

9th Annual Regional Undergraduate Research *Symposium*



Keynote Speaker
Dr. Daniel Carruth

Associate Director for Human Factors and Advanced Vehicle Systems
at the Center for Advanced Vehicular Systems
Assistant Research Professor
Mississippi State University



"Opening Doors with Research"



23rd APRIL 2021

8:00AM - 4:30PM | A VIRTUAL CONFERENCE

UNDERGRADUATE RESEARCH SYMPOSIUM SPONSORS

Center for Undergraduate Research

The mission of the Center for Undergraduate Research at Albany State University is to promote a wide variety of undergraduate research, scholarship, and creative activities that support and enhance student learning, engage students and faculty mentors in the complete research process, and institutionalize undergraduate research as a vital component of the educational experience at the Albany State University.

Office of Title III Programs

The ASU Title III Program aims to strengthen the infrastructure of the University and to enhance the delivery of academic programs while developing students from freshmen to senior year. The implementation of these activities will increase enrollments, progression, retention, and graduation rates at Albany State University.

Office of Academic Affairs

The Office of Academic Affairs at Albany State University supports the University mission by providing the guidance and leadership necessary to maintain intellectual discovery, the foundation of the student experience. Academic Affairs upholds the standards and policies established by the faculty and administration, while overseeing all aspects of the University curriculum and encouraging students to become involved global citizens. Also, Academic Affairs provides support to assist administrators, staff, faculty, and students to realize their academic goals in pursuit of high academic achievement.

Office of Research and Sponsored Programs

The Office of Research and Sponsored Programs (ORSP) encourages, facilitates and supports Albany States University faculty and staff in their pursuit of external funding for their research, training, and other scholarly activities. ORSP provides high-quality services to the ASU community with the goal of increasing external sponsored funding for research and other programs while also protecting the University's interest assuring compliance with federal and state laws, rules and regulation.



April 23, 2021

Welcome to the 9th Annual Regional Undergraduate Research Symposium:

Congratulations to the students who are presenting their research. Although the pandemic prevented our usual face-to-face fellowship, the student presenters have completed some exciting projects. Our theme this year was *opening doors with research*, which is ultimately one purpose of undergraduate research – to allow students to have more opportunities in the future.

I commend the student researchers for taking an active role in their educations. Knowingly or unknowingly, their intellectual curiosity has propelled them down the path toward research and advanced their knowledge beyond that gained in a usual classroom setting. I challenge the student researchers to leverage their experience to expand the ways they view their possible roles in the future. Students sometimes look at faculty with a sense of awe and amazement, because faculty can recall considerable information and usually provide citations for their claims from memory. Academia is brimming with brilliant people who might be geniuses, but genius or not, the people who do that were persistent and devoted considerable effort to learning about their areas of interest.

Many faculty started out by doing undergraduate research. If they did it, the contemporary student researchers are capable of much more. The current generations are the brightest yet and are capable of contributing to the larger pool of knowledge that advances humanity. One of my biggest hopes for the Center for Undergraduate Research is that we offer opportunities for students to grow as researchers and grow as people.

In the recent past students who had engaged in undergraduate research were an exception on graduate school applications. However, at present some graduate programs will only accept students who have research experience. If you decide graduate school is not for you, undergraduate research is still a valuable experience because it causes you to learn to solve problems in new ways. In addition, your research experience will probably change the way you see the world. It helps you become a critical thinker, which is something valued by employers.

Finally, I thank the ASU support staff, ITS, many mentors, faculty volunteers, proposal reviewers, presentation judges, and student volunteers without whose help our colloquium would not be possible. Your efforts to support ASU undergraduate researchers is appreciated.

Sincerely,



Mark D. Thomas, Ph.D.
Director of the Center for Undergraduate Research at Albany State University

PROGRAM AGENDA

Friday, April 23, 2021

9th Annual Regional Undergraduate Research Symposium A Virtual Conference

WELCOME

ASU Administrators:

Dr. Angela Peters
Provost & Vice President for Academic Affairs

Ms. Saundrette Moody
Director of the Office of Title III

ACKNOWLEDGMENTS

Dr. Mark Thomas
*Director of the Center for Undergraduate Research,
Associate Professor of Psychology*

INTRODUCTION OF KEYNOTE SPEAKER

Dr. Mark Thomas
*Director of the Center for Undergraduate Research,
Associate Professor of Psychology*

KEYNOTE ADDRESS

Dr. Daniel Carruth
*Associate Director for Human Factors and Advanced Vehicle Systems
at the Center for Advanced Vehicular Systems
Assistant Research Professor
Mississippi State University*

ORAL PRESENTATIONS & JUDGING

POSTER PRESENTATIONS & JUDGING

ADJOURNMENT

Dr. Mark Thomas
Director of the Center for Undergraduate Research

Dr. JoAnn P. McCrary
*Judging Committee Chair
Professor of Biology*

Keynote Speaker

Dr. Daniel Carruth



Daniel Carruth is an internationally recognized researcher using modeling and simulation to study the behavior of both humans and autonomous systems as they perform tasks in complex environments. Dr. Carruth is an associate research professor with over 15 years of experience at the Mississippi State University Center for Advanced Vehicular Systems (CAVS). He currently serves as the Associate Director of the Advanced Vehicle Systems research group at CAVS where he leads a team of 14 full-time research faculty and staff.

Dr. Carruth earned his B.S. in Computer Science and Engineering in 2001. In 2008, he earned his Ph.D. from the Department of Psychology at Mississippi State University.

Dr. Carruth started his research career as an undergraduate creating web-based tools for psychology research under the direction of Dr. Kevin Armstrong. This work led directly to undergraduate research in modeling and simulation of human task performance for Dr. Stephanie Doane, to his Ph.D. research, and ultimately to his work today.

