently discovered protein called sclerostin has been hypothesized to cause bone loss in microgravity. Its role in normal metabolic functions is to inhibit bone formation, and initial testing for anti-sclerostin drugs have proved to be promising in preventing osteoporosis; however, its application in microgravity environments requires further study.

COLLEGE OF LIBERAL ARTS AND BEHAVIORAL SCIENCES

1:00 PM—3:00 PM

Public Affairs, Walter McCoy Auditorium Room #114

“Continuity and Change in the Humanities: Concepts and Challenges”

The College of Liberal Arts & Behavioral Sciences will conduct a panel discussion that will address the relevance and effectiveness of the traditional humanities curriculum in light of changing cultural, political, and economic realities. How can we embrace and recognize these changing realities in our respective disciplines while at the same time retaining the time-tested elements of the humanities canon? We invite you to share a few ideas based on the dichotomy of tradition and change in YOUR academic discipline!

WEDNESDAY, APRIL 4, 2012



*Advancing Together
Through Cutting Edge
Interdisciplinary Research*

COLLEGE
OF
EDUCATION

2012
RESEARCH
WEEK

Wednesday, April 4th

5:00 PM- 6:30 PM

Room 318

RR Paige Education
Building

DOCTORAL PRESENTERS

Curriculum and Instruction

Kennetra A. Bryant

Ava Hogan-Chapman, *Fellow*

Roshondra G. Square-Daggs,

Deirdre Davenport

Charlene Mary James

Jermion C. Malone

Lori P. Rochelle, *Candidate*

Torivio Trevino, Jr.

Educational Administration and Foundations

Patricia Jackson

Hogan-Chapman, A., & Malone, J. C. (2012). *Motivating Students to Work in Class, A Research Proposal*. Texas Southern University, Curriculum and Instruction. Houston, TX

Jackson, P. (2012). *The Relationship of Mother's Educational Level and Overall Family Income to African American Male College Success, A Research Proposal*. Texas Southern University, Educational Administration. Houston, TX.

James, C.-M., & Trevino, Jr., T. (2012). *Whose Standards Are We Using? A Candid Conversation on Standards*. Texas Southern University, Curriculum and Instruction. Houston, TX

Johnson, J. A., Bryant, K. A., Davenport, L. D., James, C. M., & Square-Daggs, R. G. (2012). *The Thrill May Be Gone: Black Parents and Public Schools May Have Issues, But Neither Seems to Want to Be the First to Say Goodbye*. Texas Southern University, Curriculum and Instruction. Houston, TX

Rochelle, L. P. (2012). *An investigation of the performances of Black students on the 5th grade Mathematics Texas Assessment of Knowledge and Skills test as predictors of disproportionate discretionary In-school suspensions of Black high school students*. Texas Southern University, Curriculum and Instruction. Houston, TX

Welcome	Lillian B. Poats, Ed.D. COE Dean
Moderator	Collette M. Bloom, Ed.D., COE Research Coordinator
Panel Facilitator	James A. Johnson, Jr., Ph. D. Professor, C & I

WEDNESDAY, APRIL 4, 2012

TSU

TEXAS SOUTHERN UNIVERSITY

NORTHWEST CAMPUS

"Advancing Together Through Cutting Edge Interdisciplinary Research"

Activity Schedule – April 5, 2012

Student Oral Presentations (5:30p-6:30p)



Jessica Tapia – Radio, Television and Film

"The components of writing a film"

Christopher Luna – Management Information Systems

"Hacking: A descriptive study of the dangers"

Diana Valbeuna – Radio, Television and Film

"A career in RTF: A case study"

Samuel Robinson – Sport Management

"Health in the NFL"

Chapa Chase – Radio, Television
and Film

"Sports and the media"

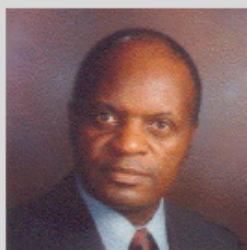


Guest Presenter (6:30p-6:45p)

Invited researcher from Main Campus

Awards and Acknowledgements (6:45p-7:00p)

Kingston Nyamapfene, PhD
Assistant Provost



THURSDAY, APRIL 5, 2012

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.

Truancy Enforcement-Breaking the Cycle:The Fort Bend ISD Story

Ernesto Rodriguez

Director for Safe and Secure Schools for the Fort Bend Independent School District in Sugar Land, Texas. Prior to the establishment of the Office of Safe and Secure Schools and Truancy Unit, all truancy referrals were made to a single FBISD Police Truancy Officer by each individual campus. For the 2007-2008 school year Fort Bend ISD Information Technology Department developed an automated program wherein all warning letters and citations were generated when unexcused absences reached the level requiring legal action. The number citations from one year to the next rose from 1400 citations to well over 9000 citations. The various courts were flooded with truancy cases and creating serious docket issues. High percentages of students failed to attend court with no real consequences for violating the states compulsory attendance laws. The presentation will convey FBISD's story about our journey to address truancy and the building of a model program to help do what is in the best interest of the child.

11:30 A. M.

“Expanding the Research on Zero Tolerance Policies”

Judge Ruby L. Shaw

328th Judicial District Court, Fort Bend County

In the late 1980s and early 1900s, when school policy makers began to see an increase in the aggressive nature of school violence, zero tolerance policies were adopted as a means of punishment. The purpose of this research study was to conduct a systematic and comprehensive content analysis of empirical research literature on school zero tolerance policies, to conduct a statistical analysis of the findings, and to determine if school policymakers have enough information to conclude that zero tolerance policies are effective and should be continued as a deterrent to school discipline problems. Thirty-four empirical studies of zero tolerance policies were utilized and thirty two criteria were studied. Findings showed that the largest percent of student discipline referrals by race were for African Americans. The results of the studies found no gender disparity and over one half of the studies made no mention of students with special needs. Even though the Guns Free School Act precipitated the use of zero tolerance policies, weapon offenses were only the fourth most frequent offense, while assaults and disorderly conduct were the most frequent. Risk factors contributing to behavior problems and delinquency included family issues, gangs, drugs, diagnosed ADHD, and failed school performance. School suspensions and expulsions, with and without services, were the most frequent penalties. Disparity in punishment among poor and minority students and the lack of empirical evidence supporting the effectiveness of these policies were also identified. This research made an empirical contribution by expanding the research on zero tolerance policies.

12:00 P.M.

~Lunch Served~

12:35 P.M. AWARD PRESENTATIONS

FACULTY ORAL PRESENTATION

FACULTY POSTER PRESENTATION

STAFF ORAL PRESENTATION

STAFF POSTER PRESENTATION

STUDENT ORAL PRESENTATION

STUDENT POSTER PRESENTATION

Judge Ruby L. Shaw



Judge Shaw is a native of Houston and a graduate of E.E. Worthing High School. After high school, Judge Shaw enrolled at Texas Woman's University and graduated in 1968 with a Bachelor of Science in Health, and Education. After teaching for three years, Judge Shaw served her country by working for the U.S. Army Special Services in Vietnam. After returning home, Judge Shaw worked as a flight attendant for American Airlines and was based in New York City and Washington, D.C. When her mother became ill, she returned to Houston and while taking care of her mother, enrolled at Prairie View A&M University and completed a Master of Education in 1983. That same year she enrolled in the Thurgood Marshall School of Law at Texas Southern University and graduated Cum Laude in 1986.

