



SAVANNAH STATE UNIVERSITY 3RD ANNUAL RESEARCH CONFERENCE AND RIM SYMPOSIUM



LEARNING FROM THE PAST TO GUIDE OUR FUTURE

April 09, 2013

Congratulations to Dr. Cheryl D. Dozier, 13th President of Savannah State University

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Savannah State University
3rd Annual Research Conference (ARC)
and RIMI Symposium

Tiger Arena

Sponsored by the
 Office of the President
 Office of Sponsored Research Administration (OSRA)
 Quality Enhancement Plan (QEP) 'The Write Attitude'
 NIH-NIMHD Research Infrastructure in Minority Institutions (RIMI)
 NSF HBCU-UP MAGEC-STEM Plus Program





Conference program cover design and Program Design by
Recha R. Reid, NIH/NIMHD Research Infrastructure in Minority Institutions Program

Abstracts published in this program reflect the individual views of the authors and not necessarily that of the Office of Sponsored Research Administration or Savannah State University.

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Overview of the Conference and Committee Members

The one-day event seeks to highlight the research of Savannah State University (SSU) undergraduate and graduate students and their mentors both on and off campus. The objectives of this conference are to help undergraduate and graduate students to enhance their research communication skills and to better understand how to prepare for careers in the global marketplace.

The general format for this conference is networking sessions, poster presentations, and research faculty oral presentations. Exhibitors present graduate opportunities and job opportunities for SSU graduates. This is an important platform for students to present their findings to both SSU and Savannah community. In addition, through workshops and keynote speakers, this one-day conference will be vital in stimulating the interest of students, faculty, and community members in the area of research.

Annual Research Conference and RIMI Symposium Committee Members

The Organizing Committee consists of individuals who contribute to various aspects of conference organization.

Dr. Chellu S. Chetty
Associate VP for Research and Sponsored Programs
Conference Director

Ms. Recha R. Reid
NIH RIMI Program Manager
Conference Coordinator

Dr. Sue C. Ebanks
Assistant Professor
President's Inauguration Committee Rep

Dr. Samuel Dolo
Assistant Professor
President's Inauguration Committee Rep

Dr. Lisa Yount
Associate Professor and QEP Director
QEP Representative

Mr. Patrick Dean
STEM 360 Activity Director
Middle and High School Liaison

Dr. Marilyn Hutchinson
Mentoring and Research Programs Director
Co-Manager of Exhibitors

Mr. Kenneth B. Williams, Jr.
MAGEC-STEM Plus Program Manager
STEM Programs Representative



It is my pleasure to extend to each of you a warm Tiger welcome to the third annual Research Conference and RIMI Symposium at Savannah State University! With a growing number of cutting-edge research projects now being conducted at SSU, we are proud to host this special event that showcases the hard work and incredible findings of our talented students and faculty mentors. Their scholarship is increasingly vital to our nation's future.

At Savannah State, we strive to develop productive members of a global society who are fully prepared to achieve professional and personal success. Today's graduate schools and employers are looking for students who have already published scholarly papers and are actively engaged in research at the undergraduate level. This conference and symposium will give more than 200 presenters the exposure and experience they need to excel in any arena.

The Research Conference and RIMI Symposium Committee has planned an event that will surely be exciting, enlightening and memorable for all involved. I thank the committee members for their efforts and look forward to joining our faculty, friends and partners throughout the community at this year's event as we explore "Learning from the Past to Guide our Future" and celebrate the power of curiosity, intellect and creativity in action.

Sincerely,

A handwritten signature in black ink that reads "Cheryl D. Dozier". The signature is fluid and cursive.

Cheryl D. Dozier, DSW
President
Savannah State University



Welcome to the third annual Research Conference and RIMI Symposium at Savannah State University, “Learning From the Past to Guide Our Future.” We take great pride in the inquiry of our students on many fronts. Education at Savannah State goes beyond the classroom, to collaboration, and practical investigations of the natural world. Beyond traditional coursework, our students engage in the practice of their disciplines in the sciences, social sciences, arts and humanities.

This conference is intended to deepen teaching and research at SSU. It also signifies an important juncture in the growth of the students as scholars. Please join me in congratulating them.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Verret". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

C. Reynold Verret, Ph.D.
Provost and Vice President of Academic Affairs



Welcome to the Savannah State University's 3rd Annual Research Conference and RIMI Symposium. The Office of Sponsored Research Administration has been striving to increase the research endeavors of Savannah State University (SSU) faculty and students. In the past year we have seen an increase in the number of students participating in research to include involvement in off-campus research both at major universities and organizations across the United States and in Malaysia, India and China.

The work of our students and their research mentors demonstrates a commitment, not only to investigative reasoning, but also to learning from the past to broaden our role in future research at both the undergraduate and graduate levels.

I extend my thanks to the research mentors and departments for their continued participation in ensuring that this event continues to be a success. I extend a special welcome to our exhibitors for taking the time to meet with our students. Finally, thanks to the faculty and community partners who have donated their time and support to judge the posters.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chellu S. Chetty'.

Chellu S. Chetty Ph.D.

Associate Vice President for Research and Sponsored Programs

Research Programs at Savannah State University

DOE (Department of Education) Title VII: With the enactment of the Higher Education Opportunity Act (HEOA) of 2008, Savannah State University was one of 18 historically black colleges and universities (HBCUs) that received funding to improve graduate education opportunities at the master's level in mathematics, engineering, physical or natural sciences, computer science, information technology, nursing, allied health or other scientific disciplines where African American students are underrepresented.

HHTP (Housing Health Training Program) partnered with HUD Lead Hazard Control Program partnered with HUD HBCU Community Development Grant: HHTP is an integral part of SSU's Urban Studies and Environmental Justice Project (USEJ). The Project addresses the relationship between the socio-spatial distribution of environmental risk and disparities in health outcomes experienced by low-income communities. The current strategic focus concerns lead hazards in Savannah's older inner-city neighborhoods. USEJ activity modules include workforce development, curriculum design, community outreach and applied research. All HHTP Student Assistants are EPA/EPD licensed Lead Inspectors, Risk Assessors and Renovators. Credentialed students participate in applied research; public health education in low-income communities and perform community outreach with under-employed workers. They participate in HHTP in conjunction with their two-year enrollment in the Master of Science and Urban Studies and Planning Program (MSUSP); thereby securing the minimum 2 year work experience requirement for industry employment.

Housing Authority of Savannah Choice Neighborhood Planning: This grant is to support the development of a comprehensive neighborhood transformation plan for the East Savannah Gateway neighborhood targeting the Robert Hitch Village and Fred Wessels Homes public housing sites. The Housing Authority of Savannah along with key stakeholders will use the transformation plan to change the lives of public housing residents and families in the surrounding community. The students will assist the Principal Investigator of the grant (Dr. Deden Rukmana) to prepare sampling methodology, conduct neighborhood surveys, analyze the findings and prepare a report.

NIH MARC-U-STAR (Minority Access to Research Career Undergraduate Student Training in Academic Research): The NIH/NIGMS MARC U-STAR Honors Program at Savannah State University provides minority students, who are traditionally underrepresented in biomedical and behavioral sciences, a rigorous research training preparedness program during the junior and senior years. The program will prepare them to be admitted and successfully complete Ph.D. programs at top-tier institutions. MARC Scholars must be majoring in biology, behavior analysis, chemistry, marine science or mathematics with a minimum 3.25 GPA.

NIH MBRS-RISE (Minority Biomedical Research Support- Research Initiative for Scientific Enhancement): The goal of this program is to increase the number of graduates in RISE relevant undergraduate programs and to increase the number of underrepresented minorities in the biomedical/behavioral sciences pursuing and completing Ph.D. programs. The program will facilitate curriculum enhancements to benefit all STEM students. Each scholar will be placed with a mentor and actively engaged in research on- and off-site. RISE scholars must be majoring in biology, chemistry, marine science or behavior analysis.

NIH NIBIB (National Institute of Biomedical Imaging and Biotechnology): The goal of the NIBIB "Expanding Diversity" Research Training Program is to increase the number of minority students who earn a degree in science, technology, engineering, or mathematics (STEM) and enter into a STEM graduate program and research career.

NIH-NIMHD RIMI (Research Infrastructure in Minority Institutions): The focus of the Research Infrastructure in Minority Institutions (RIMI) program is to strengthen the research infrastructure of SSU and contribute to the knowledge base in bio-medical/behavioral science/health disparities fields by developing junior faculty to become independent investigators under the mentorship of external collaborators, strengthening shared core research labs, and strengthening STEM curriculum by infusing health disparities topics. Each semester, the RIMI program engages 10-14 research assistants (undergraduate and graduate students) in mentored research training with SSU faculty (on-campus) and community research partners (off-campus) such as the Coastal Health District.

NOAA LMRCSC (National Oceanic and Atmospheric Administration Living Marine Resources Cooperative Science Center): The Living Marine Resource Cooperative Science Center is a collaborative effort between NOAA and the University of Maryland Eastern Shore (UMES), its lead institution, in collaboration with the University of Maryland Institute of Marine and Environmental Technology, the University of Miami, Delaware State University, Hampton University, Oregon State University, and

Research Programs at Savannah State University

Savannah State University. This new 5-year award builds on the accomplishments of two prior five-year LMRCSC awards since 2001 that have totaled over \$3 million dollars. Its mission is to “train a diverse body of students for careers in NOAA and other resource management agencies and conduct cutting edge research in fisheries sciences in the areas of fisheries socioeconomic, quantitative fisheries, essential fish habitat and aquaculture.” Among the programs it sponsors, the community is probably most familiar with the research internships and fellowships, and the annual marine science camp that is offered free of charge. The LMRCSC also provides resources to the Georgia-South Carolina Ocean Sciences Bowl, GIS Day in Savannah, the Savannah Black Heritage Festival and the Savannah Ocean Exchange.

NSF EDGE (Enhancing Diversity in the Geosciences): The goal of the Opportunities for Enhancing Diversity in the Geosciences (EDGE) program is to attract minority students to marine science/geoscience education and career tracks. It supports 10 undergraduate students each semester (20 per year), and 4 full time summer internships for a total of 24/year. The program includes support for freshmen/sophomores who may be struggling to find direction in the shorter, low-commitment academic year positions. The full time summer positions are more competitive and targeted to the best and most dedicated students. There are opportunities to participate in research cruises monitoring the Savannah River estuary. In addition, undergraduates can be placed in internships with community partners at local schools, aquaria, and outdoor education facilities.

NSF GK-12 (Graduate STEM Fellows in Kindergarten – Grade 12 Education): The NSF GK-12 Ocean Literacy Program is a collaboration between SSU, the Skidaway Institute of Oceanography (SkIO), and the Savannah Chatham County Public School System. The goal is to develop graduate students’ research and communication skills while supporting local science education and enhancing ocean literacy in this coastal community. Master’s students serve in local science classrooms weekly. They learn from their teacher mentors and develop teaching modules based on their research. In turn, the science teachers are engaged in summer research with SSU and SkIO researchers, participate in summer workshops, and participate in research cruises. One undergraduate intern is supported annually to enhance marine-related outreach to the Savannah community.

NSF MAGEC-STEM Plus: The goal of this program is to develop and implement a comprehensive model to strengthen SSU’s undergraduate STEM education and research infrastructure and increase STEM undergraduate enrollment, retention and graduation rates. From 2003-2009, 103 students were supported, 85 were engaged in mentored summer research, and 66 presented at conference. The graduation rate for Historically Black Colleges & Universities – Undergraduate Program (HBCU-UP) scholars has been 80% compared to the average SSU rate of 29%. SSU’s renewed HBCU-UP award has added innovative elements, including international research and interdisciplinary research (forensic science, computational biology, and environmental engineering). In Summer 2013, students will conduct international research in China, India and Malaysia.

NSF PRISM (Proactive Recruitment for Introductory Science and Mathematics): The goal of the Proactive Recruitment for Introductory Science and Mathematics (PRISM) Program is to stimulate freshman and sophomore interest in STEM majors through mentoring, seminars, curriculum enhancements, and demonstration of real-world applications through discovery learning. PRISM is an interdisciplinary program that includes the mathematics, environmental science, and engineering technology programs. The program has established relationships with local industries that serve as host sites for summer field trips. The program supports 30-40 students each year.

NSF PLSAMP (Peach State Louis Stokes Alliance for Minority Participation): The Peach State Louis Stokes Alliance for Minority Participation (PLSAMP) is an alliance of 7 Georgia institutions: Savannah State University, Fort Valley State University, Georgia Perimeter College, Southern Polytechnic State University, Kennesaw State University, GA Tech, and the University of Georgia (lead institution). The program goals are: (1) Build the academic and research capacity of these institutions, which have significant enrollments of minority populations underrepresented in STEM professions and, (2) Increase the number of minorities contributing to and advancing the frontiers of research and education in STEM fields. Over the past 5-year program, 104 SSU students have been supported.

Speakers Biographies



Dr. Roger Chalkley, Senior Associate Dean for Biomedical Research Education and Training at Vanderbilt University School of Medicine

Roger Chalkley, D. Phil., has worked to develop scientific researchers and students at the undergraduate, graduate, and post-doctoral levels in his capacity as the Senior Associate Dean at Vanderbilt University School of Medicine. He has written over 170 publications in biochemistry with special focus on tissue and cell research. Dr. Chalkley has served as PI for several grants from the National Institute of General Medical Sciences and served as a peer reviewer for a number of journals and programs including the Journal for Biological Chemistry, Journal of Cell Biology, and the National Science Foundation (NSF) Human Genetics program and Molecular Biology program. He has worked extensively in the field of biomedical research and serves on various committees including the Meharry/Vanderbilt Alliance Board, the National Institutes of Health (NIH) Study Section BRT-A, BRT-B, the LA Board of Regents, and as one of the External Advisory Committee members of the NSF HBCU-UP Minority Access for Graduate Education and Careers (MAGEC-STEM) Plus program at Savannah State University.



Dr. Tamara Friedrich, Assistant Professor in the College of Business Administration at Savannah State University

Tamara Friedrich, Ph.D., is an Assistant Professor at Savannah State University where she began teaching in 2010. She has a unique background that combines Business and Psychology, which made her suitable for her to be approved for a NIH sub award through the Research Infrastructure in Minority Institutions (RIMI) program exploring employment as a cause of health disparities and means for intervention. Dr. Friedrich has previously worked on and published her research relating to survey research, creative cognition in the workplace, and leadership research.



Dr. Clyde Hall, former Acting President of Savannah State University, Author, Historian

Clyde Hall, Ph.D., is a retired engineering academic, and acting president of Savannah State University (1978-80). In retirement he spent much of his time researching and documenting educational events, places and contributions of educators in the state of Georgia. Included in his research is the history of Savannah State University, One Hundred Years of Educating at Savannah State College. Clyde Hall's many awards include the Education Award from the King-Tisdell Cottage Foundation (Savannah-2011).



Dr. Johnny Johnson, Assistant Professor of Biology at Savannah State University

Johnny Johnson, Ph.D., is an Assistant Professor of Biology at Savannah State University where he began teaching in 2008. He returned to his Alma Mater after receiving his doctorate degree in Physiology and Biophysics from State University of New York (SUNY). His areas of interest are in obesity reduction through the use of exercise and food regulation by monitoring key chemicals within the body. He has received an NIH sub award through the Research Infrastructure in Minority Institutions (RIMI) program and also served as the co-PI for the NSF HBCU-UP Minority Access for Graduate Education and Careers (MAGEC-STEM) Plus program. Dr. Johnson continues to work with a number of students to increase their research skills.



Dr. Sujin Kim, Assistant Professor of Mathematics at Savannah State University

Sujin Kim, Ph.D., is an Assistant Professor of Mathematics at Savannah State University where she began teaching in 2007. Her current area of interest is the use of mathematical calculations to increase the health of individuals within the area of health disparities. Dr. Kim has presented her work concerning the Stochastic Processes to a number of audiences and continues to work on getting students involved in the complex world of mathematics. She currently serves as the co-PI for a NIH sub award through the Research Infrastructure in Minority Institutions (RIMI) program concentrating on identifying risk factors that contribute to obesity within Chatham County.



Dr. Deden Rukmana, Associate Professor and Coordinator, Urban Studies and Planning Program at Savannah State University

Deden Rukmana, Ph. D., is an Associate Professor of Urban Studies and Planning at Savannah State University where he began teaching in 2006. His work within the community in understanding the prevalence of homelessness have been published in various academic journals, including *Area*, *Planning Practice and Research*, *Children and Youth Service Review* and *Critical Planning*. Dr. Rukmana has worked as PI on a number of research grants including the W. K. Kellogg Foundation through Harambee House, Inc., Step Up Savannah, Inc., Housing Authority of Savannah and the Savannah Youth Futures Authority. He currently serves as the co-PI for a NIH sub award through the Research Infrastructure in Minority Institutions (RIMI) program concentrating on identifying risk factors that contribute to obesity in low-income neighborhoods in Chatham County.



Dr. Jamboor Vishwanatha, Director, Texas Center for Health Disparities and Scientific Director, Institute of Cancer Research at the University of North Texas Health Science Center, Fort Worth, Texas

Jamboor Vishwanatha, Ph.D., has extensive experience in biomedical research with special focus on cancer research and has been the Scientific Director of the Institute of Cancer Research at University of North Texas Health Science Center (UNTHSC) since 2004. He is the Director of the Texas Center for Health Disparities and as such provides key expertise on the essential components for research at the undergraduate and graduate levels with a unique understanding of the current research available as it relates to biomedical research and health disparities. As the Dean for the Graduate School of Biomedical Sciences at UNTHSC Dr. Vishwanatha has a unique grasp of the requirements to succeed in research. As one of the External Advisory Committee members of the NIH NIMHD RIMI program he conveys practical guidance to the program to develop the research infrastructure of Savannah State University.



Dr. Hua Zhao, Associate Professor of Chemistry at Savannah State University

Hua Zhao, Ph.D., is an Associate Professor of Chemistry at Savannah State University where he began teaching in 2004. His areas of expertise are organic chemistry and bioorganic chemistry. Dr. Zhao has mentored a number of students in research who have gone on to perform well at noted graduate institutions. He received an NIH sub award through the Research Infrastructure in Minority Institutions (RIMI) program and is now the co-PI for the NIH National Institute of Biomedical Imaging and Bioengineering contract scholarship program, which seeks to groom undergraduates in the area of biomedical research, and the PI for the NIH NIGMS Research Initiative for Scientific Enhancement (RISE) internship program. Dr. Zhao has published a number of articles on his innovative research concerning HIV and anti-cancer agents, and his work with ionic liquids. He also received the 2012 Henry Dreyfus Teacher-Scholar Award from Camille and Henry Dreyfus Foundation.

Program of Events

Section 1: Pre-conference

Tiger Arena

- 7:30 – 8:15 Registration and poster set-up
Exhibitor set-up
- 8:00 Judges orientation
Tiger Arena, Classroom 1024

Section 2: Opening Session

Tiger Arena

- 8:30 – 9:15 Welcome
- | | |
|------------------|--|
| Opening Remarks: | Mr. Phillip D. Adams, Vice President of University Advancement |
| Welcome: | Dr. Cheryl D. Dozier, President |
| Remarks: | Dr. Reynold Verret, Vice President of Academic Affairs |
| Remarks: | Dr. Chellu S. Chetty, Associate VP for Research and Sponsored Programs |
- 9:15 – 9:45 Keynote Speakers
- Dr. Roger Chalkley, Senior Associate Dean, Vanderbilt University
Dr. Jamboor Vishwanatha, Dean, Graduate School of Biomedical Sciences, University of North Texas Health Science Center

Section 3: Faculty Presentations

Tiger Arena

- 9:45 Introduction of Orals: Dr. Lisa Yount, QEP Director
- 9:50 – 10:45 NIH-NIMHD Research Infrastructure in Minority Institutions Oral Presentations
- Presentation by Dr. Hua Zhao on
 Treating HIV-1 and Cancers with New Compounds from Birch Bark
- Presentation by Dr. Johnny Johnson on
 Impact of Weight Reduction on Estrogen and GLP-1 Levels in African-American Females
- Presentation by Dr. Sujin Kim and Dr. Deden Rukmana on
 Identifying Risk Factors Contributing to Obesity in Chatham County Neighborhoods
- Presentation by Dr. Tamara Friedrich on
 Employment as a Cause of Health Disparities and Means for Intervention

Section 4: Poster Presentations

Tiger Arena

- 10:45 – 12:45 Poster Presentations
Exhibits by graduate schools and organizations open

Section 5: Lunch

Tiger Arena and Student Union

12:50 – 1:50 Lunch

Speakers and Judges Lunch
Student Union, Event Room A

Student Presenters, Student Volunteers, and Middle & High School students only
Tiger Arena, Multipurpose Room

Section 6: Breakout Sessions

Tiger Arena and Student Union

1:50 – 2:30 Math Jeopardy
Sciences and Technology Sponsored Event
Student Union, Event Room A

Global Business and International Logistics - Keys to Trade, Growth and Job Creation
Business Administration Sponsored Event
Student Union, Event Room B

Urban Studies and Environmental Justice Project (USEJ)
Improving Disaster Outcomes for Vulnerable Populations in Chatham County
Social Sciences Sponsored Event
Student Union, Event Room C

The Critics, the Gospels, and the Gullah: Post-Coloniality, Collaborative Writing, and Eco-critical Projects
by Three SSU Liberal Artists
Liberal Arts Sponsored Event
Tiger Arena, Classroom 1022

2:30 – 3:00 Break with refreshments

Section 7: Awards Ceremony

Tiger Arena

3:00 – 3:30 Presentation of SSU's History in Research
Dr. Clyde Hall, former Acting President of SSU, Author, Historian

3:30 – 3:50 Faculty remarks

4:00 – 4:20 Awards for Poster Presentation
Dr. Lisa Yount, QEP Director
Dr. Margaret C. Robinson, Retired Dean of COST, SSU Alumna

Judges

Dr. Evans Afriyie-Gyawu

Georgia Southern University

Dr. Stephanie Alexander

Savannah State University

Ms. Dedra Andrews

Savannah State University

Dr. Carlos Aparicio

Savannah State University

Ms. Sree Latha Aramgam

Memorial Health University Medical Center

Dr. Anshu Arora

Savannah State University

Dr. Sri Ranjini Arumugam

Savannah State University

Dr. Ijaz Awan

Savannah State University

Dr. Kameswara Rao Badri

Savannah State University

Dr. Lateef Pade Badru

Savannah State University

Mr. Mark Baggett

Savannah State University

Ms. Jannie L. Baker

Savannah State University

Dr. Benita Berry

Savannah State University

Dr. Angela Birkes-Grier

University of Georgia

Dr. Benn L. Bongang

Savannah State University

Ms. Stephanie Bradl

Savannah State University

Dr. Hae-Yeon Choi

Savannah State University

Dr. Chip Cotton

Savannah State University

Dr. Tara Cox

Savannah State University

Dr. Roenia DeLoach

Savannah State University

Dr. Samuel Dolo

Savannah State University

Dr. Sue C. Ebanks

Savannah State University

Dr. Tamara Friedrich

Savannah State University

Dr. Matthew Gilligan

Savannah State University

Prof. Susan C. Grayson (retired)

Savannah State University

Dr. Mir Hayder

Savannah State University

Dr. Christopher Hintz

Savannah State University

Ms. Jenna Horton

Georgia Southern University

Dr. Dionne Hoskins

Savannah State University and NOAA

Dr. Marilyn Hutchinson

Savannah State University

Dr. Otilia Iancu

Savannah State University

Ms. Wanda Jackson

Savannah State University

Ms. Shobana Jayaraman

Savannah State University

Dr. Shinaz Jindani

Savannah State University

Dr. Jacqueline U. Johnson (retired)

Alabama A&M University

Mr. Edward B. Jolley

Savannah State University

Dr. Johnny Johnson

Savannah State University

Dr. Otis Johnson

Savannah State University

Dr. Cecil Jones

Savannah State University

Dr. Maggie Keenan

Maggie Kennan and Company

Dr. Uddhav Kelavkar

Memorial Health University Medical Center

Mr. Harshavardhan Kenche

Memorial Health University Medical Center

Mr. Bryan Knakiewicz

Savannah State University

Ms. Ruth E. Keith

Savannah VA Primary Care Clinic

Prof. Marjorie Maguire-Krupp

Savannah State University

Dr. Karla Sue Marriott

Savannah State University

Ms. Lauren McMillan

Savannah State University

Mr. Pat Mooney

Savannah College of Art and Design

Dr. Mohamad Mustafa

Savannah State University

Dr. Raghavan M. G. Nair (retired)

Biotech Consultant

Dr. Emmanuel Naniuzeyi

Savannah State University

Dr. Suman Niranjana

Savannah State University

Ms. Tesa Pinckney

Savannah State University

Mr. Manoj Prasad

Mercer University School of Medicine

Dr. Carol Pride

Savannah State University

Dr. Elissa Purnell

Savannah State University

Dr. Sharlet Rafacz

Savannah State University

Ms. Diane Reeder

National Alliance on Mental Illness

Dr. Deden Rukmana

Savannah State University

Dr. Chevanese Samms Brown

Savannah State University

Dr. Linda Samuel

Savannah State University

Dr. Rebecca Setliff

Savannah State University

Dr. Kai Shen

Savannah State University

Dr. Paramasivam Sivapatham

Savannah State University

Dr. Larry Stokes

Savannah State University

Ms. Roslyn Tharpe

Savannah State University

Mr. Robert Thornton

Coastal Health District

Dr. Mare Timmons

UGA Marine Extension Service

Mr. Muniyappa Venkatesha

Savannah Technical College

Dr. Alfredo Villanueva

Savannah State University

Dr. Maliece Whatley

Savannah State University

Ms. Karen Wilds

Savannah State University

Dr. Jun Wu

Savannah State University

Ms. Louise E. Wyche

Savannah State University

Off-Campus Research Conference Award Recipients

COLLEGE OF BUSINESS ADMINISTRATION AWARD RECIPIENTS

Name of Presenter: **Joshua Shaffer** (undergraduate)
Type of Award: Best Paper Award – First
Conference: 2013 Forty-Third Annual Southeast Decision Sciences Conference
Type of presentation: Paper
Title of presentation: *Consumer Anthropomorphism: Societal Impacts of Anthropomorphic Advertising*
Faculty mentors: Dr. Anshu Arora, Dr. Jun Wu and Dr. Shalonda Bradford (Savannah State University)

Name of Presenter: **Eric Billinger** (undergraduate)
Type of Award: Best Paper Award – Runner Up
Conference: 2013 Forty-Third Annual Southeast Decision Sciences Conference
Type of presentation: Paper
Title of presentation: *Brand Equity Via Brand Diffusions and Brand Naming Strategies: Country-of-Origin Effects Revisited*
Faculty mentors: Dr. Anshu Arora and Dr. Reginald Leseane (Savannah State University)

Name of Presenter: **Christina King** (graduate)
Type of Award: Best Paper Award – First (Graduate Student Research Category)
Conference: 2013 Forty-Third Annual Southeast Decision Sciences Conference
Type of presentation: Paper
Title of presentation: *The Effects of Social Support and Self-Efficacy on Depression in College Students*
Faculty mentors: Dr. Jun Wu and Dr. Suman Niranjana (Savannah State University)

Name of Presenter: **Derek Williams** (graduate)
Type of Award: Honorable Mention
Conference: 2012 Alfreed J. Seaman Award For Best Undergraduate Essay On Advertising And Society
Type of presentation: Paper
Title of presentation: *Brand Diffusions: Brand Naming Strategies and Consumer Perceptions*

COLLEGE OF SCIENCE AND TECHNOLOGY AWARD RECIPIENTS

Name of Presenter: **China Brown** (undergraduate)
Type of Award: 3rd Place
Conference 1: 2012 Peach State Louis Stokes Alliance for Minority Participation (Peach State LSAMP) Conference
Type of Award: Presentation Award (Certificate of Achievement)
Conference 2: 2012 Annual Biomedical Research Conference for Minority Students (ABRCMS) Conference in STEM
Type of presentation: Poster
Title of presentation: *Impulsive Choice: Lewis and Fischer 344*
Faculty mentors: Dr. Carlos Aparicio (Savannah State University)

Name of Presenter: **Nateja Diaz-Greene** (undergraduate)
Type of Award: 2nd Place
Conference: 2012 Peach State Louis Stokes Alliance for Minority Participation (Peach State LSAMP) Conference
Type of presentation: Oral
Title of presentation: *Potential of Bacillus and Pseudomonas SPP. As a Biological Control agent for Anthracnose Disease*
Faculty mentors: Dr. Jugah B. Kadir (Universiti Putra Malaysia)

Name of Presenter: **Brandel Graham** (undergraduate)
Type of Award: Presentation Award (Certificate of Achievement)
Conference: 2012 Annual Biomedical Research Conference for Minority Students (ABRCMS) Conference in STEM
Type of presentation: Poster
Title of presentation: *A Study of the Flow around Circular Cylinder Pairs*
Faculty mentors: Dr. Mir Hayder (Savannah State University)

Off-Campus Research Conference Award Recipients (Continued)

Name of Presenter: **Chasity Fuller** (undergraduate)
Type of Award: 2nd Place
Conference: 2012 Peach State Louis Stokes Alliance for Minority Participation (Peach State LSAMP) Conference
Type of presentation: Poster
Title of presentation: *Plant Growth Promoting Rhizobacteria resistance against early blight in tomato*
Faculty mentors: Dr.T. Raguchander (Tamil Nadu Agricultural University)

Name of Presenter: **Daniel Heslop** (undergraduate)
Type of Award: 1st Place
Conference: 2012 Peach State Louis Stokes Alliance for Minority Participation (Peach State LSAMP) Conference
Type of presentation: Oral
Title of presentation: *Implementation of 3D Visualization of a Brain Tumor*
Faculty mentors: Dr. Hyounkyun Oh (Savannah State University)

Name of Presenter: **Vanda Johnson** (undergraduate)
Type of Award: 3rd Place
Conference: 2012 Peach State Louis Stokes Alliance for Minority Participation (Peach State LSAMP) Conference
Type of presentation: Oral
Title of presentation: *Evaluating Approximated Values by using Derivatives*
Faculty mentors: Dr. Sujin Kim (Savannah State University)

Name of Presenter: **Michael Lee** (undergraduate)
Type of Award: 3rd Place
Conference: 2012 Peach State Louis Stokes Alliance for Minority Participation (Peach State LSAMP) Conference
Type of presentation: Poster
Title of presentation: *Absolute Abdominal Machine*
Faculty mentors: Dr. Mohamad Mustafa (Savannah State University)

Name of Presenter: **Andrew Morrison** (undergraduate)
Type of Award: 2nd Place
Conference 1: 2012 Peach State Louis Stokes Alliance for Minority Participation (Peach State LSAMP) Conference
Type of Award: 2nd Place
Conference 2: 2013 Emerging Researchers National (ERN) Conference
Type of presentation: Oral
Title of presentation: *The identification of mutations involved in zinc induced transcription*
Faculty mentors: Dr. Kery Kornfeld (Washington University)

Name of Presenter: **Eric Parks** (undergraduate)
Type of Award: Presentation Award (Certificate of Achievement)
Conference: 2012 Annual Biomedical Research Conference for Minority Students (ABRCMS) Conference in STEM
Type of presentation: Poster
Title of presentation: *Near Shore Surveys of Juvenile Blue Crabs, *Callinectes sapidus*, in the Chesapeake Bay*
Faculty mentors: Dr. Mathew Ogburn (Smithsonian Environmental Research Center [SERC])

Name of Presenter: **Ekundayo Platt** (undergraduate)
Type of Award: 1st Place
Conference: 2012 Peach State Louis Stokes Alliance for Minority Participation (Peach State LSAMP) Conference
Type of presentation: Oral
Title of presentation: *Cu-Doped Zeolites for the Oxidative Carbonylation of Ethanol (methanol)*
Faculty mentors: Professor Xinbin Ma (Tianjin University)

Name of Presenter: **Kwasi Platt** (undergraduate)
Type of Award: 3rd Place
Conference: 2012 Peach State Louis Stokes Alliance for Minority Participation (Peach State LSAMP) Conference
Type of presentation: Poster
Title of presentation: *Principal Component Analysis in Financial Risk Management*
Faculty mentors: Dr. Tao Pang (North Carolina State University)

Off-Campus Research Conference Award Recipients

Name of Presenter: **Khamilla Shellman** (undergraduate)
Type of Award: 2nd Place
Conference: 2012 Peach State Louis Stokes Alliance for Minority Participation (Peach State LSAMP) Conference
Type of presentation: Poster
Title of presentation: *Variations in the Age Association of Total Cholesterol in Women: A Statistical Analysis of the Framingham Coronary Data*
Faculty mentors: Dr. Samuel Dolo (Savannah State University)

Name of Presenter: **Lana Thomas** (undergraduate)
Type of Award: 1st Place
Conference 1: 2012 Peach State Louis Stokes Alliance for Minority Participation (Peach State LSAMP) Conference
Type of presentation: Poster
Type of Award: 1st Place
Conference: 2
Type of presentation: Oral
Title of presentation: *Low Resource Extraction of mRNA using Surface Tension Valves*
Faculty mentors: Dr. Rick Haselton; Dr. David Wright (Vanderbilt University)

Name of Presenter: **Therin Young** (undergraduate)
Type of Award: 2nd Place
Conference: 2013 Emerging Researchers National (ERN) Conference
Type of presentation: Poster
Title of presentation: *Rapid Prototyping of Copper Inductor Coils by Mechanical Milling on Rigid and Flexible Substrates for Large-Area-Electronics*
Faculty mentors: Dr. James C. Sturm (Princeton University)

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COLLEGE OF BUSINESS ADMINISTRATION

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UNDERGRADUATE ABSTRACTS

U001

Integrated Marketing Communications: Changing Perspectives

Travis Alston (Senior)

Dr. Anshu Arora (Savannah State University)

This research paper will address the history, growth, and future of Integrated Marketing Communications through advertising. Integrated Marketing Communications is the most recent in the long line of innovative marketing concepts widely endorsed by marketing and advertising academics. Some researchers believe that IMC is nothing new to the world; it is just simply a reiteration of what marketing organizations have always done things. This paper focuses on the follow research questions:

1. What is Integrated Marketing Communications and Why is it Important?
2. How does Marketing Communications work?
3. What are the basics of developing an IMC Program?
4. How has IMC changed over the years through its changing views and agenda to match the new economic realities of the organizations?