Dr. Carruth's research interests include modeling and simulation of autonomous ground vehicles in military off-road environments, human interaction with autonomous vehicles, use of UGVs by military and law enforcement, as well as physical and cognitive aspects of human task performance in law enforcement, military, and industrial work. He has active projects generating virtual environments and test standards for military off-road autonomous vehicles, building off-road autonomous vehicle platforms for real-world testing, and developing virtual greenhouses for training undergraduate students in electronic control systems for precision agriculture. Dr. Carruth contributes to NATO Applied Vehicle Technology Panel research task groups (AVT-327 and AVT-341) focused on modeling and simulation of military ground vehicles. He is a member of SAE and ASAM. He has published over 100 conference proceedings and articles in journals such as *Sensors*, *Electronics*, *Transportation Safety & Security*, *International Journal of Social Robotics*, and *International Journal of Industrial Ergonomics*. He has received over \$15 million in funding from agencies such as DoD, USDA, NIJ, BJA, and others.

Dr. Carruth and his CAVS research group currently employ 7 undergraduate researchers and 9 graduate researchers from multiple departments. CAVS currently employs 95 undergraduate student workers.

ORAL PRESENTATIONS

ORAL PRESENTATIONS ARTS & EDUCATION

PRESENTATION NUMBER	PRESENTER(S)	TITLE
1	Miquail Harvey	COMMUNICATION IN FOOTBALL
2	Inferia Howard	TECHNOLOGICAL PEDAGOGICAL STRATEGIES DURING COVID-19 PANDEMIC: KINESIOLOGY STUDENTS ONLINE ONLY VERSUS BLENDED LEARNING EXPERIENCE
3	Shavon McCoy	WORKING V.S. NON-WORKING COLLEGE STUDENTS: MENTAL, PHYSICAL, AND EMOTIONAL HEALTH
4	Bionca Cummings	FROM THE RHYTHMS OF THE HEART TO THE RHYTHMS ON THE SCREEN: HOW HAS THE COVID-19 PANDEMIC AFFECTED INSTRUCTIONAL STRATEGIES IN MIDDLE SCHOOL MUSIC CLASSROOMS?
5	Jamilah Hawkins	THE DECISION TO HOMESCHOOL DURING COVID-19
6	Karen Rogers	COMPLEX POST TRAUMATIC STRESS DISORDER: A CASE STUDY AND INTERVIEW APPROACH TO UNDERSTANDING TRAUMA

**ORAL PRESENTATIONS
BUSINESS & PROFESSIONAL STUDIES**

PRESENTATION NUMBER	PRESENTER(S)	TITLE
7	Dontayvia Scott Alleyah Sims Tiara McGrew	EXPLORING THE ENVIRONMENTAL FACTORS THAT CAUSE STUDENTS BETWEEN THE AGES OF 14 AND 18 TO ABUSE OPIOIDS
8	Cierra Jackson	ROLE AND IMPACT OF E-COMMERCE ON SUPPLY CHAIN MANAGEMENT
9	Keya Cooper Kyler Phelps Tatyana Jones	THE EXPLORATION OF SOCIAL MEDIA AND MUSIC INFLUENCE ON OPIOID ABUSE AMONG HIGH SCHOOL ADOLESCENTS

ORAL PRESENTATIONS HEALTH & SCIENCES

PRESENTATION NUMBER	PRESENTER(S)	TITLE
10	Doylisha Copeland	DETERMINING MOTOR PERFORMANCE AND NEUROMUSCULAR IMBALANCES IN DIVISION II COLLEGIATE ATHLETES UTILIZING THE MODIFIED TUCK JUMP ASSESSMENT
11	James Brown	EFFICIENT HARVESTING OF SOLAR ENERGY
12	Alicia Lewis	ISOLATION AND IDENTIFICATION OF PREDOMINANT BACTERIAL SPECIES IN TRITIUM-CONTAMINATED SOIL SAMPLES FROM SAVANNAH RIVER SITE
13	Nia Brown	BREAST SELF-EXAMINATION AWARENESS EDUCATION FOR ADULTWOMEN
14	Kathomias Turnage	SECOND WIND: MYTH OR TRUTH
15	Brittani Johnson	ISOLATION AND IDENTIFICATION OF PESTICIDE-DEGRADING BACTERIA
16	Tazha Howard	MANGANESE-DOPED STABLE ALL INORGANIC CSPB1-XMNXX3 PEROVSKITE SOLAR CELLS WITH MIXEDHALIDE
17	Alexis Robinson	THE IMPACT OF SLEEP DEPRIVATION IN NURSING FACULTY AT ALBANY STATE UNIVERSITY
18	Joseph Stoklosa	ISOLATION AND CHARACTERIZATION OF 1,4-DIOXANE-DEGRADING BACTERIA FROM TRITIUM-CONTAMINATED SOILS
19	Jeflyn Barnes	USING A MOBILE APPLICATION TO DETERMINE THE INFLUENCE OF A FIVE WEEK EXERCISE PROGRAM ON STATIC STANDING POSTURE IN UNIVERSITY FACULTY
20	Walker Pendleton	AN INNOVATIVE METHOD TO DESIGN A MICROWAVE ABSORBER
21	Diamond Johnson	DETERMINING MOTOR PERFORMANCE AND NEUROMUSCULAR IMBALANCES IN DIVISION II COLLEGIATE ATHLETES UTILIZING THE MODIFIED TUCK ASSESSMENT