When she graduated, Judge Shaw was recruited to work as an administrative judge for the D.C. Office of Personnel in Washington, D.C.. From there, she worked for D.C. government as a felony prosecutor. When her father became ill, she returned to Houston, and practiced law as a sole practitioner with an emphasis in Criminal Law, Juvenile Law, Family Law and Probate Law. She also taught legal assisting classes at night at Wharton County Junior College for 10 years.

In 1999, Prairie View A&M University instituted a graduate program leading to a Master of Juvenile Justice. Judge Shaw enrolled in and completed a Master of Juvenile Justice in 2001 with a thesis topic involving juvenile issues of law. When the Doctor of Philosophy graduate degree in Juvenile Justice was introduced, Judge Shaw enrolled, and in 2008 she graduated with a PhD in Juvenile Justice. Her dissertation topic involved public school zero tolerance policies. Also during this time, Judge Shaw served as a Special Commissioner for Fort Bend County Imminent Domain litigation, a Juvenile Referee, and mediator for the Fort Bend County Dispute Resolution Center. And from 2009 to 2010, she worked as a community resource specialist for the 328th Judicial District Court.

On September 30, 2011, Judge Shaw was appointed presiding magistrate for the newly created Fort Bend County Consolidated Truancy Court. This court is responsible for the Saved By The Bell probation program which employs seven probation officers who supervise truant students. This court hears all truancy cases filed by Fort Bend ISD.

Judge Shaw is a member of the Fort Bend County Bar Association and serves on the boards of the Fort Bend County Children's Advocacy Center, the Fort Bend County CASA Advisory Council and the Fort Bend County Partnership for Youth. Judge Shaw's research interests include school zero tolerance policies, juvenile reading abilities and issues involving juvenile self-esteem and most recently, truancy issues.

Ernesto Rodriguez



Ernesto Rodriguez is the Director for Safe and Secure Schools for the Fort Bend Independent School District in Sugar Land, Texas and has spent the majority of his professional career in public service, first as a peace officer then as a lawyer. He was born and raised in El Paso, Texas, where he attended public schools. He graduated from Texas Christian University in 1982 with a B.S. in Criminal Justice and Minor in Business Administration. He returned to El Paso and joined the El Paso County Sheriff's Department, where he graduated first in his class from the El Paso County Sheriff's Department Region VIII Training Academy. He was promoted to the rank of detective within ten months making him the youngest detective in the history of the department. Ernesto was a founding member of the Sheriff's Deputies Association and was involved in helping secure collective bargaining rights for the Sheriff's deputies (the first for any sheriff's department in Texas).

Ernesto was in the process of pursuing a career with the U.S. State Department as an investigator when he was accepted to law school for the January 1985 semester at South Texas College of Law in Houston, Texas. While in law school, he worked for CLEAT (Combined Law Enforcement Associations of Texas) representing Houston police officers in grievance hearings and participated in collective bargaining teams for the region. He later went on to clerk for Senator Gene Jones who represented the Houston Firefighters Association. After graduating from law school in December 1987, Ernesto returned to El Paso to work with the El Paso County District Attorney's Office as a felony prosecutor. He was later selected Special Prosecutor with the West Texas Multi County Narcotics Task Force prosecuting drug trafficking cases in six different counties in west Texas. Ernesto was later recruited by Kemp, Smith, Duncan & Hammond, the largest and oldest law firm in west Texas and hired as an associate in the litigation section in 1990. There he handled government defense in civil rights cases, insurance defense and railroad defense cases. Ernesto later entered private practice handling plaintiff's litigation, criminal defense, and family law.

Ernesto later was recruited by the late Sheriff Leo Samaniego to become his General Counsel and Lead Litigation Counsel through the El Paso County Attorney's Office.

There he litigated all claims against the County's Sheriff's Department and advised on policy changes. He contributed to the department's effort in being the first Sheriff's Department in the State of Texas to achieve CALEA accreditation. Ernesto continued with the El Paso County Attorney's Office until he was recruited and offered a position with the City of El Paso City Attorney's Office as General Counsel to the El Paso Police Department and the El Paso Fire Department. There, he also assisted the police department in achieving CALEA accreditation. In January 2008 Ernesto moved to Sugar Land and assumed the newly created position of Director for Safe and Secure Schools with Fort Bend ISD, the seventh largest school district in the state.

Ernesto has taught at both the El Paso County Sheriff's Region VIII Training Academy and the El Paso Police Academy while with the El Paso District Attorney's Office, El Paso County Attorney's Office and the El Paso City Attorney's office on various topics including Penal Code, Code of Criminal Procedure, juvenile law, and courtroom demeanor.

Jason A. Rosenzweig, Ph.D



Dr. Rosenzweig earned his B.S. in microbiology from Florida Atlantic University in December of 1998. He went on to join the University of South Florida in the College of Medicine where he began his Ph.D. studies in the Department of Medical Microbiology and Immunology between 8/1999-05/2000. Later, he continued his graduate studies at the University of Miami School of Medicine where he earned his Ph.D. in 2006 after publishing three peer-reviewed papers on the role played by bacterial ribonucleases in yersiniae pathogenesis, two of which at the first author level. After a brief postdoctoral appointment at the University of Miami School of Medicine where he began to investigate the innate immune response to yersiniae infection, he became an Assistant Professor of Biology at Nova Southeastern University for 2 years. He then joined the TSU Department of Biology in 2008 and has served as a tenure track Assistant professor for almost 4 years. During that time, Rosenzweig has published 7 peer-review

papers, has had a book chapter accepted for publication and has one more manuscript under review and several more in prep. He has served as a Thesis committee member for 6 Biology students while serving as the mentor/advisor on one. Additionally, Rosenzweig trains a Pd.D. student from the Environmental Toxicology program and maintains active research collaborations with colleagues at UTMB, UTHSCH (Texas Medical Center), the University of Houston, and the University of Miami. Rosenzweig was awarded a TSU seed grant in 2008, is a Co-investigator in the NASA URC, has been awarded two summer research grants (one as an NSF Research Opportunity Award) and serves as a Co-investigator on an NIH R01 award.

Robert D. Bullard, Ph.D.