U002

Will the impact of email advertising impact sales growth?

Latoya Ashley (Senior)

Dr. Anshu Arora (Savannah State University)

In society today with the immense growth of e-mail advertising, advertisers must manage their e-mail frequency to preserve opt-in lists in an environment of capacity. This paper presents two experimental studies suggesting that to improve consumers' perception of being under heavy e-mail pressure; critics believe advertisers should help individuals discard irrelevant e-mails with minimum effort. The research reveals that seeming pressure from any one advertiser is an individual phenomenon. Under conditions of low relevance, the effect of this pressure on non-subscriptions is moderated by the execution of e-mail advertising. Consumer perception of pressure emails from any one advertiser has become crucial, as managers can control their own advertising but not overall e-mail advertising volume.

U003

The International World of EBay

Aldrich Barnes (Senior)

Dr. Anshu Arora (Savannah State University)

As we all may know, EBay is one of the most popular selling channels around. It is basically the most popular online shopping site. Unlike one of EBay's competitors, it has successfully assured that all purchases are safe and legit from any form of fraudulent activity. EBay has not only stopped fraud, but also eliminated it from its business venture. EBay has affected the lives of people globally in numerous ways. It has somewhat made people lazy. This is because people can shop from home and save more money instead of going out spending extra money to go to the store. Essentially, almost everything is at ones fingertips shopping on the EBay site.

U004

An Investigation of Factors Influencing E-commerce

Terry Beasley (Senior)

Dr. Anshu Arora (Savannah State University)

This paper focuses on the factors that influence E-commerce. People are choosing to shop online more than in the past. The reason is product availability and service, secure online shopping, and easy to use websites. E-commerce offers 24/7 retailer availability, privacy and shop from home advantage. Customers are building trusting relationships with online businesses as a result. As the internet becomes more prevalent through the use of mobile devices, the typical online shopper is becoming more technologically advanced and confident when making purchasing decisions.

U005

Brand Diffusions: Societal Effects of Diffusion Branding

Eric Billinger (Senior)

Dr. Anshu Arora and Dr. Reginald Leseane (Savannah State University)

Brand diffusion occurs when a parent company creates a second product line, under a modified or different name, to appeal to a larger market. Popular luxury companies often create similar products for different social classes under a different brand name. This paper defines the four types of brand naming strategies with respect to a parent brand. The research addresses the following questions:

- Which choice is made for different parent brands and why?
- Which choice is the best for maximizing profits?
- What causes a diffused brand to fail and what are the negative impacts of brand diffusion?
- Does country of origin affect purchasing decisions?

The research further discusses if the consumers' perception of a brand changes with respect to the diffused brand and its country

of origin. Research explores possible reasons for this change.

U006

The Effects of Age and Gender of Advertisements in Social Networking

Jeffrey Blocker (Senior)

Dr. Anshu Arora and Dr. Reginald Leseane (Savannah State University)

Social networking sites are growing in enormous numbers; Facebook and Twitter are the two most popular social networking websites on the Internet. Advertisements appear on both of the sites in hopes to appeal and influence potential consumers. Advertisers know that advertising on social networking sites must be accepted by the consumers and at any time the consumers sense unnecessary commercialization; the consumers would start to reject the advertisements. This research paper answers the following questions:

- How do different genders perceive the appeal of different advertisements?
- How are age groups a factor when advertising on social networking sites?

U007

The Impact of RFID on Supply Chain Management

Thomas Boucher (Senior)

Dr. Suman Niranjana (Savannah State University)

Radio Frequency Identification (RFID) is the use of a wireless non-contact system that uses radio-frequency electromagnetic fields to transfer data from a tag attached to an object, for the purposes of automatic identification and tracking. This technology has been implemented into logistics and supply chain methodology to enhance the distribution process. The purpose of this paper will be to investigate the actual benefits that result from RFID implementation on Supply Chain Management (SCM) as well as any issues that arise. The extent of operational and managerial process impact on the supply chain effectiveness is tested. The research is empirical in nature, several hypotheses pertain to RFID and its impact on the supply chain effectiveness and efficiency will be proposed. Multiple regression analysis or Structure Equation Modeling along with Factor Analysis will be used to analyze data collected using surveys. The hypothesis of the research will be discussed. We propose a conceptual model, which we plan on testing it by conducting a survey. Through this research we would like to find out what are various factors involving radio frequency identification that have an influence on supply chain management and distribution methods and the advantages / disadvantages resulting from doing such. Such kind of analysis will allow corporate executives to make informed decisions on their supply chain strategies and making a decision regarding incorporating technology into their companies supply chain.

U008

Supply Chain Integration and Collaboration

Samuel Boyd (Senior)

Dr. Suman Niranjana (Savannah State University)

The forces that push the businesses and industries have created an unstoppable process of changes that created challenges for the companies in costs cutting while simultaneously growing amidst the tough competition of local and international markets. And with the evolution of needs and wants of the old and new markets, there is a need for continuous sustenance on supply of raw materials and labor. In the area of industrial engineering, there is a need for supply chain integration to which the operations research would have created efficiencies for the company so that there will be a smooth execution of the overall corporate business strategy. While using the supply chain as a catalyst for business transformation and business reinvention, the operations research should collect random information to represent the random value of the operations in supply management. The use of the stochastic process would enable the company to describe a probable process of evolving the solutions for supply management especially if there are so many interferences involving the strict accumulation of raw materials and cheap labor. In manufacturing companies to which industrial engineering has been part of their major concerns in line with innovative strategies in achieving the sustainable competitiveness within the intensive global competition, the strategy of supply chain management would be more on the attention of both operation researchers and supply chain integration and collaboration. The supply chain management has been one of the important operations strategies for improving the competitiveness of the company. Due to the importance of supply chain management having all of the activities in industrial operations, the procurement of raw materials until the manufacturing of the final product have improved the efficiency of the target delivery dates. And if the company will have a well-designed supply chain system, it would also improve the product quality and gain more customer satisfaction leading to bigger return of revenues. The Industrial Engineering perspective on supply chain integration and collaboration for the development of standards for products, process and production data should be implemented properly within the company's jurisdiction to which operations research could execute smoothly. It is therefore a requirement to have a thorough process to which supply chain integration could be done within the process of collaboration among the suppliers, retailers and the company.

U009

Consumer Perceptions of Product Quality, the Country of Origin, and Price Effects

Kevin Browning (Senior)

Dr. Shalonda Bradford and Dr. Anshu Arora (Savannah State University)

In prior studies product quality and the country of origin has been examined to reveal the perceptions of consumers. Different products and goods were experimented showing the different perceptions among consumers. Many products and goods are produced in foreign nations and are then exported to other nations for sale to the consumers. As these products are outsourced to foreign nations and then exported back to the home country, price plays a role in the perceptions of the consumers. This paper examines the effects of price and how it adjusts the views of the consumer in relation to the quality and the country of origin. This paper will examine the perceptions of consumers when the price is high and when the price is lower and where the product is manufactured. This paper will also examine different products such as textiles, agriculture, electronics, clothes, shoes, and automobiles to reveal the consumers' perceptions.

U010

What type of person would like to use social networking sites more and what are their purposes to use social networking sites?

Salena Bussie (Senior)

Dr. Jun Wu, Dr. Anshu Arora and Dr. Reginald Leseane (Savannah State University)

Social network sites (SNSs) have become an important part in people's daily life. Some research found that some young users spend more than 40 minutes on average every day on social networking sites. Why they spend so much time on social networking sites every day? Some research indicated it is related with people's personality. For example, people who are introversion may use social networking sites more because they may try to avoid having face-to-face conversations with others. Some other research found that people use social networking sites because they believe it can increase their social capital, while some other research found it cannot. Therefore, this paper would like to address the following research questions: (

1. Is personality related with social networking usage? In another word, what kind of person would like to use social networking sites more?
2. Does social networking sites usage increase users' social capital?
3. What kind of social networking activities would increase users' social capital while others would not?

We would like to design a questionnaire and collect data from about 200 social networking sites users. We will use SPSS and LISREL analysis tool to analyze data and try to answer the research questions above.

U011

Empowerment and Job Satisfaction: a Mediation Effect of Relationship with Supervision

Porsha L. Erwin (Senior)

Dr. Jun Wu and Dr. Anshu Arora (Savannah State University)

Total Quality Management (TQM) is an organizational strategy founded on the idea that in order to increase efficiency and effectiveness of a business, the entire organization must persist and improve processes. Empowerment is a concept that "links individual strengths and competencies, natural helping systems and proactive behavior to social policy and social change" (Thamizhmanii & Hasan, 2010, p.205). Since the successful integration of TQM relies heavily on employee attitude, it is clear how vital a role empowerment plays in businesses. This paper will propose that:

1. Empowered employees will report significantly more job satisfaction than non-empowered employees.
2. Empowered employees will report significantly better relationship with their supervision, which will further increase their job satisfaction. In another word, relationship with supervision would have a mediation effect between empowerment and job satisfaction.

We would like to design a questionnaire and collect data from about 200 employees from different organizations. We will use SPSS and LISREL analysis tool to analyze data and try to prove the hypotheses above.

U012

Luxury Brand Performance: An International Analysis of consumers Preference, Perceptions, and Risk

Pebbles Gilbert (Senior)

Dr. Anshu Arora and Dr. Shalonda Bradford (Savannah State University)

The luxury market portrays a certain image to all types of people, even on an international level. This research study evaluates the marketing promises of the luxury products and the portrayal of their brands to consumer and the international market. These studies evaluate consumer's choice behavior with respect to store brands on an international level. Store-brand market shares differ by countries and are usually much higher in European countries than in the United States. Also, list the success of brand performance in the United States and other countries is the higher brand equity that store brands command internationally. Consumers brand choice from an uncertainty brands shows signals for product positions to conduct this analysis. This research examines whether indecision about quality and perceived quality of store brands other than national brands; consistency in store-brand contributions over time; and consumer attitudes toward risk, quality, and price trigger the variance success of brands. Consumers learning and perceived risk and associated brand equity, as well as consumer attitude toward risk, quality, and price, play an important role in consumers' store-brand and national brand choices and contribute to the differences in relative success of store brands across the countries studied.

U013

The Impact of E-Commerce on Supply Chain Management: A Perspective of Shipping Cost and Consumer Behavior

**Angel Harvey (Senior)
Dr. Suman Niranjana (Savannah State University)**

The third era of globalization had a significant impact on the economy we know it today. Through technological advances of information systems, consumers have access to millions of products just from the click of a button. This innovative form of shopping, has had a dynamic impact on the direction of consumer behavior, increasing the competition among business. Multiple generations are now living in a world where there is little time to sacrifice. Ecommerce is a convenient resource to utilize in this new world, but other related fees can determine whether a customer makes purchases from one website opposed to another. This paper investigates to find out if effects of shipping cost, mode of transportation, and handling cost on supply chain efficiency & effectiveness along with consumer behavior in e-commerce industries. To maximize profit customer satisfaction an organization needs to choose among the various types of Direct-to-Customer (DTC) Fulfillment networks that best fits the consumer demand in retail shopping. Multiple regression analysis or Structure Equation Modeling along with Factor Analysis will be used to analyze data collected using surveys. Several hypotheses are proposed, and a conceptual framework is developed. The hypothesis of the research will be discussed. Through this research we would like to find out what are various significant factors that will impact the overall supply chain performance and consumer behavior in e-commerce industries. Such kind of analysis will allow companies to make informed decisions on their shipping costs, handling costs and mode of transportation.

U014

Why should and How could College Students have good sleep?

**Chaz J. Hicks (Senior)
Dr. Jun Wu and Dr. Reginald Leseane (Savannah State University)**

Sleeping is essential to the health of the human body and without enough of it the body could suffer from numerous health conditions. Some examples of problems that can result from lack of sleep are slowing of the metabolism which can result in weight gain, stress that can cause weight loss, and the body could begin to age quicker. In this study I will attempt to explore the sleep habits of college students and determine what events in their life directly affect how much they sleep. In this paper I prepare to design a survey and collect data about students sleep habit. By comparing data with students who have regular sleep hours verse students with irregular sleep hours, some key good and bad issues associated with sleep would be

pointed out. Especially, most people don't consider diet as being directly associated with sleep but it does, and I will attempt to explain how, what and when they eat can effect hours of sleep and satisfaction of sleep.

U206

Apple's iPad: Implications for Post-Secondary Uses

**Jacob L. Hicks (Senior)
Dr. Jun Wu and Dr. Reginald Leseane (Savannah State University)**

The research focuses on the industry-leader in tablet computing, Apple's iPad. Although there have been multiple uses for iPad and other tablets, tablet computing is a relatively new concept in education and should be explored further. The research addresses the following questions:

- How has iPad's entry into the market affected education?
- What are specific attitudes of college students concerning the use of iPad in education?
 - What are future implications for education and use for the iPad?

U015

Brand Loyalty to Brand Equity: Understanding the Challenges of Western Marketers Entering Asian Cosmetic Markets

**Kamaria Hill (Senior)
Dr. Anshu Arora, Dr. Jun Wu, and Dr. Shalonda Bradford (Savannah State University)**

This research focuses on the challenges and barriers of entry for marketers entering Asian retail markets. With such a dominant and unique, the Asian consumers have left a questionable impression on global marketers as being very promotion-driven. Various global companies with luxury brands have introduced and executed successful marketing and advertising campaigns to attract the Asian buyer, however, the challenge lies in the promise to remain brand loyal to western brands. In an attempt to dissect the global cosmetic industry to better understand the psyche of the average Asian buyer, the following issues and outstanding questions will be addressed and answered:

- What factors encourage or create brand loyalty in Asian consumers?
- What effects do brand marketing and advertising aimed at sustaining brand equity have on customers and consumers?
- How does the preservation of brand equity affect global society?

U016

The Effects of Ethnicity on the Role Perception of Women: by Comparing African Americans and Caucasians

Darrius M. James (Senior)
Dr. Jun Wu (Savannah State University)

Women's role in the society is important. This study shows what African American and Caucasian ethnicity have role perception of women and also how women of both ethnicities perceive themselves. The hypotheses was formulated that Caucasian women were more perceived as the stay at home wife and the African American women handled careers and families by African Americans. But Caucasians would perceive that Caucasian women are less feminine than African American women. Why would this happen? We would like to design a questionnaire and collect data from about 200 Africans Americans and Caucasians. We will use SPSS and LISREL analysis tool to analyze data and try to prove the hypotheses above and explore why.

U017
A Cross-Cultural Analysis of Brand Commitment: How Do International Cultures Perceive Unique Brand Elements?

Craig Jarrell (Senior)
Dr. Anshu Arora, Dr. Jun Wu, and Dr. Shalonda Bradford (Savannah State University)

International marketing requires building relationships with the people of the local culture. These relationships allow the consumer to commit to a brand and create value for the consumer. This study examines how different cultures perceive certain brand elements. The brand elements emphasized in this study include brand innovativeness, brand customer orientation, brand self-relevance, social responsibility, brand misconceptions, and brand personality. Previous authors have shown how brand innovativeness, brand customer orientation, brand self-relevance, and social responsibility have an impact on brands in different cultures. This study will show how brand misconceptions and brand personality contribute to the previous model and allow for stronger customer brand commitment. This study addresses the following questions:

- How do the aforementioned brand elements affect brand commitment?
- How different cultures react to the different brand elements?

U018
Quality and Perception of International Markets

Kerry Jett (Senior)
Dr. Anshu Arora and Dr. Shalonda Bradford (Savannah State University)

International marketing has become a playing field for the world to take by storm. Markets are closely related to a quality product and its origin. Observing a quality product closely relates to a products origin and usefulness to the consumer. China currently

exports into the United States at a major profit margin but quality in certain products don't match. These practices are highly effective in profit but a total lost for consumers purchasing from trusted suppliers. Suppliers in second world countries thrive off the idea of profit. Taiwan, Indonesia, and Japan have been the leading suppliers of products with sub-par products. Leading in innovation of producing a product on the fly consumers of foregoing countries products such as Paris and Germany follow a more serious mission to weed out poor product. With the world being built based on world of mouth losing a consumer can change a company depending on another company's product that they use.

U019
Social Networking to Make your Business Healthy

Jennifer Katzman Moore (Senior)
Dr. Anshu Arora (Savannah State University)

As you begin to enter in a business world you start to realize that sometime it is all about the connections. Networking is a key that can help many business men and women become successful in their career. Over the past few years we have seen networking sites such as LinkedIn, Facebook, and Twitter being used by people all over the world. These sites are used for many different reasons. As we look into the health system we are realizing that they have used marketing campaigns to help figure out who will provide their products and how to market these products to their consumers or customers. Print advertisement has always been a successful way to market, but is there a better form of advertisement for the health field? This research explores this relevant question of networking for health.

U020
What is Word of Mouth Marketing and how does it affect Online Communities?

Chantavia Knight (Senior)
Dr. Anshu Arora (Savannah State University)

Word of mouth marketing (WOM) is an important and influential technique for consumer-to-consumer communications. This research study will show how word of mouth marketing is used and how it affects online communities. It will also show how marketers use social media to market consumers. The four social media communication strategies listed in this research study include: evaluation, embracement, endorsement and explanation. It will also include how marketers of the future should plan, target and influence WOM. The following research paper will focus on the following questions:

- How does word of mouth influence consumers?
- How is this way of marketing effective for companies?

U021

Supply Chain Risk Management of Counterfeit Prescription Medication in the Pharmaceutical Industry

Joshua Lane (Junior)

Dr. Suman Niranjana (Savannah State University)

Supply chain risk management (SCRM) is observing and analyzing the behaviors and outcomes of the supply chain. SCRM is intended to minimize risk to the lowest probability. Because of the high probability risk in counterfeiting medicines, supply chain risk management in the pharmaceutical industry is a necessity. Advanced product design and packaging along with inventory tracking could be used to eliminate counterfeiting in pharmaceutical industry. The purpose of this research is to determine the impact counterfeit medications has on the respectable industry and how to manage the associated risks of cost increments, the lack of security, the need for technology advancement, the urgency of governance, and the demand for compliance. Factor Analysis and Multiple Regression analysis will be used to analyze the data collected via survey. Additionally all hypotheses proposed will be tested for its validity. Specific hypothesis will be designed and tested through empirical analysis by collecting information from surveys of pharmaceutical industries executives. The goal is to discover the influences technology, state legislation, public knowledge, and proper enforcement has on the issue of counterfeit drugs in the pharmaceutical industry. The expected outcome is to show the impact, whether negative or positive, counterfeited medications have on the pharmaceutical industries supply chain efficiency and effectiveness. This analysis will assist in strategic planning of pharmaceutical companies pertaining to research, future forecasting measures, new drug development, security/safety of product, and minimizing counterfeited medication levels.

U022

Who's Talking and Who's Listening: Consumer Reception to Advertising Campaigns on Social Media Networks

Byron Leggett (Senior)

Dr. Anshu Arora and Dr. Reginald Leseane (Savannah State University)

This article presents research on Internet advertising through Word-of-Mouth (WOM) campaigns, which examines consumer attitudes towards social media advertising. Social-networking sites (SNS) such as Facebook and Twitter are growing in both popularity and number of users. It is postulated that advertising presented on online social networks can be effective, but that excessive commercial usage of SNS can deviate its members towards other advertising media. The research addresses the positive and negative consumer attitudes towards social network advertising (SNA).

- What stimulus causes positive and negative consumer attitudes towards SNS and SNAs? How are these influences

important towards consumer attitudes?

- Do demographic factors influence SNAs likeability by consumers?

U023

The Effects Rising Fuel Prices on Transportation

Desiree Lowrey (Junior)

Dr. Suman Niranjana (Savannah State University)

This research paper will explore the implications that the rising prices of fuel will have over transportation. It will examine how transporting companies evolve and create better technology to overcome the problem. It will examine whether they try to make the switch to more efficient fuels or will they use cleaner fuels and look for government subsidies. The research will take a look at the different aspects such as various markets, different countries as well as different modes of transportation to see what the changing trend in transportation is and what they are doing to keep the cost down. I will also look at whether or not one mode of transportation becomes more efficient because of the rising fuel prices. The research will also focus on developing a set of factors related to increasing fuel prices that will result in increased transportation cost. Factor Analysis and Multiple Regression analysis will be used to analyze the data collected via survey. All hypotheses proposed will be tested for its validity. Specific hypothesis will be designed and tested through empirical analysis by collecting information from surveys of various transportation company's employees and industry executives. The goal is to discover the influences of technology, governmental policy, environmental regulation, alternative energy on rising fuel prices and thus on overall transportation costs. This analysis will assist in strategic planning of transportation companies pertaining to allocation of their resources, scheduling shipments, and coming up with smarter options to keep the costs lower.

U024

Role of Ads in Social Media

Fortune Marshall (Senior)

Dr. Anshu Arora and Dr. Jun Wu (Savannah State University)

As consumers we are exposed to various mediums of advertising, one of the more prevalent being forms of social media advertising. In recent years, social media has become extremely essential in regards to social networking and content sharing. Because social media is so frequently used this day in age, it is imperative that advertisers take advantage of this keen opportunity. Depending upon their success, this could either significantly increase sales of a particular product or damage one's views on it. This study addresses the following questions:

- Do ads work in social media?
- What are the potential effects of ads in social media?
- Does gender, age, or culture play a role in how one

perceives an ad?

U025

Sexual Advertising vs. Cause-Related Advertising

Lyndon McCluskey (Senior)

Dr. Anshu Arora and Dr. Jun Wu (Savannah State University)

Advertising has been used to generate sales and revenue for businesses across the globe. Advertising has been so effective that the typical motive has begun to try and figure out which concepts are the most effective and why. The purpose of this research is to compare and contrast the effectiveness of sexual advertising vis-a-vis cause-related advertising; and explore the combined usage of sexual appearance with cause related advertising on consumer's values, decision making and purchasing preferences. It has long been an accepted belief that sexual advertising has become very effective at attention grabbing and also considered as a powerful step in reaching one's target market in the United States culture of 21st century. My research will be supported using the AIDA Model to identify the initial reaction of American college students towards sexual advertisement vs. a cause-related advertisement.

U026

Global Consumer and Culture Positioning: Soft and Hard Sell Appeals in U.S. and Japan Markets

Joseph McCray (Senior)

Dr. Anshu Arora (Savannah State University)

This test the effectiveness of Global Consumer Culture Positioning in terms hard-sell and soft-sell advertising appease markets. The author used his theoretical base from a previous research, along with recent conceptualizations on culture and branding based on global consumer theory. If the same appeal is of uniform structure and favorable in different markets, the appeal should be a great candidate of a Global Consumer Culture Positioning Strategy. From previous research it is perceived that soft-sell appeals are better recognized across markets than hard-sell appeals. A quasi-experimental study in the U.S. and Japan will be conducted with a general consumer sample. After choosing 6 Advertisement Content Analysis, they examine the perceptions of soft-sell and hard-sell appeals. The result indicates a uniform acceptance between soft-sell appeals but surprisingly hard-sell appeals show relatively uniform acceptance across markets too. This suggests that both soft and hard sell appeals have the potential to be used as a part of Global Consumer Culture Positioning across the U.S., Japan and other markets.

U027

Consumer Behavior and Misbehavior: Effects of Counterfeits on Name Brands

Tiljua Montford (Senior)

Dr. Anshu Arora and Shalonda Bradford (Savannah State University)

With the numerous researches on consumers' behaviors on counterfeit brands, there are not so many articles about the misbehavior of consumers in regards to purchasing counterfeit brands. This paper aims to distinguish the consumer behavior and consumer misbehavior of counterfeits. This research also reflects how brands are affected due to the demand and consumption of counterfeits. Consumers who admit to purchasing counterfeit goods are surveyed and questioned as to why they purchase the counterfeit brands and not the genuine brands.

U028

College Students' Degree Satisfaction

Lee D. Pierce (Senior)

Dr. Jun Wu (Savannah State University)

College has become a necessity in today's society for individuals to enter the corporate world and climb the corporate ladder. Therefore, college enrollment has been increasing year to year. However the economic environment and cost of attendance could be a hindrance to future enrollment. In addition, current college students are less satisfied with their college education. Therefore, this paper is an analysis of current college attendees and their beliefs about future employment opportunities, social satisfaction and financial stability while in college matriculation. It would also explore why college students are less satisfied with their college education. We would like to design a questionnaire and collect data from about 200 college students at Savannah State University. We will use SPSS and LISREL analysis tool to analyze data and try to answer the research questions above.

U029

How Brands Become Icons: The Principles of Cultural Branding

Ross Ray (Senior)

Dr. Anshu Arora and Dr. Shalonda Bradford (Savannah State University)

The research study is designed to understand how to turn a brand into a cultural brand/ icon through the development of powerful communication strategies beyond the constraints of traditional advertising formats. The study dissects the historical context of a multitude of brands and how these brands achieved iconic status by utilizing identity myths. The research focuses on the following research question: How does a brand utilize identity myths to take that brand from an average mortal status as "identity Brands" to immortal status as "icons"?

U030

Social Networking Site Addiction

**Shawanda I. Reese (Senior)
Dr. Jun Wu (Savannah State University)**

Millions of college students utilize several social networking sites. Many students spend more than 1 hour every day on social networking sites. Why some college students are so addicted to social networking sites? What kind of activities motivate students to spend time on social networking sites? In addition, research found mixed results about the negative effect of over social networking sites usage such as self-esteem, self-satisfaction, stress, and general well-being. This paper would also explore the potential negative effects of social networking sites usage. What is more important, there are many different types of activities on social networking sites such as commenting, updating status, searching for information etc.. Some of them may be more addicted to students and some are less. Some activities may have positive effects and some may have negative effects. We will also explore the relationship between different types of social networking sites and addiction and their effects on college students. We would like to design a questionnaire and collect data from about 200 college students. We will use SPSS and LISREL analysis tool to analyze data and try to answer the research questions above.

U031

How Effective is Product Placement in Triggering Consumer Response?

**Ottis Scott Claxton (Senior)
Dr. Anshu Arora and Dr. Shalonda Bradford
(Savannah State University)**

Product placement is an advertising technique used by companies to promote a product by deliberately placing it in view of the audience. Product placement can be seen in nearly every form of entertainment, but more commonly in movies. The research explores the use of product placement in movies and other forms of entertainment and the response it triggers among consumers. The study further explores the sales brought in from product exposure and weights how effective this form of advertising is in creating product recognition. This form of advertising can be costly to companies if their product does not receive the desired response they sought out in their target market. This research explores the following questions:

- What evidence is there that product placement is recognized among consumers?
- What response is triggered by product placement?
- How effective is product placement as a form of advertising?

U032

Consumer Anthropomorphism: Societal Impacts of Anthropomorphic Advertising

**Joshua Shaffer (Senior)
Dr. Anshu Arora, Dr. Jun Wu, and Dr. Shalonda Bradford
(Savannah State University)**

The research focuses on the effects of anthropomorphism in advertising. Anthropomorphism is an interpretation of what is not human or personal in terms of human or personal characteristics. Many companies have introduced and executed successful advertising campaigns based on advertisements that tend to create anthropomorphism in consumers. This study addresses the following questions:

- What factors encourage or create anthropomorphism in consumers?
- What effects do anthropomorphic advertising and anthropomorphic feelings in advertising have on consumers?
- How does anthropomorphism affect the global society?

U033

The Good, the Bad, and the “Getting Caught”: Lessons Learned from the Thornburg Mortgage Company Accounting Fraud

**Ariel Shead (Junior)
Prof. Marjorie Maguire-Krupp (Savannah State
University)**

There are various causes that lead to poor decisions of company's senior executives to lose their moral compass and commit fraud, including accounting fraud. However, in every case there are three major factors that are common to committing fraud. These factors are opportunity, motivation, and rationalization. This research paper explores the management decisions and actions of Thornburg Mortgage. We examine how these factors, along with the principles of financial reporting, led to misconstrued financial statements, and how the intentions of the executives influenced their fraudulent decision making.

U034

The Impact of Employment and Social Support on the Academic Performance of College Students

**John M. Thorpe (Senior)
Dr. Jun Wu (Savannah State University)**

College students have many obstacles to overcome in order to achieve their optimal academic performance. Current college students are spending a significant amount of time in paid employment. It may have negatively effect on students' academic performance if students do not manage their time to fulfill their occupation and academic obligations. In addition to employment factors, social support factors will yield a positive or negative

influence on academic performance. The study considered employment factors that impact academic performance including flexible scheduling and organization climate. The social factors include university student services, family and peer support. A questionnaire will be designed and administrated among several universities in Savannah area. We will use SPSS and LISREL analysis tool to analyze data and try to prove the research hypotheses above.

U035
The Importance of E-Commerce for Businesses

Maycio Vining (Senior)
Dr. Anshu Arora (Savannah State University)

This paper explores the importance of having e-commerce in any business. It covers the benefits, impacts, what e-commerce is, and the reasons why the world is turning to more e-commerce. Furthermore, the paper focuses on ways of conducting e business and how to get started. With this being the age of technology, every business must have some sort of foot holding in e-commerce if they want to stay competitive and relevant.

U036
Positive and Negative Impacts of Social Media

Sheronda D. Ward (Senior)
Dr. Anshu Arora (Savannah State University)

The research explores positive and negative impacts of social media. Social Media takes up a lot of our world. You can't go a day without Social Media, it's just like news. Better yet it is news. Social Media keeps you updated on all you social networks as well. But with Social Media comes positive and negatives impacts on it too. Sometimes it's for the best and sometimes it's for the worst. It all depends on what kind of impact it will have on the issue addressed at hand.

U037
Veiled Signs of Sexual Advertising

Sacriana Ware (Senior)
Dr. Anshu Arora (Savannah State University)

There are various forms of how sex influence today's society and culture. Many companies and businesses use sex in the form of posters, billboards, ads, flyers and signs to popularize goods and services for profits. Countless studies have shown that sex sells in pretty much anything on the market and advertising has consistently proven those studies. The research focuses on testing women's attitudes and perceptions regarding sexual content in advertising and maps the same against male perceptions and attitudes.

U038
Word of Mouth a New Form of Advertising in Social Networks

Chay V. Williams (Junior)
Dr. Anshu Arora and Dr. Shalonda Bradford
(Savannah State University)

The research focuses on word of mouth advertising generated through social media. We will look into the connection between the participation of social media. As of late social media users use word of mouth and the relationships they maintain through social media. Making the conclusion upon a model for consumer participation in electronic word of mouth this paper compares the effects of PC and Model based electronic word of mouth (eWOM). Consumer engagement in eWOM via social networks is becoming critical. The study answers these following questions.

- How do firms use proactive content to motivate unpaid peer to peer communication of persuasive messages for specific sponsors?
- What marketers are challenged with identifying influential individuals in social networks and connecting with in ways that encourage WOM message movement?
- How product focused eWOM in Social Networking Sites cause a unique phenomenon with important social implication?

U039
The Influence on Union Membership of Theory X and Theory Y Managers

John T. Wilson (Senior)
Dr. Jun Wu (Savannah State University)

This research explores the relationship between Theory X and Theory Y managers and their influence on union membership. We hypothesized that Theory Y managers will have less impact on union membership than Theory X managers, and conversely that Theory X managers will have more impact on increased union membership than Theory Y managers. We would like to design a questionnaire and collect data from about 200 managers from different organizations to evaluate their managerial style and perception on union membership. We will use SPSS and LISREL analysis tool to analyze data and try to prove the hypotheses above and explore why.

MANAGEMENT AND MARKETING

GRADUATE ABSTRACTS

G040

Product Promotion and Placement: The Effectiveness of the Internet and Motion Pictures

Sierra D. Blake (Graduate)
Dr. Anshu Arora (Savannah State University)

There have been few studies to examine the impact of the internet, and motion pictures on product promotion. These mediums have cultivated the advancement of many products people use, wear or eat from day-to-day. They have consistently used celebrities and everyday people to market products to various social classes around the world to help promote products for various companies. This study examines the effectiveness of the internet and motion pictures on product promotion and placement. It highlights how successful companies promote their products using these mediums in artistic forms to attract buyers and shape positive purchase intentions.

G041

Advertisements and the Perpetuation of Negative Stereotypes

Ashlee Fogle (Graduate)
Dr. Anshu Arora (Savannah State University)

This study examines the effects marketing and advertisements have on perpetuating negative stereotypes of women and minorities, in particular amongst the African American community. Studies have shown that the constant portrayals of a particular group can influence the beliefs of viewers. This study investigates why advertisers use this type of marketing and how effective it really is. The research examines that marketers are actively working to eliminate stereotypes in advertisements.