ORAL PRESENTATIONS INTERDISCIPLINARY STUDIES

PRESENTATION NUMBER	PRESENTER(S)	TITLE
22	Lucia Pena	LEGALIZATION OF MARIJUANA: GOOD OR BAD IDEA? ASSESSING THE RISKS OF COLLEGE AND POST-COLLEGE CAREER FAILURE DUE TO THE RECREATIONAL USE OF MARIJUANA AMONG HIGH- SCHOOL AND COLLEGE-AGED STUDENTS IN THE U.S.
23	Evelyn Redmond	THE INFLUENCE OF CHILD ABUSE AND INHERITED BEHAVIORAL TRAITS ON VIOLENT CRIME
24	Ki'vanna Craft	ENVIRONMENTAL FACTORS THAT IMPACT THE GROWTH OF VAGINAL FLORA
25	Jayda Carey	DESIGN, SYNTHESIS AND CHARACTERIZATION OF NAPHTHALENE TETRA-CARBOXYLIC DIIMIDES (NDI) AND PERYLENE TETRA-CARBOXYLIC DIIMIDES (PDI) ORGANOTRIFLUOROBORATES
26	Bevin Glanton	DESIGN, SYNTHESIS AND CHARACTERIZATION OF BORONIC ACID APPENDED
27	James Hawkins	BLOCKING OF HARMFUL ELECTROMAGNETIC RADIATION FROM 5G ANTENNAS
28	Mary Bernadette Hernandez	THE SOCIAL-PSYCHOLOGICAL IMPACT OF SOCIAL MEDIA ON TEENS IN RURAL SOUTH GEORGIA: POSTULATING DURKHEIM'S IDEAS OF SUICIDAL BEHAVIORS, SOCIAL INTEGRATION, AND REGULATION

POSTER PRESENTATIONS

POSTER PRESENTATIONS ARTS & EDUCATION

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31	Miquail Harvey	COMMUNICATION IN FOOTBALL
30	Inferia Howard	TECHNOLOGICAL PEDAGOGICAL STRATEGIES DURING COVID-19 PANDEMIC: KINESIOLOGY STUDENTS ONLINE ONLY VERSUS BLENDED LEARNING EXPERIENCE
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22	Doylisha Copeland	DETERMINING MOTOR PERFORMANCE AND NEUROMUSCULAR IMBALANCES IN DIVISION II COLLEGIATE ATHLETES UTILIZING THE MODIFIED TUCK JUMP ASSESSMENT
21	Grace Greenway	INVESTIGATING THE RELATIONSHIP BETWEEN CAAX PROTEOLYSIS OF RAS2 GTPASE AND ITS LOCALIZATION AND FUNCTION
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POSTER PRESENTATIONS INTERDISCIPLINARY STUDIES

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10	Kelston Lackey	THE USE OF SOCIAL MEDIA DURING RECRUITMENT WITH ATHLETICS
9	Lucia Pena	LEGALIZATION OF MARIJUANA: GOOD OR BAD IDEA? ASSESSING THE RISKS OF COLLEGE AND POST-COLLEGE CAREER FAILURE DUE TO THE RECREATIONAL USE OF MARIJUANA AMONG HIGH- SCHOOL AND COLLEGE-AGED STUDENTS IN THE U.S.
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7	Ki'vanna Craft	ENVIRONMENTAL FACTORS THAT IMPACT THE GROWTH OF VAGINAL FLORA
6	Jonathan Brett Lauria	NATIONAL SECURITY RISK MANAGEMENT: APPLYING THE FRAMEWORK OF ENTERPRISE RISK MANAGEMENT TO THE NATIONAL SECURITY CONTEXT
5	Jayda Carey	DESIGN, SYNTHESIS AND CHARACTERIZATION OF NAPHTHALENE TETRA-CARBOXYLIC DIIMIDES (NDI) AND PERYLENE TETRA-CARBOXYLIC DIIMIDES (PDI) ORGANOTRIFLUOROBORATES
4	Bevin Glanton	DESIGN, SYNTHESIS AND CHARACTERIZATION OF BORONIC ACID APPENDED
3	Ashley Pennington	IS SOCIAL MEDIA BIAS AND CENSORSHIP AN ISSUE AMERICANS ARE FACING WHEN IT COMES TO POLITICAL GAIN FOR THE LEFT?
2	James Hawkins	BLOCKING OF HARMFUL ELECTROMAGNETIC RADIATION FROM 5G ANTENNAS
1	Mary Bernadette Hernandez	THE SOCIAL-PSYCHOLOGICAL IMPACT OF SOCIAL MEDIA ON TEENS IN RURAL SOUTH GEORGIA: POSTULATING DURKHEIM'S IDEAS OF SUICIDAL BEHAVIORS, SOCIAL INTEGRATION, AND REGULATION

ABSTRACT SUBMISSIONS

IMPACT OF TRITIUM AND 1,4-DIOXANE ON SOIL MICROBIOME

Vanessa Anagbo
Albany State University
Department of Biology, Chemistry, & Forensic Science

Logan Willis, Mentor
College of Arts and Sciences
Department of Biology, Chemistry, & Forensic Science

Tritium is a radioisotope of hydrogen that is ubiquitous and generated naturally by cosmic radiation. However, the tritium levels in contaminated areas may exceed normal levels. Another ecological contaminant is 1,4-Dioxane, which is a potential carcinogen that has been found in groundwater and soil. In this study, we employed a qPCR-based approach to assess the abundance of soil microbiome under the impact of tritium and 1,4-dioxane. To assess the impact of these two contaminants on the soil microbiome, soil DNA was extracted from tritium irrigated soils at the Savannah River Site. The effects of tritium and 1,4-dioxane on the bacterial and fungal abundance in soils were measured by quantitative-PCR and then statistical analysis was performed to determine the relationship between tritium or 1,4-dioxane and the abundance of bacteria or fungi in soil. ANOVA and Pearson correlation matrix showed tritium and 1,4-dioxane were negatively associated with gravimetric water content and soil pH ($P < 0.001$) but positively correlated with one another ($P < 0.001$). Statistical analyses showed both tritium ($P = 0.049$) and 1,4-dioxane ($P = 0.028$) negatively affected the abundance of soil microbiome, which will provide a fundamental information in the bioremediation of both contaminants.