Dr. Bullard is Dean of the Barbara Jordan-Mickey Leland School of Public Affairs at Texas Southern University. Prior to coming to TSU he was founding Director of the Environmental Justice Resource Center at Clark Atlanta University. He has been described as the father of environmental justice. He received his Ph.D. degree from Iowa State University. He is the author of seventeen books that address sustainable development, environmental racism, urban land use, industrial facility siting, community reinvestment, housing, transportation, climate justice, emergency response, smart growth, and regional equity. Professor Bullard was featured in the July 2007 CNN *People You Should Know*, Bullard: Green Issue is Black and White. In 2008, *Newsweek* named him one of 13 Environmental Leaders of the Century. And that same year, Co-op America honored him

with its Building Economic Alternatives Award (BEA). In 2010, *The Grio* named him one of the “100 Black History Makers in the Making” and *Planet Harmony* named him one of Ten African American Green Heroes.” His book, *Dumping in Dixie: Race, Class and Environmental Quality* (Westview Press, 2000), is a standard text in the environmental justice field. His most recent books include *Just Sustainabilities: Development in an Unequal World* (MIT Press, 2003), *Highway Robbery: Transportation Racism and New Routes to Equity* (South End Press, 2004), *The Quest for Environmental Justice: Human Rights and the Politics of Pollution* (Sierra Club Books, 2005), *Growing Smarter: Achieving Livable Communities, Environmental Justice, and Regional Equity* (MIT Press, 2007), and *The Black Metropolis in the Twenty-First Century: Race, Power, and the Politics of Place* (Rowman & Littlefield, 2007). Dr. Bullard is co-author of In the Wake of the Storm: Environment, Disaster and Race After Katrina (Russell Sage Foundation, 2006) and Toxic Wastes and Race at Twenty: 1987-2007 (United Church of Christ Witness & Justice Ministries, 2007). His latest books include Race, Place and Environmental Justice After Hurricane Katrina: Struggles to Reclaim, Rebuild, and Revitalize New Orleans and the Gulf Coast (Westview Press, 2009) and Environmental Health and Racial Equity in the United States: Strategies for Building Just, Sustainable and Livable Communities (American Public Health Association Press, April, 2011). He is completing work on a new book entitled Wrong Complexion for Protection: How the Government Response to Disaster Endangers African American Communities (New York University Press, forthcoming July 2012).

ALLIANCE OF CENTERS FOR RESEARCH AND OUTREACH



TEXAS SOUTHERN UNIVERSITY ALLIANCE OF INSTITUTES AND CENTERS FOR RESEARCH

UNIVERSITY INSTITUTE FOR EDUCATION & LEGAL STUDIES/POLICY

NAME OF INSTITUTES AND CENTERS

DIRECTOR

Center for Strategic Advances in Education	Dr. James J. Cunningham
Earl Carl Institute for Legal and Social Policy	Dr. Jay R. Cummings
Center on Legal Pedagogy	Dr. Sarah Guidry
Institute for International and Immigration Law	Professor Anthony Palasota
	Professor Fernando Colon-Navarro

UNIVERSITY INSTITUTE FOR BUSINESS AND HUMAN SERVICES

Mickey Leland Center on World Hunger and Peace (Global)	Mr. Jew Don Boney
Economic Development Center	Ms. Ella Nunn
JP Morgan Chase Center for Financial	Ms. Germaine Gray

UNIVERSITY INSTITUTE FOR STEM, ENVIRONMENTAL RESEARCH AND BIOTECHNOLOGY

Environmental Research and Technology Transfer Center (ERT ² C)	Dr. Bobby Wilson
NASA Center for Bio-Nanotechnology and Environmental Research (C-BER)	Dr. Adebayo Oyekan

UNIVERSITY INSTITUTE FOR BIOMEDICAL & HEALTH DISPARITIES RESEARCH

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

UNIVERSITY INSTITUTE FOR COMPUTATIONAL STUDIES AND NETWORKING RESEARCH

TSU High Performance Computing Center	Dr. Christopher Tymczak
NSF/CREST Center for Research on Complex Networks	Dr. Wei Wayne Li

UNIVERSITY INSTITUTE FOR TRANSPORTATION STUDIES

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) is a research and writing think tank affiliated with the Thurgood Marshall School of Law. ECI also serves as an advocacy organization, which seeks to identify, address and offer solutions to issues that affect traditionally urban and disenfranchised communities. The Institute was designed to provide resources to train Thurgood Marshall students in legal advocacy and to enhance their research and writing skills. Through the students' research, position papers and other publications, the Institute promotes civil and human rights. The Institute's mission is to help solve the legal and social problems facing the urban community through scholarship and advocacy. ECI seeks to enhance the ability of future leaders to advocate, educate and promote equity through research focused on social and legal policy, through an interdisciplinary approach. ECI's goal is to educate public policymakers and the community in a way that improves the quality of life throughout traditionally under represented communities, with the ultimate goal of contributing to positive change and increasing consciousness throughout the world.

TASKS: ECI's focus is on providing research based policy advocacy through direct legal services and written materials that address issues that have a disproportionate impact on minorities locally, statewide and nationally. ECI under the Center for Civil Advocacy (CCA) provides Thurgood Marshall law students an opportunity to gain practical experience by working with clients, lawyers and courts through the Opal Mitchell Lee Property Preservation Project (OMLPPP), and the Juvenile Justice Project (JJP). The JJP addresses issues related to juveniles in the criminal justice system through direct representation, education, and investigating strategies for impact litigation. The CCA uses an interdisciplinary approach to addressing issues related to the family, education, and the child welfare arena, through scholarly writing and other means of policy advocacy. The Center for Criminal Justice (CCJ) seeks to foster a fair and accountable justice system through research, analysis, collaboration and actual innocence litigation. The CCJ uses an interdisciplinary approach to address problems in the criminal justice system that impacts the urban community disproportionately. The goals of the center are to (1) research criminal justice reform issues and recommend more effective policies, and (2) provide students with an opportunity to hone their advocacy skills. The Thurgood Marshall School of Law Innocence Project (TMSLIP) is operated under the auspices of the CCJ. The Center for Government Law (CGL) was established to provide integrated academic and practical skills training in government administration and regulation to law students. Preparing students for the practice of law in the public sector is a primary goal of the Center. The vision for the Center is to become an authority for addressing issues that impact the urban minority community disproportionately and to serve as a resource on such issues for legislators and other policy organizations. ECI also undertakes Special Projects that involve interdisciplinary partnerships and collaborations. Current special projects include the online publication of the ECI Interdisciplinary Journal for Legal & Social Policy, annual symposiums on juvenile justice and indigent defense, and the "OUR Story" Project (OSP) which is a chronicle of the achievements of Texas Southern University administrations and alumni. The OSP presents an opportunity for the university to be proactive in shaping its image by placing a historically accurate face on the university by spotlighting people and events that have had profound impacts on this state but that have largely gone unnoticed. These portrayals will be made through various media, including publications, oral recordings, videography, and photography. Products resulting from the OSP will serve as vehicles to educate prospective and current students, alumni and the community as a whole on the rich history of TSU and its notable accomplishments. Currently the OSP is focused on completing a "Presidents' Volume" detailing the history of the University through each administration.

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, UGPA, 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.

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).

UNIVERSITY INSTITUTE FOR BUSINESS AND HUMAN SERVICES

MICKY 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).