G042

Subliminal Advertising and Its Effects on Global Society

Arthur L. Graham, III (Graduate)
Dr. Anshu Arora (Savannah State University)

This research focuses on the effects of subliminal advertising. Subliminal advertising is the use of images and sounds that influence people unconsciously in order to attract them to purchase a product. Over the years, companies have executed successful subliminal advertising campaigns based on subliminal techniques that engage consumers' psyche. Subliminal advertising in times past has been somewhat outrageous and absurd advertising. Today its focus is on the science of

unconscious behavior and this has become especially prevalent in gaining consumers' attention and winning their purchase intentions worldwide. This study addresses the following questions:

- What factors encourage or create subliminal effects in consumers?
- How does current subliminal advertising affect global society?

G043

Product Placement in Movies and Video Games: Does the trick really work?

Falion T. Jackson (Graduate)
Dr. Anshu Arora (Savannah State University)

This research paper explores the history and the beginning of product placement in movies and compares product sales that are infamous for being placed in movies. This research paper not only examines product placement in movies but also discusses the new medium of video games where gaming avatars are promoting beverages and vehicles; and investigates how it affects consumer behavior. Movies are persuasive tools in today's pop culture and so is the world of video games.

G044

How Visual and Verbal Metaphors Can Trigger Anthropomorphism?

Christopher Jenner (Graduate)
Dr. Anshu Arora (Savannah State University)

This study discusses how visual and verbal metaphors can provoke an attitude in consumers that are beneficial to both the ad and the brand. Visual metaphors can be categorized in advertising by displaying elements that are synthesized, juxtaposed, or personified. Likewise, verbal metaphors can be divided into certain types, abstract or concrete. Despite what types of visual or verbal advertising are being utilized, each has to have high regard for consumer comprehension. This research proposes a conceptual framework of visual and verbal metaphors through print advertisements that represent a product with human attributes; and how these metaphoric ads can trigger anthropomorphism. Such personification in advertising appears to lead to more positive attributions of brand personality and greater brand liking. Managerial implications on brand personality and liking are discussed.

G045

Live or Die: Measuring Slice-of-Life vs. Slice-of-Death Advertising Appeals as Vehicles for Corporate Social Responsibility

Christina King (Graduate)

Dr. Anshu Arora (Savannah State University)

Various appeals are used in advertising and the most well-known are hard sell and soft-sell. This research study investigates slice-of-life versus slice-of-death advertising appeals that have not been discussed in previous literature. These two appeals are different types of soft-sell and hard-sell advertising appeals. Slice-of-life (SOL) advertising explores real-life situations that use lively, happy and/or joyous moments to strongly advertise the product while slice-of-death (SOD) advertising uses extreme situations which may be deadly, noxious and/or fatal, but at the same time advertise the product by appealing to undesirable human emotions of fear, remorse and death. The study examines these two different appeals at two ends of the spectrum on young consumers and how they feel about SOL and SOD ads from the perspective of corporate social responsibility.

G046**Do celebrity endorsements and political figures influence consumer-buying behavior?****Vida Marshall (Graduate)****Dr. Anshu Arora (Savannah State University)**

Consumer advertising is “advertising targeted at a consumer (individual or person) who will use the product or service, rather than a business” (All Business, 2013). There are several factors that influence consumer buying behavior. This paper examines how celebrity and political figures influences consumer-buying behavior. Print ads will be the primary advertising strategy used to determine if celebrity endorsement influences consumer-purchasing habits or if the products seem less credible due celebrities and/or politicians endorsing multiple products. Next, this study examines the effects of multiple celebrity endorsement and how it impacts consumer spending. Research has shown that celebrity along with political figures endorsements does influence the consumer-decision making process. Last, the limitations, implications, and future research directions will be discussed.

G047**Social Media Advertising versus Traditional Print Advertising****Milan Moody (Graduate)****Dr. Anshu Arora (Savannah State University)**

Social networking sites have given virtual communities the ability to connect with friends and family and expand relationships with others. Individuals representing various age groups, genders, and socioeconomic statuses view their Facebook or Twitter accounts multiple times a day to find out what is “trending” at any given time. Social networking sites have not only connected acquaintances but have also (a) linked consumers with brands, (b) facilitated online debate forums, and (c) allowed consumers

to condemn or herald brands among the online community. Discussions surrounding the effects of social media on print media began to surface with the increased popularity of social networking sites such as Facebook. While one of the purposes of this research paper is to examine literature and research that reveal the effects the social media boom has had on traditional advertising, namely print advertising, another is to compose a literature review that provides observed and theoretical understanding of the social media boom. Consumer surveys and case studies have attempted to capture and qualify data useful in leveraging marketing strategies. The goal is to determine if the power of social media advertising with extinguish print media from a company’s marketing mix. The articles written, case studies examined, and surveys conducted on this topic can be categorized into the four areas listed below:

- Case studies involving the use of social media for brand management, cause marketing, and brand awareness.
- Surveys of industries and consumers embracing or rejecting social media in place of print media.
- The evolution of customer relationship management with the introduction of social media over print.
- Effects of each social media and print media on brand image.

G048**Stereotype in USA advertising: gender and ethnicity****Wendyam Nikema (Graduate)****Dr. Anshu Arora (Savannah State University)**

The research focuses on advertising portrays and how it shapes consumer’s perception and decision making. Research literatures show that in the US women and minority are still fighting to be equal to men. Therefore, it is very important to know how these different social groups are interacting and see how they consider each other. This research aims to understand advertising stereotypes prevalent for women and minorities how these attributes negatively affect the entire society.

G049**Television Advertising versus web advertising****Shilpa Prasad (Graduate)****Dr. Anshu Arora (Savannah State University)**

TV advertising is considered as the most effective form of advertising, but advertising through the World Wide Web is catching up as the web is accessible to more people from past few years especially among the youth. Traditionally TV advertising has been the primary mode to reach the public. However, the onset of smartphones and increasing popularity of social media has given new boost to web or mobile marketing. The objective of this study is to compare traditional advertising versus web advertising; importance will be given to latest research findings, demography being influenced, particular consumer segments,

economics of advertising over these media, and an attempt will be made to determine which type of media is perceived by Consumer as more helpful/influential.

G050

The Rise of the Female Investor: Are Female Investors Better Than Male Investors in Strategizing Personal Finance Portfolios

Tanya Rich (Graduate)
Dr. Anshu Arora (Savannah State University)

Financial services companies admit that they haven't done a great job in attracting female investors but with women emerging as powerhouses with respect to income and managerial ranks, the companies now need to pay them due respect and attention. As of 2012, there are estimated 8.3 million women-owned businesses in the U.S. with nearly \$1.3 trillion in revenue. Previous research suggests that women differ substantially from men in how they relate to investing. More than the companies' growth and comparative performance, women pay more attention to information about long term goals and emerge as disciplined thinkers and good long-term planners. The research investigates the differences in financial decisions' approaches between females and males; and how risk-averse females may be making better financial investment decisions than their risk-taking male counterparts. The study reveals that women are more likely to make money as investors because they didn't take as many risks as men; women tend to hold stocks for longer time and exhibit lower incidental fear and risk attitudes. The research further recommends that female investors should participate in financial decisions by seeking good financial advice and by educating themselves about the basics.

G051

Ethics, Fraud, and SOX: The Tyco International Accounting Fraud

Christopher Roulo (Graduate)
Prof. Marjorie Maguire-Krupp (Savannah State University)

How would you like to throw a \$2 million birthday party in Sardinia featuring Jimmy Buffet? How much better would it be if your company footed half of the bill? That's precisely what the CEO of Tyco International, LTD Dennis Kozlowski did in the midst of an 8-year-long \$600 million fraud. This project looks at this corporate accounting fraud specifically, and examines the impact on the Sarbanes-Oxley Act in preventing such occurrences, along with a general overview of business ethics.

G052

Smart Technology and Innovation: Propagating a Humane SMART-Design Paradigm

Barbara Schrock-Sturch (Graduate)
Dr. Anshu Arora and Dr. Reginald Leseane (Savannah State University)

Smart technologies and products are designed to make human lives simpler and easier. Yet, these so-called smart technologies may make our lives disturbing since they tend to push humans to behave better. The central idea is 'social engineering' disguised as 'product engineering'. The focus on 'smart' technologies is pretty high and hyped today as smart technologies become more intrusive and risk undermining our autonomy by suppressing behaviors that someone somewhere has deemed undesirable. While the 'smartness' quotient appears to be worthwhile, the research focuses on the differentiation between 'good smart' and 'bad smart' technologies and how 'innovation' is a key factor in determining a humane smart-design paradigm. Devices that are 'good smart' leave us in complete control of the situation and seek to enhance our decision-making by providing more information. Technologies that are 'bad smart,' by contrast, make certain choices and behaviors impossible. Smart gadgets in the latest generation of cars—breathalyzers that can check if we are sober, steering sensors that verify if we are drowsy, facial recognition technologies that confirm we are who we say we are, smart forks that inform us that we are eating too fast, smart toothbrushes that urge us to spend more time brushing our teeth, smart sensors in our cars can tell if we drive too fast or brake too suddenly—seek to limit, not to expand, what we can do. The problem with the 'SMART' world is that without some protected, even sacred space for mistakes, innovation would cease. The research introduces a humane SMART-design paradigm for businesses where 'innovation' is the central theme and exemplified through the complexities and richness of the lived human experience—with its gaps, challenges and conflicts.

G053

Cracking the Code: Effectiveness of Advertising Messaging of Ethnic Hair Care products

Loretta Watson (Graduate)
Dr. Anshu Arora (Savannah State University)

The research focuses on the effectiveness of advertising messaging of ethnic hair care products to female consumers of color using several techniques. It is imperative for producers of ethnic hair care products to understand that there are a wide variety of consumers in this market with different needs so their advertisement must meet those needs. Consumer needs are ever changing so the advertising messages must be diversified to be able to retain consumers and acquire new targeted markets. The research addresses the following questions:

1. What is the basic understanding of the population of the ethnic hair care market, why is there a need for this market and what motivates this market to buy hair care products?

2. How to build on this basic understanding of techniques used to create effective advertising messages?
3. How can the effectiveness of the advertising message be tested?
4. Are the advertising messages effective enough to retain and acquire new targeted markets?

G054**Gender Stereotyping: Do Male Stereotypes Matter in Shaping Advertising Effectiveness?****Rieshawn Williams (Graduate)****Dr. Anshu Arora (Savannah State University)**

Gender stereotyping, has been analyzed for more than 30 years. While, most of the previous research has been focused on female roles, targeting females, and roles of attitudes toward women in determining ad effectiveness; very little research has been attempted on male stereotypes with regard to advertising effectiveness. This research focuses on advertising effectiveness of using male stereotypes in print advertising. Furthermore, the research explores targeting a particular advertisement for men compared to women.

G055**Effects of the Incongruence of Country-of-Origin and Country-of-Manufacture on Consumers' Purchase Likelihood of Luxury Diffusion Brands****Yao Yao (Graduate)****Dr. Anshu Arora and Dr. Jun Wu (Savannah State University)**

Marketing literature has focused very little on how young status-oriented consumers evaluate diffusion brands as potential substitutes for parent brands. Diffusion brand is a brand extension strategy which positions the brand either close to or further away from the parent brand. Purchase probabilities of the incongruence between country-of-origin (COO) image and country-of-manufacture (COM) image for luxury diffusion brands also have received limited attention in extant literature. In this study, we investigate (1) whether a diffusion brand's incongruence between COO and COM image affects consumers' purchase likelihood; (2) how hedonism, utilitarianism and similar general environment factors play an important role in consumers' decision making of purchasing luxury diffusion brands; and (3) the extent to which the consumers' familiarity with the parent brand moderates this relationship. Furthermore, we propose and empirically test a conceptual framework that addresses these issues. More specifically, we examine how the COO and COM image influences the perceptions of and preferences towards luxury diffusion brands.



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UNDERGRADUATE ABSTRACTS

U056

2013 Savannah Historic District

Terrell Day (Senior) and Micah Ducre (Senior)
Dr. Tara Cox (Savannah State University)

The purpose of the project is to digitize a current updated projected map of our Savannah historic district. The map can also be used for multiple purposes, including making updated tourist maps, since this is a tourist hotspot. Using ArcGis 10 we took a previous map and projected it, separating historic district zones with different colors. There are a total of 13 wards (District zones) and each ward had at least 12 buildings that needed to be digitized and categorized according to state. These maps are key for city business and should be updated every year since changes are always being made to our downtown historic district to keep tourist coming and money flowing into our city.

U057

School Populations at Risk to Hazmat Spills Along Rail Lines

Matthew Krause (Senior)
Prof. Emily Bentley (Savannah State University)

Based on review of the likely chemicals in transit and the evacuation zones required by Hazmat guidelines should an incident occur, which schools and have the greatest chance of being affected due to their proximity to active rail lines? Hazardous materials are transported via rail lines through urban areas. Schools may experience challenges in evacuation and/or lack the logistical capability to immediately evacuate their populations, so it is important for Hazmat procedures to be included in the emergency plans of each school. Data on schools and rail lines will be mapped in ArcGIS 10.1 using Transverse Mercator Projection. These data will provide planners information on the schools that are most likely to be affected by a Hazmat spill on a rail line. The final result will identify locations whose facility managers should familiarize themselves with Hazmat protocols in case a rail line Hazmat incident occurs nearby.

GRADUATE ABSTRACTS

G058

Savannah Neighborhood Vacant Lot Reuse

Geri Brown (Graduate)

Dr. Tara Cox (Savannah State University)

Abandoned or vacant lots, which surround Savannah's Historic Landmark District, are pressure points for urban revitalization and stabilization of historic neighborhoods. Over the last decade, cities across the United States have been attempting to find means to alleviate the voids vacant lots become in the urban fabric. These voids prevent the needed flux of investment and progression to sustain a community and promote and drive the enhancement of the built environment for city populations. Vacant lots within urban neighborhoods contribute to the deterioration of the overall aesthetic of a neighborhood. This in turn contributes to reduced property values, maintenance, and investment. It also has been found to increase the potential for crime and illegal dumping, which brings down the pride residents, may have for where they live and therefore contributes to destabilization of the population. This project will use ArcGIS 10 to identify targeted areas where land reuse programs can be implemented to enhance the neighborhood until permanent investment can be made. Maps showing zoning and income variations will help to pinpoint the areas, which are in most need of such reuse policies. The implemented uses would include urban agriculture, green space expansion, alternative energy landmarks, and land assembly sites. These land reuse concepts for vacant lots within Savannah's neighborhoods around the landmark district would help to improve neighborhood growth and progression through the coming years.

G059

Americans with Disabilities Act (ADA) Audit of Savannah State University

Melissa Paul-Leto (Graduate)
Dr. Tara Cox (Savannah State University)

The Americans with Disabilities Act (ADA) was signed into law on July 26, 1990. Its overall purpose is to make American Society more accessible to people with disabilities. To efficiently improve accessibility requires knowledge about the location of obstacles in the urban environment and how these affect accessibility. Savannah State University currently does not have a wheelchair accessibility map. Some of the older buildings on the campus are difficult to obtain access by a wheelchair. Also, wheelchair users commuting from one building to another building located on campus face barriers along the way that if informed of a more efficient route could be better prepared for the commute. Using GIS-models to map and measure accessibility, this study aims at providing new knowledge about the spatial distribution of accessibility and the possibility for impaired persons to travel independently throughout The Savannah State University Campus. ArcGis 10 will be used to affect accessibility for impaired citizens. All new environments, to the greatest extent possible, should be usable by everyone regardless of their age, ability, or circumstance. To get a true reflection of how accessible or non-

Abstracts

accessible the buildings in the Savannah State University campus are to wheelchair users, a wheelchair accessibility audit of the campus is necessary. Results will be mapped in ArcGIS10. The maps will show the areas that need updating by priority. Data will be collected using field inventories, detailed digital models of the buildings, pedestrian and public transport networks throughout Savannah State University.

SOCIAL AND BEHAVIORAL SCIENCE

UNDERGRADUATE ABSTRACTS

U060

Impulsive Choice: Lewis and Fischer 344

China Brown (Junior)

Dr. Carlos Aparicio (Savannah State University)

Differences in impulsive choice between Lewis and Fischer 344 rats have been taken for granted. Experience in the task, however, may delete differences between these strains. We assessed this possibility with eight Lewis and eight Fischer 344 rats responding for food in a novel procedure. Rats chose between a small-sooner (SS) and a large-later (LL) food delivery (one versus four pellets, respectively). In two retractable levers, six pairs of delays (0-0, 0-5, 0-10, 0-20, 0-40, 0-80 s) were arranged to occur within sessions, each providing ten food deliveries and followed by a one-min time out. Sessions ended after 70 food deliveries or after one hour elapsed. Pressing a lever in the back wall inserted the retractable levers, and food delivery retracted them. Pairs of delays were presented in ascending order. Preference for the LL lever decreased with increasing delay to LL food delivery. For both strains indifference occurred at 10-s delay to LL. After extended training, differences in impulsive choice between Lewis and Fischer 344 were not evident. Delays were also assessed in descending and random orders; one year later, a re-determination to ascending order was obtained. The results replicated previous findings. The implications of these results to the study of impulsivity will be discussed.

U061

To Initiate or Not To Initiate an Animal Assisted Therapy Program in A Long Term Care Facility: Staff and Residence Needs Assessment

**Jaquay Dozier (Senior), Sierra Ross (Senior),
Matthew Brown (Senior)**

Dr. Roenia DeLoach (Savannah State University)

Several studies have shown that the interaction amongst humans and companion animals can help put people at ease in stressful

situations. Animal-Assisted Therapy, also known as Pet Therapy, is a unique form of therapy that has several advantages and targets a variety of people. Even though animal-assisted therapy is becoming very popular there are still some professionals and facilities that are unaware of this form of therapy treatment. There is much more to be discovered about this beneficial therapy as well as ways it can be used to enhance the lives of others. The purpose of this research study was to determine if there was a desire to have pet therapy programs at nursing and long term care facilities. A total of forty-three residents and staff from three facilities in Savannah Georgia participated in two separate surveys that asked general questions about pets and if Animal-Assisted Therapy would be beneficial or problematic. The independent variable was the use of animals for therapeutic purposes and the dependent variable was the use Animal-Assisted Therapy to enhance the functioning of elderly residents. The findings in this research study identified the eagerness of resident and staff participation in an Animal-Assisted Therapy program and the relevance of animal companionship. This research study has concluded that residents as well as staff strongly approve of having frequent pet visitation at these particular facilities for residents and staff to interact with.

U062

Random Ratio Schedules and Choice Behavior

Amanda C. Ebubedike (Senior)

Dr. Carlos F. Aparicio (Savannah State University)

When food is delivered in two alternatives according to concurrent variable ratio schedules, exclusive preference for the alternative requiring the smallest ratio will occur. This prediction was assessed with concurrent random ratio schedules requiring different number of responses and seven pairs of probabilities to deliver food in two levers according to seven unsignaled components presented in random order within sessions. Each component lasted for ten-food deliveries and was followed by a 1-minute black out. Preference rapidly adapted to rapid changes in relative probability of food delivery. A bias for the left lever was observed, but rats tracked food deliveries in both levers. Global analyses of choice showed levels of sensitivity ranging from .35 to .60. With continuations of food deliveries in the same lever, preference moved towards that lever. Discontinuations of food delivery in that lever moved towards the opposite lever. Local analyses showed results consistent with those obtained with concurrent random interval schedules for short and long sequences of continuations and discontinuations.

U063

Is the Death Penalty Effective?

Britney Gibson (Senior)

Dr. Stephanie Alexander (Savannah State University)

This paper will focus on the effectiveness of the death penalty in

reducing crimes in the United States. Based on existing literature, I will focus on the cost of capital punishment cases, societal views on the death penalty, and wrongful executions to assess if the death penalty is an accurate way to reduce or eliminate crimes considered to be capital offenses. The death penalty appears to be an act of hypocrisy, based on the idea that our government admonishes acts such as murder, but on the other hand, they are willing to commit the same crime in the name of justice. My research suggests that the death penalty does not reduce crime in our society, nor does it appear to be an effective method of punishment or deterrent for potential criminals. It does however, appear to have a negative effect on the victim's family, other than that capital punishment appears to be ineffective. The importance of this research is to bring attention to the rising costs of capital punishment cases, and its ineffectiveness.

U064

Identifying Risk Factors Contributing to Obesity in Chatham County

Kiera Green (Senior)

Dr. Sujin Kim and Dr. Deden Rukmana (Savannah State University)

Trends in obesity have resulted in a rapid research effort focused on built environments. Obesity in adults is associated with increased risk of a number of hypokinetic diseases and metabolic abnormalities including coronary heart disease, type 2 diabetes, hypertension, certain cancers, and osteoarthritis. Separately from physical ailments, people suffering from obesity also face psychological problems including depression, appearance consciousness, and lack of self-confidence. Being obese decreases life expectancy and increases medical and social costs. Even though obesity is a vital issue, there is growing evidence linking obesity to unhealthy built environments. The purpose of this project is to identify factors contributing to obesity in Chatham County. This research project will focus on obesity and the built environment. I believe research on the built environment and obesity is vital because The built environment encompasses a range of physical and social elements that make up the structure of a community.

U065

School Funding and Low Performance in Inner- City Schools

Kourtney M. Harris (Senior)

Dr. Stephanie Alexander (Savannah State University)

Many African American and other minority groups seem to suffer from inadequate education, starting when they are young. If the way that schools are funded was improved the achievement gap in less affluent neighborhoods and highly impoverished areas would begin to narrow, and possibly produce more work ready students. In order to understand the educational problem in

America, it is necessary to look at the way public schools are financed. Students in inner city schools and those with a low socioeconomic status are more likely to have lower scores than are their wealthy counterparts. The public education system in America has continued to produce more and more students with insufficient education which is a right that all students should have. One of the most important causes of low student achievement and thus the reproduction of stratified systems is that economically disadvantaged students often attend schools that are in serious despair where school hallways have cracked walls and holes in ceilings, while their more fortunate peers attend well-kept schools and classrooms. My research of school funding in the Atlanta Public School System, suggest that if students are unmotivated and forced to learn in schools that lack funding, they are less likely to succeed and are required to enter the working class with low skills, and fewer opportunities to exceed minimum wage employment. The importance of is study is to address the issue of future achievement in schools with a shortage of funding and find more efficient ways to successfully fund these institutions.

U066

Analyzing Effects of Experience and Order of Delays in the Impulsive Choices of Lewis and Fischer 344 Rats

Shagin A. Jones (Senior)

Dr. Carlos F. Aparicio (Savannah State University)

A novel procedure was used to study impulsive choices of Lewis and Fischer 344 rats. The main aim was to investigate impulsive choice in transition. Another aim was analyze whether extended experience in the choice situation diminish initial differences in the impulsive choice between Lewis and Fischer 344 rats. The situation arranged a choice between a smaller sooner (SS-F) amount of food (1 pellet) and a larger later (LL-F) amount of food (4 pellets). Delay to LL-F was increased (0, 5, 10, 20, 40, 80 s) in ascending order within sessions. One hundred and five days later, delays were arranged in descending order. Preference for the LL-F decreased with increasing delay to delivery. Indifference between SS- and LL-food deliveries occurred when the larger amount was delayed 10-s. The Lewis adapted more rapidly to dynamic changes in delay than the Fischer 344 rats. Extended training diminished initial differences in impulsive choice between these strains. In the descending order the Fischer 344 rats showed less overall responses and impaired choice at delays 0, 5, and 10 s.

U067

Making the Healthy Choice: Using Prompts and a Raffle System to Increase Healthy Eating Behavior by College Students

Sandra Nerestant (Senior), Syhja Coleman (Senior), Marquella Johnson (Senior), and India Morgan (Senior)
Dr. Sharlet D. Rafacz (Savannah State University)

Obesity is a rapidly increasing problem in the United States. According to the Centers for Disease Control and Prevention, about one-third of U.S. adults (35.7%) are obese, and 17% (12.5 million) of children and adolescents aged 2-19 years are obese. Behavior Analysis is in the unique position of being able to assist in addressing this issue by supporting individuals to change their exercise and eating behaviors. Prior research in Behavior Analysis has demonstrated the effectiveness of adding prompts and raffle incentive systems to college campuses in an effort to address behavioral issues (e.g., Witmer & Geller, 1976). The current study evaluated the use of similar interventions on increasing healthy food choices. More specifically, an ABACA reversal design was utilized to compare the effects of posters prompting students to make healthier food choices with a raffle system. The relative effectiveness of each intervention will be discussed as well as the limitations and strengths of these approaches to changing healthy eating habits by college students.

U068

Critical Infrastructures Near Low Income Areas

Felicia Roney (Senior)
Dr. Tara Cox (Savannah State University)

Around the City of Savannah there are numerous low income areas that are near dangerous chemical facilities. The potential of a chemical incident to occur is possible, which is determined by the history of any past occurrences and the number of facilities in the city. Even though disasters do not target low income areas these areas usually suffer from most of the damage. A lot of these areas have families with children and live below the poverty level. This group of people may not have the ability to move as quickly as other families from the affected area. If these areas were to be affected by a chemical incident how would these families be able to protect themselves? Low income areas are susceptible to potential chemical spills, releases, and runoffs. The potential risk of a chemical incident to affect a low income area is based off its location and social class. If low income areas are affected by a chemical incident, preparedness and response will become an issue as well. Low income areas and chemical facilities were mapped using ArcGIS10 to demonstrate the potential risk of a chemical spill, release, and/or runoff. These areas were overlaid with demographic data to determine if low income areas are at increased risk of damage from a chemical incident.

U069

Mainstreaming Special Need Children in Regular Classrooms

Wachovia Thornton (Senior)
Dr. Stephanie Alexander (Savannah State University)

Mainstreaming students with physical and mental disabilities into school classrooms with their non-disabled peers is based on the premise that all students should be given the same educational opportunities. This paper examines integration of students with disabilities into classrooms with their non-disabled counterparts. Based on my observation of a kindergarten classroom in the Savannah area, I argue that the inclusion of children with special needs appear to have both positive and negative effects for the children with and without disabilities. For example, children without disabilities displayed greater acceptance for diversity, but also seemed to be distracted by the excess noise, whereas the children with disabilities appeared to create the distractions, but also feel accepted by their peers. Mainstreaming is important for children with disabilities so that they will not feel excluded. According to Sullivan (1998), children with special needs learn as well or better in classes with their same age peers. This study is important because it suggests that children with disabilities may perform better within this arrangement.

U070

Experience Reverses Differences in Choice between Lewis and Fischer 344 Rats

Aja D. Washington (Senior)
Dr. Carlos F. Aparicio (Savannah State University)

Differences in impulsive choice between Lewis and Fischer 344 rats have been taken for granted. Our research has been showing that experience in the impulsive task diminishes differences between these strains. This study extends the generality of this finding with eight Lewis and eight Fischer 344 rats choosing between a small-sooner (1 pellet) and a large-later (4 pellets) food delivery. Six pairs of delays (0-0, 0-5, 0-10, 0-20, 0-40, 0-80 s) were arranged in two response levers, each pair provided ten food deliveries and it was followed by a one-minute time out. Sessions ended after 70 food deliveries or after one hour elapsed, whichever happens first. Pressing a lever in the back wall inserted the retractable levers, and food delivery retracted them. Pairs of delays were presented in random order within sessions. Preference for the LL lever decreased with increasing delay to LL food delivery. For both strains indifference occurred at 10-s delay to LL. After extended training, differences in impulsive choice between Lewis and Fischer 344 were not evident. Early in training total response output in delays of 40 and 80 s decreased in Fischer 344 but not in Lewis rats. The implications of these results to previous findings will be discussed.

SOCIAL WORK

GRADUATE ABSTRACTS

G071

Teen Relationship Abuse: How involved are you in your teen or young teen life: Do you know the signs?

**Justine Andrews (Graduate)
Dr. Shinaz Jindani (Savannah State University)**

Overall study of this research is to find out how parental involvement or support can affect the teen relationship abuse. The state of Georgia is rated F for teen relationship abuse. It is the only state that is graded an F in the state law report card in 2010. State of Georgia law on teen relationship abuse does not protect the teens that are in an abusive relationship. In the law there were six GAPS: (1.) In Georgia, minors can obtain a Protective order, but the law does not clarify whether or not the Protective Order can be granted against the minor abusers because the abuser may attend the same school as the victim. (2.) Georgia Law excludes people in dating relationships from accessing Protective Orders. (3.) State law does not allow minors under the age of 18 to petition for a Protective Order

on their own behalf. (4.) A person who is not the minor/victim must petition for the order on the behalf of the victim. (5.) Georgia law does not clarify whether the parent or the guardian of the minor will be notified about the Protective Order. (6.) The statute fails to recognize harassment and threats as physical abuse as a qualification for relief. Quantitative results will show that parents are not fully aware of the signs of teen relationship abuse and that it is important to be aware. It will also show that once parents are aware of these signs they will be able to provide support to their teenage children if they are in an abusive relationship, and also be able to prevent their teenagers from every being in an abusive relationship. It is important for teenagers to have support from their parents because teenagers who have been or that is in an abusive relationship never openly announce the situation. Research has shown that teenagers have no one to turn to. There is not one support system or support group for teenage abusive relationships in the state of Georgia. Unlike women who are in or have been in a domestic violence relationship, teenagers do not have the same rights. Teenagers normally blame themselves for the abuse and never know who to turn to in these situations because they are afraid. Many cases have shown that teenagers that were in an abusive relationship never reported their abuser and have ended up dead because of it. It is important for parents of teenagers to be aware of teenage relationship abuse and the sign.



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G072

Behavior Therapy and Resiliency the for Success

John Blakely (Graduate)

Keiya Myles (Carl Vinson Medical Center)

The research project examines a client's journey through substance abuse treatment at Carl Vinson Medical Center MH RRTP Substance Abuse Program. The MH RRTP Substance Abuse program upon evaluation offers short and long term treatment. The client participated in the eight week program at the facility. Evidence Based Intervention suggests that Cognitive-Behavioral Therapy (CBT) under Cognitive Theory would be the best matched with this client's goals as it attempts to explain human behavior by understanding the thought processes of the client's substance abuse. CBT techniques used to decrease client's substance abuse and promote family connection. This single subject research collected eight data points before each therapy sessions of which four points were pre and four were the post-test. An instrument was designed with 20 Family Connection items and 10 Alcohol items. D index was used to detect the size of the effect between phases. Family Connection increased by 50% and Alcohol consumption decrease by 50% after treatment. Thus there was some statistical evidence that the intervention was working. Considering Statistics, Theory and Practice methods, the client began to resolve his situation. Due to this project I learnt to measure my own practice.

G073

Who Pays The Cost?

Reva Bowers (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to evaluate O.C.G.A. § 31-7-12.1(e)(f), examining how it impacts our mental health population. The unlicensed personal care home policy focuses only on regulating persons unlawfully operating these homes without the proper licensure. Currently, there are no penalties established for state-supported agencies for referring mentally ill clients to unlicensed personal care homes. The object of the research is to explore the views of the family members of the mentally ill clients, and to see if they understand this gap and would hold the referring agency responsible in case of due damage and/or hurt. Would they recommend penalties and dismissal of the licensure? A five item questionnaire using Likert Scale was used to gather views of the family member of mentally ill clients. Preliminary results show that most recommend (1) agency regulations in terms of client referrals to personal care homes with licensure, (2) penalties for state-supported agencies referring mentally ill clients to unlicensed personal care homes. Recommendations that will respond to the gaps in the O.C.G.A. § 31-7-12.1(e)(f) unlicensed personal care home policy are discussed. Social Work Implications for Policy Practice are highlighted.

G074

From Homelessness to Permanent Solutions: A Look into Homelessness Policy and Practice

Georgette Brown (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research study is to identify and explore the gap associated with establishing housing following a brief episode of homelessness. According to the Annual Homeless Assessment Report to Congress (AHAR), over 60% of HUD Homeless Assistance Grants is used for homelessness to transitional housing. Even though transitional housing produce positive outcomes, more emphases should focus on permanent solutions to end homelessness. The current goal of this research study is to collect data in support of improving and better allocating resources in support of establishing permanent housing for the homeless population to eliminate numerous episodes of homelessness. Current statistics show a significant decrease in the amount of individuals experiencing homelessness due to a substantial increase in the number of permanent supportive housing units as opposed to transitional housing. Research was conducted with individuals currently experiencing homelessness to collect their view on what would eliminate all episodes of homelessness worldwide.

G075

Changing Workplace Culture Breast Feeding at the Workplace

Jenise Bryant (Graduate)

Dr. Shinaz Jindani (Savannah State University)

There is no controversy about the benefits of Breast Feeding. However for working women, breast feeding and breast pumping may pose challenges as it is not an accepted cultural practice in USA, as it is in Africa with some tribes. Workplace handbooks do not address any policies related to the breast feeding and breast pumping, thus many employers do not give reasonable accommodations to breastfeed/use a breast pumping at work. The objective of this research is to explore if mothers are willing to continue breastfeeding if their employers would give reasonable accommodations to breastfeed/use a breast pump at work. The "Mothers take on Breastfeeding in the Workplace Survey" consists of ten items and uses a four point Likert Scale from Strongly Agree to Strongly Disagree. The survey will be given to thirty parents who had at least one child under the age of two. Preliminary results will show that most mothers would consider breast feeding/use a breast pump at their place of employment if their employers establish the policies and make the work environment more conducive for the mother to do so. The research will discuss the Changes that will need to be made in the work place and its implications of the Social Work Practice.