EFFICIENT HARVESTING OF SOLAR ENERGY

James Brown
Albany State University
Department of Mathematics, Computer Science, & Physics

Dr. Arun Saha
College of Arts and Sciences
Department of Mathematics, Computer Science, & Physics

Dr. Seyed Roosta
College of Arts and Sciences
Department of Mathematics, Computer Science, & Physics

A solar panel produces maximum electrical energy when sunlight falls perpendicular to the panel, but it is impossible to maintain the perpendicular orientation of solar panel with respect to sunlight at all times because of earth rotation. This project determined an optimum angle of a solar panel with respect to the ground for a particular location in order to harvest maximum amount of electrical energy output. The experimental results showed that the maximum electrical energy output was obtained when a solar panel was oriented at 60 degrees to the ground.

BREAST SELF-EXAMINATION EDUCATION FOR ADULT WOMEN

Nia Brown
Albany State University
Department of Health & Human Performance

Dr. Wanda Allen
Darton College of Health Professions
Department of Nursing

Globally, cancer poses as one of the leading causes of death. In relation to women, breast cancer has affected them greatly. Often the causes of breast cancer are unknown, and many women are unaware of how to check for potential signs of the disease. Furthermore, the underserved communities do not have access to mammograms; therefore, the breast self-examinations are their only hope. It's important that women of all backgrounds know when and how to perform a breast self-examination. There must be acknowledgement of the significance of breast self-examinations in order to be more proactive in preserving lives. The purpose of this quantitative descriptive study is to evaluate the correlation between breast cancer awareness and age, ethnicity/race, education, access to primary care, and inform women to engage in breast self-examinations.

THE DESIGN AND GREEN SYNTHESIS OF NAPHTHALENE TETRA-CARBOXYLIC DIIMIDES(NDI) ORGANOTRIFLUOROBORATES

Jayda Carey
Albany State University
Department of Biology, Chemistry, & Forensic Science

Dr. Richard Mason
Darton College of Health Professions
Department of Biology, Chemistry, & Forensic Science

Naphthalene tetracarboxylic diimides (NDI) have emerged as the frontrunners for devices used for organic electronics. The development and practical use of Organic Field Effect Transistor (OFET) and photovoltaic cells (OPVs) have greatly increased as a direct result of the chemical, thermal, high electron affinities and large electron mobility's of NDIs. The preferred synthetic route to NDI small molecules, oligomers and polymers involves carbon-carbon bond formation via metal catalyzed cross coupling. Metal catalyzed reactions involving the NDI core have had to rely, until recently, exclusively on the availability of coupling partners. As is often the case organostannanes (trimethyltin or tributyltin) derivatives of conjugated electron depleted cores such as NDI is the preferred synthetic method. However, the extreme toxicity of organostannanes is well known throughout the scientific community. The research that we are currently developing, focuses on the design and implementation of a synthetic methodology that is environmentally friendly (green synthesis). This methodology avoids the use and generation of toxic waste during our molecular synthesis. The use of trifluoroborates incorporated into the electron depleted core of NDI's will address the toxicity issues that are encountered in the synthesis of NDI small oligomers and polymers.

DETERMINING MOTOR PERFORMANCE AND NEUROMUSCULAR IMBALANCES IN DIVISION II COLLEGIATE ATHLETES UTILIZING THE MODIFIED TUCK JUMP ASSESSMENT

Doylisha Copeland
Albany State University
Department of Health & Human Performance

Prof. Valerie Lee
Darton College of Health Professions
Department of Health & Human Performance

Dr. Timothy Hughley
Darton College of Health Professions
Department of Health & Human Performance

The Tuck Jump Assessment (TJA) is a screening tool that was designed to support practitioners with identification of neuromuscular deficits associated with anterior cruciate ligament injury. This study aimed to evaluate the inter-rater reliability of the modified scoring (0-2) using 8 Health and Human Performance students as raters. A total of 50 Division II athletes (25 females and 25 males) were included in this study. Each participant's recorded performance of the TJA was scored independently by eight raters across ten criteria using the modified-Tuck Jump Assessment scale. An investigator who was blind to the identity of the raters analyzed the scores from all eight raters for each participant. Kappa coefficient (k) and percentage of exact agreement (PEA) for the inter-rater reliability will be analyzed for each item. This research will demonstrate the validity of the modified Tuck Jump Assessment and reliability in all analyzed criteria.

FROM THE RHYTHMS OF THE HEART TO THE RHYTHMS ON THE SCREEN: HOW HAS THE COVID-19 PANDEMIC AFFECTED INSTRUCTIONAL STRATEGIES IN MIDDLE SCHOOL MUSIC CLASSROOMS?

Bionca Cummings
Albany State University
Department of Arts & Humanities

Dr. Jillian Baxter
College of Arts and Sciences
Department of Arts & Humanities

With the COVID-19 pandemic continuing today, teacher instructional strategies are becoming a new challenge in our classrooms today. Therefore, in music education classrooms, there is an increasing struggle to continue to develop musicianship and responsibility without the goal of performing as an ensemble. Specifically, in the middle school music classroom, teacher instruction strategies set the atmosphere for the significant lessons and techniques that help students gain the knowledge they need to progress on their musical journey. This proposed research project will focus on teacher instructional strategies and how those instructional techniques change student behavior in the field of primary music education in Dougherty County Public Middle Schools. In this research project, at least five volunteer teachers from different middle schools will complete surveys and interviews on how the COVID-19 pandemic affected their lesson planning strategies. This project can be used as a tool to prepare music education students at Albany State University to learn about the significance of shifting instructional strategies in a digital or hybrid format. The main goal of this project is to find new instructional methods that are both engaging and effective in the middle school music classroom. Teacher instructional methods today are very influential in how students achieve as we strive to keep them educated, healthy and safe.