PROFILES OF RESEARCH INSTITUTES/CENTERS

ECONOMIC DEVELOPMENT CENTER

ESTABLISHED – 1981

DIRECTOR: MS. ELLA NUNN

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. Current projects include (1) Revitalization and Economic Development Empowerment for Eliminating Community Blight Program which provides workshops and technical assistance for new and existing businesses; computer skills with job readiness training; GED/college preparation/intern positions; and funding for two community-based organizations to expand a multi-service center and to restore a historic theater. The partnerships and collaborations in this project are, Acres Home Multi-Service Center, OST Theater Group, Houston Community College System, and TSU Jesse H. Jones School of Business and (2) Community and Economic Development to Alleviate Community Slum Program which provides economic development in business planning and financial management; revitalize 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; 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. Both projects are 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

GOALS: To promote lifelong financial education through teaching, research and community outreach programs and 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. In an effort to branch out and give back, the Center took on a service learning initiative with the State Farm – TSU Personal Finance Challenge. The Challenge involved TSU students serving as student mentors/coaches for the competing high school teams.

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; by increasing the number of under-represented minority graduates in science, mathematics, engineering, and technology. ERT²C projects focus on analysis of toxic elements and compounds in a closed environment, trace metals in soil, soil sediments, air and wastewater processes, wastewater contaminants, and environmental policy and law. 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 will be 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 5973 MS; GC accessories: Entech 7100 Pre-concentrator for air monitoring with 32 6L Silonite Canisters, Tekmar Doarman- Velocity XPT Purge and Trap. Liquid Chromatographs: Dionex DX-600 Ion Chromatograph, Agilent 1200 High Performance Liquid Chromatograph w/ (MS). Spectrophotometric Equipment: Agilent 7500 Inductively Coupled Plasma w/ Mass Spectrometry (MS), and Thermo Electron Nexus 470 FTIR with a 10-meter gas cell Nicolet Almaga Raman Spectrometer, and Bruker Maldi-TOF Mass Spectrometer. Miscellaneous Equipment: Glove Box, Dionex Accelerated Extraction System, and Guava easyCyte flow cytometers.

The following projects are ongoing:

Advancement of Water Treatment Using Carbon Nanotubes: Novel approach to water treatment technology using photocatalytic carbon nanotubes (CNTs) with antimicrobial properties to combat the problems associated with infectious microorganisms in drinking water.

Modified Carbon Nanotubes in Regenerative Bone Growth Studies: Carbon nanotubes are investigated as bone healing enhancer. If modified CNTs can be designed to enhance the growth of osteoblast cells, then it is theorized that CNT can potentially play a major role in regenerative bone treatment.

Inhaled Toxicity Studies of Carbon Nanotubes: CNTs induced pulmonary and hepatic toxicity was investigated by exposing Balb/c mice to aerosolized CNT nose-only exposure system. Pulmonary fibrosis in mice models was confirmed by significant increases in the collagen level. Significant increases of glutathione, superoxide dismutase, catalase activity and induction of oxidative stress were observed compared to control.

Human Teeth used as Bio-Indicator of Environmental Health Risk Factors: The analysis of metal concentrations within these teeth would serve as an indicator of metal exposure due to environmental risk factors and/or dietary habits. The correlated data will provide valuable base to predict potential human health risk due to trace metal exposures.

Assessment of Environmental Estrogens in the Galveston Bay Watershed: Investigate of the potential impact of environmental estrogens (EEs) in the lower Galveston Bay Watershed. The objective were to assess concentration EEs in the lower Galveston Bay Watershed, specifically San Jacinto River and the Trinity River Systems, and to investigate the toxicity of low level concentrations of EEs found in the watershed on fish cellular model (RTG-2, a reproductive cell lines).

Novel Nanosensors and Photovoltaic Cells: The next-generation of nanocomposite materials are being designed for the development of reliable advanced nanosensors and solid stated photovoltaic cells. Novel nanosensors and photovoltaic cells are being fabricated by electrochemical deposition of titanium dioxide nanoparticles onto the surface of carbon nanotubes (TiO₂-CNT) creating a nanoelectrode platform as the core technology of both devices – the nanosensors and photovoltaic cells.

Investigators/Collaborators: Texas Southern University

Renard Thomas, Ph.D., Department of Health Sciences and Xin Wei, Ph.D., Department of Chemistry

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

The NASA Center for Bionanotechnology and Environmental Research (C-BER) was established on October 1, 2008 with capital funds from the NASA Office of Education. The NASA CBER team of top faculty researchers and educators are working to address important environmental and human health concerns related to manned exploration of space. In collaboration with NASA, the CBER team are training and educating future Scientists, Engineers, Mathematicians and Technicians. The team includes TSU faculty from various colleges, including 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. NASA C-BER integrates molecular biology, bioinformatics, bionanotechnology with chemical and biochemical analysis. 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. The research of C-BER is closely aligned with NASA's Exploration Systems Mission Directorate and is relevant to all NASA's mission directorates. Our successes will improve existing technologies and generate new inventions that increase speed and accuracy while decreasing cost. New technology developed or advanced will educate and drive the perception of what is possible in the realm of Space Life Sciences. Historically, synergism between science and technology has thrived at TSU as applied to microgravity induced stress and microbial detection/control. 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. Overall we shall develop a future workforce in STEM fields; improve TSU's research infrastructure and innovative partnerships; enhance astronaut and autonomous medical care; enhance technology transfers and commercialization; and improve quality of life on earth.

Technical Areas of Research: The research of C-BER focuses on key environmental factors such as microgravity, radiation and other space travel-induced stress factors. We will investigate their additive, synergistic or antagonistic effects on living organisms. The research of C-BER closely aligns with Habitability and Environmental factors branch of the Space Life Sciences Division within the NASA Exploration Systems Mission Directorate; however, it is applicable to all of NASA's mission directorates. Microgravity and Radiation Research thrusts will study effects of microgravity changes and radiation on the cell at the genome, proteome, cell, tissue, organ, and organism levels. Investigators will identify biomarkers of stress factors and develop countermeasures to the stress effects.

Microbial Research thrust will develop bioassays and devices for microbe detection and monitoring, building upon current hardware being developed at various NASA Centers. Researchers will analyze the genome, proteome, and growth kinetics. Changes in the morphology and virulence of organisms due to space travel will be examined. In addition, novel approaches for controlling microorganisms in confined environments will be developed. Bio-nanotechnology, Bioinformatics thrust will develop biosensors for pathogen and microbe detection as well as chemo-sensors of environmental stress. Workforce development thrust will provide training opportunities for students, postdoctoral fellows and faculty to develop their knowledge and skills

Investigators/Collaborators: Texas Southern University

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

Collaborators

James M. Briggs, Ph.D. University of Houston

George E. Fox, Ph.D., University of Houston

Nader Pourmand, Ph.D., University of California Santa Cruz

Govindarajan Ramesh, Ph.D., Norfolk State University

John R. Ford, Ph.D., Texas A&M University

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

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 and houses faculty, graduate students and research personnel. The Center also provides intensive laboratory training experiences for both graduate students and undergraduates and serves as a site for structured and supportive faculty development.