G076**Healing Through Emotional Support and Journaling****Marie Butler (Graduate)****Dr. Shinaz Jindani (Savannah State University)**

Learning to cope with the death of a loved one can be a difficult experience. When that death is caused by suicide, feelings of grief can cause significant impediment to a person's daily functioning and coping skills. This case study followed a middle-aged African American woman who had lost her son to suicide within the past year. She reported difficulty with daily functioning, such as changes in her eating and sleeping habits, as well as an increase in feelings of stress. This researcher chose to utilize the Strengths Perspective in creating the treatment plan for this client. Two stages of interventions were implemented: the first included One-on-One Meetings, Emotional Support, and Support System Identification. The second intervention consisted of educating the client about the benefits of journaling and encouraging her to utilize journal entries as a tool for expressing her feelings of grief. Based on scores calculated from the client's self-report Grief Scale answers, both interventions were not effective in reducing feelings of grief or increasing coping skills and life/home functioning skills. Overall, the client experienced a general increase in grief symptoms, and decrease in general coping skills and life/home functioning skills. In review of the time period and other outside influencing factors to the client's outlook, it is shown that other factors may be influencing and/or keeping the client from fully utilizing support and learned skills while progressing along her grief journey.

G077**Workplace bullying Myth or Reality****Stephanie Collier (Graduate)****Dr. Shinaz Jindani (Savannah State University)**

The purpose of my research is to determine if the policies for workplace violence actually decrease bullying in the workplace. My objective is to measure if employees are aware of the bullying policies set in place, and if they would report it. 30 employees will be used to gather their feedback on the issue of workplace bullying. The focus is to educate employees on the importance of reporting workplace bullying and the policies in the organization. I will use a survey to gather the information regarding workplace bullying. The likert scale will be used for the 14 questions. My survey will be analyzed through SPSS. After the survey is analyzed we will be able to determine the relationship between workplace bullying and students knowledge. My assumption is that employees are not reporting the incidents; instead employees remain at their current places of employment and contend with bullying.

G078**Standardized Testing as a Requirement for Receipt of GOAL Scholarship****Maria Christoforatos (Graduate)****Dr. Shinaz Jindani (Savannah State University)**

The purpose of this research is to identify the gap in the Georgia GOAL Scholarship Program as to whether or not private schools who accept these dollars should have to implement state mandated curriculum standards. Currently there are no mandated testing procedures in place to ensure curriculum standards across the board. Some education policymakers feel that this should be implemented for these private schools to be able to accept scholarship monies. The objective of this study is to assess if both public and private school teachers agree with said policy makers and feel that private schools should have state mandated curriculum standards. Participants will answer a ten-question survey that uses a Likert Scale of Strongly Agree, Agree, Disagree and Strongly Disagree. The survey will be administered to 30 parents with children attending school in Savannah. Informed consent will be given to participants and the data collected from the survey will be tabulated using SPSS. Low level of belief that schools who receive GOAL scholarship money should have to implement state mandated curriculum standards. Parents of children in Savannah may not know that there are scholarships available to attend private schools, furthermore they may not be concerned with statewide curriculums if it means their children are in a smaller classroom setting with more individualized attention from teachers. Gaps in the policy will be considered and recommendations will be made to fill these gaps.

G079**Acceptance and Commitment Therapy (ACT)****Hillary Coslick (Graduate)****Andrea Mamalakis Epting (Heads-Up Guidance Services (HUGS))**

The purpose of this study was to determine how effective behavioral therapies are on the treatment of substance abuse, as well as on the co-occurrence of mental health variables such as low self-esteem and high instances of anxiety. Single-Subject Design followed a 19 year old African-American college student diagnosed with Axis I Alcohol Abuse and Early Partial Remission. Additionally low self-esteem and anxiety were exerting negative influence on the process of recovery. Client was referred to HUGS/SSU Substance Education Program (SEP) for group counseling and individual counseling sessions (9 sessions). A 30-item SEP Index Survey was administered to client after group and individual sessions to measure: Substance Abuse (10 items), Self-Esteem (10 items), and Anxiety (10 items) using a 7- Point Likert Scale. The hypothesis that participation in integrative behavioral interventions such as: Individual Counseling, Acceptance and Commitment Therapy (ACT), and Group Psycho-Education would reduce substance use and anxiety, ultimately leading to greater outcomes of self-esteem was supported. Using theoretical significance, practical significance and statistical significance, I conclude that an integrative behavioral approach results in decreasing behavior often associated with developing co-occurring disorders. Clinical

improvements observed in this study provided support for integrating interventions rooted in CBT and ACT for substance abuse prevention, ultimately alleviating psychological distress while addressing all levels of support in the therapeutic process.

G080

A Static Policy and Fluid Cultural Competency: Balancing Policing Practices in Savannah, GA

Fatima Crayton (Graduate)

Dr. Shinaz Jindani (Savannah State University)

How does policing practices attain a balance between the static Fourth Amendment of unreasonable search and seizure and fluid cultural competency? The origin of the present study is rooted from the New York Police Departments "Stop & Frisk" practice that is used to detain, question, and search individuals on the streets based on "reasonable suspicion." The practice of Stop & Frisk has led to much debate over racial profiling, discrimination, privacy rights, ethics and police conduct. The objective of this research is to explore whether approaches used in policing to reduce criminal behavior are lacking "cultural competency." Using a snowball sampling, the questionnaire contained 20 items on cultural competency variable and 10 items on a demographics variable. Sixty police officers from the Savannah-Chatham Metropolitan Police Department responded. Respondents' demographics are the independent variable, while the Cultural Competency is the dependent variable. Do police officers work effectively with the public regardless of race, gender differences, sexual orientation, religious preferences, and social class? The data is currently under the analysis. Social Work implications related to the criminal justice systems misappropriation of community policing are discussed in the context of an inadequate level of "cultural competency" in police practices, as this become a risk factor to vulnerable populations. Training for the police and other law enforcement officers is recommended.

G081

"Same Soldier, New Battle"

Jeremy Davis (Graduate)

Dr. Shinaz Jindani (Savannah State University)

A client from the Savannah Veterans' Affairs Primary Care Clinic participated in a single subject research. The client was a 65 year old Vietnam Veteran, married with children and grandchildren, was experiencing Post Traumatic Stress. The client presented that he wanted to convey his thoughts and opinions with his children in a positive manner and assertively expresses his thoughts and opinions. Using Cognitive Behavior Therapy, assertiveness training was designed. The Client participated for full four weeks. A 12 item instrument measured assertiveness and 8 items measured self-esteem. The self-esteem data was tested for autocorrelation. T-test determined significant differences in Means of Baseline and Intervention (equal variance $p=0.01$, unequal variance

$p=0.119$) scores. Proportion Frequency Approach attained $p=0.00$, noting that the number of scores in desired zone in intervention phase were significantly more than the proportion of the scores in desired zone in baseline phase. The size of the Effect noted by delta index; 48% increase. The assertiveness data was tested for autocorrelation. T-test determined significant differences in Means of Baseline and Intervention (equal variance $p=0.00$, unequal variance $p=0.08$) scores. Proportion Frequency Approach attained $p=0.00$, noting that the number of scores in desired zone in intervention phase were significantly more than the proportion of the scores in desired zone in baseline phase. The size of the Effect noted by delta index; 49% increase. Considering statistical significance, practical significance and theoretical significance, assertiveness training did bring about desired results.

G082

Becoming a Sole Caregiver for A Parent At Age Fifteen

Latrise Davis (Graduate)

Dr. Shinaz Jindani (Savannah State University)

It is normal for young people to contribute to household chores and family responsibilities; however, a young caregiver takes on considerably more of these responsibilities and tasks. According to Hunt (2005), there are some children are experiencing distress that is manifested in behavioral and school problems and feelings of isolation and sadness. Boys in particular seem to have more difficulties than girls. Children in minority households, which have lower incomes, are also under particular stress and report less help in carrying out their tasks. The client is a 15 year old student who is an insulin dependent diabetic. Also, she has been diagnosed with ADHD. During the initial intake the client presented problems with role identity, stress, medication management, disruptive behavior in school/home, and managing the stress in her environment. Also, the client is the caregiver for her blind 35 year old mother. The instrument used in the single subject design consisted of twenty questions that focused on the clients' school and home environment. The instrument was a Likert scale ranging from 1 to 5. The highest possible score is 100 and the lowest possible score is 20, the desired zone is below 60. The intervention, Solution- Focus Theory, for the single subject design proved not to be effective. In all areas tested the client remained in the undesired zones. Although, the client remained in the undesired zones her scores did slightly decrease in the desired direction during phase two. On different occasions the clients scores shifted but not to the point that it was significant. Keywords: caregivers, solution-focus therapy, adolescent.

G083

Measuring Stress and Marital Satisfaction

Ruthffy de la Cruz (Graduate)

Dr. Shinaz Jindani (Savannah State University)

A 25 year old, Caucasian, first time mother, relocated to an industrialized urban area and was an active duty military service member, who participated in this single subject research study. The client reported marital dissatisfaction and high levels of stress. Cognitive Theory was selected as theoretical perspective for this study, as it is based on the assumption that if thoughts can be changed than the behavior can be modified. Based on this the intervention was designed and the client attended Parenting Classes that included infant care and thus would reduce her stress, and attended Screem Free Marriage Training that would increase her Marital Satisfaction. Index of Marital Satisfaction had 25 items and Perceived Stress Scale had 25 items as well. The data was tested for autocorrelation, no trend was detected for stress ($p=.18$) and marital satisfaction ($p=.208$). The d-index for stress showed that it decreased by 41% during the course 12 treatment sessions that produced 6 data points. The d-index for marital satisfaction changed between phases 41.6% in the desired direction. Overall there was evidence of practice effectiveness, as the client responded to the intervention and learnt new skills that regulated her stress and improved her marital relationship..

G084

An Evaluation of Volunteer Training for Child Advocates

Erica Dyal (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to analyze the CASA (Court Appointed Special Advocates, Inc.) volunteer training program. The objective is to determine if volunteers are satisfied with their training and to assess whether or not additional child sexual abuse training would be beneficial. The goal of the research is to collect data and analyze results to determine if additional training on child sexual abuse would be beneficial to volunteers. An online survey was sent via email to the current child advocacy volunteers that have undergone 40 hours of training with Savannah/Chatham CASA. The 10-item survey measures the responses of participants on a Likert scale of 1-4 (strongly disagree, disagree, agree, and strongly agree) and asks three addition questions: length of time as a volunteer; biggest challenge as a volunteer and whether or not the volunteer feels they would benefit from additional training. Expected results include a moderately-high approval of the volunteer training program overall and a lack of child sexual abuse training. When a child experiences sexual abuse, it is crucial for his/her advocate(s) to know how to properly recognize the abuse and act responsibly to protect the child. Greater awareness and education on a prevalent, yet taboo topic will help bring awareness to the growing problem. Gaps in the training program design will be considered and the recommendations will be made to fill these gaps.

G085

Sex Education in Public Schools: Going Further

Than Abstinence-Only

Shavonne Franklin (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to identify the gap in the Georgia sex education policy in public schools. The current sex education policy predominately focuses on the teaching of abstinence. Abstinence is the only mandatory lesson plan in the current sex education curriculum, while alternative methods of pregnancy prevention and health safety are merely optional. The objective of this study is to show that although many parents may feel that teaching abstinence is the best way to promote the absence of sexual encounters, this is not the reality. The goal of this research is to collect data from both parents and school-aged individuals that will encourage public schools to implement other mandatory teachings in their sex education curriculum. Both the "Parent Expert Opinion" survey and "Teen Survey" were created to assess how individuals feel about sex education being taught in school and what information they feel is appropriate to be taught to students. The surveys consist of less than ten questions using a Likert scale of Strongly Agree, Agree, Disagree, and Strongly Disagree. The surveys will be administered by a sample of convenience to at least thirty school-aged individuals and thirty parents of school-aged individuals. The data collected from these surveys will be tabulated using SPSS. I hypothesize that parents will be against a lot of topics being taught in sex education sessions yet school-aged students will feel the need for many of the topics to be taught due to a lack of reliable information elsewhere. While the current sex education policy focuses on abstinence, teens and pre-teens are getting pregnant and spreading STIs. There is a lack of awareness and education about sexual safety and it is still too taboo of a topic. I propose that there be a more extensive list of mandatory topics to be discussed in sex education sessions and that it is not a one-time thing. I feel that schools should implement a sex education course in elementary, middle, and high school because sex is happening whether or not safety is being taught.

G086

No Child Left Behind

Dana N. Frasier (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to identify gaps in the No Child Left behind Act, specifically academic achievement. No Child Left Behind allows children to be retained only once despite academic performance. The current policy has several gaps that need to be considered in order to be effective. Currently, the No Child Left Behind policy addresses underrepresented groups. However, the policy does not address the lack of academic achievement required of their peers. The primary aim of this study is to identify the gaps in the policy and to explore avenues to ensure a more effective way of providing supportive services to refrain from bias retention. The goal of the research is to

collect data that will help with identifying educator's thoughts concerning the policy and to measure the effectiveness of the current policy. I postulate the current policy is ineffective and should consider other unconventional methods such as performance based testing. The questionnaire was created to evaluate school official's thoughts about the effectiveness of the No Child Left Behind policy. The questionnaire consists of ten questions using a Likert scale of Strongly Agree, Agree, Disagree, and Strongly Disagree. The questionnaire will be administered to thirty public school officials in the Liberty County, Georgia school district. Informed consents will be reviewed and given to the school officials. Data collected from the survey will be tabulated using SPSS. I presume that more effective intervention is needed in order for student's to maximize their educational opportunities. As we explore the consensus of educators on this policy, the data is likely to show that the educators, school counselors, and school officials are not supportive of this policy. Passing students on a social promotion basis does not help them to maximize their education experience or prepare them for the workforce. Adherence to performance based test is essential to ensure a quality education for students. Gaps in the policy will be reviewed and recommendations will be made to fill these gaps.

G087

Pregnancy Prevention Education in Middle Schools

Jessica Geddis (Graduate)

Dr. Shinaz Jindani (Savannah State University)

Pregnancy Prevention Education in Middle School Jessica Geddis Savannah State University Masters of Social Work The Comprehensive Health Education Act (CHEA), passed in 1988, was enacted to standardize health education and sex education in public schools. The CHEA requires that middle school students receive education about; community health, nutrition, personal health, dental health, growth and development, accident prevention, environmental health, substance abuse, mental and emotional health, reproductive health and education about sexually transmitted diseases. Under reproductive health, pregnancy prevention education stresses the importance of abstaining from sexual activity, help students develop skills to resist peer pressure, explain methods of contraception and the risks and benefits of each method. The results related to teen pregnancy in South Carolina is the evidence to the contrary, as it ranks 12th in teen births nationally (David, Kelly & Kathryn, 2013). Births to teen mothers cost South Carolina taxpayers approximately \$197 million annually (David, Kelly & Kathryn, 2013). This research explores the views of middle and high school teachers from Dorchester District II about offering pregnancy prevention education in middle schools to reduce teen pregnancy and out-of-wedlock childbearing. 120 teachers will receive the survey that has 10 items, that are measured from 1 (strongly agree) – 4 (strongly disagree).

G088

Confidentiality and Consent: Parents Right to Know Cassandra F. Green (Graduate)

Dr. Shinaz Jindani (Savannah State University)

HIPPA prevents parents from having access to privileged health information that relates to sex. Adolescents can have sex and be exposed to STD's without parents' knowledge. Previous studies revealed that disclosing health related information to parents will deter adolescents from being forthcoming with health professionals. The purpose of this study is to identify the gap in HIPPA that prevents parents' full access to classified privileged health information. Having full access to the adolescent health information will help discourage adolescents from engaging in sexual activity. The goal of the research is to collect data from health professionals that will allow the HIPPA policy to be amended to allow parents full access to privileged information, this will entail allow parents the ability to counsel, educate and assist adolescents with treatment options. The researcher will use a 10 question survey that will be administered to 30 nurses randomly who are employed in hospital settings and private medical offices. Results will be tabulated utilizing SPSS.

G089

Impact of Bilingualism on Education

Margarita Olivarez (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to identify the impact that bilingual education has on education. The current policy in the state of Georgia is that the state laws requires schools to provide LEP students programs, designed to develop both the necessary English skills and American culture concepts for participation in regular English instruction. The issue with the state policy is that there is no funding for such programs. Other states such as California schools must offer bilingual learning opportunities and schools has more than 10 LEP students that speak the same language must provide a language program, Texas schools with 20 or more limited English proficient students in the same grade level, establish a bilingual program. LEP students in higher grades must be provided with either a bilingual or an ESL program. If the state of Georgia would be more nurturing of Bilingualism it would improve the success of Limited English Proficiency students. A survey was create that would address the questions of bilingualism in the United States and its acceptance and feelings of positive or negative influence of bilingualism in education. The survey contains open-ended question, questions based on a Likert scale of strongly agree, agree, neutral, disagree, or strongly disagree. The survey will be administered at a local flea market in Augusta, GA. People from all levels of socioeconomic status shop at the flea market and there is also high Hispanic population. Informed consents and survey will be handed to the participants also survey and consents will be translated into Spanish. All data collected will

be entered in SPSS and tabulated. The results that I expect is that the general population has a negative view of bilingualism, sighting that they believe that bilingualism hinders a child from learning. Respondents may also sight that they consider that English learned as a second language can have a negative impact on a child's educational progress. Bilingualism can be seen as a negative aspect in some areas and in others it may be considered an advantage. I firmly believe that all children have a right to an education without any regards to their ethnicity. Civil rights Act of 1964 which states, NO person in The United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

G090

Closing the Achievement Gap through Early Childhood Education

Frederic Green (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to show how early childhood education will allow children from low-income disadvantage families enter school with fewer academic skills than their more affluent peers and how they show a substantial gap in cognitive and academic competencies especially later in school years. Differences in children's early childhood experiences play a formative role in shaping school readiness and largely explains the gap in school entry, the exposure early in life fosters the language and cognitive skills that facilitate learning. The "Filing the achievement Gap Survey" was created to access how many individuals especially teachers agree that they support early childhood education. The survey consists of twelve questions using a Likert scale of Strongly Agree, Agree, Disagree, and Strongly Disagree. The survey will be administered to thirty head start teachers residing in Chatham County. Informed consent will be given to the teachers and data collected from the survey will be tabulated using SPSS. Will show the importance of high quality pre- k programs that will give preschoolers the same education that affluent children receive and to raise the awareness of parents that are less educated understand the importance of early childhood education. As children of disadvantage families fall through the cracks everyday because of poorly funded and poorly ran pre-k programs, parents should support a universal pre-k that allows the same high- quality learning for all children before school entry that will improve cognitive and language development and also long term academic achievement. Teachers as well as parents should support this type of high- quality education and help promote policies that will especially help disadvantaged groups narrow the school readiness gap.

G091

When Policy is Silent, Personal Biases Overlay

LaTasa Hawkins (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to identify the gaps in the Adoption Policy prohibiting individual's eligibility to adopt based on sexual orientation. The current policy focuses on finding safe and healthy homes for children in the system. Discrimination towards Gay/Lesbian parents is not a part of the policy. The objective of the study is to access if Department of Family and Children Services seems to think there is somewhat of some discrimination towards Gay/Lesbian becoming productive adoptive parents. The "Gay/Lesbian parents as adoptee" questionnaire has 10 items, measured using four point Likert Scale from strongly disagree to strongly agree. Thirty case managers working currently at Department of Family and Children Services responded to the questionnaire. Preliminary findings show that the due to the pervasive myth about Gay/ Lesbian parenthood, heterosexual parents are given priority for adoption over Gay/Lesbian parents. As the policy does not address the issue of sexual orientation, it is very likely that the case manager's personal biases may supersede, in a search for an adoptee parents. Recommendations for policy changes are made.

G092

Correlation between Childhood Obesity and Home Environment

Kari Henencke (Graduate)

Dr. Shinaz Jindani (Savannah State University)

There has been a significant spike in the last two decades concerning childhood obesity and nutrition. Policies have been instilled to bridge the gap for healthy lunches at school and now policies need to be in place for a healthy lifestyle at home. The objective is to gather information from voluntary parents in a questionnaire format and find out their children's eating habit and how active they are. From this, we expect to find that the parents are not as informed as we would like to see. Ultimately, we can set up preventative programs for both parents and students to learn how to live a healthier lifestyle for the entire family. The "Child Obesity Questionnaire for Parents" was created to get an idea of the child's diet and activity level from the parent's eyes. It is broken down into three components: Family Dynamic, Nutrition and Activity Level. These sections can give a better understand of the family's financial perspective as well as their relationships amongst one another. The questions are yes or no questions so the parent can have an easier time with answering them and it leaves no room for grey responses. This survey will be given to twenty parents randomly and the responses will be calculated in the SPSS software for accurate findings. It is expected that parents will not be informed about their children's diet and activity levels causing a positive correlation of their child being more at risk for obesity. Also, it is predicted that the parents have a tough time understanding how to live in a healthy lifestyle themselves making the purpose of the preventative program seem necessary. With schools

doing their part to try to feed children as healthy as possible, it is up to parents or guardians to know how to live in a healthy way so their children can live without the risk of obesity. With information and awareness given to the parents, parents can mindfully address the problem and take immediate action.

G093

Mental Health Evaluations in High School

Tatyana Hickman (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to identify the gap in the Implementing of Surveys to Camden County high school students based on Section 439 of the General Education Provisions Act (20 U.S.A. 1232g). This policy indicates that students should not be required to complete surveys, analysis, or evaluations that reveal information about their mental and psychological problems. However with the astonishingly growing numbers of suicides among teens, there is an urgent need for prevention. The proposing prevention will require to assess high school students for psychological or mental problems and to provide help to those who are identified as at risk for suicide. The objective of this study is to assess public opinion in Camden County about the requirement for high school students to be evaluated in school for mental and psychological problems. The goal of the research is to collect data that will help with implementing mental assessments in public schools that focuses on suicide prevention. The "Mental health evaluations in high school" survey was created to assess public opinion about implementing mental health assessment of high school students as a part of prevention of suicides. The survey consists of 6 questions using a Likert scale of Strongly Agree, Agree, Disagree, and Strongly Disagree. The surveys will be randomly administered to thirty Camden County Residents. Informed consent will be given to each participant. Data collected from the survey will be tabulated using SPSS. Majority of participants would agree with implementing mental health surveys assessments to high school students. As there are a growing numbers of students who are attempting or committing suicides, the data may show that community is ready for public high school to take preventive actions such as mental health assessments of high school students in order to prevent suicides among teens. Gaps in the Camden County High School Survey Policy will be identified and recommendations will be made to implement requirements of mental health evaluations of high school students.

G094

Cognitive Behavioral Family Intervention to Treat Symptoms of Anxiety and Depression

Shanae Hudson (Graduate)

Dr. Shinaz Jindani (Savannah State University)

Purpose of study was to measure my practice effectiveness when working with depressed mother's with children with significant conduct problems. Cognitive Behavioral Family Intervention which is the combination of cognitive behavioral therapy with psycho-educational parenting groups can be highly effective in alleviating a mother's depressive mood by 72% over a longer period of time. I worked with 36 year-old Irish whom was previously diagnosed with Major Depressive Disorder with Generalized Anxiety. She had lose her job and her spouse, became the single head of the household raising four children whom where acting out in school. Research was conducted using a Single-Subject Design Method with three phases of evaluation. The following evidence based practice methods where use; one-on-one counseling, relaxation therapy and Psycho-Educational Parenting Group. A twenty question tool measuring clients anxiety, depression, view of family and self-esteem where given at the beginning and end of each session. From phase B to C client experience significant improvements in desired direction; self-esteem increased 26.1%, depression decreased 28.8%, and anxiety decreased 33.6% and negative view of family decreased 33.2%. As the client attained her goals, there was evidence of practice effectiveness. Measurement of Practice helped develop confidence in combining the intervention to meet specific client's goals.

G095

The Self-Efficacy of Teen Fathers

Shonta Hazel (Graduate)

Dr. Shinaz Jindani (Savannah State University)

This brief is to determine the self-efficacy of teen fathers and their involvement in the lives of their children. The Welfare Reform Act of 1996 made provisions so that teens would understand that welfare assistance is limited and that they will soon have to be self sufficient. Within this policy the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) was enacted to prevent teenage pregnancy and encourage the formation and maintenance of two-parent families. Teenage parenting programs targeted at young women have received a sustainable amount of attention from researchers and program developers. However, to date, relatively limited information is available on parenting for teenage fathers and improving their outcomes. There have been studies to prove that mothers are sometimes the only and primary provider; welfare may be her only choice. If the mother has no other means of support, the question remains where and why isn't the father involve in the child's life. Due to the lack of information and resources teen fathers become absent for numerous of reasons and need just as much assistance as mothers to become responsible and independent fathers. A notable gap is concerned with the development of programs for understanding the different types of resources that are most effective for the efficacy of young men. A 10 item questionnaire, using 4 point likert scale was administered to 30 teen fathers to gather view on how the effect of involvement of teen fathers in the

lives of their children. Using sample of convenience SO MANY responded to the questionnaire and preliminary findings suggest that fathers are involved emotionally, financially and physically with their child. If more support are received from family members and resources the more they will be involved and capable of providing the things that are needed for the child. Implication of policy practice is discussed in the context of the role of a social worker as an advocate for fatherhood program.

G096

Upset and Back at Home: Measuring Effects of CBT

Meghan Jackson (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The use of cognitive-behavioral therapy (CBT) was utilized to treat a young adult's symptoms of anxiety and depression due to issues of acculturation, readjustment, and family health. However, symptoms were primarily triggered due to client interactions with her father, diagnosed with Bipolar Disorder. Through individual counseling using CBT, the client learnt to reframe her thoughts to positively direct her feelings and actions; this, in turn, lead decreased symptoms of anxiety and depression, and increased relationship satisfaction with her father. Evidence based practice along with CBT interventions, included social problem solving, journaling, creating new thoughts in relation to cognitive distortions, and re-writing of family narratives. A 27 item questionnaire administered during weekly therapy sessions was utilized to notate changes in symptomology between the pre and post-test. Both depression and anxiety illustrated statistical significance with a proportion of baseline successes of 0.2500, intervention successes of 0.666, and $p < 0.0376$. Effect size d-index of -1.05, illustrated a 35.3% decrease in depressive symptoms. A d-index of -1.77, illustrated a 46.2% decrease in anxiety symptoms. The d-index for the relationship satisfaction was greater than 50%. The results of this research showed both theoretical and statistical significance, and lend credence to practical effectiveness in the use of CBT in the field of professional. Measuring one's own practice enables social workers to understand their practice effectiveness.

G097

Efficacy of Solution-Focused Brief Therapy on Anxiety, Depression, Stress, and Family Relations in a Collegiate Setting

Trinikia Johnson (Graduate)

Dr. Shinaz Jindani (Savannah State University)

Anxiety and depression, both are highly prevalent on college campuses throughout the United States. A 2011 national survey shows that due to mental health problems more than 62 percent of students withdrew from college. The purpose of this research was to help a client reduce depression and anxiety symptoms and also to test the effectiveness of Solution Focused Brief

Therapy. There is limited empirical evidence supporting the efficacy of Solution Focused Brief Therapy (SFBT) in treating anxiety and depression. Solution Focused Therapy makes the assumption that clients have strengths and resources that can be used to bring about rapid change. In this single subject research study Solution focused brief therapy was utilized with a 38 year old male who was enrolled in a college. The single subject design was intervention only. The client received counseling over 10 week utilizing technique of SFBT. The researchers hypothesized that Solution Focused brief therapy will effectively treat the client's depression and anxiety. The client was given a 20 item scale that measured depression and anxiety after each counseling session. The client showed significant improvement and a reduction in the depression and anxiety symptoms. Integrating statistical significance, practical significance and theoretical significance, findings suggests that Solution-Focused Brief therapy is an effective treatment for depression and anxiety in a collegiate setting. Through this project I learned to measure my own practice and build sense of practice effectiveness.

G098

The Stress and Depression of a Hospice Patient

Ebony Jones (Graduate)

Dr. Shinaz Jindani (Savannah State University)

This single subject research is about a client who is a 63 year old African American male with a diagnosis of AIDS. Presenting problems were due to his unstable living conditions. The Client displayed the symptoms of stress and depression. The intervention aimed at creating a stable, safe and secure living arrangement, so that the client can have proper end of life care and be at peace during his last days on this earth. Using 16 item questionnaire, measured 1- 4 from Strongly agree, agree, strongly disagree and disagree, stress and depression were measured. The data points were obtained as a baseline when there was no intervention. Three data points were obtained when the client was living with a family member (intervention 1) and three data points were obtained when the client was placed in a nursing home (intervention 2). Client's stress and depression reduced during the intervention 2.

G099

Yoga as an Adjunct Treatment for Substance Abuse with At-Risk Mothers

Samantha Klepper (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to obtain information about the benefits of yoga therapy as a form of treatment for substance abuse. My research will focus specifically on the correlation between mindfulness practices and improvement in coping abilities with subjects participating in the TANF (Temporary Assistance for Needy Families) Residential Drug Treatment

Program in Chatham County, Georgia. The subjects were selected from the TANF Residential Drug Treatment Program in Savannah, Georgia. They voluntarily agreed to participate in this research study. Each of the subjects completed a quality-of-life questionnaire consisting of ten Likert-Scale questions adapted from the Basis-24 Scale ranging from 1) Never 2) Rarely 3) Sometimes 4) Often 5) Always and 1) No difficulty 2) A Little Difficulty 3) Moderate Difficulty 4) Quite a bit of Difficulty 5) Extreme Difficulty. Four one-hour yoga sessions will be conducted once per week for four weeks. At the end of the last session, the questionnaire will be re-administered and the scores will be computed for statistically significant changes using Statistical Package for Social Sciences (SPSS) data software. The anticipated results will include a decrease in average total score for participants which will represent a decrease in overall levels of anxiety, depression, and urges to use mind-altering substances. Substance use disorders are often considered chronic and relapse from them inevitable. Twelve-step or mutual support treatment programs are the most commonly utilized, yet their success rates vary greatly depending on the individual. Yoga and mindfulness practices have been proven effective in Eastern therapies for over five thousand years. In our Western culture, the medical model is still considered the most effective, widely-accepted practice. The TANF participants in this study have all been mandated by the Chatham County drug court system to participate in substance abuse counseling. It is my belief that their participation in the yoga mindfulness sessions as an adjunct treatment is vitally necessary for them to develop healthier methods of coping with their emotions to remain abstinent from drugs and alcohol.

G100 **Reintegration After Incarceration**

Peri Kyriacos (Graduate)
Dr. Shinaz Jindani (Savannah State University)

Does incarceration prepare female inmates for reintegration in the community? There is no known policy that requires the jail to design and deliver a program that will facilitate reintegration. The objective of this study is to assess women that have been previously incarcerated on more than one occasion. The goal of this research is to collect data that will help with implementing a policy for discharge procedures for female inmates. This release program would match services and resources with the female inmates so that they will be able to reintegrate into society successfully. Therefore, reduce recidivism in Chatham County. The "Reintegration after Incarceration" survey consists of 22 items exploring the process of reintegration. The views captured through a Likert Scale that ranges from 1-4, Strongly Agree to Strongly Disagree. The survey was administered to 30 previously incarcerated females residing in Savannah, GA. Females did not receive services or resources upon release to successfully reintegrate back into the community. Preliminary findings suggest that the majority of the females were not linked to the resources at the point of discharge. As a result they now

find for themselves and begin their life from scratch. Unaware of the resources and not knowing how to locate or access them, reintegration has almost become impossible. Linkage to services and resources are critical components to successful reintegration into communities. A policy should be implemented in the County requiring that they link female inmates to resources before they are discharged. Thus, facilitate reintegration and prevent prison reentry.

G101 **Coping with One's Health**

Jane McCullough (Graduate)
Dr. Shinaz Jindani (Savannah State University)

The client was diabetic 57 years old African American Female living in a rural area with limited social support. Management of diabetes along with medical compliance were focus of intervention. Using Cognitive Behavior Therapy, counseling and psycho-education were used to help client develop behaviors that would facilitate life style change and encourage medical compliance. Health Scale with 15 items was designed to measure medical compliance and life style management, using 1-7 likert scale, where 1 was strongly disagree and 7 was strongly agree. Client responded to this tool before each session. In all 6 data points were gathered, resulting in three in phase one and three in phase two. Effect size, D index indicated 48% change between phases. As the intervention lasted only for 6 weeks, the client was showing beginning level of behaviors that she was applying to her diabetic condition. Given theoretical, statistical and practical significance, the outcome was moving into the desired direction. This is the way I learnt to measure my own practice and gather data on practice effectiveness.