DESIGN, SYNTHESIS AND CHARACTERIZATION OF BORONIC APPENDED 1,3-DIPHENYLEMIDAZO [1,5-A]PYRIDINE SACCHARIDE SENSORS

Bevin Glanton
Albany State University
Department of Biology, Chemistry, & Forensic Science

Dr. Richard Mason
College of Arts and Sciences
Department of Biology, Chemistry, & Forensic Science

High levels of glucose, fructose and galactose in the human body have been shown to lead to diseases such as diabetes, heart disease and glaucoma. Diabetes, an autoimmune disease, has been identified by the Centers for Disease Control and Prevention (CDC) as major comorbidity factor with patients infected with COVID-19. A study published in June 2020, in the medical journal, SN Comprehensive Clinical Medicine, investigated the belief that COVID-19 in a person with underlying health conditions or comorbidities "has an increasingly rapid and severe progression, often leading to death." The tight control of sugar levels has been shown to dramatically reduce complications that arise from diabetes, therefore, strict monitoring and control of sugar levels in the human body is vital. This project has investigated the design, synthesis and characterization of potential saccharides sensors, based on 1,3-diphenylimidazo[1,5-a]pyridine cores appended to a boronic acid receptor unit (which serves as the recognition unit of the molecule). The attempted synthesise of the molecules has been investigated using a one pot methodology illustrated in Scheme 1. Alternate routes for the synthesis of the novel sensor molecules were also explored. Scheme1: Plausible synthetic scheme for the synthesis of boronic acid appended imidazo[1,5-a]pyridines.

INVESTIGATING THE RELATIONSHIP BETWEEN CAAX PROTEOLYSIS OF RAS2 GTPASE AND ITS LOCALIZATION AND FUNCTION

Grace Greenway
University of Georgia
Department of Biology, Chemistry, & Forensic Science

Dr. Walter Schmidt
College of Arts and Sciences
Department of Biology, Chemistry, & Forensic Science

The Ras GTPases signal cell growth in eukaryotes. As a consequence of a series of post-translational modifications (PTMs), Ras moves from the cytosol to the plasma membrane where it functions. These modifications occur at the Ras C-terminal CAAX motif (Cys-Aliphatic-Aliphatic-one of many amino acids) and include i) isoprenylation of the Cys ii) proteolytic cleavage to remove AAX, iii) carboxymethylation of the isoprenylated Cys, and iv) palmitoylation of some Ras isoforms at a Cys preceding the CAAX box. This study focuses on the impact of PTMs on the function and localization of yeast Ras2, which we hypothesize will be negatively impacted by disrupting CAAX cleavage. Instead of knocking out the RCE1 gene that encodes the CaaX protease, which is expected to have pleiotropic effects from the simultaneous alteration of PTMs on many CAAX proteins, we employed a strategy involving the use of cleavable and non-cleavable CAAX motifs in the context of both wildtype Ras2 and Ras2 G19V that serves as a mimic of the cancer-causing Ras G12V mutant in humans. Ras2 function was assessed through a heat sensitivity assay, and Ras localization was scored using a subcellular GFP-Ras2 reporter. Our results indicate that Ras2 cleavage has a significant effect on both function and localization of both wildtype and mutant Ras. These results suggest that the cleavage step of the CAAX PTM pathway is a potential therapeutic target for human cancers involving Ras.

HOW REALITY TV SHAPES COMMUNICATION AMONG STUDENTS

Diontayvious Harris
Albany State University
Department of Arts & Humanities

Prof. Elizabeth Sheffield-Hayes
College of Arts and Sciences
Department of Social Sciences

This proposed research will analyze the influences that reality tv programs and their chosen contestants have on college students. The main objective of this study is to understand the interpersonal relationship that these students have with reality programs, if there is any, and how these shows have shaped their view of the world around them. In this study, the participants will range from ages 18-23. Questionnaires will be conducted on each of these students. During this experiment, approximately 10 male students and 10 female students who are currently enrolled at Albany State University will serve as the units of measure. They will think back on the first reality show they have ever watched and what words are synonymous with that particular show. By the end of this, the study should highlight what communication styles were present in these shows and how it has affected the people watching them.

COMMUNITION IN FOOTBALL

Miquail Harvey
Albany State University
Department of Arts & Humanities

Prof. Elizabeth Sheffield-Hayes
College of Arts and Sciences
Department of Arts & Humanities

Commination is a part of our everyday life. In this research you will find out the importance of commination between football players and coaches on or off the field. You are going to read that commination plays a big part for player on the football field. Also, you will find out how players on the field comminute with the coaches that are on the sideline. There will be interviews from football players to see what makes commination important on and off the football field. This research will help people get a better understanding of the game of football.

BLOCKING OF HARMFUL ELECTROMAGNETIC RADIATION FROM 5G ANTENNAS

James Hawkins
Albany State University
Department of Mathematics, Computer Science, & Physics

Dr. Arun Saha
College of Arts and Sciences
Department of Mathematics, Computer Science, & Physics

At present, researchers in many countries are engaged in serious debate in regard to the harmful electromagnetic radiation from 5G antenna. In this research, an effort has been taken to design a material that will block 5G radiation. Smith et. al. demonstrated that if infinitely long and thin metal wires are placed in space periodically, lower frequencies are blocked by the structure. Based on Smith's works, the concept of "band Stop" material to block certain band of frequencies using finite-sized thin metal strips was proven recently. In this project, "band Stop" material research is further extended to push the operational frequency into the spectrum of 5G radiation (27-29 GHz). Simulation results shows that desired performance can be achieved by varying the periodicity of metal strips or by changing strip-dimension or by adjusting material property. The authors acknowledge the research support from Georgia Space Grant Consortium.