TASKS: Nitric oxide/cytochrome P450 interactions in the control of renal function and blood pressure, peroxisome proliferator activated receptors (alpha and gamma) in the pathogenesis of hypertension and renal failure, cyclooxygenase metabolites of arachidonic acid and cerebral flow in subarachnoid hemorrhage (stroke) and diabetes mellitus.

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 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 Texas Southern University's research capabilities and resources in biomedical and behavioral research.

Mission: The mission of the Center for Health Disparities Research is to enhance the biomedical research capability of Texas Southern University by promoting infrastructure and resources for biomedical/behavioral research training capacity in health disparities research via training of faculty to examine biological, clinical, and sociological factors related to cardiovascular disease and HIV in minority populations in the hope of discovering solutions to health and other problems that disproportionately affect urban minorities.

Tasks: The research thrust of the Center for Health Disparities Research in Cardiovascular Disease and HIV augment and strengthen research capabilities and resources in biomedical and behavioral research related to cardiovascular diseases and HIV. The project will occur in two phases: Phase I - the recruitment/retention phase of two years duration, centers on the recruitment of junior faculty to be trained for retention in biomedical/behavioral research. Additional programmatic activities involve the establishment of the External Advisory Board to guide in the proposed activities in Phase I. Phase II, which will occur after a successful completion of Phase I is of five years duration and will witness the development of the research program and research operations of the Center for Health Disparities Research. Among the proposed research within the Center for Health Disparities Research is cardiovascular disease risk reduction among HIV patients especially, target prevention and reduction in health disparities among African Americans. The other activities will include but not limited to the following: seminars, journal clubs, laboratory and behavioral science training of undergraduate and graduate students, and advanced training for postdoctoral fellows, as well as community outreach. Additional funding will be sought to promote research enterprise in the CHDR while addressing community health issues with respect to disease prevention and working with additional investigators to provide an enriching 'milieu' for developing independent investigators. Community-based participatory research (CBPR) will be used to develop a health promotion/health education program that will engage the community in development of strategies to overcome health disparities.

Strategic Priorities: Recruit, support, and mentor junior minority investigators in the areas of research design, development and implementation, with emphasis on analysis of racial and cultural factors related to health disparities research. Develop and disseminate culturally appropriate health information, encourage and equip community-based organizations and community residents disproportionately affected by health disparities to participate in clinical studies and evidence-based prevention and intervention activities. Other priorities include sponsoring educational outreach activities and seminars, translation and dissemination of evidence-based programs and practices; prevention and control of cardiovascular disease through healthy eating and physical activity; promotion of cardiovascular healthy living behaviors and professional education and community service.

Activities: Projects included recruiting, supporting, and mentoring junior minority investigators in the areas of research design, development and implementation, with emphasis on analysis of racial and cultural factors related to health disparities research; developing and disseminating culturally appropriate health information; and implementing evidence-based prevention and intervention activities. Other activities center on creation of new scholarly works that provide results that push the frontiers of public health science, research and development, collaboration with community partners and policy development and analysis.

External Advisory Board (EAB) members

Melbourne F. Hovell, PhD, MPH Director, Center for Behavioral Epidemiology and Community Health, San Diego State University

Marvella Ford, Ph.D. Associate Director of the Cancer Disparities Program at the Medical University of South Carolina Hollings

Mustapha Lokhandwala, Ph.D. is Professor of Pharmacology, Vice Dean for Research and Director of Kidney Institute at the College of Pharmacy, University of Houston.

James Essien, M.D., Dr.P.H., Director, Institute of Community Health, College of Pharmacy, University of Houston.

Patricia Gail Bray, Ph.D. Chief Administrative and Academic Officer and Executive Director of the St. Luke's Episcopal Health Charities

Ron Peters Dr.P.H. University of Texas School of Public Health

Contact information of the individuals involved with Center

Dr Adebayo Oyekan, Center for Cardiovascular Diseases, College of Pharmacy and Health Sciences (713-313-4341/4258; E-mail address: Oyekan_ao@tsu.edu)

Dr Angela Meshack, Department of Health Kinesiology, College of Education (713-313-7623, E-mail address: MeshackAF@tsu.edu)

UNIVERSITY INSTITUTE FOR COMPUTATIONAL STUDIES AND NETWORKING

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 ethernet. 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-the-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.

NSF-CREST 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 provides 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.

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 (SPEED) with Rice University.

PROFILES OF RESEARCH CENTERS

INNOVATIVE TRANSPORTATION RESEARCH INSTITUTE

ESTABLISHED – 2000

DIRECTOR: DR. LEI YU

PHONE: 713-313-7282

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. Examples of on-going and completed projects include: Urban Transportation Environmental Network (UTEN) studies as the Subproject II of the NSF CREST Center of Research on Complex Networks (CRCN) (NSF), Development of Left-Turn Operations Guidelines at Signalized Intersections (TxDOT), Symbols and Warrants for Major Traffic Generator Guide Signing (TxDOT), Vehicle Infrastructure Integration (VII) Based Road-Condition Warning System For Highway Collision Prevention (SWUTC), Computer Simulation-Based Algorithm For Optimizing Evacuation Plans In Major Trip Generator (SWUTC), Left-Turn Lane Design and Operation (TxDOT), Using GPS and ITS Data to Calibrate the Micro Simulation Model VISSIM (SWUTC), ITS Data Compression by Using Advanced Signal Processing Techniques (SWUTC), Collection and Evaluation of On-Road Vehicle Emission Data and Activity Data (HARC), Measurement and Evaluation of On-Road Vehicle Emissions at Signalized Intersections (SWUTC), How do Changes in Goods Movements Impact Disadvantaged Population (FHWA), Evaluation of Highway Safety Improvement Projects (FHWA), Probability Generation of Frequency and Severity of Nonrecurring Congestion due to Accidents to Improve Emissions Analysis (TxDOT), Evaluation and Combined Use of TRANSYT-7F and CORSIM in Traffic Signal Optimization and Simulation (SWUTC), Synthesis Report on Changeable Message Signs that Depict Symbols and Words (FHWA), Pavement Smoothness Strategies (FHWA), Yellow and Red Intervals to Improve Signal Timing Plans for Left-Turn Movement (TxDOT), Airport-Related Traffic and Mobile Emission Implications (TxDOT), Using Real-Time Traffic Data for Transportation Planning (TxDOT), Forecasting Traffic Characteristics for Air Quality Analyses (TxDOT), Electronic Energy Storage and Future Transportation (NIST), Using ITS Technology to Improve Highway-Rail Crossing Safety (FHWA), Transportation Expertise Pool (FHWA), Collection and Evaluation of Modal Traffic Data for Determination of On-Road Vehicle Emission Rates Under Certain Driving Conditions (TxDOT and FHWA), Evaluation of Traffic Simulation Models for Supporting ITS Development (SWUTC). Beginning 2012, ITRI cosponsors a Joint Maritime and Trans-LIVE Summer Transportation Academy (STA) program together with Port of Houston Authority (PHA) for high school junior and senior students to promote their interests in transportation studies.