G102 **Stress In College Women with School-Aged Children: The Effects of Balancing School, Family, and Work**

Sheila McGirt (Graduate)
Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to evaluate the stress levels in College Women With School-Aged Children, and determine their level of functioning when it comes to balancing being a student, mother, and career women. The object of this study is to measure how the women are balancing these important stress factors in their daily lives, and to conclude if the stress factors are detrimental to their effectiveness. The goal of this research is to theoretically create a hypothesis based on data collected through a random selection of women in college. The procedure used to evaluate the human subjects in this research will be based on a survey. The survey was created to do an assessment of the levels of stress in college women with school-aged children, and their effectiveness of balancing being a student,

mother, and working. The survey is comprised of 15 questions using a likert scale. The likert scale has a choice of Strongly Agree, Agree, Disagree, Strongly Disagree, and not applicable. The survey participants will be chosen randomly on the campus of Savannah State University. The women will be asked to sign a consent form. The women will remain anonymous, and the data collected will be tabulated using Statistical Package for the Social Sciences or (SPSS). The expected results for this research project are to hypothetically suggest that there will be a high numerical figure of women who are extremely stressed when it comes to balancing school, being a mother, and work. Assuming that the data will prove that working women who are in college and have school-aged children are indeed dealing with an enormous amount of stress are capable of being effective in their daily lives. If there are any gaps in their effectiveness of balancing the three stress factors, those gaps will be evaluated and the study will provide education for women in this circumstance.

G103

Communication is Key

Aleida Mitchell (Graduate)

Dr. Shinaz Jindani (Savannah State University)

College life is a transitional period marked by change, pressure, isolation from the family and stress. Therefore, our goal is to help students understand this period, find ways to cope, and grow from their experiences throughout their college career. Healthy Choices is one of the programs offered to address any underlying issues that may interfere with students' academic and non academic experiences. The Single Subject Research Client is a nineteen years old, African American, male from a rural area and used marijuana once. During the room check client confessed to his onetime use. As result he was referred to Healthy Choices Program. Client reported tumultuous relationship with his father, as a root cause of his concern. As a result 10 item questionnaire was designed to help him improve communication with his father, through counseling and behavioral homework assignments. At the beginning the intervention seemed to work. However, during the 4th and 5th weeks, the client regressed due to his father's irresponsible behavior that did not join him for his mentoring program and cancelling fishing trip. The client felt dejected and regressed but did not use marijuana. The client regulated his emotions and continued communication efforts and finally was touched when the father had apologized and was able to reestablish the communication, especially through cell phone, texting and frequent visits..

G104

Title V State Abstinence Education: Is it Working

La'Keisha Mitchell (Graduate)

Dr. Shinaz Jindani (Savannah State University)

This research is extremely important because prior research

has supported the notion that these types of programs are ineffective and the students still tend to participate in risky behavior and when they do, the abstinence education fails to equip them with the valuable information they need to protect themselves and engage in safe sex. These factors lead to more young adults contracting STD's, unplanned pregnancies, being misguided and uninformed about sexuality and the LGBT communities, as well as a financial strain on the social service system to care for a large percentage of the children of the teens who fell through the gap of the Abstinence-Only Program. The purpose of this research is to determine if the Title V State Abstinence Education Program is effective in stopping teens from engaging in sex and risky behaviors on the micro level. My goal is to determine if this program is affective in its purpose of keeping teens abstinent. Students will be asked to complete a ten question survey. After my research analysis, I expect to discover that the students who were taught abstinence-only education will currently be sexually active and engaging in risky sexual behavior. The report findings will contribute to the knowledge to the field by allowing us to determine if this program is effective on a local level and if it is not, we can make the necessary changes to improve the program and its effectiveness for the greater of the teens.

G105

Challenges that Homosexual Persons and Same Sex Couples Face While Trying to Adopt Children from Foster Care

Teer Mitchell (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research study is to identify the gaps in the Federal Title IV-E Adoption Assistance eligibility criteria for prospective adoptive parents. Since there is such a shortage of qualified people who meet the eligibility criteria and who are still interested in adopting children with special needs, that most people would assume that all prospective adoptive parents would be considered regardless of the sexual orientation that they identify with. The objective of this study to assess how people view homosexuals and same sex couple raising children and whether their sexual orientation has any influence on the child's behavior, sexual orientation, academic success, morals and family values. The overall goal of this study is to use the data that I collect to help eliminate the stereotypes and compliment other studies measurable outcomes of how biological parents who just happen to be homosexual have raised children who are productive members of society in hopes of changing the policies and state legislation that will allow homosexuals and same sex couples to adopt children from foster care without their sexual orientation being a determining factor for their application or home study to be denied. The questionnaire that I developed to poll the opinions about homosexual persons and same sex couples parenting children consist of a series of 10 statements in which their views will be captured through various responses such as strongly agree, agree, neutral, disagree and strongly

disagree. This questionnaire will be administered to adults over 21 years old and will on target 15 adoptive and 15 biological parents to complete the survey. The data collection of the biological parents will be a random selection of convenience but specifically targets 15 adoptive parents who have adopted their child(ren) through DFCS or a private child placing agency and who are currently receiving Title IV-E adoption subsidy funds. The data that's collected from this questionnaire will be entered into SPSS for organization and to interpret it's findings using statistical charts and graphs. I anticipate the results from the questionnaire will reveal that people's opinions about homosexual persons and same sex couples have changed significantly in favor of them being able to have the opportunity to adopt potentially hard to place children instead of allowing them to linger in foster care. My assumption is based on how the views concerning same sex marriages and civil unions are becoming more recognized and accepted by society. As more children with special needs have their parental rights terminated to avoid further neglect and abuse I anticipate that the eligibility criteria for prospective adoptive parents will be re-examined. Children shouldn't have to be re-victimized in foster care due to a shortage of qualified heterosexual adoptive parents. The results of this questionnaire will be considered as a resource to help initiate a policy change if the views of this questionnaire are favorable to allowing homosexuals and same sex couples an opportunity to adopt children from foster care without having their sexual preference scrutinized.

G106

Does Personality Affect the Attitudes of Individuals?

Porshe Moody (Graduate)

Dr. Shinaz Jindani (Savannah State University)

It is not unusual to find studies related to heterosexual-homosexual relations, based on gender, religion, culture and political climate. However little is known about how one's attitude is shaped based on personality or individual traits, which is defined using the Big 5 Personality Theory. The Big 5 Personality Theory consist of five basic building blocks of personality, which include Extravert, Agreeableness, Conscientiousness, Emotional Stability/Neuroticism, and Openness. This research hypothesized that respondents who score high on Extravert, Agreeableness and Openness will support Gay and Lesbian Relations positively. This hypotheses is derived on the guidelines of Trait Theory, which suggest that personality influences how an individual reaction to circumstances, and how an individual will react or think in given situations. Using a 15 items Big Five Personality Test (2011), (3 items per subscale of five blocks) and self-designed 6 item attitudinal scale, this tool was administered to 200 Savannah State University Students who were enrolled in Fall 2012 semester. Thus findings were generated using the sample of convenience. The Correlation Coefficient suggests that Extraversion, Agreeableness, and Conscientiousness are

all correlated to positive views towards gays and lesbians. Implications for Human Rights for Gay and Lesbians and the personality traits are discussed, as our society embraces pluralism and tenets of civil society.

G107

Pregnant and Homeless... By Choice?

Porshe Moody (Graduate)

Dr. Shinaz Jindani (Savannah State University)

Currently 3.5 million persons are homeless in America. The homeless youth in America are steadily increasing at an alarming rate of about 11,000 new cases per year. One of the leading causes of homelessness especially for females is pregnancy. This single subject research participant was 19 years old, an African American teenager who was caught between abortion and homelessness. She continued with her pregnancy and remained homeless. Based on Maslow's Hierarchy of Needs, the school social worker stepped in to provide for basic needs. As Maslow's theory states that an individual must have five basic needs met before a person can reach self-actualization. Besides providing resources to the client, self-esteem, stress and anxiety also became the focus of intervention that would meet belongingness needs. A tool was designed consisting of 6 Self-Esteem items, 7 Stress items and 7 Anxiety items measured on a 5 point likert scale where 1 was Strongly Disagree and 5 was Strongly Agree. The desired goal was to increase self-esteem, and lower anxiety and stress. Statistical Analysis demonstrated no significant difference between phases I and II. Using Effect size, anxiety increased by 17.4% (d index), stress decreased by 3.2% (d Index), and Self-esteem increased by 41.8% (delta Index). This project has shown that short 9 weeks is not enough for the client to show the progress. Besides the environmental factors can mitigate the intervention, in this case, the pregnancy and the delivery of a child were anxiety and stress laden, even though self-esteem increased.

G108

Evaluating the Effects of Life Changes

Arnecia Newton (Graduate)

Dr. Shinaz Jindani (Savannah State University)

A 19 year old, African American female is a client involved with Department of Family and Children Services, who has three children ages 3, 2, and 8 months. Presenting problems were lack of supervision of children, inadequate housing, and unstable income. Additionally the social worker found that she was emotionally dependent on her spouse to a great extent, therefore relationship also became a focus of intervention. Using the Empowerment Theory, the client was offered counseling and parenting classes. Three scales were designed to measure Feeling, Parenting Skills and Relationship Skills (30 items) using a 4 point likert scale from Strongly Disagree to Strongly Agree.

The data was collected twice a week before each session, yielding 5 pretest and 6 post test scores. There was no change noted between the phases. While integrating statistics, theory and practice, it is safe to conclude that the change would have been evident had the intervention lasted longer, as the client was facing complex problems during portions of the research.

G109

Combating Stress as a Military Spouse during Pre-Deployment Phase

Michelle Niesen (Graduate)

Dr. Shinaz Jindani (Savannah State University)

For many families, a career in the military means receiving opportunities that may not otherwise be available. Despite these benefits, there are a lot of factors that cause stress on a family. These include several notable issues like relocation, isolation, and deployment. These issues affect the soldier as well as their spouse and children. This single subject research examines the stress of military life on a military spouse during the pre-deployment phase. The spouse agreed to learn and use stress management techniques over the period of seven weeks. It was hypothesized that by introducing the spouse to relaxation and grounding techniques, she would recognize triggers when she is overwhelmed and utilize these techniques before she experiences anxiety. Once the stress management techniques were implemented, the participant reported lowered stress levels and that she was better able to take care of her own needs. All stages of deployment come with their own unique challenges for the military family. When given the right tools, military families can deal with this stress in productive and positive ways. Keywords: military families, anxiety, stress management.

G110

Empowering Youth As They Transition Into Adulthood

Tracey Denise Oliver- McCombs (Graduate)

Dr. Shinaz Jindani (Savannah State University)

This research is interested in how to empower youth as they transition into young adulthood to help overcome barriers of negative emotions using the strength perspective under the umbrella of cognitive behavior theory. The study utilized data from the 1999 Wamy Life Contentment survey. The data was tested for autocorrelation (baseline, $p=1.00$, intervention, $p=0.408$). T test was applied that detected no difference between the baseline and intervention phases ($p=0.493$). D index was used to detect the size of the effect between phases. The result showed that life contentment was increased by 17%. Thus there was some statistical evidence that the intervention was working. However, due to the limited time frame, the effect was small. Joint impact of the Strengths Perspective and environmental

resources is far greater than the implementation of the Strengths Perspective in isolation. Now I know how to use the theory to inform my practice using measurements that will help me understand the client outcomes. Social Work is an accountable profession and it is of prime importance that we ascertain a sense of practice effectiveness, as we grow professionally.

G111

Acute Lymphoblastic Leukemia in Adolescence

Maria E. Rainey (Graduate)

Dr. Shinaz Jindani (Savannah State University)

A 16-year-old adolescent Caucasian female was diagnosed at Memorial Health University Medical Center with acute lymphoblastic leukemia and is currently receiving chemotherapy treatment. During the initial assessment the client presented with a high level of stress, low self-esteem, and overall decrease in life contentment. Using Psychosocial Development Theory and the Strengths Based Perspective, an intervention was designed to help the client effectively cope and accept her cancer diagnosis. These interventions included, Cognitive Behavioral Therapy, relaxation, meditation, and diversion techniques. A 25-item questionnaire was administered to the client on a weekly basis prior to the start of each counseling session. Additionally, she was provided a blank survey to self-administer during the following week to complete and turn in at the following session. The client completed 13 questionnaires. All interventions used were effective and proved essential in helping the client to effectively cope and accept the cancer diagnosis. Although the client remained in the desired zones, her scores did reflect a peak in progress in her last few sessions. Integration of theoretical, practical and statistical significance is discussed in the context of practices effectiveness.

G112

Food Stamps Gap

Maria G. Ramos (Graduate)

Dr. Shinaz Jindani (Savannah State University)

After reviewing the Food Stamp Act of 1964, a gap was found estimating that those that are recipients of the SNAP have a higher level of obesity. There is a high level of concern at the Federal level as the statistics show that those that are receiving the benefits tend to have greater changes of dealing with obesity. This study was conducted in an effort to find out how individuals perceived their health status and if there is a significant difference between the SNAP recipients and those that are not recipients in the Chatham county. The independent variable for this research was those individuals receiving the benefits and those that are not recipients; the dependent variable was how individuals view their health status.

G113

Are Lunch Improvement Efforts Being Thrown in the Trash?

Marcie Renfroe (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The 2010 reauthorization of the National School Lunch Program, asserts Healthy Hunger Free Kids Act of 2010 (HHFKA), which intends to increase portion sizes of nutritious fruits and vegetables in student's lunches. Is this happening? Using the sample of convenience this research gathers the data from the teachers and lunch room workers employed by Chatham County School Board. The questionnaire "Are Lunch Improvement Efforts Being Thrown in the Trash?" was created to access how much fruits and vegetables are being eaten by the students and how much are possibly thrown away. The questionnaire consists of 17 questions using a 5 point Likert scale ranging from Strongly Agree to Strongly Disagree. The current research is under data collection. Although new changes have been made to the National School Lunch Program in an effort to make students healthier, without proper orientation to the new exotic fruits and new nutritional standards, the outcome may still be poorly achieved. If the students don't eat the majority of their fruits and vegetables, their health will still suffer. Recommendations are made in the context of social work, as a single program cannot stand alone. Training for students, empowering them to purposefully select fruits and vegetables will yield maximum results rather than a single approach to the school lunch program, even though it is a good beginning.

G114

"Discovering the Relationship between Self-Esteem and Living with HIV"

Britney Reese-Johnson (Graduate)

Dr. Shinaz Jindani (Savannah State University)

Chatham CARE Center is a division of the Chatham County Health Department that serves individuals in Chatham and surrounding counties who are living with HIV/AIDS. The client is a 51 year old, African American, AIDS progressed male; diagnosed with HIV in June 1998 and progressed to AIDS June 2003. Client has gone through periods of inconsistency to include non-adherence with medication, and being active to non-active in his church, which served as a social support. Client is on a number of medications for his AIDS, depression and anxiety. The ultimate intervention goal is for the client to develop and maintain high self-esteem. Cognitive-Behavioral Therapy will be used. Client was instructed to utilize the technique of journaling at least twice a week; keeping an account of day-to-day thoughts, feelings, and actions. The presented hypothesis is that Cognitive-Behavioral Therapy will assist the client in obtaining a level of high self-esteem and positive self-concept/worth. Seven surveys were administered. The client continued with this intervention while being assessed for effectiveness for four weeks. A clinical

self-esteem scale, based on Rosenberg's self-esteem scale, was developed as the instrument used in the single subject design. The findings and evidence indicate that the use of the CBT technique: journaling improved the client's level of self-esteem. Given the evidence, the hypothesis using Cognitive and Behavior Theory and Strengths Perspective had a positive impact on client's self-concept. Client also agreed to make an effort to begin attending the agency's peer counseling S.P.I.R.I.T group for additional social support.

G115

Meaning in Life

Rochelle Rice (Graduate)

Dr. Shinaz Jindani (Savannah State University)

Being a teenager during such tumultuous times can sometimes be overwhelming. The teenager might encounter varying experiences and obstacles. Even, the search for meaning in life might be obvious when the teenager feels life is cloudy and grim. However, it is a complex matter when a teenager is surrounded by multiple issues and unclear on the meaning for their life. As professional social workers it is just as important to assess how meaningful teenagers feel their lives are and how motivated they are to search for their life's meaning. This single subject research participant was an 18 year old female, living in a shelter, HIV positive and caught up in a prostitution ring. The immediate goals were to help her seek independent living with a stable and valid income. The client was in search for meaning in her life; however, she found no relevance, not only in life, but also her environment. To measure Meaning in Life (MLQ, 2006), a 10 items scale designed by Steger, Frazier, Oishi and Kaler was adapted. This 7 point scale ranges from "Absolutely True" to "Absolutely Untrue".

G116

Attachment Theory and Parenting Effectiveness

Letitia Robinson (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to examine the implications of the attachment theory on the parenting effectiveness of a single homeless mother. Social support, attachment style and parenting behavior are all interrelated, although few studies that have attempted to understand these complex associations simultaneously. Research has found that young, single less educated lower income mothers use higher levels of verbal and corporal punishment, practice less positive nurturing behaviors and experience higher levels of children's behavior problems than older, married more educated, middle-income mothers. Research has shown low income mothers spanked their children more often and were less responsive to the needs of their children, hypothesizing that the stress of living in poverty may interfere with a parent's ability to respond supportively to their children's

needs with bonding and attachment. Additionally due to the lack of resources and gaps in service delivery, homeless families experience higher levels of stress as they cannot meet their daily needs of food, clothing and shelter.

G117

Bullying: The Focus on Punishment Instead of Education

Heather Rudolph (Graduate)
Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to identify the gap in the Savannah Chatham County Public School Systems (SCCPSS) bullying policy. The current bullying policy focuses on punishment that escalates with each offense. Prevention education and information about available resources are not a part of the policy. The objective of this study is to assess if students in grades fourth through twelfth have received any education about bullying and if students are aware of resources available to them that can help ameliorate the negative impact of bullying. The goal of the research is to collect data that will help with implementing an educational program in public schools that focuses on bullying education and resource awareness. The "Bullying Resource and Education Survey" was created to assess knowledge of bullying, education received about bullying, and awareness of bullying resources. The survey consists of ten questions using a Likert scale of Strongly Agree, Agree, Disagree, and Strongly Disagree. The survey will be administered to thirty public school students residing in neighborhoods in Savannah. Informed consent will be given by parents. Data collected from the survey will be tabulated using SPSS. Low level of awareness and education about bullying and a lack of knowledge about available resources exacerbate the problem. As students experience bullying on a daily basis, the data may show students know what bullying is, but may not know how to respond to it. Punishment should not be the only method of dealing with bullying. Education and resource availability are crucial components that should be added to the SCCPSS bullying policy. Gaps in the policy implementation will be considered and recommendations will be made to fill these gaps.

G118

Generalized Stress Related to Child Neglect

Yvonne Rufus (Graduate)
Dr. Shinaz Jindani (Savannah State University)

This single subject research study participant was a 21-year-old Caucasian female who was seeking help from the Department of Family and Children Services (DFCS). The initial assessment noted inadequate supervision of children, inadequate food, shelter and clothing. The client presented problems of self-esteem, depression, and a need for counseling to address her very own sexual abuse, and neglect as a child. Under the umbrella theory of, Cognitive Behavioral Theory (CBT), Individual

Counseling, Parenting Classes and Parent Aide Training was used as an intervention. CBT states that there is a reciprocal interaction between what one thinks and how one behaves. It was hypothesized that how the client thinks and feels, is how the client will react to the stressful situations in her environment, thereby creating neglectful situations that can harm her own children. A 25 item Generalized Stress Scale was designed, using 5 point likert scale. The client attended 6 sessions. Even though the statistical analysis, Effect Size noted (D index) 37% decrease in stress, the client reported dissatisfaction with the counseling services. The client stated distrust and did not have rapport with the counselor. This helps explain lack of goal attainment. Through this project I learned how to measure my practice and delineate factors that present barriers for lack of goal attainment.

G119

How to Fish Using the Strengths Based Perspective

Breanna Shaw (Graduate)
Dr. Shinaz Jindani (Savannah State University)

There is some evidence that Strength Based Perspective (SBP) is known to be effective when clients have experienced hopelessness and have regressed back into the state of dysfunction. This approach assumes that all families have strengths that they can build on and meet their own needs and gain long term independence. The client is 28 years old African American with two children ages twelve and three. Due to physical neglect the Department of Families and Children Services, has developed a case plan that she must attain. As a result she attends parenting classes and attends one-on-one support counseling with the author of this research that is focused on building self esteem that will foster her confidence in meeting safety needs of her children, regulating her emotions and responding to her children's emotional needs. SBP and SFT was used as over arching framework for the social work intervention. A 10 item self esteem instrument was designed using five point likert scale ranging from Strongly Disagree to Strongly Agree. The client responded to this questionnaire before every session. Currently the data analysis is in the process. However the beginning analysis shows that the client is progressing in the desirable direction. Recommendation and social work implications of measuring the social work practice are discussed.

G120

Unmet Education Needs: Fulfilling the Promise of Quality Education to All Children and Youth

Earnestine D. Shields (Graduate)
Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to identify the gaps in the quality of education that is received by children and youth that are involved in the Juvenile Justice and Child Welfare Systems. The current policy No Child Left Behind Act of 2001, also known as

the Elementary and Secondary Education Act was amended in 2002, (ESEA, as amended) was signed into law, with the mandate to “close the education gap with accountability, flexibility, and choice, so that no child is left behind.” The amendment was done to include Title I, Part D, of ESEA, as amended, also called The Prevention and Intervention Programs for Children and Youth who are Neglected, Delinquent or At-Risk, provides financial assistance to educational programs for youth in State-operated institutions or community day programs. The objective of this study is to assess the effectiveness of the policy, and see how well the tools and practices outlined in the policy are addressing the educational needs of the children and youth involved in both the child welfare and juvenile justice system. The goal of the research is to collect data that will help improve or implement educational programs and that will link resources from the juvenile justice and child welfare systems to the public school system. The “Perceived Quality of Education and Self-Esteem” survey was created to assess how students perceived the quality and satisfaction of the education they received and how it affected their self-esteem. The survey consists of twelve questions using the Likert scale of Strongly Agree, Agree, Disagree, and Strongly Disagree. The survey will be administered to thirty students in the community that have been involved in the child welfare or juvenile justice system or both. Informed consents will not be given to parents because all participants will be 18 years and older. Data collected will be tabulated using SPSS. Low levels of satisfaction with the perceived quality of education that they have received, which resulted in low self-esteem. Students that have been in the juvenile justice and child welfare system have been displaced frequently and therefore may have lacked consistency throughout their school years. The need for set standards, congruency, and collaboration between the public school systems and the juvenile justice and child welfare system is imperative. Gaps in the policy implementation will be considered and recommendations made to fill these gaps

GI 21

Do I know How to Spot Suicidal and Homicidal Students

Priscilla Small (Graduate)

Dr. Shinaz Jindani (Savannah State University)

Majority of the faculty members at Savannah State University have doctoral education. However, can they detect the signs and symptoms displayed by the students, who may be suicidal and/or homicidal? If they can, then do they know what must happen next? A twenty item survey instrument was administered to the professors in CLASS, COBA and COST. It captured their agreement or disagreement with the item, using four point likert scale; Strongly Agree to Strongly Disagree. A sample of convenience was generated through the word of mouth. The researcher personally approached the professors and requested their response. As the knowledge about psychology and human behavior is primarily taught by CLASS faculty members. This study hypothesized that the professors in CLASS will have higher

level of awareness compared to the professors in COBA and COST. Preliminary findings suggest that there was no significant difference between the faculty members from three colleges. Implications of the findings are discussed and recommendations are made.

GI 22

Domestic Violence and Use of Alcohol After Deployment

Oveta Smalls (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The wars in Iraq and Afghanistan have been experienced not only on the battlefield but also inside the homes of military families in the United States. When they return, the wars come back home with them. A July 2010 report found that domestic abuse in Army families and veterans has been three times higher than the regular US population, and alcohol use associated with physical domestic violence in Army families increased by 54%.

A 26 years old Caucasian male soldier participated in the single subject research. His presenting problems were domestic violence and alcohol consumption. Cognitive Behavioral Theory (CBT) was chosen as the treatment model as behavioral approaches to change are based on the general view that problems can be understood within a behavioral context, and that all behaviors can be changed and can be replaced with more positive adaptive behaviors, that are free of violence. Using CBT theoretical model, client participated in Marriage Counseling sessions and Domestic Violence Treatment Program. A 10 item questionnaire was used to measure the Use of Alcohol and 14 items were used to measure the Spousal Relationship with a 5 point likert scale, ranging from strongly disagree to strongly agree. The intervention was not effective as The delta-index indicated a 48.9% increase in the Use of Alcohol and Spousal Relationship noted no change at all. This may be due to grief and loss experience by the soldier as his father passed away during the treatment phase.

GI 23

Bipolar Disorder and Its Effect on Moods

Barbara Smith (Graduate)

Dr. Shinaz Jindani (Savannah State University)

This single subject research study examined Bipolar disorder and its affect on moods. A survey was developed to measure depression, self-harm behaviors and poor impulse control. The survey consisted of 7 depression items and 7 self harm behaviors and poor impulse controls items. All items were measured on a 1-5 likert scale. The desired zones for the individual subscales were derived from the mean score of each respectively. The intervention consisted of; Weekly individual therapy sessions, daily or weekly journaling sessions and daily medication management. Considering pretest and post test scores, the

scores on depression decreased by 17% and self-harm behavior by 23%. The results supported a one tail hypothesis. However, as the client's mother was denied visitation rights, 9th data point on the celeration graph shows sudden spike. Thus environmental factors do impact social work interventions. Given theoretical significance, statistical significance and practical significance, this project has taught me how to measure my own practice and gather sense of practice effectiveness.

G124

Child Welfare Policy

Shariske Thomas (Graduate)

Dr. Shinaz Jindani (Savannah State University)

This research is aimed at identifying and addressing a gap in the Dropout Prevention Act (title I, part h of the 2002 No Child Left Behind Act signed by President Bush), which has resulted in minimal effectiveness, leaving a high percentage of African American (AA) youth with no education, some with minimum desire to learn. The design method used is the Likert Scale survey. The survey was created to provide an assessment of the education system from the AA student and parent perspective. The research shows, a majority expressed disconnection, and or failure with the current education system curriculum. This disconnect contributed to many reasons for dropping out. Children expressed interest in "learning about self." Parents will have a broader picture to paint, and advice to offer the youth concerning education, its importance and knowledge of self. AA students and parents will become aware of the importance and absence of education for and about self. The concept of African Rites of Passage facilitates AA children's knowledge and understanding of self, as they progress through life. Under African-centered curriculum, students will become empowered with a positive, strong, and confident self image. The objective is to inform/educate on the issue; bring the education system into the fold of the AA psyche; thus, establishing a baseline of curriculum which includes the complete history and culture from an African perspective pre, post, and current colonial modernization. Once the curriculum is established, all will flow forth from accordingly in a guided nature. The dropout rate will decline, employment rates will increase, which will result in a decrease in crime.

G125

68686 Substance Abuse: Can Academic Dishonestly Policy include the Incorrect Use of Drugs for Attention Disorders?

Leslie E. Weir (Graduate)

Dr. Shinaz Jindani (Savannah State University)

The purpose of this research is to identify the gap in academic policies that define what encompasses academic dishonesty. Increasingly students are taking prescription drugs before cramming to focus and retain information at a higher level. This

improves their chances of academic success. Currently there is no statement in academic policies at the college level that addresses the use of substances that treat attention disorders being abused as 'pre-study supplements' by college students hours before a test. Participants will include college students surveyed through the online survey engine 'survey monkey'. The questions will be set up in 5 point Likert scale format (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree). It will be administered by snowball sampling through social networks and email. Data collected will be analyzed through the program SPSS (Statistical Package for the Social Sciences). The results of this study should show that this is a big enough issue to be addressed by an amendment in college academic dishonesty policies or that it is not. Today, we witness the first generation of college students that were previously children taking prescribed substances to treat their attention disorders. Although controversial, the effects of these drugs on students that abuse them can be compared to the effects of steroids on an athlete training for an event; although the effort is the same, the drug itself enhances the ability to achieve results over a natural level. If it is perceived as an issue, college academic policies on academic dishonesty should be amended accordingly.

G126

Anger Management

Martin Wells (Graduate)

Dr. Shinaz Jindani (Savannah State University)

Savannah State University Office of Student Development offers confidential counseling and disabilities services to the students. The Client is 21 years old, African American male. He presents himself with an open demeanor, cooperative behavior, intact dress and hygiene, anxious mood, affect-thought congruency and a sense of normalcy. No evidence of obsessions, compulsion or psychosis. Due to violations (Level 3.3 Misconduct, Disorderly Conduct and 3.10 Misconduct, Failure to Comply) of the Savannah State University Code of Student Ethics the Client was mandated for counseling services through "Healthy Choices" program. The Client recognizes that he has anger issues since his teen years. Anger Management instrument was designed that had 10 items, measured through 1-5, where 1 ineffective and 5 was effective. The client responded to this instrument before each session. Three pretest scores and seven post test scores were obtained. To inform this process Strengths Perspective provided the overall tone to the therapeutic process, as the client was in violation of the ethical code. The client reflected upon his strengths and how it can be used to regulate anger behavior. T-Test demonstrated significant differences between, the means of baseline and Intervention phases, in desired direction (equal variances, $p=0.04$, unequal variances $p=0.05$). The Delta Index stated 45% change in the desired direction. Considering statistical significance, theoretical significance and practical significance, there was the evidence of practice effectiveness.

G127

Quality of Life of Older Adults

Suzette Williams (Graduate)

Dr. Shinaz Jindani (Savannah State University)

With the first “baby boomers” (adults born between 1946 and 1964) turning 65 in 2011, older adults are among the fastest growing age groups. Many older adults live on limited incomes and often run out of food before month’s end. The Manna House, a food bank in Hinesville, Georgia has a brown bag food program for adults over the age of 60. Participants must meet certain income guidelines for service. Once a month they receive a bag with food staples and fresh meat. A sample population that includes African Americans, Caucasians, South Pacific Islanders, and Hispanic older people, were given a survey to gain insight into their quality of life. The ultimate goal of the research was to gather information about the needs of this population of consumers who frequent the Manna House. This is an important project for this agency. My hypothesis: The young-old have a better quality of life than the oldest-old?

G128

Self Esteem and Cocaine Dependency

Suzette Williams (Graduate)

Dr. Shinaz Jindani (Savannah State University)

Cocaine dependency or addiction is the desire or need to use cocaine regularly, because of the intense feelings of euphoria it produces. Cocaine has a relatively short-term high, which usually leaves the user craving for more. During these periods of craving, users may indulge in self-destructive and self-demeaning behaviors, such as lying, stealing, prostituting, or drug dealing, that may later produce feelings of shame and guilt internally, resulting in low self-esteem. Building self-esteem after cocaine dependency is a necessary step in recovery. This research describes a single subject design where behavioral cognitive therapy was used as a treatment approach. Behavioral cognitive therapy is a good fit for self-esteem building because if a person can change how they think of themselves, they can then change how they feel about themselves and then they can change their behaviors. The goal of the research is to determine practice effectiveness.

COLLEGE OF SCIENCE AND TECHNOLOGY

BIOLOGY

UNDERGRADUATE ABSTRACTS

U129

Prevalence of Hepatitis C in Coastal Health District: A 5 year analysis, 2007-2011

Kashade Andrews (Senior)
Robert Thornton (Coastal Health District)

Hepatitis C has been an emerging issue for the United States and for the Coastal Health District. Awareness must be raised for the disease so more people can be screen and treated. Statistics for incidence rates in the Coastal Health District can lead to more tests being done to diagnose Hepatitis C. If this disease is left untreated, liver damage can occur, which is a vital organ for survival. Comparisons between age, gender, race, ethnicities, stage of disease, Coastal districts 9-1 and 9-3, and the 8 counties among the districts can help physicians target the most vulnerable groups and areas.

U130

Obesity As It Relates to Adipogenesis

Shanice Caldwell (Junior)
Dr. Johnny Johnson (Savannah State University)

This research project is to respond to the dramatic increase in the prevalence of obesity as it relates to adipogenesis and the complex problem of determining gene expression of unknown pathways. Adipogenesis plays a vital role in energy homeostasis. It is a tightly regulated cellular differentiation process, in which the preadipocytes are transformed into differentiated adipocyte cells. Suppressed adipogenesis, accompanied by an increase in adipocyte size, is linked to increased insulin resistance (Meissburger, B., 2011). In contrast, up-regulation of adipocyte differentiation results in increased glucose disposal (Dubuisson, O., 2011), which is known to enhance insulin sensitivity and prevent excess lipid storage in the liver, heart or muscle (Berg, A. H., and Scherer, P.E., 2005). In 3T3-L1 preadipocytes GLP-IR and its FDA approved agonist liraglutide (currently used to treat diabetes m. type 2) mediates proliferation and apoptosis of pre-adipocytes via the transcription factor peroxisome proliferator-activated receptors, gamma (PPAR γ). The activation of PPAR γ by GLP-I suggests that GLP-IR may be a direct target gene of PPAR γ . In addition, the process of adipogenesis involves down-regulation of the gene encoding Hes-1, a target of the Notch signaling pathway. Although PPAR γ and CCAAT/enhancer binding protein (C/EBP), beta (C/EBP β) are distal to Hes-1 in the Notch pathway, their expression induces adipogenesis (Ross D. et al., 2004). Therefore the mechanism by which Hes-1 blocks differentiation is not clear. Using the two models that

have already elucidated mechanisms for the adipogenesis agonist (GLP-IR) as well as antagonist (activation of Notch), we will determine if the agonistic characteristics of GLP-I are mediated via suppression of the Hes-1 gene.