THE DECISION TO HOMESCHOOL DURING COVID-19

Jamilah Hawkins
Albany State University
School of Education

Dr. Kathaleena Monds
College of Business, Education & Professional
School of Business

This academic school year looks shockingly different from what teachers, parents, and students may be accustomed to, due to the current pandemic, Coronavirus (COVID-19), which flipped the world upside down in early March 2020. Parents had to readjust their work schedules and lifestyles, after they were given the role of co-teacher by unofficially homeschooling their children. The homeschooling movement is best defined as parents educating their children at home rather than enrolling their children into public and private institutions (Martin, 2020). While some parents have chosen to send their children back to public and private institutions given the opportunity, there are families who have decided to homeschool their children during the worldwide health crisis. The purpose of this study is to investigate African American families' who have decided to homeschool during COVID-19. This study will obtain interviews from five African American families from five counties including Dougherty County, Terrell County, Calhoun County, Baker County, and Worth County.

**THE SOCIAL-PSYCHOLOGICAL IMPACT OF SOCIAL MEDIA ON TEENS IN RURAL SOUTH
GEORGIA: POSTULATING DURKHEIM'S IDEAS OF SUICIDAL BEHAVIORS, SOCIAL INTEGRATION,
AND REGULATION**

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There has been significant research conducted in recent years which shows how the media and other social media outlets impact and influence our youth when it comes to suicide. There has been an alarming increase in the number of teens who commit suicide solely based on the influence of media. One of the goals of this research is to raise awareness about the importance of both familial and social integration and regulation in preventing suicide. Another goal is to educate individuals about the power of social media and its influence on teens' personal views about themselves, including thoughts of suicide and self-harm. The focus will be on a demographic that has been ignored. A major hypothesis in this work is the following: Are teens in rural South Georgia more heavily influenced by social media than teens in urban cities in the country? Surveys (using a rating scale) will be distributed to participating students in a local rural high school to gather the data. The surveys will assess the influence teens believe social media has on their psychological well-being. The significance of this research is two-fold. It will reduce the risk factors of suicide among teens in South Georgia by educating teens and their families about the importance of social integration and regulation. This study will be used as a resource for school counselors to use in workshops addressing suicidality among teens, to educate parents, and to help teens establish a peer support group.

**TECHNOLOGICAL PEDAGOGICAL STRATEGIES DURING COVID-19 PANDEMIC: KINESIOLOGY
STUDENTS ONLINE-ONLY VERSUS BLENDED LEARNING EXPERIENCE**

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The coronavirus (COVID-19) pandemic has brought unprecedented change to our lives and the educational landscape. A desire to retain the advantages of face-to-face learning while also maintaining the rules of social distancing, has led to other hybrid or blended teaching strategies. Fully online learning is also recognized now by most higher education institutions as one method to deliver a less resource intensive teaching product. The purpose of this study was to test whether undergraduate Health and Human Performance students who received the blended learning approach would score higher in terms of learner satisfaction, as measured by a reflection paper, when compared to an online-only teaching approach. This study population will be a cohort of 74 undergraduate college age students in Health and Human Performance enrolled at a higher education institution in Georgia. Outcome measures will include a reflection paper that students submit at the end of the semester. Statistical analysis will be performed on the data from the reflection papers using a six-stage qualitative thematic analysis.

ROLE & IMPACT OF E-COMMERCE ON SUPPLY CHAIN MANAGEMENT

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Supply chain deals with the flow of goods and relative information from company to the consumers. E-commerce is an essential part of supply chain which helps with the logistic side of a business. It plays a vital role on making sure that the operation is running successfully on every part of the business; manufacturers, wholesalers, retailers and consumers. Therefore, e-commerce has such a broad spectrum and impact on the supply chain management. In the report from the U.S Commerce Department in 2015, the sales using e-commerce have seen the annual growth of 4.2 percent compared to retail which had a growth of 1.6 percent. The recent growth is expected to be much higher because of Covid 19 situation. In this project, we have studied the impact of e-commerce in supply chain management. We have selected leading US companies and have studied the role that e-commerce has played on their supply, sales and profit. During this presentation, we will present the outcome of our study: the analysis on the impact of e-commerce in supply chain management.

ISOLATION AND IDENTIFICATION OF PESTICIDE-DEGRADING BACTERIA

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While pesticides serve an important purpose, they can be extremely dangerous to humans and animals. The purpose of this project is to isolate pesticide-degrading bacteria. To isolate malathion-degrading microorganisms, soil core samples were collected from soils with two depths, rhizosphere and non-rhizosphere. Approximately 1 g of soil was inoculated into the ammonium mineral salt (AMS) medium containing malathion as the sole carbon source, being used as the minimal media. Certain pesticides stimulate the growth of microorganisms, but other pesticides have depressive effects or no effects on microorganisms when applied at normal rates. Malathion is a man-made organophosphate pesticide. It is known to be extremely strong and is used commonly in agriculture. This reason this pesticides was chosen, was to test it and to see if pesticide-degrading bacteria could be identified and isolated and would those microorganisms continue to grow in a substance that is known to be 'strong'. From the enrichment cultures, we identified positive growth, from which we will isolate and purify malathion-degrading microorganisms. To identify isolates, DNA will be extracted using the DNeasy Blood & Tissue Kit (Qiagen), amplified by PCR, and then sent off to the Georgia Genome Facility located at the University of Georgia for 16S rRNA gene sequencing.

THE USE OF SOCIAL MEDIA DURING RECRUITMENT WITH ATHLETICS

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The proposed research will examine how high school football prospects use social media and recruiting services to get offers to play football at colleges and universities during a pandemic. The study will compare how this year's high school recruiting class must use social media more to get recruited than previous classes. The participants will answer a questionnaire that will pertain to their recruiting process. The participants will be 5 high school seniors and 5 college athletes. There will also be a recruiting director to show things from a recruiter's point of view. The whole point of this paper is to show how high school prospects have to use social media more than previous classes to get themselves to colleges because in a pandemic college coaches cannot see prospects in person.