OTHER RESEARCH CENTERS

CENTER FOR STEM EDUCATION AND OUTREACH (C-SEO)

ESTABLISHED DATE: OCTOBER 2009

DIRECTOR(S): DR. ROBERT L. FORD

PHONE: 713-313-7593

WEBSITE: <http://www.tsu.edu/pages/3659.asp>

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.

C-SEO activities include:

1. Affiliating with TSU academic units and other universities/colleges for collaborative service delivery to enhance undergraduate STEM student performance.
2. Enhancing K-12 teacher skills, content knowledge, and student learning strategies, leading to improved student outcomes;
3. Effectively engaging parents, communities, public and private sectors to help schools and school districts to achieve their objectives; and
4. Facilitating collaboration focused on improving success rates of underperforming students, with a special focus on African American male students.

Funding for C-SEO Programs — Initially, the Center is seeded with a University Title III grant for its first year of operations. Already, we are identifying and preparing to seek grants from foundations, and corporations; and enter into grants, cooperative agreements, and contracts with local, state, and federal governmental agencies as primary sources of continuation support. In addition to receiving grants and contracts for specific training, educational, and outreach activities, C-SEO will accept donations to a permanent endowment fund from organizations and supportive citizens.

Organizational Affiliations — The C-SEO educational approach is based on identification and deployment of best practices and subject matter and methods specialists, including Uri Treisman (The Dana Center at the University of Texas at Austin); Diola Bagayoko (The Timbuktu Academy at Southern University in Baton Rouge); and Reagan Flowers (C-STEM Teacher and Student Support Services). Operating out of the Office of Academic Affairs, through the College of Science and Technology, and partnering with an array of colleges and schools, faculty members and students at TSU will serve as community assets in furthering the statutory Urban Programming Mission assigned to Texas Southern University by the Texas Legislature.

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.

COMPUTER NETWORK RESEARCH CENTER

DIRECTOR: DR. KHALED KAMEL

PHONE: 713-313-7582

PROFILES OF OUTREACH CENTERS

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.

- To maintain confidentiality according to legal, professional, and ethical standards.
- To be proactive in responding to the needs, interests, and concerns of a diverse student body.
- To provide a continuum of professional and ethical therapeutic services.
- To provide unconditional support and advocacy for students.
- To offer a variety of programs to assist students in maximizing their educational and social experience at TSU.
- To provide services that encourages the acquisition of skills to become proactive, socially responsible and accountable individuals.
- To further promote a lifelong commitment to health and safety, both locally and globally.
- To act as consultants and resources for promotion of the holistic development of students.
- To de-stigmatize mental health in our community.
- To work cooperatively with the TSU community to promote increased levels of mental health.

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.

PROFILES OF



COLLEGES AND SCHOOLS

COLLEGE OF SCIENCE AND TECHNOLOGY

The College of Science and Technology at Texas Southern University is engaged in several areas of fundamental and applied research. Research activities in the college revolve around a number of Research Centers. These are 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), Innovative Transportation Research Institute (ITRI), Computer Network Research, and High Performance Computing Center. There also exist many stand alone research programs by individual faculty members.

Under the NASA/URC umbrella, major research capabilities exist on Genotoxicology. The thrust of this program is on the effects of space environment on gene expressions, the use of embedded natural products to inhibit growth of microorganisms, the development of gene expression chips, development of antimicrobial materials, development of counter measures for the effects of space travel, identification of genes most affected by space travel, as well as DNA repair.

Under the CRCN umbrella, innovative and multidisciplinary research is conducted in the area of complex networks, which will provide a knowledge base for the understanding of complex networks, i.e. energy efficient wireless sensor networks, urban transportation environmental networks, and distributed computational networks, allowing for the development and implementation of policies for global environmental sustainability.

Under the CTTR umbrella, major research capabilities exist on 3D traffic simulation, public transit studies, transportation air quality studies, transit land use impact studies, noise compatible land use planning as well as assessment of the effectiveness of public environment programs.

Under the ITRI umbrella, major research capabilities exist on large scale network modeling and simulation, Intelligent Transportation Systems (ITS) technologies, driving behavior and traffic safety studies using Full-Motion Driving Simulator, advanced traffic control technologies, and on-road vehicle emission testing and modeling.

Major research efforts also exist in computational sciences/scientific computation. This effort is largely concerned with data mining and visualization, bioinformatics, as well as modeling. The modeling aspects are concerned with radiation transport modeling with particular attention to space radiation.

The College is also involved in several collaborative research initiatives with neighboring institutions. The research in radiation transport modeling is in collaboration with the radiation research group at Prairie View A & M University. Programs in superconductivity, especially work on high temperature superconducting trapped field magnets as well as the use of superconductors in applications is done in collaborations with the University of Houston.

To advance the research goals of the College, several core facilities have been developed, namely: Biosensor and Biomarker Technology Core Facility, Proteomics and Functional Genomics Core Facility, Computational Research Laboratory. We have developed and equipped a fully functional cell culture laboratory, enhanced core analytical laboratory, a 3D traffic simulation laboratory, an environmental modeling laboratory,, MiniTranStar Lab, Full-Motion Driving Simulation Lab, Mobile Traffic Lab, Portable Emission Measurement System Lab, Full-Motion Flight Simulation Lab, and others. 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.

The College is the recipient of a major research and development grant, having been designated as a Transportation Security Center of Excellence for Petrochemical Transportation, by the Department of Homeland Security. Congressional Representative Al Green, in his capacity as a member of the Congressional Homeland Security Committee, secured through legislation this major grant, which will fund research, training and development in Transportation Security at a level of approximately \$2.7 million per year, for an initial period of six years, that can be renewed. There will be collaboration with the Barbara Jordan and Mickey Leland School of Public Affairs. Several Departments of the College of Science and Technology will participate through individual focused problems.



THURGOOD MARSHALL SCHOOL OF LAW

The Thurgood Marshall School of Law, as well as the University at-large, was undoubtedly created as a consequence of a 1946 law-suit brought by Heman M. Sweatt. Under the Texas Constitution, which required separate but equal treatment, Mr. Sweatt was refused admission to the University Of Texas School Of Law because he was black. As a result, the legislature provided for an interim and separate law school for Negroes. During its first academic year, the law school was housed in Austin, Texas, and was subsequently transferred to the new university campus in Houston. Justice Marshall, chief counsel for the NAACP Legal Defense Fund, successfully argued Heman M. Sweatt's case before the United States Supreme Court. Since its move to Houston, the School of Law has become an integral part of the Texas Southern University campus. Prior to 1976, the law school was housed in Hannah Hall - the University's administrative complex. On February 14, 1976, the school was formally named The Thurgood Marshall School of Law in honor of the distinguished U.S. Supreme Court Justice and was moved to its present location. The Law School has been greatly enriched by the contributions of its culturally diverse students and faculty. Moreover, The Law School is proud that it has produced numerous attorneys and judges of all ethnicities - thereby, significantly impacting the diversity of our nation's legal representatives.