U131

Analysis of Conserved Gene Sequences in Stress Response Genes in Humans and Mice

LaShonta Freeman (Junior)
Dr. Eugene R. Mesco (Savannah State University)

Previous research has identified over 100 genes with shared sequence homologies in mouse and human genomes that are involved in various aspects of metabolism related to biological stress and damage repair (the stress gene sequence library). Current technologies to analyze gene expression include the DNA microarray, which can analyze potentially thousands of sequences simultaneously. DNA microarray technology can be optimized for analysis of 25 base sequences ('25-mers') of interest. This research is focused on examining 25-mers identified as conserved sequences in mouse and human genes (specifically in the mRNA transcripts), and comparing them to mouse and human genomic libraries to eliminate potential false-positive responses due to sequence homologies with other genes. We defined the potential usefulness of the existing stress gene sequence library in a DNA microarray by eliminating sequences that are shared with genes other than those involved in the stress response. 20 of the 28 gene examined in this study showed unique sequences that are shared between mouse and human genes, and do not share any significant sequence homologies with other genes in these species. These genes include multiple components of stress response metabolic pathways (e.g. UBXN4 & PSMC3 are components of the ubiquitin proteolytic pathway that removes damaged proteins from the cytoplasm). The ability to monitor the gene expression levels of these proteins in DNA microarrays may reveal early indicators of pathological conditions, which can be used to optimize medical treatments.

U132

Anti-Adipogenic Activity of Terminalia Pallida

Rueben Israel-McBee (Senior)
Dr. Kameswara Rao Badri (Savannah State University)

Metabolic syndrome (MS) is complex disorder affecting majority of the populations including certain ethnic groups. MS is characterized by central obesity, elevated fasting blood glucose, impaired glucose tolerance, insulin resistance, dyslipidemia, elevated triglycerides and hypertension. In spite of available drugs, due to the low costs, less or no side effects and cultural

significance many people use natural products to treat diseases. *Terminalia pallida* (TP) is one such plant with reported anti-hyperlipidemic activity. Previously Dr. Badri showed the anti-hyperglycemic activity of TP. Here we investigated the anti-adipogenic role of TP to understand the molecular mechanism underlying these activities. Adipogenesis is the process of development of adipocytes (fat cells) from pre-adipocytes. In this study, 3T3L1 cells were differentiated to adipocytes by treating with regular medium (DMEM+10% FBS) supplemented with adipogenic cocktail (1 μ M dexamethasone, 10 μ g/ml insulin and 0.5mM 3-isobutyl 1-methylxanthine). After 48 hours, differentiation medium was replaced and changed every alternate day with regular medium. However, treated groups received 50, 25 and 10 mg/ml of TP or 1 μ M simvastatin along with adipogenic cocktail. Cells without adipogenic cocktail treatment were used as negative control. After 8 days of treatment, most of the cells in adipogenic cocktail treated group differentiated into adipocytes. However, 10 mg/ml TP treated group showed significant anti-adipogenic activity with very few numbers of fat cells. Simvastatin, a known hypolipidemic drug, showed anti-adipogenic activity as evidenced by reduced size and number of adipocytes. In conclusion, TP extract is a potent anti-adipogenic compound compared to simvastatin.

U133

Use of Nanotechnology to Probe Environmental, Biological Samples: A Gold Nanoparticle-Based Approach

Roshini Mohan (Junior)

Dr. Sri Ranjini Arumugam (Savannah State University)

Nanoscience is an interdisciplinary science involving physics, chemistry, biology, engineering, materials science, and computer science. This size scale can be observed in objects ranging from 1 to 100 nanometers (nm). Through nanoscale science we can learn more about the nature of matter, develop and discover theories in areas such as health care, energy and technology, and innovate products to improve people's lives. Such innovations are displayed through recent developments in silicon nanomedia with storage scale in nanometers, carbon nanotubes for H fuel storage, and gold-protein recognition systems. Currently gold nanoparticles (GNPs) are studied for various biological applications due to unique chemical and physical surface properties. GNPs can be modified and functionalized with biological molecules such as peptides, proteins, oligonucleotides, carbohydrates, and even viral capsids. The objective of this study is to understand the nanoworld; to understand the structure and function of gold nanoparticles upon synthesis of varying size and shape using the Turkevich-Frensch method, that is heat-mediated reduction by addition of trisodium citrate; and to use GNPs modified with m-nitrobenzoic acid (m-NBA) as a sensor for Cr⁶⁺ and Cr³⁺ from environmental samples.

CHEMISTRY

UNDERGRADUATE ABSTRACTS

U134

Interpreting PDT-Induced Mitochondria Apoptosis

Racheal Daniels (Junior)

Dr. Cecil Jones (Savannah State University)

Photodynamic therapy (PDT) is an emerging noninvasive technique which employs dye-like substances, called photosensitizers, light, and molecular oxygen to kill solid tumors. The photosensitizer absorbs light and transfers some of this energy to molecular oxygen. Molecular oxygen is converted into highly reactive singlet oxygen which reacts with key cell components and results in cell death. The primary problem with PDT is the lack of long term control of tissue destruction. The therapeutic effect and the dominant mechanism of cell death from PDT depend heavily on the localization of the photosensitizing drug. Photosensitizers that localize in mitochondria tend to be effective agents for killing cells. Metal-phthalocyanines are porphyrin-based photosensitizers that show high affinity binding to mitochondrial, endoplasmic reticulum, and Golgi apparatus membranes. Our research objective is to investigate the critical roles of mitochondria cytochrome c (cyt c) and cardiolipin (CL) as well as their responses under oxidative stress. Stopped-flow fluorescence studies were conducted to investigate the mechanism of cell-death following the use of a photosensitizer. If the mechanism of cell death is through binding (direct tumor cytotoxicity), then PDT (based on the high reactivity of singlet oxygen) may not be the principle cause of mitochondria apoptosis. Our hypothesis is that the photosensitizer may be administered in concentrations sufficient for a cytotoxic response. Analysis of stopped-flow kinetics data was used to measure the binding affinity of cyt c for CL and to determine if the sensitizer serves as an inhibitor to binding. If the binding affinity between the sensitizer and CL is greater than that between Cyt-c and CL, then this explains the disassociation of cyt-c/CL complex prior to cyt-c migrating into the cell. UV-Vis spectroscopy was employed to measure peroxidation of CL by the photosensitizer, zinc phthalocyanine tetrasulfonic acid (ZnPcS₄). Sensitized peroxidation of CL may cause disassociation of the complex and this may be the reason why PDT is effective for mitochondrial localized photosensitizers.

U135

NMR measurements on Nucleotide GTP

Robert Dumas, II (Junior)

Dr. Zhiyan Song (Savannah State University)

The pulsed-field-gradient (PFG) (³¹P) NMR diffusion spectra were measured under varied nucleotide concentrations to characterize binding of Guanosine-5-triphosphate (GTP) on

human serum albumin (HSA). The NMR diffusion constants of GTP and GTP—HSA were a function of GTP concentrations. The sample pHs were held at 7.0 ± 3 and at room temperature. These results are important for further elucidating the interaction of GTP with serum albumin and its possible effect on related bioprocesses. The method can be well applied to study the binding of nucleotides/nucleosides and proteins.

U136

Extraction of Oil and Polyphenols from *Camellia Oleifera* Shell and Seed

Angelique Gumbs (Junior)
Dr. Shaokun Tang (Tianjin University)

Green chemistry is the fastest growing alternative processes being produced today. Environmentally friendly substances such as CO₂ have been discovered to be able to replace the harmful solvents used in the extraction process. The problem facing many chemists is the toxicity of the solvents currently used such as hexane and ether. With the use of CO₂, the harmful gas is eliminated but the yield is lower. The task at hand is to be able to produce more without using organic solvents, but instead using CO₂. We hypothesized that the super critical carbon dioxide can increase the quality of oil. It is easy to operate and it eliminates the toxicity during the process. The extraction of polyphenols with the assistance of ultrasonic will enhance the yield of polyphenols. We conducted the experiment with traditional solvent extraction and super critical carbon dioxide extraction. Four solvents were used in the organic solvent extraction ethanol, acetate, ether, and hexane to be compared with the super critical extraction. The shells of the tea oil seed were more useful ground up than the shell pieces in the polyphenol extraction. The powder was used for the extraction and the time was changed for the purpose of the ultrasonic enhancement. Three different time frames, 10 minutes, 20 minutes, and 30 minutes were used with the ultrasonic enhancement to compare the influence of ultrasonic. Our results showed that the appearance of the oil was lighter when compared with the organic solvent extraction. There was also a difference in the smell of the two. The super critical oil smelled like oil and the solvent extraction smelled like the solvent that was being used. The yield was not as good as the solvent extraction, but by changing the conditions of the super critical extraction such as the temperature and pressure, the yield will be enhanced. The time used for the solvent extraction was approximately 12 hours which explains the higher yield as opposed to the super critical extraction that lasts approximately 3 hours. With the results from the polyphenol analysis that we have obtained so far, it shows the presence of ultrasonic had a greater effect than without it. In conclusion, we were able to perform a successful extraction of oil using the Super Critical CO₂ extraction method. With future analysis we know we can change the conditions of the process to produce a higher yield using the super critical method. The ultrasonic also proved to be more effect with less time.

U137

CO₂-Philic Polymer Membranes with PEO-based Surfactant as Additives

Kierra Hill (Junior)
Dr. Zhongyi Jiang (Tianjin University)

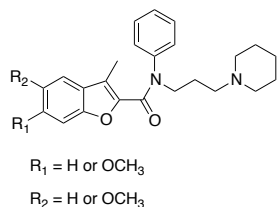
Membrane gas separation is increasingly becoming a competitive technology for CO₂ capture. Novel materials are crucial for developing membranes of superior efficiency to enrich CO₂ from diverse emission sources. PEO-based polymer membrane are perceived as one of the most attractive candidates for CO₂ separation because its preferential CO₂ solubility, high CO₂ permeability, good film-forming ability and adequate mechanical stability. Here we prepared a series of PEO-based polymer membranes with Pebax as the bulk material and PEO-based surfactants as additives. Three low molecular weight surfactants, PEGDME, PEG600 and Triton X-100, and two high molecular weight surfactants, PEG10000 and Pluronic F127 were employed. We find low molecular weight, high EO content, and absence of active H (e.g., H of end -OH groups) are the three major requirements for high CO₂ permeability, but high molecular weight, high EO content, and existence of active H are required for high CO₂/CH₄ selectivity. In particular, when using CO₂-CH₄ mixed gas which contained 20 vol% CO₂ as the feed gas, membranes containing PEGDME showed highest CO₂ permeability (526 Barrer) and moderate CO₂/CH₄ selectivity (13.5), and those with PEG10000 exhibited highest CO₂/CH₄ selectivity (30.1) and moderate CO₂ permeability (35.5 Barrer).

U138

Synthesis of Benzofuran-2-Carboxamides as Selective Ligands for Sigma Receptors

Andrew Z. Morrison (Senior)
Dr. Karla-Sue C. Marriott (Savannah State University)

Two subtypes of sigma receptors exist in the body, sigma-1 and sigma-2. Sigma-1 receptors have been documented as a target for cocaine and associated with the toxic and stimulant actions of cocaine. Sigma-1 receptors are widely distributed throughout the body, centrally and peripherally, primarily functioning in a modulatory role on dopamine, acetylcholine, NMDA and opioid receptors. Studies on ligand-based drugs that bind to and modulate the sigma-1 receptor indicate positive therapeutic effects in areas such as neurodegenerative disorders, addiction, pain, depression, schizophrenia, amnesia, Alzheimer's disease, Parkinson's disease, and stroke. We have synthesized novel benzofuran-2-carboxamide ligands employing a microwave-assisted Perkin rearrangement reaction and a modified Finkelstein halogen-exchange N-alkylation. These new ligands exhibit high affinity at the sigma-1 receptor with K_i values ranging from 7.8 - 34nM. Ligand KSCM-1 with two methoxy substituents at C-5 and C-6 of the benzofuran ring and K_i = 27.5nM at sigma-1 was found to be more selective for sigma-1 over sigma-2.



U139

Synthesis of immobilized Bronsted acidic ionic liquid on silica gel as catalyst for the hydrolysis of cellulose

David Oguoma-Richards (Junior)
Professor Shuqian Xi (Tianjin University)

The hydrolysis of cellulose into biofuels has become a global interest in today's scientific research. Many ways have been developed to come up with the most Total Reducing sugars (TRS) yield from the hydrolysis reaction. Recent years, Bronsted acidic ionic liquids have been used as solvent or acid catalyst for conversion of saccharides into valuable chemicals. In this study, immobilization of the bronsted acidic ionic liquids has become necessary because we need to separate the catalyst from the solvent and reduce amount of ionic liquid used. We used two methods to immobilize acidic ionic liquids on silica gel as solid catalyst to promote the hydrolysis of cellulose. First method was immobilization of IL-1 on silica gel by sol-gel method and the second immobilization of IL-2 by radical polymerization. Two of Six SO₃H – functionalized Bronsted acidic ionic liquids were efficient for hydrolysis of cellulose, with maximum TRS yields over 85% at 100°C. From previous work, the most important factors investigated influencing the hydrolysis products were the hydrolysis condition, such as temperature, acidic ionic liquid dosage, reaction time and the purity of solvent [BMIM]Cl. Later we ferment these products to produce the ethyl ethanol or get HMF (5-hydroxymethyl furfural) straight from the hydrolysis of cellulose which can be used as a final product.

U140

Low Resource Extraction of mRNA using Surface Tension Valves

Lana Thomas (Senior)
Dr. David Wright (Vanderbilt University)

Detection of pathogens can be conducted using nucleic acid-based diagnostics which are specific and highly sensitive. Today, these diagnostics can be performed by using commercially available Rapid Diagnostic Tests (RDT). RDT kits require sample preparation procedures prior to analysis to eliminate potential interferents. However, the procedures often require the use of specialized instrumentation and trained technicians. In a low resource environment, specialized instrumentation and trained technicians are not readily accessible. Therefore, we utilized a previously developed self-contained nucleic acid extraction

cassette suitable for a low resource environment. The cassette contains preloaded solutions separated by air gaps within a continuous length of 1.6 mm inner diameter Tygon tubing. The mRNA binds to the dT sequence of the Dynabeads® Oligo (dT) 25. The beads are then transferred into each preloaded chamber of the Tygon tube using an external magnet to wash and elute into the final solution. The efficiency of the cassette extraction was evaluated by quantitatively measuring the mRNA recovery. mRNA was recovered from Lysis Binding Buffer using RNase-free tubes and the Tygon tubing with 62.75 and 88.00 % efficiency, respectively. Extractions performed using HEp-2 cells shows that mRNA can be extracted from complex backgrounds.

ENGINEERING

UNDERGRADUATE ABSTRACTS

U141

Boe-Bot Robot with Easy Bluetooth Module

Jarvis Brewer (Junior) and Michael Gilbert (Junior)
Dr. Asad Yousuf and Dr. Mohammad Mustafa
(Savannah State University)

Bluetooth is widely used for various communication devices today including cell phones, headsets, and computer mice and keyboards. Bluetooth is a wireless communication protocol that uses radio frequencies in the 2.4GHz range to exchange data over short distances from fixed and mobile devices. This allows electronic devices that formally had to be connected via cables (such as computers, cell phones, headsets, keyboards, mice, printers and PDAs) to be connected wirelessly on one secure Bluetooth network. Bluetooth devices communicate through what's known as a PAN (Personal Area Network), in which only Bluetooth devices that you have enabled can communicate. This prevents other Bluetooth devices in the area from interfering with your network. However, say you want to use a lot of Bluetooth devices on one network, how can it differentiate each connection? Basically, each PAN consists of many different frequencies that each device can communicate on; and in order to avoid interference from multiple devices, each device "hops" to a new frequency many times per second.

U142

Catalyst structure investigated by In-Situ HRTEM Measurement during CNT Growth

Sterling Brooks (Senior)
Dr. Renu Sharma (Center for Nanoscale Science and Technology)

Carbon nanotube (CNT) growth has been studied extensively for the better part of the last 20 because of their outstanding electronic, mechanical and optical properties. However, no major industrial application has emerged as of yet due to a lack of control in the growth of these Nano-structures. The forecasted potential of this new form of carbon is the main reason behind the incessant need to elucidate its growth mechanisms. With the use of a carbonaceous gas, e.g. Acetylene, Methane or Ethanol and metallic nanoparticles of materials such as Cobalt, Iron or Nickel, growth of these nanotubes can be initiated. This synthesis method also known as CVD (Chemical Vapor Deposition) is performed at elevated temperatures (500 to 900 °C). By using a High Resolution TEM (Transmission Electron Microscope) it is possible to record videos of the CNT's evolution from beginning to end. During my internship I have analyzed the structure of the active catalyst particles (size, morphology, chemical nature...) and measured the growth rates of the CNT's. I then tried to correlate these nanoparticle structural changes to their growth kinetics.

U143

A Study of the Flow around Circular Cylinder Pairs

Brandel Graham (Junior)

Dr. Mir Hayder (Savannah State University)

The flow around a pair of circular cylinders with a pitch ratio of 2.0 and an angle of incidence of 45° has been investigated at Reynolds number, $Re = 697$. Flow visualization of the wake formation region and hot-film measurements in the combined wake are reported. Flow visualization experiments showed a synchronized vortex shedding (SVS) flow pattern, and hot-film measurements yielded two distinct Strouhal numbers, 0.45 and 0.15. The higher Strouhal number was associated with the shedding frequency of the four shear layers. The lower Strouhal number was associated with the wake behind the downstream cylinder. An integral relation of 3 was obtained between the two Strouhal numbers. The shedding of the independent vortex on the mean-flow side of the downstream cylinder in every third cycle was found responsible for this special relationship of Strouhal numbers.

U144

3D Laser Scanner to Create a Model of Terrain

Faheem Muhammad (Junior)

Georg Gassner and Catherine LeCocq (Stanford University)

The purpose of this research is to create and use a method based on laser scanning in order to form a topographic map of the SLAC facility. The instruments utilized included: the Zoller and Frohlich (Z&F) Imager 5006i 3D Laser Scanner, the Leica Scan Station C5 3D Laser Scanner, the Leica GPS Real Time Kinematic System (RTK) and the position targets. The software utilized included: the Z&F Laser Control Software, the Bentley

MicroStation V8i Software and other numerical analysis software such as Surfer, Matlab or Arc Map. Methodology included: utilizing the Leica GPS, the Z&F Imager 3D laser scanner, Z&F Laser Control Software, MicroStation V8i software, MATLAB, SURFER, and ARCMAP. We will first utilize the Leica GPS to create coordinate points in our project area in advance to help the best determine the position of the Z&F 3D Laser Scanner. We will mark the positions with PK nails in the project area where the scanner will be placed. Once the location is mapped, targets are established and multiple scans are performed with the Z&F 3D Laser Scanner at those marked positions in the project area. When the area is completely scanned, they are then exported to the Z&F Laser Control for registration. After the scans are registered they are uploaded into the MicroStation V8i software where scans can be edited and modeled. After the scans are edited, Matlab, Surfer, or the Arc Map software is used to generate contour lines of the project area. The contour lines are then placed into the form of a topographical map which will display all of the dimensions of the land as well as the building locations in the project area. The main purpose of this research is to create and utilize this method of surveying on a small topographic map of the project area. Given that this research method is successful the same methodology will be applied to create a topographic map of the entire Stanford Linear Accelerator Center (SLAC) facility.

U145

Savannah State University 2013 Campus Map

Matt Oglesby (Senior), Samia Makoi (Senior), and Brittney Jones (Senior)

Dr. Tara Cox (Savannah State University)

In recent years, Savannah State University has been expanding its campus by purchasing surrounding entities as well as constructing new buildings on the existing grounds. While all of the new construction and expansion is a welcome sight, the university has failed to update its campus map. An updated campus map would greatly benefit current and prospective students in addition to emergency personnel, faculty/staff, and the local community. To update the campus map, we will draw the existing buildings and roads of the purchased entities from an aerial map using the editor tool in ArcGIS10. After drawing all the existing buildings into our map we will use GPS and surveying techniques to establish boundaries of the newly constructed buildings. After surveying the boundaries of the new construction we will use AutoCAD to extract the points and to draw the buildings. Then we integrate the AutoCAD drawing into ArcMAP. We recommend that in future developments that the map be updated as soon as the construction is done.

U146

Ocean Energy Harvesting

Marquese Pollard (Senior)

Brian Mann, Clark McGhee, and Zack Ballard (Duke

University)

The purpose of this project is to develop a system that will transfer the mechanical energy from the system's environment and convert that energy into electrical energy. The electrical energy will then be able to provide power to any electric equipment housed inside the system. Ideally we want a system that is self-powered: that is, it will be able to collect and distribute its own energy in order to maintain its functionality. When designing a system to respond to its environment, the first step is to fully understand its environment. This summer I designed the testing buoy that will be used to collect data that will help us understand more about the environment. The buoy houses an inertial measurement unit (IMU). For our experiment the IMU will collect acceleration and angular acceleration data that will be used to determine the response of the buoy due to the wave forcing. Once we fully understand effect of parameter changes on the motion of the buoy, we can design energy harvesters to convert the mechanical energy of the buoy to electrical energy for consumption by the onboard electronics. Eventually we want a self-sustaining system that supplies enough power for all of its onboard electronic equipment.

U147

The Inverted Pendulum on a Moving Cart

Breon Whitten (Junior)

Dr. Spyros Andreou (Savannah State University)

Many control engineers found the inverted pendulum on a moving cart very interesting and intriguing because many control principles can be shown. Two examples are to balance a stick on the end of one's finger and the other one is to balance a rocket during liftoff. This is a highly non-linear system but for simplicity purposes the overall system is linearized making some mathematical assumptions. Therefore, in this project simple equations will be utilized for modeling the system along with the MATrix LABoratory (MATLAB) software for simulation purposes. Finally several MATLAB simulations will demonstrate stabilization of a system utilizing the under-damped case. The mathematical theory of this project is left out; however, some basic knowledge in Linear Algebra is utilized due to simulation.

U148

Rapid Prototyping of Copper Inductor Coils by Mechanical Milling on Rigid and Flexible Substrates for Large-Area-Electronics

Therin Young (Senior)

Dr. James C. Sturm (Princeton University)

This paper introduces a subtractive rapid prototyping method for the patterning of metal on a substrate for large-area-electronics (LAE) applications. Such applications include wireless energy harvesting systems which, as demonstrated recently [1] [2], can

rely on physically large passive components in order to wirelessly transmit substantial power. Conventionally these components are patterned with methods such as photolithography, metal etching, and inkjet printing. Although these methods are efficient in producing reliable products, subtractive prototyping is an attractive alternative offering the potential for cheaper and faster prototyping and manufacturing based on widely available metal-coated substrates (e.g. copper on polyimide). In this paper we focus on coil inductors in particular, as these have proven a key passive component for energy-harvesting LAE systems, enabling high-efficiency power transfer. A table-top Computer Numerical Control (CNC) tool (Roland MDX 40-A), is used to pattern a thin copper layer which was previously coated onto a substrate. A CAD drawing of the desired passive component is created and uploaded, after which the MDX 40-A uses subtractive rapid prototyping (SRP) via a fast-turn-around milling technique to produce the inductor pattern out of the copper layer. Several process parameters are critical for the production of suitable copper inductors. First, the shape and size of the inductors define key properties such as inductance. In general, physically larger inductors offer larger inductance- we maximize this by using the full X-Y motion available to produce physically large prototypes (12" by 12" by 4.1"). Secondly, a larger number of inductor turns also improves inductance, and hence it is highly desirable to minimize the pitch/width of the copper tracks and spaces in the coil to fit in more turns (a trade-off exists with the parasitic series resistance of the inductor increasing as the tracks become smaller, reducing inductor Q-factor). We minimize this by studying the horizontal dimensional resolution limit of the Roland MDX-40A. A final consideration is the desire to produce these inductors from commercially available substrates consisting of thin copper films (<50um) on thin rigid (FR4, glass) or flexible (polyimide) supports (ranging from 25um to a few mm). We thus investigate the minimal vertical (Z) resolution of our rapid prototyping tool to enable patterning on such substrates.

ENVIRONMENTAL SCIENCE

UNDERGRADUATE ABSTRACTS

U149

Potential of Bacillus and Pseudomonas SPP

Nateja Diaz-Greene (Junior)

Dr. Jugah B. Kadir (Universiti Putra Malaysia)

As a Biological Control agent for Anthracnose Disease; Anthracnose is one of the most destructive diseases of chili cultivation that has existed for many years as a mechanism to sustain economic stability in the continent of Asia. The aim of this study is to evaluate antagonistic activity of antagonistic bacteria Bacillus UPM04 and Pseudomonas BMB42 as a biological

control of chili anthracnose fungus *Colletotrichum* species. Direct confrontation using dual culture method and crude extract of bacterial isolates *Bacillus* UPM04 and *Pseudomonas* BMB42 were performed in this study. UPM04 and *Pseudomonas* were selected to serve as antagonistic potential by means of a screening method based on antibiotic production and their beneficial morphological and biochemical characteristics. Metabolic activity on the mycelium was observed and resulted according to Tukey's student test at $P < 0.5$ that the area under growth curve was not significantly different. The highest value of radial growth (PIRG) values were observed with *Colletotrichum capsici* BMB42 using dual culture methods, 0.15mm/day with a regression coefficient of 0.99 R^2 . The minimum radial growth (PIRG) values were observed with *Colletotrichum gleosporoides* UPM04 with 0.06mm/day and a regression coefficient of 0.82 R^2 . UPM04 with 52% and BMB42 with 55% in the dual culture method exhibited the highest percentage of inhibition when colonized with *Colletotrichum capsici*. Effect of crude extract of metabolites produced by bacterial antagonists on mycelia growth of *Colletotrichum capsici* and *Colletotrichum gleosporoides* were performed and it yielded results of the minimum value with *Colletotrichum capsici* UPM04 obtaining a mycelium growth rate of 0.01mm/day (0.52 R^2). Attaining the maximum mycelium growth rate, *Colletotrichum capsici* BMB42 exhibited 0.25mm/day (96 R^2). Through various experimental approaches, these results exhibit a plethora of conclusive findings. Bacterial antagonists indicate inhibition to mycelia growth of *Colletotrichum gleosporoides* and *C. capsici*. Crude extract of metabolites exhibits inhibition on mycelia growth of *Colletotrichum gleosporoides* and *C. capsici* through aspects of metabolic behavior. This study conveys that UPM04 and BMB42 has proven to be a efficacious and promising biological control agent of Anthracnose disease, yet UPM04 conveys a more significant effect upon fungal isolates in correlation to BMB42.

U150
Plant Growth Promoting Rhizobacteria Resistance against Early Blight in Tomato

Chasity Fuller (Senior)
Dr. T. Raguchander (Tamil Nadu Agricultural University)

A study was undertaken to test the efficacy of fluorescent pseudomonad strains against the early blight in tomato under laboratory and glass house. Ten isolates of fluorescent pseudomonads were isolated from rhizosphere of tomato plants. Biochemical and molecular characterization of fluorescent pseudomonads showed more similarity to the strains collected from department of plant pathology. The genotypic diversity that occurs in fluorescent pseudomonads provides an enormous resource for improving biological control of plant diseases. In this study, fluorescent pseudomonad isolates were assayed for the production of siderophore, HCN and other biochemical test. Among ten isolates of fluorescent pseudomonads, Pfl enhanced the plant growth under glass house condition. Among the various fluorescent pseudomonad strains tested under in

vitro conditions against the early blight of pathogen, Pfl and TDK1 strains were found to be effective in inhibiting growth of the pathogen and also they were found to promote the vigour index of tomato seedlings both under roll towel and pot culture studies. Among various fluorescent pseudomonad bioformulations tested under glass house conditions, Pfl was found to be effective in reducing the disease incidence of early blight when compared to untreated control. The same bioformulation mixture enhanced the induction of the defense related enzymes viz., phenylalanine ammonia lyase, peroxidase, polyphenol oxidase, beta-1,3-glucanase, superoxide dismutase and catalase when plants were attacked by early blight pathogen.

U151
Storm Surge Risk to Savannah State University

Amber Hodges (Senior)
Dr. Tara Cox (Savannah State University)

Savannah, Georgia has not been hit by a major storm or hurricane since the Sea Islands Hurricane in 1893. Georgia hurricanes have been termed a "sleeping giant". When the "sleeping giant" awakens, the students of Savannah State University (SSU) should be prepared. This project represents what would happen to SSU's campus, and its surrounding areas. Areas inundated by storm surges and buildings were mapped in ArcGIS, using GA State Plane East projection. Once an analysis of the information presented is performed, it is expected that most of the buildings will end up flooded or underwater in a Category 3 hurricane or higher. The results will address what areas will be affected by a hurricane.

U152
Characterization of Microbes Isolated from Soil Applied with: Red Gypsum and Organic Matter

Akendra Johnson (Senior)
Dr. Umme Aminum Naher and Dr. Radziah Othman (Universiti Putra Malaysia)

Despite the vast research performed by scientists there is still unknown information when it comes to the perception of microbes and they contribute to the growing process of a plant. The importance of this research is to understand the microbiology of soil especially specific microbes can become beneficial to the agricultural industry. The objective of this research was to enumeration of the population of bacteria, fungi and actinomycetes found in soil applied with: lime, red gypsum, and organic matter. The dilution plate count technique was utilized to conduct the experiment. The advantage of utilizing this technique is that this method can be performed within a limited time. The soil observed was collected from a maize field added with red gypsum, lime and organic material, Lanchang, Malaysia. The results indicated that the populations of bacteria (3.49350×10^3) were higher than fungi and actinomycetes. The staining technique utilized was Gram staining in order to further

Abstracts

understand and identify gram positive bacteria and gram negative bacteria. Mycorrhiza spores resulted in $49\text{spores}/10^{-1}\text{g}$ of soil in treatment with red gypsum. Among the tested bacteria, two of the bacteria were Gram negative and one Gram positive. Gram positive bacteria were isolated from red gypsum and chicken dung applied soil. The pH procedure was used to identify acidic and basic levels of the soil; the studied soil pH was around 6.5. Nitrogen plays an important role in the growing process of plants; the Nitrogen Free Agar was tested to see if there was any trace of nitrogen being given off by the bacteria. A number of 3 nitrogen fixing isolates were found in only red gypsum applied soil. However, the entire test was performed to understand why the population of each microbe varied depending on the treatment and it was found that red gypsum added with chicken dung amended soil harbor higher amount of microbes.

U153

Reed Bed Treatment System for Removal of Heavy Metal (Chromium) from Tannery Effluent

Keyundrea Meadows (Junior)

Dr. S. Mahimaraja (Tamil Nadu Agricultural University)

The world and its environment often suffer from harmful materials that contribute massive effects on its existence. Water contamination is a prime result of harmful materials and their influences. Rivers, streams, lakes, and other water bodies are contaminated by pollutants from sources such agricultural and industrial origin. These pollutants often contain harmful metals whose chemical make-up challenges the healthy organisms thriving within or due such bodies of water. Several water recovery systems have been created in order to prevent and or remove heavy metals. Reed bed treatment system is one of it kinds and consists of reed plants, sand, gravel and soil. It is planted to help biological (microbial) and physical filtering of water. This filtering system is essential for the removal of heavy metals such as Chromium. Chromium is extremely toxic, due to its oxidation states (3+ and 6+) high doses of it can cause damage to DNA, cell, etc in living systems. In this present work, we discuss how a Biochar based Reed bed treatment system is being used to reduce the toxic effects of heavy metals such as Chromium in order to purify the water that is essential for everyday life.

U154

Decision Support on Pesticide Risk Import for Production

Edward Moultrie, II (Junior)

Dr. Ganesan Vadamalai (Universiti Putra Malaysia)

The Coconut Cadang-cadang viroid has infected millions of palms in the Philippines, and the result of that happening was a collapse in their economy because their Coconut industry was one of the biggest exporting goods that they had. This

same viroid disease is now growingly infecting the oil palms in Malaysia. The oil Palms in Malaysia are also one of the major exporting goods for this country and are the reason why many people have jobs. The same outcome that the Philippines had is likely to happen if there is no way to prevent the oil palms from being infected by this disease. The only way to achieve this is by isolating them first then characterizing them. The smallest pathogen as of today is the viroid, which is a single RNA strand with only around 200 to 400 base pairs. In its regular environment it takes on a rod like structure through hydrogen bonding. This gives it protection from the RNAs that look to digest them. This rod like structure tricks the RNAs into thinking that the viroid is a double strand. RNAs digests single stranded molecules, not double stranded. The viroid also doesn't have any genes so therefore they cannot produce and protein coat like the virus. The viroid that I am going to evaluate is the Cadang-cadang viroid that infects oil palms. The main objective is to prove that the Coconut Cadang-cadang viroid infects oil palms. I have hypothesized that the Coconut Cadang-cadang does infect oil palms in Malaysia. To test this I had to extract the DNA and RNA from 2g of the leaf samples. This was done by breaking down the leaf into fine powder. Then chemicals were mixed with it to separate the lipids and the DNA/RNA. The RNA and DNA would be at the top while the lipids and proteins were at the bottom. The supernatant was taken and precipitated into a pellet by isopropanol. The pellet was then eluted and was amplified by a process called polymerase chain reaction (PCR). Once it was amplified it was ran on a gel that was stained with ethidium bromide. Once it went through agarose gel electrophoresis it was then evaluated under trans-UV light to see the results. The results should show a band in the 200 to 300 base pairs maker, the reason why is because the viroid at its smallest is about 246 base pairs. Once evaluated under trans-UV then the sample was extracted out of the gel. Then the gel was diluted and the DNA was then put into a pellet to be sent off for sequencing. Once the sequenced is blasted and compared to the original viroid sequences in the database. My sample turned out to be 93% of the template matched the Cadang-cadang viroid. I have concluded that the oil palms in Malaysia contain the Cadang-cadang viroid.