NATIONAL SECURITY RISK MANAGEMENT: APPLYING THE FRAMEWORK OF ENTERPRISE RISK MANAGEMENT TO THE NATIONAL SECURITY CONTEXT

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Empirical studies have repeatedly demonstrated that successfully implementing the principles of enterprise risk management (ERM) can generate increased value in the business environment. Much of this value proposition rests in ERM's ability to better integrate, assess, and mitigate complex risks. Existing ERM research has recently sought to expand this conceptual risk framework into portions of the public sector. However, little research exists regarding the potential value of an ERM framework in the national security context—particularly in combatting complex security risks stemming across multiple departments and agencies. My research explores the potential ways in which adopting a security-tailored system of ERM could add value to the national security community's threat mitigation process. In order to test this, I have developed an augmented ERM security rating system rooted in a composite of prominent private sector ERM rating models. This project employs a mixed-methods approach, beginning by using my model to evaluate the annual ERM proficiency score of FBI/CIA counterterrorism collaboration from 1993 to 2009. The START Global Terrorism Database will then be used to gauge the relative success of counterterrorism efforts for each respective year. In this, a particular year's ERM security scale functions as the independent variable and that respective year's START terror score as the dependent variable. Several prominent case study events will also be examined qualitatively to highlight certain causal mechanisms of the ERM process. I expect to find that following 9/11, both ERM principle implementation and counterterrorism success rates rose in tandem. However, the ERM framework allows for a deeper exploration into the specific aspects of risk collaboration and integration to examine which areas may have contributed most to the improvement. While the methodology of this project focuses exclusively on counterterrorism efforts in the Intelligence Community, many takeaways will likely remain generalizable to the national security threat mitigation process at large.

ISOLATION AND IDENTIFICATION OF PREDOMINANT BACTERIAL SPECIES IN TRITIUM-CONTAMINATED SOIL SAMPLES FROM SAVANNAH RIVER SITE

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Tritium contamination is found in groundwater sources around the world as it is both a naturally-occurring isotope and a by-product of nuclear power plant systems. Once tritium enters groundwater sources, it can then be cycled through ecosystems in mediums such as soil. In this study, the effect of tritium on microbial life and its diversity was analyzed with a focus on the predominant heterotrophic bacteria found in tritium-contaminated soil. Soil samples were collected from two depths, the rhizosphere and the non-rhizosphere in the tritium-contaminated soils at the Savannah River Site. Approximately 1.0 gram was inoculated into Tryptic Soy Broth (TSB) in duplicate. The quantity of heterotrophic bacteria was measured by using the spread-plate technique, and the predominant bacterial species were isolated and purified by using the streak-plate technique. DNA was extracted from pure cultures using Qiagen's DNeasy Blood and Tissue Kit, amplified using PCR, and will be sent for sequencing at the Georgia Genomic Facility. This study will identify the predominant heterotrophic bacteria in soil under the impact of tritium and also provide fundamental information on the effects of tritium on soil heterotrophic bacterial communities.

WORKING V.S. NON-WORKING COLLEGE STUDENTS: MENTAL, PHYSICAL, AND EMOTIONAL HEALTH

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The proposal research will explore the mental, physical, and emotional health of a working college student versus a non-working college student. Many students that attended college pursue jobs, whether it be an internship or a typical job. The study will examine the stress levels of a college student that works and a non-working student. In this study, college students aging from 18-24 will be surveyed upon their mental, physical, and emotional health based on if they work a job or not. The students will examine themselves on their health and well-being. The proposed research will determine if college students are properly taking care of their health when it comes to multitasking in extreme conditions on their bodies and mind.

THE AFFECTS MARIJUANA USE HAS ON YOUNGER GENERATION

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This proposed research investigates the positives and negatives affects the use of Marijuana is having on the college students of today. This study will examine how the use of Cannabis affects their progress in the classroom, mental health, and how they feel on a day-to-day basis. There will be a total of 20 college students 10 who use Marijuana daily and 10 who do not. The students who do use Marijuana will speak on the ways it has helped them or hurt them through their years in college. Also, if they feel like the use of Cannabis in college is positive or negative. The students who do not will speak on why they choose not to use Cannabis. Also, if they think that the use of marijuana for college students is positive or negative.

LEGALIZATION OF MARIJUANA: GOOD OR BAD IDEA? ASSESSING THE RISKS OF COLLEGE AND POST-COLLEGE CAREER FAILURE DUE TO THE RECREATIONAL USE OF MARIJUANA AMONG HIGH-SCHOOL AND COLLEGE-AGED STUDENTS IN THE U.S.

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The recreational use and/or decriminalization of marijuana has emerged as a matter of major policy concern in the US. Advocates on both sides of the debate have provided considerable evidence concerning the benefits and social implication of the legalization of marijuana. These debates provide a wealth of evidence regarding both the negative and positive impacts of the legalization of recreational marijuana use. However, the findings have been, for the most part, inconclusive. As such, this study proposes to build on existing research in the behavioral sciences, criminology and education research to test hypotheses regarding the effect of long-term recreational use of marijuana on high-school and college age students on their post-college mobility experiences. The goal of this study is to help to inform debates among policy makers, educators and others in the forefront of drug policy legislation on the potential impact of long-term recreational use of marijuana pursuant to the legislating of legalization and decriminalization of marijuana use. Utilizing data from the US Department of Education's National Education Longitudinal Study (NELS), multinomial logit analysis will be applied to test research hypotheses. Moreover, we conclude with discussion on policy recommendations pertaining to the aforementioned problems and suggestions for future research.