THE CENTER FOR LEGAL PEDAGOGY - The Center has developed a series of initiatives and educational programs to enhance the law school's curriculum and instruction, including pre-law programs (LEAP and Prep-for-Law), academic support programs, educational workshops, and collaborative teaching and instructional projects with faculty members who teach courses in first year (Property) and in second year (Criminal Procedure and Evidence) as well as with faculty members who teach upper-level topical seminars (Jurisprudence). In addition to providing educational support to deliver mentoring and advising programs to students, the Center has also implemented faculty development forums to enable faculty members to share and impart teaching innovations, to encourage research, and to foster scholarship. **On-Going Research** - The primary research aim of the Center is to investigate fundamental questions about how legal knowledge is organized and how the cognitive processes that accompany legal knowledge develop with learning and experience.

THE EARL CARL INSTITUTE - The Institute's (ECI's) mission is to help solve legal and social problems facing the urban community through scholarship and advocacy. **On-Going Research** - The ECI has produced scholarship and research that covers a broad range of topics, e.g., Eliminating Recidivism through Education, Political Activity and Tax-exempt Organizations, Abstinence-Plus Education, and The Community Reinvestment Act: Expanding Access. The ECI also developed an Employment and Labor Handbook. The ECI offers students opportunities to participate in its Trial Advocacy Institute, Justice Project, and the Advocacy Clinic.

THE INSTITUTE FOR INTERNATIONAL AND IMMIGRATION LAW - The *Institute (IIL)* 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, IIL 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 IIL 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 IIL 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 Consortium includes the following participants: Eugene Dupuch Law School in the Bahamas, the Hugh Wooding Law School in Trinidad and Tobago, Howard University School of Law (DC), University of the West Indies in Barbados, Norman Manley Law School in Kingston, Jamaica, Florida Coastal School of Law in Jacksonville, Florida, and Shepard Broad Law Center of Nova Southeastern University in Ft. Lauderdale. **IIL Certificate Program** - The IIL 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. Students who complete at least 11 hours of international/immigration law courses, maintain an overall GPA of 2.50, and a GPA of 3.00 in the international/immigration courses are eligible to receive the Certificate. Since its inception in 2002, the IIL has awarded more than 20 Certificates in International and Immigration Law.

LEGAL CLINIC - The Thurgood Marshall School of Law's Legal Clinic provides a "real life" lawyering experience for law students. The Clinic also provides high quality legal services to a community that has been historically underrepresented; as a result of the service, a positive awareness of Texas Southern University and Thurgood Marshall School of Law is created for the surrounding communities. This service has been provided since the early 1950s; therefore the Director's goal is to continue to provide excellent service to the community as well as "prepare students for a profession that requires both substantive and skills knowledge." Students have an opportunity to experience 'clinic-styled' classroom instruction, externship opportunities, and live-client representation.

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)

- BS Respiratory Therapy (Committee on Accreditation for Respiratory Care (CoARC) ▪ Doctor of Pharmacy (Accreditation Council for Pharmacy Education (ACPE) ▪ BS Health Care Administration - Full Certified Undergraduate Membership Status, Association of University Programs in Health Administration (AUPHA).



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.

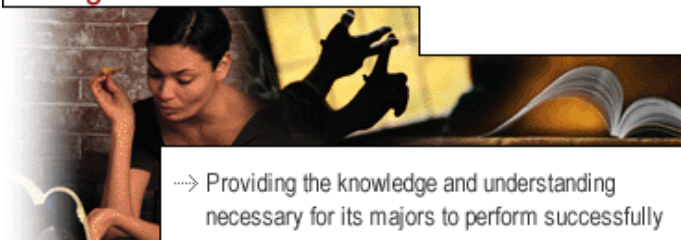
The College of Liberal Arts and Behavioral Sciences is composed of the departments of English, Fine Arts, Foreign Languages, History, Geography and Economics, Human Services and Consumer Sciences, Psychology, Social Work, and Sociology. Through general and specialized courses and programs, the College 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.

College of Liberal Arts & Behavioral Sciences



COLLEGE OF EDUCATION

The mission of the College of Education at Texas Southern University (TSU) 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". In support of its mission, the College of Education (COE) provides courses of study leading to academic degrees in four instructional departments and Centers of Excellence.

The Department of Counselor Education prepares counselors, who value equity and equality, to meet the demands of a culturally and linguistically diverse clientele. With a special emphasis on knowledge bases and internships, the department seeks to prepare prospective counselors, classroom teachers, and other professionals with the knowledge and skills essential for an understanding of the individual and his/her educational, vocational, health, and social problems. 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, equal and equitable education for students from diverse populations. This education prepares undergraduates and graduates to become quality teachers for elementary and secondary schools and it equips them as curriculum specialists. Graduate degrees provide advanced and in-depth studies for experienced educators.

The Department of Educational Administration & Foundations offers Masters' and Doctoral degrees in Educational Administration. Also offered are programs leading to professional certification in Educational Administration at the Principal and Superintendence levels. The purpose of the Educational Administration and Foundations program in the COE is to prepare, on a continuing basis, 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 student majors in both Health and Human Performance and serves the general needs of fitness and skill development for the general student body. A high degree of professionalism among faculty is required to meet the needs of a diverse student population. 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.

Student Advisement Center (SAC): The Student Advisement Center at TSU is committed to creating a safe and confidential environment where students can seek direction as they plan and complete their programs of study at TSU. The SAC's endeavor is to provide information and facilitate students' matriculation as they prepare and grow into knowledgeable and well-rounded professionals.

The Office of Field Experiences, Clinical Practice, and Certification has several functions: to generate applications for admission to the Educator Preparation Program, to process applications for admission, to provide assistance to faculty in placing of candidates for field experiences, to serve as the point of contact for all field experiences in the COE to generate applications for Approval for Clinical Practice, to process these applications to ensure that requirements are met, to design, implement and coordinate the Clinical Practice (student teaching) phase of the Educator Preparation Program, as well as, to provide candidate teachers support for passing the certification examinations that are required by the state of Texas. The Certification Office in the COE serves as a resource and service unit designed to facilitate the process of obtaining certification as a licensed teacher, counselor, and/or administrator for students completing a course of study at Texas Southern University. Thirty-five (35) standard and professional certificates are offered. This office facilitates candidates' registration for the appropriate certification examination and will recommend candidates for certification once all requirements have been met.

The University Center located in The Woodlands, Texas, was developed by the Lone Star College System as a partnership of universities and the colleges of the community college district in order to provide unduplicated bachelor's degrees, masters' degrees, and continuing professional studies to the district service area. Utilizing partnerships, seamless credit transfer programs, collaborative governance, shared facilities, interactive telecommunications, and "first stop" student services, the LSC-University Center serves as the critical link for community development and individual opportunity to more than one and one-half million citizens of North Houston, North Harris County and Montgomery County.