U155

Invasion Of Burmese Pythons (Python Molurus Bivittatus)

Brandon Russell (Sophomore)

Dr. Tara Cox (Savannah State University)

The purpose of this research is to raise the awareness of Burmese Python (*Python molurus bivittatus*) invasion and provide evidence of how they have affected the ecosystem in the region of Florida's Everglades. Throughout this research we will discover change in distribution of the Burmese Python invasion over time. I downloaded data of where the Burmese Python has invaded over the course of 2004 to 2012 and I mapped the data into ArcGIS 10 to investigate how the invasion has grown over time. I expect to see how the distribution of Burmese

Pythons has grown over time in the Southeastern region. The data will show where Burmese Pythons have invaded the region of Florida's Everglades over time. The reported findings contribute to the knowledge in my respective field by showing that invasive species are difficult to eliminate and also can cause damage to the ecosystem. I would like to thank Early Detection & Distribution Mapping Systems (EDD Maps) and Florida Invasive Species, who work as a partnership with EDD Maps.

U156

Understanding the Genetic Diversity for Nutritional Properties among Selected Brown and White Rice Varieties

Renee' Smith (Junior)

Dr. M. Raveendran and Dr. R. Valarmathi (Tamil Nadu Agricultural University)

Rice is an essential food source that feeds more than half of the world's population. It is a primary source of food in countries like Asia, India, and many other countries. It grows in wet environments without the need to rotate crops. Rice is exported around the world and provides significant nutrition to overall health. There are more than 112,000 different types of rice. Of the different varieties of rice, brown rice, and white rice are popular and widely consumed. Some varieties of rice have been linked to serve nutritional value while also contributing to various lifestyle disorders throughout the world specifically in countries where rice is a major component in every meal. The purpose of is study is a biochemical analysis of nutritional components in selected traditional brown rice and white rice varieties and characterization of bioactive compounds in the selected brown and white rice varieties using the high performance liquid chromatography (HPLC). This study also calculates an estimation of total soluble sugars (free sugars), total starch, amount of amylose in selected traditional and commercial rice varieties. As the maximum world population consuming rice as staple food, developing therapeutic rice varieties with increased nutritive value will have greater impact on preventing various life style disorders. Effective use in breeding programs to improve the nutritional quality of rice grains will further advances in nutritional markers for breeding programs.

U157

Decision Support on Pesticide Risk Import for Production

Chelsey Snell (Junior)

Dr. Norida Mazla (Universiti Putra Malaysia)

Research has indeed proven that rice is one of the many crops that serve as a main source of food supply throughout the world. Rice is viewed as a staple food to more than half of the world's population. However, pests are a major issue as it pertains to growth of this crop. Pests such as weeds, insects, and various diseases, hinder the growth of this staple food. When observing

this issue from a farmer's perspective, their duty is to eliminate this issue and ensure that their consumers are satisfied. Farmers must consider an effective, accurate and profitable decision prior to determining which pesticide(s) to utilize. There are numerous choices of pest controls that are recognized as "pest managers." When farming, farmer's intentions would be to produce as much of the crop as possible but this cannot be reached if the crops are affected by pests. At this point, the decision of which pesticide is most effective for plays a factor. Therefore, the objective of this study is to develop a decision support tool of various pesticides to increase the production and importation of rice. This project was performed as a means to research various pests (i.e. descriptions, symptoms/effects, pesticides [types, risk factors]), in order to eliminate pests. At the completion of this research, a database was established in order to support the decision making process of a farmer to determine which pesticide is most effective to eliminate this issue and protect their crop(s).

U158

Screening for Abiotic Stress Tolerance in a Banana

Antonnette Tedford (Junior)

Dr. K. Soorianathasundaram and Dr. J. Auxillia (Tamil Nadu Agricultural University)

Abiotic stress is the negative impact on living organisms in any environment. As a survival tactic, any organism's defense mechanism begins in its' roots. Bananas are tropical plants that arrived through natural cross pollination of two different species. It is eaten as a fruit, used in cooking, and its foliage is given to animals for feeding. Bananas are given 15L of water daily for growth. Would they survive if there was a shortage of water supply? In this research project, the stress tolerances of bananas are screened using experimental methods to analyze the genotype variability among cultivars in stressful conditions. Multiple procedures will determine whether these cultivars are drought tolerant or drought susceptible. The data shows the correlation between selected cultivars among the methodologies performed. This will provide a selection of bananas used as references to enhance knowledge, improve crop irrigation, and be used for future cultivation.

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Biology

Immunology and
Molecular Pathogenesis

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MARINE SCIENCEUNDERGRADUATE ABSTRACTS**U159****The Floodplain for Southern Bryan County****Jonathan Linck Andersen (Senior)****Dr. Tara Cox (Savannah State University)**

The purpose of this project is to determine the flood-prone regions of Richmond Hill, Fort McAllister, and Keller in southern Bryan County in relation to populations, neighborhoods, businesses, parks, and planned developments. This information would be most beneficial to use for evacuations, anticipated damages from flooding, insurance claims, new developments, and for the U.S. Army Corps of Engineers. This project will be completed to determine if additional drainage systems are required, elevation requirements for building, and possible restrictions of new residential structures for southern Bryan County. A geodatabase will be created in ArcGIS 10 for Bryan County showing elevations, flood-prone regions, roads, populations, houses, businesses, and historical areas. The information will be gathered from FEMA, local and state governments. The data will then be put into Excel and then transferred into GIS. Then the data will be put into a database, layers will be buffered, clipped, and joined to understand the areas of overlay. The expected results will be that there is a limited amount of high elevation lands, and a majority of land lies below sea water level or close to it. The map created will attempt to show what areas in southern Bryan County are most prone to flooding in the event of a flood or hurricane.

U160**The Predicted Versus the Actual Tracks of Hurricane Kyle and Ophelia****Terry Anderson, Jr. (Junior)****Dr. Tara Cox (Savannah State University)**

The purpose of this study was to compare predicted track paths of Hurricane Kyle and Ophelia to their actual track paths and investigate the differences. I obtained data from the National Hurricane Center. I picked two hurricanes that hit or closely hit Georgia. I found two hurricanes predicted tracks not even touching the United States, but it was close to the United States. I expect to find that the two hurricane's actual tracks hit or closely hit Georgia. These results address the hypothesis because I will be observing the similarities and differences of the two hurricanes.

U161**Bottlenose Dolphin, *Tursiops Truncatus*, Adults and Calves Strandings from 2004-2012****Heather D'Anna (Senior)****Dr. Tara Cox (Savannah State University)**

The purpose of this project is to compare spatial changes or patterns in strandings of bottlenose dolphin, *Tursiops truncatus*, calves and adults from 2004 – 2012. Stranding data were from the NOAA National Marine Mammal Health and Stranding Response database. Any dolphin measuring under 109 cm and was an actual measurement was determined to be calves. The data from Florida, Georgia, and South Carolina strandings were mapped into ArcGIS 10. Florida and South Carolina were the two states with the highest calf and adult strandings. Brevard County in Florida had the highest adult (180) and calf (13) strandings from 2004-2008. The map displayed a large cluster of calf strandings in Florida and South Carolina; however, there was a higher number of strandings of adults from 2009-2012 in Georgia and South Carolina. Bottlenose dolphins are the most common dolphins along the shores and coastal waters of the United States. Utilizing the data to map the distribution of strandings of adults and calves will increase proper response to strandings.

U162**Digitizing Savannah's Victorian District****Micah Ducre (Senior) and Terrell Day (Senior)****Dr. Tara Cox (Savannah State University)**

The city of Savannah attracts thousands of tourist each year; a city rich with American culture and history. Thus it is important to preserve the historic Victorian District. By digitizing the "District" we aid city planners in keeping the buildings renovated and in great condition. Using ArcGIS Map 10 we digitized a map from 1978. We added attribute data, including date each building was built, address, and evaluation value dependent upon the condition of the buildings. These evaluations permit city planners to know what buildings need more attention. The digitized map will then be provided to the Metropolitan Planning Commission for their use. The map will aid city planners in completing the necessary renovation to the historic district's buildings in the appropriate time.

U163**Comparing Predicted and Actual Hurricane Paths****Chelsea Ellington (Freshman)****Dr. Tara Cox (Savannah State University)**

The purpose of this research is to investigate how accurate hurricane predictions are. Hurricanes are serious threats to humans and by comparing the path predicted by the National Hurricane Center (NHC) and the actual paths of hurricanes the accuracy can be determined which can help with future hurricane predictions. The NHC provides data of the predicted paths for every hurricane, tropical storm, and other tropical atmospheric disturbances. Each tropical system has predicted

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paths for every day the system was active. The actual paths of the hurricanes are available from the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center. Both predicted and actual paths will be plotted on maps using ArcGIS10 for Hurricane Maria and Hurricane Irene and they will be compared. I predict that the predicted paths of the hurricanes are within 400 km of the actual paths. Accuracy of hurricane paths by the NHC is necessary for safety purposes. People need to be aware where hurricanes are, where hurricanes are going and what hurricanes are capable of.

U164

Temporal and Spatial Analysis of Bottlenose Dolphins Unusual Mortality Events in Northern Gulf of Mexico

**Elijah Ferguson (Sophomore)
Dr. Tara Cox (Savannah State University)**

This project will focus on the unusual mortality events in northern Gulf of Mexico of bottlenose dolphins in an attempt to ascertain any temporal or spatial patterns of the standings between the years of 2002 and 2009. I will use the data that we received from NOAA fisheries department and subset it by year. I will then enter the coordinates of the different stranding events into Arc GIS to be plotted on a map of the Gulf of Mexico. I will then compare the different years against each other looking for patterns between number of animals stranded and location where stranding was documented. I expect to find similar trends for dolphins stranding around certain shores in the Gulf of Mexico in both numbers and location. These shores will most likely be coastlines that are prone to water pollution and harmful algal blooms because these are common reasons for standings. Knowing where possible stranding hot spots will help local departments of natural resources to be more prepared for such events and they can learn the reasons behind the unusual mortality events and help prevent further mortality events. Funded by NOAA Fisheries.

U165

Comparison of Finfish Assemblages between Trawl Sites along the Coast Of Georgia

**Anthony Hanley (Sophomore)
Charles Cotton (Savannah State University)**

The purpose of this study was to compare changes in finfish abundance between sites conducted in trawl surveys along the coast of Georgia. There are several variables that can affect finfish assemblages. Narrowing down sites that yield the greatest abundance of finfish could help identify a number of those variables. Finfish abundance data were collected from trawl surveys conducted aboard the Research Vessel (R/V) *Savannah* once every other month from December 2011 through February 2013. The time of net deployment and retrieval were recorded, as well as the latitude and longitude, wind direction, wind speed,

tidal stage, salinity, and water temperature, both at the start and end of each trawl. Data were mapped in ArcGIS10 to determine spatial variation in finfish assemblages. There were a total of 544 individuals from 37 different species collected during this study. There was a higher abundance of finfish in the trawl sites closer to the mouth of the Savannah River. The abundance of finfish caught in trawls was expected to decrease as the trawl survey locations got closer to the Wilmington River trawl site. Trawling more often at sites with high abundances of finfish could help identify local finfish hotspots. By surveying these hotspots, we can learn more about the factors that encourage such high numbers of finfish.

U166

Effects of Storm Surge on Savannah State University

**Sanjay Hines (Sophomore)
Dr. Tara Cox (Savannah State University)**

Storm surge awareness is arguably one of the most important concerns of any city especially along coastal areas. Many instances of storm surge in recent years have caused cities to become engulfed in water and left citizens looking for a greater sense of closure. It also shows the resilience of the citizens to know that they will be safe after such terrifying experiences. The city of Savannah is approximately 46 to 51 feet above sea level which causes great concern about storm surge and flood waters. It would be beneficial for the city to try and incorporate a protection plan against these factors. I will be using ArcMap to develop base maps of SSU. Storm surge maps will be overlaid with SSU's building in ArcGIS 10. I will determine which buildings would be engulfed by different category storms. Expected results are to show the 5 categories of a hurricane and its potential damage done to the campus. In conclusion, the expected results will help in the mitigation and preparedness efforts of storm surge prevention and its awareness.

U167

Begging By Common Bottlenose Dolphin (*Tursiops Truncatus*) at a Commercial Shrimp Trawler in Savannah, Georgia

**Kalub Holt (Sophomore)
Dr. Tara Cox and Carolyn Kovacs (Savannah State University)**

Common bottlenose dolphins (*Tursiops truncatus*) have been observed associating with shrimp trawlers in many areas of the world. In a recent study, bottlenose dolphins begged from a commercial trawler on 90% of fishing days in waters around Savannah, Georgia. The purpose of this study was to identify bottlenose dolphins that begged from commercial shrimp trawlers and determine when and where begging occurred. Begging events by bottlenose dolphins towards a commercial shrimp trawler and the trawler's activity were recorded for 9

days from June to October 2011. Photos of begging bottlenose dolphins were matched with the local photo-id catalog. ArcGIS 10 was used to map identified dolphins and determine where they have been recorded in Savannah waters. Thirty individual bottlenose dolphins begged, 9 of which were matched to the catalog. When the cataloged dolphins were mapped using ArcGIS 10 they were found to be predominantly around the mouth of the Savannah River and Wassaw Sound. Less than a third of the bottlenose dolphins were in the catalog, which means the number of beggars in the area may have been underestimated by previous studies. The results of this study indicate that shrimp trawlers, especially while drifting or at dock, may play a greater role in the begging behavior of bottlenose dolphins than previously shown. They also indicate that common bottlenose dolphins that begged at shrimp trawlers were more often found at the mouth of the Savannah River and Wassaw Sound than in small creeks. Funded by NSF EDGE.

U168

***Tursiops truncatus* Strandings in Georgia, Florida, and South Carolina from 2008 to 2012**

Tisheena Howard (Junior)

Dr. Tara Cox (Savannah State University)

The purpose of this research was to find if there were any similarities or patterns in the strandings of bottlenose dolphins (*Tursiops truncatus*) from 2008-2012. I used ArcGIS 10 to create my base maps and pinpoint maps. The projection used was NAD 1983 UTM 17N. I retrieved my data from NOAA Health and Stranding of Marine Mammals Database. Male and female bottlenose dolphins are represented in different colors on the pinpoint map. When the maps are analyzed, I would expect to find the bottlenose dolphins are stranding in similar places all throughout the years. Also, when the dolphin strandings are mapped I will be able to tell if there are differences in the distribution of female or male bottlenose dolphins. The purpose of these maps is to pinpoint where the majority of the strandings occur and elaborate on the options that we can take to minimize dolphin strandings in South Carolina, Florida, and Georgia.

U169

Dolphin Group Size in Savannah River

Amber Hughes (Senior)

Dr. Tara Cox (Savannah State University)

The purpose for conducting this study was to determine how the group sizes of common bottlenose dolphins (*Tursiops truncatus*) vary along the Savannah River. It is also imperative to determine how many dolphins there were per group, and if the dolphin group size decreased when traveling up the river. Transects will be used to run up the Savannah River channel on the R/V Savannah. Recorded data will be put into Arc-GIS 10. It is expected that group size will decrease as distance from the

mouth of the river increases. The data recorded will determine if the group size decreases as distance up the river increases, providing information about the distribution of the bottlenose dolphins in the Savannah River.

U170

Dolphin Strandings as Influenced by Human Population

Andrea Hutwagner (Senior)

Dr. Tara Cox (Savannah State University)

The purpose of this study was to test the hypothesis and see if there is a correlation between the populations of coastal counties to the amount of trash on the beaches and the marine mammals stranding in those areas. I hypothesize that the higher the human population the more trash that will be littering the beaches and the more strandings that will be found in those areas. I used ArcGIS 10 to map 2010 Census data and strandings of common bottlenose dolphins (*Tursiops truncatus*) provided by NOAA Southeast for the states of: GA, FL, and SC. In addition, I collected trash in 4 separate counties in each state, two high and two low populated counties beaches. After comparing the trash to the population then it will be tied into if there were strandings in those areas. I expect to find that when there is a higher population in a county, there will be more trash along the beach and will be more marine mammal strandings in that area. The major finding of this study will be finding a correlation between the population in a particular county to the number of dolphins found in that area of beach.

U171

Savannah State University is at RISK

Andrew Jones (Junior)

Dr. Tara Cox (Savannah State University)

The purpose of this project is to provide an updated, accurate outlook on the problems that Savannah State University may face if a severe natural disaster or tropical storm occurs in comparison with their position above sea level. Storm surge inundation maps were overlaid with the SSU campus. Storm water outflows were mapped in ArcGIS 10 in Georgia Stateplane East. The results would conclude that the campus is above sea level and that if a tropical storm or hurricane takes place almost all buildings would be submerged, the structures of the campus would be damaged and the storm outflows wouldn't help sufficiently enough. The stormwater outflows and school's preparation emergency tactics should be updated. The dramatic change in global warming should cause the school to update their outflows to address the dangers that may follow hurricanes and tropical storms that have a higher risk to reach areas that aren't accustomed to them. SSU should begin its preparation for those dangers regardless of the chances of it happening because the weather is becoming even more unpredictable with the adjusting of the climate.

U172

Progression of *Dreissena polymorpha* in the U.S.

Ezinne Kalu (Junior)

Dr. Tara Cox (Savannah State University)

Since their arrival in Lake St. Clair in 1986, zebra mussels (*Dreissena polymorpha*) have had negative impacts on native species in the Great Lakes. Many invasive species share common characteristics that make them very adaptable to a new environment. This species has the potential to inhabit most of the fresh waters of the U.S. and may impact a variety of native aquatic species and the entire ecosystems. This study will document the progression of this invasive from 1999 to 2003. Data were obtained from the Nonindigenous Aquatic Species, Great Lakes Information Network, and Michigan Geographic Data Library. Data were mapped in ArcGIS 10. When performing the analysis of the information I plan to see a spread in the distribution of zebra mussels throughout the number of years. The outcome of this study is to show how zebra mussels are moving across these states. They first started in the Michigan area and now their distribution has expanded across the U.S.

U173

Drainage Systems in Chatham County Leading to an Output of High Nutrient Levels in the Savannah River

Simone N. Lax (Senior)

Dr. Tara Cox (Savannah State University)

Nutrient levels in the Savannah River can vary from high concentration to a low concentration of nutrients and possible toxins in the water. With the output of waste water and metals in the water can increase the high levels of nutrients and increase toxins in the river. These extra nutrients and possible toxins can come from many sources: runoff, water drains, as well as sewage and storm water drains. The purpose of this investigation is to determine if there is an out pour if water waste leads out to the Savannah River. All drainage sites and outlets in Chatham County that pour into to the Savannah River will be located and mapped in ArcGIS10. It is expected that most of the Chatham County drainage system leads out to the Savannah River. Too many nutrients in the water such as phosphate, nitrate, as well as many trace elements can lead to algal blooms, fish kills, and an increase in global warming. Mapping the sewage and water drains in Chatham County can help find the source of extra nutrients and toxins that are entering the Savannah River at an alarming rate.

U174

Seasonal Variation in Group Size of Common Bottlenose Dolphins (*Tursiops Truncatus*) in Savannah, Georgia

Falicia Leisch-Martin (Senior)

Dr. Tara Cox (Savannah State University)

The purpose of this study was to determine if there is variability in group size of common bottlenose dolphins (*Tursiops truncatus*) between seasons and compare the distribution of the groups of dolphins from summer to non-summer. Surveys were conducted in the estuaries around Savannah, Georgia from 2009 to 2012. The summer field season ranged from April through September and non-summer season was October through March. The coordinates of the dolphin groups were mapped in ArcGIS10 using graduated symbols. All data was projected in Transverse Mercator, UTM 17N NAD83. The maps of the seasons were compared for the location and distribution of groups present. Group size in Savannah, Georgia was larger during the summer season (5.0 ± 0.72 dolphins) than the non-summer season (2.6 ± 0.03 dolphins; $p < 0.0001$). The range for the group size of dolphins in the summer was also larger (1-35) than the range in non-summer (1-9). The groups were distributed in similar areas in the summer and non-summer, with fewer groups seen in the sound during the non-summer. The results indicate that the group size is significantly larger in the summer. The preferred prey of bottlenose dolphins may be patchier or may migrate during cooler months, resulting in smaller groups of dolphins or movement of dolphins out of the study area. In addition movement out of the area would have implications for delineation of stock structure. NSF EDGE (Enhancing Diversity in Geosciences Education), (NSF award GEO-0914680)

U175

Changes In Sediment Properties of the Savannah River Estuary Following the 2012 Drought

Meghan Maylone (Senior) and Faith Palmer (Senior)
Dr. Carol Pride (Savannah State University)

Sediment deposition in an estuary is influenced by river discharge. During a drought, river discharge is reduced, the turbidity maximum zone and associated sedimentation shifts upstream, and sediment transport is decreased. During heavy rainfall, river discharge increases and results in erosion and the rush of accumulated fluvial sediments downstream. Sediment samples collected from sixteen locations were used to analyze deposition characteristics in the Savannah River estuary during drought conditions in February and the beginning of the wet season in June, 2012. Sediment samples were collected using a Van Veen grab sampler aboard the R/V *Savannah*. Grain size distributions were determined by wet sieving and loss-on-ignition was used to estimate organic content. The silt/clay fraction of the inner estuary sediments decreased from 93% in February to 37% in June, but increased 35% in the outer estuary over the same time period. The middle estuary exhibited little change in grain size distribution. Organic content in the inner estuary decreased from 11 to 3%, while that of the outer estuary increased from <1 to 6% between February and June; corresponding with the distribution of fine grain sediments. The distribution trend exhibited a seaward transport of fine grain fluvial sediments that had accumulated in the inner estuary turbidity maximum zone during the drought. This is likely due to increased discharge resulting from substantial rain events. The

distribution of fine grained sediments is of interest due to their ability to trap contaminants.

U176

North Pole Monthly Mean Ice Concentration

Mikhael Musarra (Junior)

Dr. Tara Cox (Savannah State University)

The purpose of this study is to show the difference in the monthly mean ice concentration from 1979 to 2002. These data will show how much the earth has warmed up over the years. This will help us predict the possible future decrease in the ice concentration in the northern hemisphere. This could lead to sea level rise and the possible extinction of some marine/terrestrial life that depend on that habitat to survive. Monthly mean ice concentrations were obtained from the National Snow and Ice Data Center and mapped in Arc GIS10 using the Stereographic projection. From the results of the data we expect to find that the monthly mean ice concentration has decreased since 1979. These data will help conservationists with the care of the many organisms that depend on the ice in the northern hemisphere. It will also help developers when making decisions on where to build based on the implications of sea level rise.

U177

Abundance and Distribution of Blue Crab, *Callinectes Sapidus*, Juveniles in Upper Chesapeake Bay

Eric Parks (Junior)

Dr. Matthew B. Ogburn, Paige M. Roberts, Margaret A. Kramer and Dr. Anson H. Hines (Smithsonian Environmental Research Center (SERC))

The purpose of this study was to evaluate summertime abundance and relative habitat use of juvenile blue crabs, *Callinectes sapidus*, in seven upper Chesapeake Bay sub-estuaries. This research was conducted to determine which habitats are associated with high abundances of juvenile blue crabs across the bay in order to aid managers in determining the effects of shoreline development on blue crab populations. Abundance was estimated using 24 nearshore benthic tows in seven upper Bay sub-estuaries, with all crabs caught being recorded. The geographic location of each tow was recorded using a handheld GPS and was then input into ARC GIS 10 for evaluation and scoring. Nearshore habitat types were also recorded at each site, with the three most abundant types being natural marsh shoreline and hardened rip-rap and bulkhead shoreline. The percentage of each shoreline category was estimated and recorded along 5 meters of shoreline at each location, in order to compare the shoreline type with blue crab abundance. We predicted that there would be higher abundances of juvenile blue crabs across the lower bay sites and lower abundance in the Upper Chesapeake Bay sites based on previous research. The major finding of this study was that that there was a correlation

between blue crab numbers and shoreline type, with greater abundances along natural marsh shoreline and lower abundances along hardened shoreline. There was no larger geographic pattern to crab abundance with areas of high abundance throughout the Upper Chesapeake Bay associated with marsh shoreline.

U178

Near Shore Surveys of Juvenile Blue Crabs, *Callinectes Sapidus*, in the Chesapeake Bay

Eric Parks (Junior)

Dr. Mathew Ogburn (Smithsonian Environmental Research Center (SERC))

Blue crabs, *Callinectes sapidus*, are a commercially important species for the Chesapeake Bay that in recent decades have drastically declined in numbers due to overharvesting, habitat loss, and other factors. In order to stop the decline of blue crabs, Maryland Department of Natural Resources established a regulation in 2008 that drastically restricted the harvest of female blue crabs, with limits on the number of females caught and closure of some crabbing seasons. In 2012, the Chesapeake Bay Winter Dredge Survey (WDS) indicated that the number of juvenile crabs this year is the greatest that has been seen in many years. The purpose of this study was to determine if the predicted high number of juvenile crabs appeared throughout the Bay this summer, as well as determining whether shoreline habitat type is related to blue crab abundance in the Chesapeake Bay. Near shore tows were pulled in seven rivers with 12 tows being done within two sub-estuaries in each river; all blue crabs captured were counted, measured for size, sex, molt stage, and limb loss. There were no signs of predicted high numbers of juvenile blue crabs detected in the Winter Dredge Survey, nor was there a geographic pattern to blue crab abundance. We also tested to see if the predicted high numbers of growing juvenile crabs increased predation and mortality upon small juvenile crabs. 75 crabs between 30-70mm were tethered to nails and placed into three rivers (25 in each river) to test if there was any change in predation from north to south. There was no increase in mortality in the Rhode River due to the predicted increase of juvenile crabs in the WDS, but there was a significant relationship ($R^2 = 0.4322$) between adult crab abundance in the WDS and predation and mortality on blue crabs. With the abundance of blue crabs varying in different rivers even though there was large-scale geographic pattern, we tested to see if shoreline habitat could affect blue crab numbers. Five shoreline types; beach, bulkhead, rip-rap, marsh, and woody debris, were used to determine the percent shoreline from different sites and were compared with blue crab numbers to determine if they had an effect. Rip-rap and marsh were both found to have an effect on blue crab numbers with rip-rap negatively affecting crab abundance and marsh having a positive influence.

U179

Physically Weathered South Louisiana Crude Oil and its Effect on the Growth and Development of Brine Shrimp *Artemia Salin*

Skikeka Poinsett (Senior)

Dr. Sue Ebanks (Savannah State University)

The purpose of this project was to determine the effective concentration of two-day physically weathered South Louisiana Crude Oil (SLC) on hatching and early development of brine shrimp. Duplicate tubes of seven SLC concentrations ranging from 0 parts per million (ppm) to 3ppm in half-ppm increments (final volume: 50ml) in Country Club Creek water. Approximately 25ml of brine cysts and 1 ml of algae were then added. The tubes were aerated and incubated under a warming lamp for the first 48 hours. After 18 hours, hatching and early development were checked. After 48 hours, aeration and lamp were turned off and number of hatchings and early development were re-evaluated. Preliminary results indicated greater hatching and faster early development in the lower concentrations and higher mortality in high concentration. The control showed a steady flow of hatched shrimp but many remained in naupliar stage and did not progress to the juvenile stage during the trial. Longer trials increased death rate, indicating a need to change post-hatch protocols to be able to run trials for longer periods. The next series of trials will include water and food changes in 72-hour intervals. This research was partially funded by NSF EDGE Coastal Research Team Internship.

U180

Bicarbonate Chemistry on a Global Scale

David Reece (Sophomore)

Dr. Tara Cox and Dr. Christopher Hintz (Savannah State University)

The purpose of this project is to create a global map of pH levels and alkalinity of the oceans. The map will display similarities or differences between oceans around the world. I will access GeoSecs and JGoffs databases to retrieve pH and alkalinity levels of all the oceans. I will use MatLab to convert those data points to files that can then be uploaded to ArcGIS10. I expect the Atlantic Ocean to have a unique pH and alkalinity from the Pacific Ocean. Certain conditions such as location and climate of each ocean could result in some being relatively close but still have different pH and alkalinity. This type of project has not been conducted before. The project is important because if anyone was trying to access pH or alkalinity of the world oceans it will be confined in one place.

U181

Seasonal Phytoplankton Density In Relation To Nutrients

Sami Saryou (Junior)

Dr. Tara Cox, Michael Scaboo, and Dr. Sue Ebanks (Savannah State University)

Our main objective is to monitor the nutrient level which includes nitrate and phosphates, temperature, and other parameters, in comparison to phytoplankton densities in three locations. Surface water temperature can play a major role in phytoplankton density, as temperature and irradiance increase in the summer, causing productivity to increase, altering the nutrient level. 10L of water was collected using Niskin bottle and filtered through plankton net. Temperatures, and salinity were recorded on site using the Hach Meter. Phytoplankton densities were counted using Rafter cell. Nutrients were determined using spectrophotometric techniques. GPS coordinates, cloud coverage, and turbidity were recorded on site. Maps were created using shape files in ArcGIS. The phosphate concentration is lowest (0.65 μM) in Tybee Creek and highest (3.72 μM) in Savannah River. The concentrations of nitrates were lowest (25 μM) at Tybee Island and highest inland in the Savannah River location (44 μM). The phytoplankton cell count was lowest (4.25 cells/mL) in the Savannah River and highest (13.4 cells/mL) in Lazaretto Creek. Our expected conclusion is to demonstrate that as water temperature and irradiance increase in the summer, phytoplankton density will increase, in return reducing nutrient levels. However this response may vary by location.

U182

Spatial Patterns Exhibited by Common Bottlenose Dolphins *Tursiops Truncatus* that Interacted with a Research Trawler Near Savannah, GA

Amanda Schuelka (Senior)

Dr. Tara Cox and Carolyn Kovacs (Savannah State University)

The purpose of this study was to determine if the dolphins that associated with a research trawler had previously associated with commercial trawlers, and if any spatial patterns were present with dolphins that associate with trawls. Bottlenose dolphins associating with a single trawl from the 28m R/V *Savannah* on May 23, 2011 were photographed. Photos of the dorsal fins were compared to the local photo-id catalog, and historical sighting locations of identified dolphins were mapped in ArcGIS 10. These data were compared to previous data collected from 2009 to 2011. Nine of the 13 dolphins that associated with the research vessel trawl were matched to the photo-id catalog, and all 9 had previously associated with commercial shrimp trawlers. Additionally, 8 of the dolphins were part of an earlier social analysis, and 7 of the 8 belonged to the same social cluster. These dolphins had similar spatial patterns in that they were previously found in larger rivers and sounds or offshore with trawlers rather than in small inland creeks. These results reinforce that bottlenose dolphins that associate with trawlers near Savannah, GA are commonly found in areas where trawl vessels travel such as large rivers and sounds. In comparison, dolphins that do

not associate with trawls spend more time in smaller creeks. Additionally, dolphins do not appear to discriminate according to type of trawler (e.g., research or commercial). Enhancing Diversity in Geosciences Education (EDGE), NSF award GEO-0194680

U183

Summer Standing Stock of Zooplankton in the Savannah River Estuary

Chandler Tillman (Freshman)

Dr. Carol Pride (Savannah State University)

To examine the upstream changes in the standing stock and composition of the zooplankton community, excluding copepods, in the Savannah River estuary. On August 12th, 2012 zooplankton tows were conducted across salinity ranges of 35 psu to 7 psu onboard the R/V Savannah. A 950 μ m mesh net was used to take an oblique tow for 5 minutes. Samples were preserved in ethanol, and examined microscopically. Chlorophyll concentrations were measured with a fluorometer using a flow-through system. The noncopepod zooplankton standing stock at 7.86 psu was almost double the other standing stock at all other salinities. The maximum chlorophyll concentration occurred at a salinity of 22.86 psu, where there was a large decline in all zooplankton except mysids. Further downstream at 29 psu crabs dominated the sample at 75%, which was much higher than the rest of the transects. Both fish and shrimp were minor components of the community, always representing less than 18% of the composition when combined. The zooplankton community varied along the estuary with only minor contributions from commercially significant species, although ecologically significant species were abundant. This study is the first step towards a seasonal and interannual study of variability in the Savannah River estuary.

U184

Movement of *Salmo Trutta* Spawning Locations in Relation to River Dam Construction in the Lake Michigan Watershed over an Eight Decade Time Period

Matthew Weems (Senior)

Dr. Tara Cox (Savannah State University)

The purpose of this study was to test the hypothesis that, because dolphins are social animals and travel in groups, or pods, the male and female distributions of bottlenose dolphin strandings would be similar along the South Carolina, Florida, and Georgia coastlines. It was also thought that these strandings would occur along the coastlines of north Georgia and South Carolina in the warmer months and along the coast lines of South Georgia and Florida in the cooler months. Four different pinpoint maps (one for each season) were created in ArcGIS 10 from collected data. The projection used was NAD 1983 UTM Zone 17N. The hypothesis was supported in that

the distributions of the male and female bottlenose dolphin strandings were similar along the South Carolina, Georgia, and Florida coastlines, but it was rejected in that the maps showed that in the warmer and cooler months the most strandings occurred along the Florida coastline. The major finding of this study was that the different seasons did not seem to have an effect on where the bottlenose dolphin strandings were occurring, but that in all four seasons the most strandings occurred in Florida. Knowing this information will help scientists and volunteers be more prepared in handling these stranding when they occur. Funding by Enhancing Diversity in Geoscience Education (EDGE).