AN INNOVATIVE METHOD TO DESIGN A MICROWAVE ABSORBER

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A microwave absorber is fabricated with a single or multilayer dielectric materials covered by metal plane on one side while other side is exposed to free space to absorb a particular microwave signal. In this research, a microwave absorber was designed with an absorbing material whose relative permittivity and permeability are known. In the design process, impedance matching between absorber and free space was achieved by circular metal patches of predesigned shape that were printed periodically on absorbing material. The microwave absorber along with predesigned metal patches was modeled in the 3D electromagnetic simulation software HFSS. Simulation results showed that circular metal patches can contribute to impedance matching and can tune the absorption frequency.

IS SOCIAL MEDIA BIAS AND CENSORSHIP AN ISSUE AMERICANS ARE FACING WHEN IT COMES TO POLITICAL GAIN FOR THE LEFT?

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This research proposal objective is to dive deep and find out through quantitative studies if censorship bias is an important issue we are facing here in the U.S for political gain for the left side of the aisle.

INFLUENCES OF CHILDHOOD ABUSE AND INHERITED BEHAVIORAL TRAITS ON VIOLENT CRIMES

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The question of what makes someone a criminal has been asked by criminal profilers and psychologists with the intention of stopping a violent crime before it happens, also to understand what leads a criminal to commit such an act. Profilers and psychologists take the nature v. nurture approach to help families identify key traits that can lead to a future life of violence and get the child/teen the appropriate help they need. This research will help those in law enforcement, social services, and child psychology identify young adults who have the markers of a violent criminal and intervene to prevent violent crimes from occurring. This research will examine the backgrounds of three key serial killers by looking into their childhoods and the backgrounds of their family members. This research will investigate what caused these three criminals to give into their vicious fantasies and link that to any psychological factors. To test the hypothesis that childhood trauma leads to violent crimes rather than inherited behavioral traits, primary and secondary research will be gathered. This research will study the cases of three serial killers: Carl Eugene Watts, Dennis Rader, and Richard Cottingham. For each case, a narrative would be drawn from secondary data based on their childhood and events that took place before adulthood. Articles and journals on the topic of criminal psychopathology and other documents will be dissected. Audio and video recordings of the criminals themselves discussing their family history, background, and method will be examined.

QUALITY OF SLEEP IN ASU'S ASSOCIATE LEVEL NURSING STUDENTS DURING COVID-19

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Existing research suggests that the COVID-19 pandemic has resulted in alterations in the sleep patterns and time spent slept among university students. However, the influence on sleep quality in nursing students amid the pandemic has not been well-documented. We will use the Pittsburgh Sleep Quality Index to assess sleep quality in 1st year and 2nd-year students enrolled in ASU's associate nursing program. We will report data from components of the assessment tool, consisting of subjective sleep quality, duration of sleep, sleep latency, sleep disturbances, sleep efficiency, the use of medications to induce sleep, and daytime dysfunctions to gauge the overall quality of sleep. Our data will derive from a convenience sampling of 56 students. Descriptive statistical analysis will summarize the findings of the quality of sleep that is present in the population. The study will highlight the climate of nursing students' sleep quality, while no longer on mandatory lockdown due to COVID-19. This research is significant because it can provide insight into if the implementation of healthy sleep hygiene practices is necessary for nursing students' health post-lockdown.

COMPLEX POST-TRAUMATIC STRESS DISORDER: A CASE STUDY AND INTERVIEW APPROACH TO UNDERSTANDING TRAUMA

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Post-traumatic stress disorder seems to be an ever-growing trend. While many are familiar with the term, most are unfamiliar with a parallel disorder, Complex Post-Traumatic Stress Disorder (C-PTSD). While it does have overlapping symptoms with PTSD, C-PTSD is more severe and seems to develop among those who have been severely abused as children. The purpose of this paper seeks to examine the causes and symptoms of C-PTSD, as well as give a broad view of the abusive forces through high profile cases. This study also seeks to examine the outcome of trauma and abuse via personal interviews. The case studies that will be analyzed come from high profile cases that have been featured on Dr. Phil. These profiles highlight well the typical symptoms of Complex Post Traumatic Stress Disorder and will give you a deeper insight into the severity of the trauma one goes through to end up with the diagnosis of C-PTSD versus regular PTSD.

ISOLATION AND CHARACTERIZATION OF 1,4-DIOXANE-DEGRADING BACTERIA FROM TRITIUM-CONTAMINATED SOILS

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1,4-Dioxane is a contaminant of emerging concern that has been found widespread in soil. The unique chemical properties of 1,4-dioxane, such as high water solubility, low Henry's law constant, and importantly, the co-occurrence with chlorinated solvents and other contaminants, increase the array of challenges to efficiently clean up 1,4-dioxane. Since degradation through bioremediation has the potential to clean up 1,4-dioxane, we are to isolate bacteria that can aerobically mineralize 1,4-dioxane as its sole carbon and energy source. Soil cores were collected from the 1,4-dioxane-contaminated sites and divided by rhizosphere and non-rhizosphere depths in duplicate. Approximately 1 g of soil was inoculated into TSB, from which 100 μ l was inoculated into ammonium mineral salts medium (AMS) and incubated at 37 °C. From these enrichment cultures, we will isolate and identify 1,4-dioxane-degrading microorganisms, which will provide a practical insight into the bioremediation of 1,4-dioxane.

SECOND WIND: TRUTH OR MYTH

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Second Wind is a phenomenon mostly among the athletic community that refers to the body having a second jolt of energy. Second wind has been theorized that it's a balance of oxygen in the body versus the amount of lactic acid. Another common theory was that the body released endorphins, pain-relieving hormones, to have the runner reach a state of euphoria. The main focus of my research was to understand what second wind truly was, either the balance of oxygen or the releasing of hormones. And use that information to assess how people can use that information to be able to train for longer amounts of time and get the desired results of having peak conditioning.

ALBANY STATE UNIVERSITY UNDERGRADUATE RESEARCH SYMPOSIUM

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