The Doctoral Center for Programs in Urban Education is an integral unit of the COE and of the University. The Doctoral Center works collaboratively with the Graduate School and with the departments in the COE. The Doctoral Center is comprised of a core faculty and a director. The core faculty is drawn from the several disciplines in which the degrees are offered. Core faculty members engage in research covering a broad spectrum of study endemic to Counselor Education, Curriculum and Instruction, and Educational Administration. Core faculty likewise pursues varied research interests and projects which assist in keeping them conversant with current changes and demands in their fields. Such activity enables students to interact readily with core faculty in various research settings for exposure, not only to various research areas within a given discipline, but also to the research process in general. The Center offers majors in Counselor Education, Curriculum and Instruction, and Educational Administration and Foundations. Additionally, free electives (courses designed to satisfy other academic requirements) are offered. The interdisciplinary nature of the Center's programs affords students maximum opportunities for gaining exposure to courses outside their declared disciplines.

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".

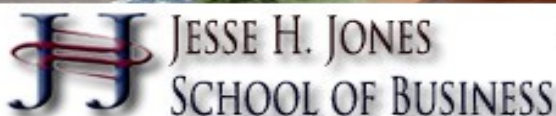
The concept of the building as a first-class facility is carried through all areas, from the 200-seat auditorium with its cherry wood paneling, to the two Executive Classrooms designed to meet the needs of Houston's business community or the busy executive pursuing an MBA. The Jesse H. Jones School of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

OUR MISSION

The mission of the School of Business, as a major HBCU located in a leading global business environment, is to provide quality education for employment in a globally diverse job market through innovative, active and experiential teaching to enhance student learning.

Research, especially pedagogical and discipline based, as seen as complementary to effective and innovative teaching as well as appropriate faculty development.

The school, especially through its outreach centers, is also committed to cultivating partnerships with corporate executives and entrepreneurs, businesses, government and other institutions and organizations to foster economic development and address urban issues, especially diversity in employment.



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.

BACHELORS OF ART OFFERED IN:

Journalism
Radio, Television & Film
Communication Arts & Sciences
Entertainment and the Recording Industry

DEGREES

Bachelor of Arts (B.A.) in Communication
Bachelor of Arts (B.A.) in Mass Communication
Master of Arts (B.A.) in Communications

CAREER FIELDS

SPEECH COMMUNICATION

Political Analyst and Campaign Director
Forensic/ Debate Director
Talk Show Host

RADIO, TELEVISION AND FILM

Director/ Filmmaker
Broadcast Engineer
Producer

JOURNALISM

Broadcast News Analyst
Reporter
Correspondent

ENTERTAINMENT AND RECORDING MANAGEMENT

Studio/ Film Production
Artist Management
Venue Supervisor



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

COLLEGE OF CONTINUING EDUCATION

College of Continuing Education



The Texas Southern University Weekend College and Division of Continuing Education was re-designated the College of Continuing Education by the Board of Regents June 3, 1994; this alteration marks one of the most significant changes in the unit since it was created in 1973 as the Weekend College.

In 1973, the Texas Legislature recognized Texas Southern University as a "special purpose institution of urban programming." Considering the history of Texas Southern University and the former Weekend College, the challenge for the College of Continuing Education is to continue the legacy of responding pro-actively to challenges from the state, city, and the University community.

The role of the College of Continuing Education is to provide programs and services that affirm the University's mission. Operationally, the College of Continuing Education is Texas Southern University's administrative unit for delivering non-credit courses. More specifically, this non-academic unit is designed to meet identifiable community needs in lifelong learning and professional development by providing educational opportunities for all citizens. The College also provides its constituency with access to quality non-credit programs in urban areas and around the state of Texas.

The College is privileged to present an overview of services, programs, and training classes. It must be remembered that education and training are investments that pay for themselves in increased productivity and enhanced job satisfaction. With Texas Southern University's College of Continuing Education as an educational partner, training can be maximized with high-quality, high-value programs that meet specific needs. The College of Continuing Education has over twenty-five years of experience in management development and skills training, along with an experienced, effective faculty drawn from both the University and the business world. The goal of the College is not merely to meet expectations but to exceed them.

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.

RESEARCH SEED GRANT AWARD RECIPIENTS 2011-2012

RECIPIENT	TITLE OF GRANT/ PRESENTATION	AMOUNT
ROD PAIGE COLLEGE OF EDUCATION		
Angela Meshack	Project Heart Education and Risk Reduction Education (HEARRE)	\$16,333
Danita Bailey-Perry	Impact of the Qualifications of Educator Preparation Program Applicants on TExES Pass Rates	\$7,000
THURGOOD MARSHALL SCHOOL OF LAW		
Emeka Duruigbo	Reforming Texas Law on Natural Gas Drilling to Protect Small Landowners from Hydraulic Fracturing	\$7,500
COLLEGE OF PHARMACY AND HEALTH SCIENCES		
Joshua T. Swan	Impact of Infection on Immunosuppression Therapy In Liver Transplant Patients	\$8,100
Lily Cheung	Pharmacokinetic Studies on Sertraline and Lansoprazole Before and After Gastric Bypass	\$9,000
COLLEGE OF SCIENCE AND TECHNOLOGY		
Yuanjian Deng	Platinum Complexes with 2-Imidazolidinethione: A Mechanistic Study	\$10,000
Fengxiang Qiao	Using RFID Technique for Smart Guide Signaling at Unsignalized Intersections	\$8,000
Mark Harvey	Therapeutic Absorbed Dose and Secondary Neuron Production by Nuclear Physics Model in Protein Therapy Using Geant4 Monte Carlo Toolkit	\$5,801
SCHOOL OF BUSINESS		
Mayur Desai	A Research Proposal to Investigate the Interaction of Internal Capacity of Information Technology (IT) and IT Service Engagement in Outsourcing Decisions-Phase 2	\$5,000
BARBARA JORDAN~MICKEY LELAND SCHOOL OF PUBLIC AFFAIRS		
Oluponmile Olonilua	Involving Minorities in Hazard Mitigation- A Public Outreach Program	\$5,000
Total		\$81,734

RESEARCH TRAVEL GRANT AWARD RECIPIENTS 2011-2012

RECIPIENT	TITLE OF GRANT/ PRESENTATION	AMOUNT
COLLEGE OF LIBERAL ARTS AND BEHAVIORAL SCIENCES		
Daniel Adams	College Music Society 2011 National Conference	\$378.34
Rockell Brown	"Privileged Voice: Hegemonic Representations of Black Male Athletes and Use Your SMI Voice!"	\$1,007.39
Kimberly Mitchell-McLeod	Present Research at the College Board Annual Forum: A Literacy Revival has Arrived, Technology Is Bringing it Alive!	\$1,497.90
COLLEGE OF PHARMACY AND HEALTH SCIENCES		
Zivar Yousefipour	Glomerular Slit Diaphragm (SD) Protein Nephlin and Acute Renal failure (ARF): Modulation by PPAR gamma	\$1,499.79
Total		\$4,383.42