U185

Savannah State University Basemap

Maquel Wheeler (Sophomore)

Dr. Tara Cox (Savannah State University)

The goal of this project is to update the Savannah State University general use by the SSU community. To obtain the data for this project, we used satellite imagery and aerial photos. We also used earlier basemaps of Savannah State. The data were opened in ArcGIS program and from there they were altered. Buildings were added to the map when necessary. The expected outcome of this project is an updated SSU basemap containing every building, street and on campus landmarks. An updated basemap is beneficial to the SSU community. The updated basemap will provide the SSU community with an accurate map of the school's campus.

U186

Male and Female Bottlenose Dolphin

Allison Williford (Junior)

Dr. Tara Cox (Savannah State University)

The purpose of this study was to test the hypothesis that, because dolphins are social animals and travel in groups, or pods, the male and female distributions of bottlenose dolphin strandings would be similar along the South Carolina, Florida, and Georgia coastlines. It was also thought that these strandings would occur along the coastlines of north Georgia and South Carolina in the warmer months and along the coast lines of South Georgia and Florida in the cooler months. Four different pinpoint maps (one for each season) were created in ArcGIS 10 from collected data. The projection used was NAD 1983 UTM Zone 17N. The hypothesis was supported in that the distributions of the male and female bottlenose dolphin strandings were similar along the South Carolina, Georgia, and Florida coastlines, but it was rejected in that the maps showed that in the warmer and cooler months the most strandings occurred along the Florida coastline. The major finding of this study was that the different seasons did not seem to have an effect on where the bottlenose dolphin strandings were

occurring, but that in all four seasons the most strandings occurred in Florida. Knowing this information will help scientists and volunteers be more prepared in handling these stranding when they occur. Funding by Enhancing Diversity in Geoscience Education (EDGE).

GRADUATE ABSTRACTS

G187

Distribution of *Probopyrus Pandalicola* and its Shrimp Hosts

Brigette Brinton (Graduate)
Dr. Tara Cox (Savannah State University)

The purpose of this project was to compare the ranges of the bopyrid isopod parasite *Probopyrus pandalicola* and those of its palaemonid shrimp hosts. This crustacean parasite infests the branchial chamber of at least 16 different species of grass shrimp, which range from New Hampshire, USA, to Sao Paulo, Brazil. Primary and secondary literature will be used to determine the northern and southern range extents for *P. pandalicola* and each shrimp species. Shapefiles in ArcGIS 10 that contain the relevant freshwater and marine water features will be used to create representations of the range of each species. Points will be generated that document infection by *P. pandalicola* based on one or more primary literature source per host species. *Probopyrus pandalicola* will be present across a large geographical range. The ranges of each host shrimp species will be more limited, but overlapping. The parasite *P. pandalicola* lacks host-specificity, and as a result its range is larger than that of any one palaemonid shrimp species. The larvae of an adult *P. pandalicola* infecting one host species may disperse and infect a different host species, which may be facilitated by the overlapping ranges of the palaemonid shrimp. National Science Foundation GK-12 Award # DGE-0841372

G188

Understanding the Perceived Communication Structure of Coastal Resource Management in Small Islands Developing States (SIDS) of the Eastern Caribbean: Case Study – Saint Vincent and the Grenadines

Sanya Compton (Graduate)
Dr. Dionne Hoskins (Savannah State University)

Small Islands Developing States (SIDS) are low-lying coastal countries that are structurally vulnerable and prone to productivity and development issues such as natural disasters and sea level rise. Ninety percent of SIDS are located in the tropics, and depend heavily on their coastal resources. The Caribbean

islands make up 40% of the SIDS and many islands share common features and resources (tourism and/or agriculture based economies, fisheries, coral reefs). The islands of the Eastern Caribbean; member states of the Organization of the Eastern Caribbean States (OECS), have for decades been plagued with on-going coastal management issues (e.g. beach pollution, coral reef degradation, mangrove swamp destruction). Despite the appearance of unified efforts (e.g. the development of a natural resources monitoring unit (NRMU), and establishing integrated coastal zone management (ICZM)), problems still persist. The current approaches being used in the Caribbean need to be re-defined, with focus on developing specific skills, particularly in the areas of facilitation and communication. The purpose of this research is to test the hypothesis that communication barriers do exist among the islands, and better forms of communication facilitates better management of coastal resources. The objectives are to assess the perceived communication structure regarding coastal resource management among the islands of Saint Vincent and the Grenadines as a case study, to determine if communication barriers exist, and based on the findings, provide recommendations for improving communication. A Q-sort interview methodology will be used to collect the data from local stakeholders.

G189

Spawning Sites for Atlantic Croaker, *Micropogonias Undulatus*, in GA

Dawn Franco (Graduate)
Eric Robillard (National Marine Fisheries Service Northeast Fisheries Science Center) and Dr. Tara Cox (Savannah State University)

Atlantic croaker, *Micropogonias undulatus*, have been commonly mislabeled as primarily offshore spawners. However, inshore spawning events for Atlantic croaker were documented in coastal waters of North Carolina and within the Chesapeake Bay. The purpose of this study was to determine if Atlantic croaker spawn within Georgia waters. Atlantic croaker were collected using trawl, gill, and trammel nets as well as hook and line from rivers, sounds, and near shore waters of Georgia. Sites where gravid, running ripe, or regressing fish were collected were mapped using ArcGIS 10. Sites were buffered by 5km to determine if multiple maturity stages were clustered together. A total of 106 Atlantic croaker were collected with ovaries in gravid (22), running ripe (20), and regressing (64) stages. Gravid and running ripe fish were rarely collected within 5km of sites with gravid fish (0-3 sites within 5km). Regressing fish were repeatedly collected within 5km of sites with gravid fish (up to 8 sites within 5km). Most fish will spawn within 6-12 h of final oocyte maturation (FOM); therefore, presence of ovaries in the gravid stage indicated that Atlantic croaker were spawning both in inshore and near shore waters of Georgia. High proximity of gravid and regressing stages seemed to be more of an artifact of sampling effort rather than spawning location. Ecological Monitoring Survey, Juvenile Trawl Survey, Young-of-year Red Drum Survey, and Estuarine Sportfish Survey conducted by

DNR CRD staff with funding provided by: USFWS Sport Fish Restoration program

G190
Fish Assemblages at an Estuarine and Coastal Site

Jennifer Gut (Graduate)
Dr. Mary Carla Curran (Savannah State University)

Fish assemblages are indicators of the health of an ecosystem. The purpose of this study was to determine fish biodiversity near the mouth of the Savannah River from the estuarine site of Cockspur Island to the coastal site of Tybee Island, Georgia. Fish were collected by seine from June to December 2012, identified to species, and measured. Half as many individuals were collected at Cockspur Island (n=57) than Tybee Island (n=114). Both sites exhibited high biodiversity, but Cockspur Island had a higher biodiversity (5.16) than Tybee Island (3.50). The greatest species diversity was found within the family Sciaenidae at both sites. However, sciaenids were more abundant at Cockspur Island with 22.8% of the total catch compared to carangids (3.5%). Carangids were more abundant at Tybee Island with 29.5% of the total catch compared to sciaenids (10.7%). My work supports the findings of previous studies in which sciaenids were commonly the most represented group in estuaries on the East Coast of the United States. Carangids are predominantly open-water species, which may account for their greater abundance on the coast at Tybee Island.

G191
Seasonal And Annual Variations Of Surface Diatom Distribution In The Savannah River Estuary

Brian Murry (Graduate)
Dr. Tara Cox and Carolyn Kovacs (Savannah State University)

The purpose of this study was to determine seasonal and interannual variability in diatom community composition and standing stocks in the Savannah River estuary. Bi-monthly cruises were conducted along the Savannah River estuary from August 2009 to August 2012 aboard the R/V Savannah. Samples were taken at salinities ranging from >32 to <3 PSU. Near-surface water samples were filtered with a 20µm mesh net, preserved, and examined microscopically. Surface water chlorophyll concentrations were measured with a fluorometer. Overall, diatom and chlorophyll concentrations were highest in the summer and lower in the winter. However, diatom diversity was lower in the summer than in the winter. Superimposed on this seasonal cycle was an apparent decrease in diatom and chlorophyll concentrations over the period of study. The maximum diatom stock was 18,092 cells/L in June 2010 and subsequent summer maxima were lower than this. Chlorophyll concentrations were highest in June 2010 (17.84 µg/L) and October 2009 (19.50 µg/L). In August, Skeletonema dominated the diatom communities along much of the estuary with greater

diversity typically near the river mouth. Skeletonema only dominated in 2011 among the three years of December data. The results show interannual differences among diatom abundances, and that diversity was lower when standing stocks were higher. Further work will investigate the influence of nutrients, light intensity, and tides on the diatom community. The results improve our understanding of temporal and spatial influences on estuarine diatom distribution, trophic state of the estuary, and baseline conditions prior to the planned harbor deepening.

G192
Effect of a Parasitic Isopod on Shrimp During Starvation

Michele Sherman (Graduate)
Dr. Mary Carla Curran (Savannah State University)

The isopod *Probopyrus pandalicola* parasitizes the daggerblade grass shrimp *Palaemonetes pugio* and decreases the energy available to its host by feeding on shrimp hemolymph. The parasite also causes both male and female shrimp to be sexually sterilized, presumably due to nutrient depletion. The purpose of this study was to determine the effect of *Probopyrus pandalicola* on the survival time of *P. pugio* during starvation at two different temperatures. Parasitized, deparasitized, and unparasitized shrimp were randomly placed into individual aquaria, and water temperature was maintained at 20°C (n=3 trials) and 25°C (n=3 trials). Shrimp were not fed before or during the experiments. All aquaria were checked once daily from Monday through Friday. Trials lasted until 100% shrimp mortality occurred. The isopod only had an effect on shrimp survival time at the higher temperature, with parasitized shrimp surviving a significantly shorter amount of time (21.8 ± 0.81 d) than unparasitized shrimp (25.2 ± 0.96 d). In contrast, the isopod did not have a significant effect on shrimp survival time at the lower temperature. The results of this study have implications related to potential climate change, specifically higher temperatures, as we found that a small increase in temperature affected the response of *P. pugio* to the parasite. This adds to the growing body of literature on the effect of temperature on parasite-host interactions. NOAA Living Marine Resources Cooperative Science Center (LMRCSC) (Award # NA06OAR4810163) and the Department of Education (Title VII) (Award # P382G090003).

G193
Microbial Extracellular Polymeric Substances (EPS)

Crystal Smith (Graduate) and Shaneese Mackey (Sophomore)
Dr. Dionne Hoskins (Savannah State University)

The upper millimeters of benthic substrates contain microbes that secrete extracellular polymeric substances (EPS) into the surrounding environment. EPS have important functions in microbial motility, community formation and physiology. They

also contribute to the pool of organic matter available to deposit feeders. The purposes of this study were to assess the amount of microbial EPS in sediment samples collected from Williamson Island, GA and County Club Creek, GA and to examine seasonal fluctuations in EPS abundance. Samples were collected from intertidal and subtidal sediments between 2005 and 2012. EPS were extracted from the sediment using ethanol precipitation, cleaned via dialysis and then lyophilized. Dried EPS was then weighed and compared by tidal location using an ANOVA. The mean weight of EPS in intertidal sediments from Williamson Island was slightly higher (3.57 ± 2.28 mg g⁻¹) than in subtidal sediment samples (3.03 ± 2.31 mg g⁻¹) but the differences were not statistically significant ($p=0.428$). Analysis of samples from high and low salinity sites and extraction efficiency will also be discussed.

G194

Seasonal Habitat Utilization by Common Bottlenose Dolphins (*Tursiops truncatus*) in waters around Savannah, GA

Jessica Thompson (Graduate)
Dr. Tara Cox (Savannah State University)

The common bottlenose dolphin (*Tursiops truncatus*) population off the coast of Savannah, GA is in need of a reassessment. The MMPA of 1972 requires all stocks of marine mammals in U.S. waters be formally assessed. Common bottlenose dolphins are part of the Northern Georgia/South Carolina Estuarine System (NGSSCES) stock, but limited information is available on their distribution and abundance. Understanding the habitat utilization of identified, individual bottlenose dolphins will aid in the comprehensive assessment of the current residents. Surveys were conducted in the waterways around Savannah, GA from 2010-2012. For each sighting of bottlenose dolphins, spatially referenced photographs and data were collected, including group size, behavior, presence of calves and neonates, and human-dolphin interactions. Individual dolphins were identified using dorsal fin identification techniques. Data points of individual dolphins were then mapped using ArcGIS 10 to investigate differences in spatial habitat use across seasons. Individual dolphins in the estuarine habitat off the Savannah, GA coast utilize the same habitat areas during the summer season and the winter season. There are significantly fewer bottlenose dolphins seen during winter surveys than in summer months; however, these individuals utilize the same habitat in the winter as in the summer. The identified individuals are thought to be a representative sample of the resident dolphins of the Savannah coastal habitat. Those not sighted during winter surveys may be transients utilizing Savannah's coastal habitat during the summer season. These data demonstrate that there are both resident and transient individuals utilizing the same habitat, resulting in the need for an updated formal assessment of the common bottlenose population in the waters around Savannah. GK-12, EDGE, Title VII.

G195

Spatial Analysis of Physical Parameters of Oyster Reefs In Coastal Georgia

Tiffany Ward (Graduate)
Dr. Dionne Hoskins (Savannah State University)

The purpose of this study is to determine spatial variation in rugosity for natural and restored oyster reef sites in Georgia. Data were collected at oyster reef sites throughout coastal Georgia and then mapped using ArcGIS 10. Data were collected using a 1 m² quadrat, GPS, 2 m metal linked chain, and a 1 m ruler. Each site was divided into 3 transects and each transect was divided into quadrats. Rugosity was measured by placing the chain along the top of each quadrat in each transect and measured. Sites chosen for this study were not chosen based on location but rather access. It is not expected that there are any spatial differences between rugosity. Rugosity may not be attributed to location directly; however, the health of a reef and ability to grow may be location based. Reefs placed near a large amount of boat traffic and runoff may be less successful and perhaps bad choices for oyster reef restoration. Future studies should focus on the parameters of oyster reefs relative to health and further assess where promising reefs could be located to promote maximal growth. NOAA UMES

MATHEMATICS

UNDERGRADUATE ABSTRACTS

U196

Obesity in Chatham County, GA

Lucy Archibong (Sophomore), Chloe Brett (Sophomore), Danielle Chambers (Senior), and Kamilya Daniels (Sophomore)
Dr. Sujin Kim (Savannah State University)

The percentage of a person's body that contains fat can be assessed in various ways. Underwater weighing is viewed as the most precise and electrical impedance and skin calipers are collective measures in field studies or clinical settings. The utmost normally used method is Body Mass Index calculated by dividing a person's weight in kilograms by height in meters squared. We use the data collected from Chatham County in NIH/RIMI Subproject focusing on Yamacraw Village and have found that men who live in Yamacraw Village are obese than women who live in Yamacraw Village.

U197**Identifying Obesity Risk Factors in Chatham County, GA****Lili Hao (Sophomore), Porshia Hayden (Senior)
Dr. Sujin Kim (Savannah State University)**

Obesity is ranked as the highest health risk by the U.S. Centers for Disease Control and Prevention (CDC) in 2004 so it is very important to evaluate and control the rate of the obesity. It has been reported that African American women had the highest rates of being overweight or obese compared to other groups in the U.S. About four out of five African American women are overweight or obese. According to the 2000 census, 40.5% of African Americans is overweight or obese in the Chatham County, GA. The data collected from NIH/RIMI Subproject in Chatham County is used and SPSS, Excel, and R are used to analyze the data. During the study, six hypotheses are discussed according to the survey of behavioral/lifestyle/cultural beliefs/economic status and physical activity patterns of people living in four neighborhoods in Chatham County, GA. Statistical method has been used to evaluate possible factors that contribute to the obesity in Chatham County, GA. However, we did not get clear relation between these factors that may cause obesity and BMI during the studies so far. One of the possible reasons could be small sample size. So if it is possible, a large sample size can be used in the future study in order to get a more accurate answer.

U198**Implementation of 3D Visualization of a Brain Tumor****Daniel Heslop (Senior)
Dr. Hyounkyun Oh (Savannah State University)**

The primary purpose of this project lies on the 3-D visualization of sequential under-resolved planar images, in particular, including medically abnormal cell structures. It thus contributes to medical engineering for better recognizing less informed planar images, such as the Magnetic Resonance Imaging (MRI), a medical imaging technique used in radiology. A series of head MRI scans of a brain with tumor are imported into MATLAB as matrices. The distance from a fixed point on each matrix to a boundary point of the tumor is measured along the boundary point's corresponding angle. Using the numerical interpolation theories, boundary points on each layer in the polar coordinate systems are connected. In order to properly implement a real 3-D shape of the tumor, various procedures, such as treating of non-convex property of contours, scaling, recovering top & bottom caps, decision of patch types, etc. are achieved in an efficient manner. By manipulating the obtained surface functions, the rate of growth of the tumor in volume or surface or growth direction can be discussed as future work.

U199**Walking Away From Obesity in Chatham County, GA****Daniel Heslop (Senior) and Reginald Demery (Junior)
Dr. Sujin Kim (Savannah State University)**

The United States embarrassing 33.8% obesity rate is the highest among the developed nations of the world. Many studies have shown the importance of physical activity on lowering obesity rates. Walking is the easiest form of physical activity and can be done almost anywhere. Data acquired from Chatham County in NIH/RIMI Subproject is investigated to find risk factors that affect health and is analyzed using IBM SPSS Statistics. There is sufficient evidence at $\alpha=0.05$ to conclude that the average total minutes walked per week for men is greater than the average total minutes walked per week for females using one-sided test (right tailed).

U200**Statistical Findings of Hypothesis Testing for Collected Obesity Survey Data in Chatham County, GA****Joseph Moore (Sophomore), Robert Motley (Sophomore), Marcelina Stringer (Sophomore), Gregory Little (Sophomore)
Dr. Sujin Kim (Savannah State University)**

Research has been made that approximately 25 million U.S. children are overweight or obese and data shows that citizens within the areas of Chatham County, Lee County, and Moore County that are overweight or obese (Chatham County Public Health Department, 2010). The collected survey data from NIH/RIMI Subproject is used and we have found that the resident who ate more than Three late night snacks a week would have a worst health evaluation compared to the resident who ate less than or equal to Three late night snacks a week.

U201**Principal Component Analysis in Financial Risk Management****Kwasi Platt (Senior)
Dr. Tao Pang (North Carolina State University)**

The volatility of stock returns is important to both financial institutions and regulatory bodies, both of whom aim to accurately measure the risk of investments. Value at Risk (VaR) is a common measure of portfolio risk in use today. Initially we calculated the Value at Risk under the assumption that the daily stock returns were normally distributed, but found that calculations of VaR under that method underestimated risk because the distribution of daily returns had fatter tails than the normal model. We improved the accuracy of the calculations

Abstracts

through the consideration of distributions with fatter tails, specifically Student's-t distribution. Expanding the model based upon Student's-t to consider a portfolio of these assets resulted in similar successful calculations. We also evaluated the method of Principal Components Analysis (PCA) for dimension reduction, and discovered that dimensionality could be significantly reduced without much sacrifice of accuracy. We then applied PCA to try and find macroeconomic factors to explain asset price movement in particular industries.

U202

Variations in the Age Association of Total Cholesterol in Women: A Statistical Analysis of the Framingham Coronary Data

Khamilla Shellman (Sophomore)
Dr. Samuel Dolo (Savannah State University)

Total cholesterol is well documented in the scientific and health literatures as a major risk factor of coronary disease. However, little is known about its association with age and whether such association differs by age categories. In this research study we examined the linear association of total cholesterol and age among women, and we examined the association at every major stage in the life of women. The data showed a positive and moderate strength of the association. The impact of the positive correlation appeared to be stronger in women within the age categories of 45 – 49 and 50 – 55 in comparison to women in the age categories of 32 – 40, and 41 – 44. There appeared to be no association for women ages 56-60, while women ages 61 – 69 appeared to have weak negative association. The standard deviation values indicate that there is more of a variation in the age category 50-69 than in the 32-49 age category. In essence, there are slight variations in the age associations of total cholesterol among women. The association is mostly positive until age 55, and then there is a flattening of the association at ages 56-60, and the reversal of the association occurring at ages 61– 69.

U203

Walking and Obesity

Asia Stinson (Junior), Kashade Andrews (Senior), and Shaun Brown (Senior)
Dr. Sujin Kim (Savannah State University)

Obesity is one of the leading problems in preventable health that affects our nation, both young and old. The information gathered from Chatham County in NIH/RIMI subproject helps determine how the citizens of Savannah, Georgia are affected by the amount of activities they partake in their daily lives. This information is also compared to the U.S. national average and other parts of the world to see where the city stands on the obesity scale. After looking at our data, it shows that all BMI were shown overweight and obese, reasons being that exercise neither diet were not involved in the daily lives. The average

spent walking, 84.95 minutes from the survey is compared to the recommended national average, about four hours of physical activity each week by exercising moderately and for 2.5 hours per week and engaging in a vigorous activity, such as running and muscle strengthening, for an hour and fifteen minutes per week.

U204

Contributing Factors of Obesity in Chatham County, Georgia

Courtney Wright (Junior)
Dr. Sujin Kim and Dr. Deden Rukmana (Savannah State University)

The purpose of this experiment is to accumulate information to form a conclusion about the contributing factors of obesity in Chatham County, Georgia neighborhoods. These factors include socioeconomic standards of living and environmental stimuli that influence the behaviors that lead to obesity. The socioeconomic standards of living include inequalities in government assisted living arrangements, availability to safe weight training environments, and lack of encouragement. The primary technique used to collect data is a method of survey. Information is gathered via survey from households in Chatham County, Georgia about their nutrition consumption and isometrics, or lack of. Each survey is then entered into an excel spreadsheet for data comparison. Thus far, the measurement of nutrition consumption and isometrics are directly correlated to the socioeconomic limitations of households in Chatham County, Georgia. The inequality of exposure to positive environmental stimuli produces an area-based outcome of obesity.

U205

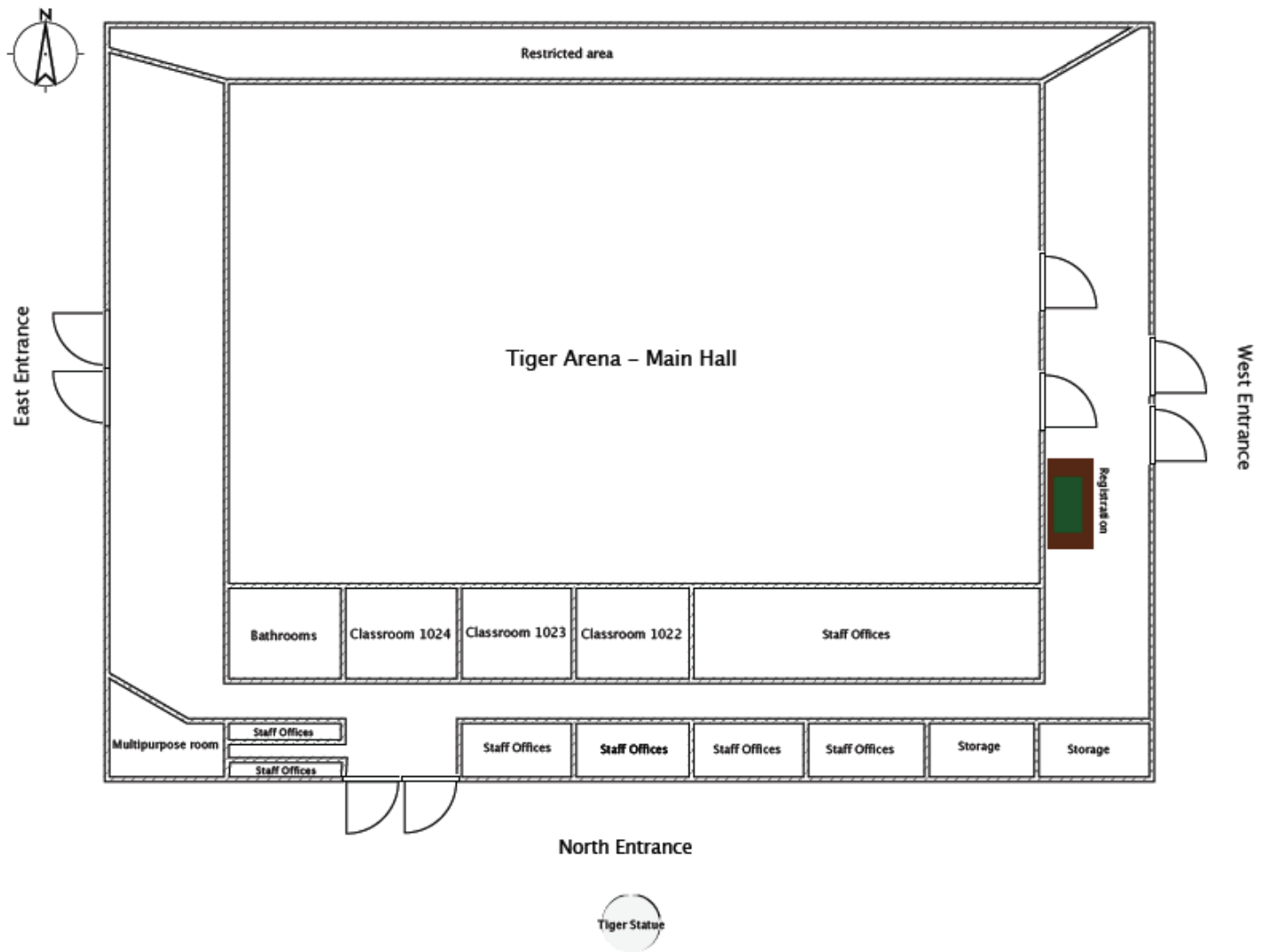
Geometric Power Series in Action

Travis Young (Junior)
Dr. Mulatu Lemma (Savannah State University)

The Geometric Power Series is a series of the form $\sum_{i=0}^{\infty} x^i$. The purpose of this study is to investigate some important applications of the geometric power series $\sum_{i=0}^{\infty} x^i$ in $|x| < 1$. The geometric series is one of the easiest examples of power of a power series. It is also one of the most useful and applicable power series. It is commonly used in differential equations and engineering. We will show that this power series has surprisingly many applications by giving different applications.

Judging Rubric for Poster Presentation of Research					
Category	5	4	3	2	1
Poster Content	Content is very well organized and demonstrated a strong level of scholarship.	Content is well organized, but an adequate level of scholarship was not demonstrated.	Content is adequately organized, but an adequate level of scholarship was not demonstrated.	Content is poorly organized and there was a weak demonstration of scholarship.	Content is poorly organized and there is no evidence of scholarship.
Level of Scholarship	Project demonstrates very high level of scholarship, with proper citations available.	Project demonstrates a high level of scholarship, with many citations available.	Poster demonstrates an adequate level of scholarship, with some citations available.	Poster demonstrates a poor level of scholarship, with no citations available.	Poster lacks any impression of being scholarly.
Visual Aesthetic	Poster is very attractive, neat, colorful, and lured the audience to read the contents.	Poster is attractive, well-organized, but lacked the allurements of the reader.	Poster is adequate in the material presented, but is weak in organization and neatness.	Poster is poorly presented, but does contain related topics to the theme.	Poster is poorly presented, and does not relate to the topics of the scholarship.
Grammar	There are no grammatical/mechanical mistakes on the poster.	There are 1-2 grammatical/mechanical mistakes on the poster.	There are 3-4 grammatical/mechanical mistakes on the poster.	There are 5-6 grammatical/mechanical mistakes on the poster.	There are more than 7 grammatical/mechanical mistakes on the poster.
Judging Rubric for Presenter					
Category	5	4	3	2	1
Knowledge of Project	Answers difficult questions clearly succinctly.	Answers most questions.	Has some difficulty answering challenging questions.	Has difficulty answering challenging questions.	Does not understand the questions asked.
Logical Presentation	Presentation is consistently clear and logical. Comfortably uses visual aid (poster) to enhance presentation.	Presentation is clear for the most part, but not consistently. Comfortably uses visual aid (poster) to enhance presentation.	Presentation is generally unclear and inconsistent. Uses some visual aids (poster) to enhance presentation.	Presentation is unclear and illogical. Does not use visual aid (poster) to enhance poster presentation effectively.	Presentation is very confusing. Does not use the visual aid (poster) to enhance presentation effectively.
Background Information	Demonstrates a very strong knowledge of the research project and project background.	Demonstrates a good knowledge of the research project and project background.	Demonstrates some knowledge of the research project and project background.	Demonstrates poor knowledge of the research project.	Does not demonstrate any knowledge of the research project.
Presence	Speaks clearly, naturally and with enthusiasm; makes eye contact.	Speaks clearly, naturally; makes eye contact.	Reads from poster or script some of the time.	Reads from poster or script most of the time.	Reads from poster or script all of the time.

Tiger Arena Floor Plan

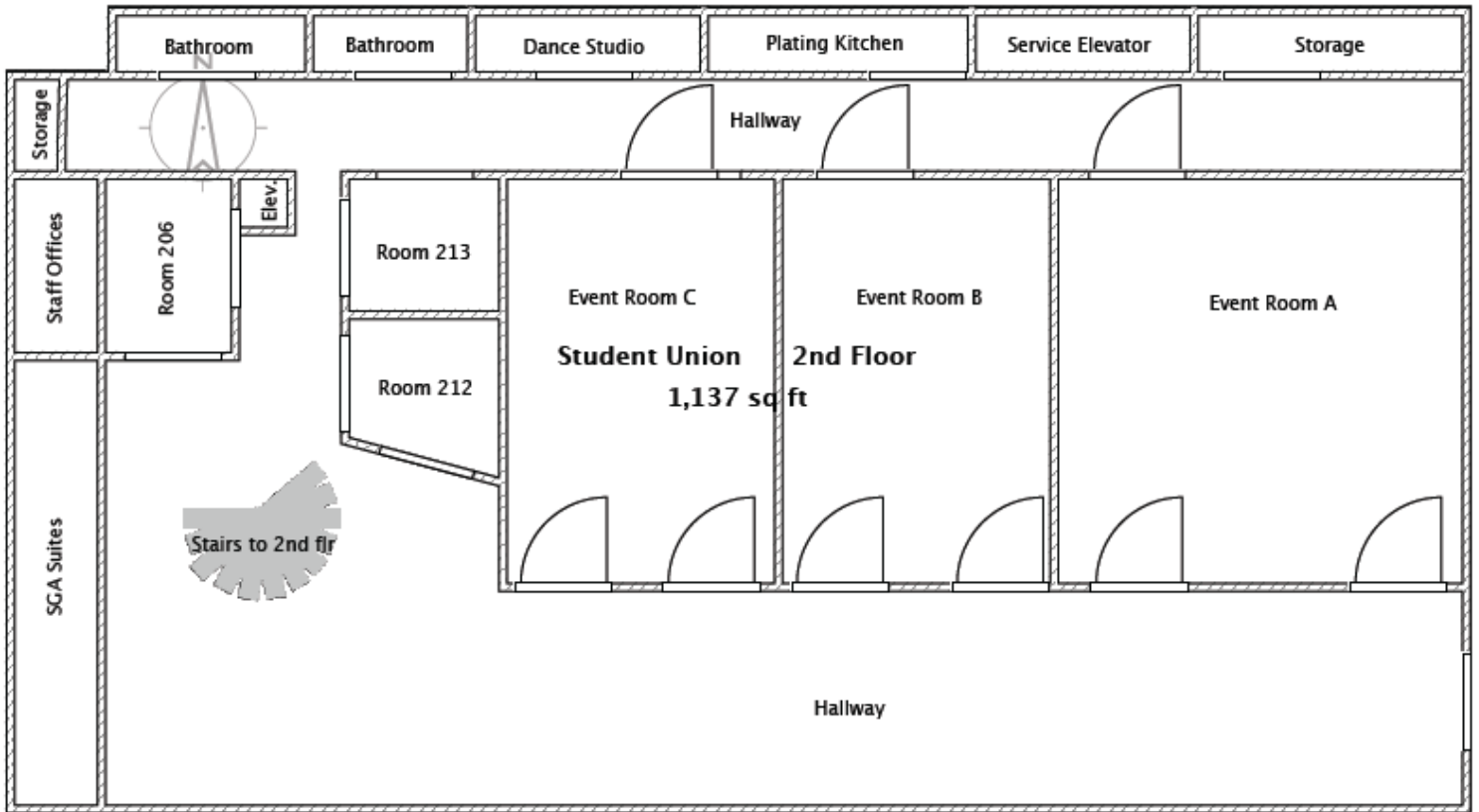


Key rooms

Judges Rest Area - Tiger Arena Room 1024

Poster Scores Tallying Room - Tiger Arena Room 1023

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