2023 Symposium "Promoting Healthy Communities"

MONDAY & TUESDAY | MARCH 27-28, 2023

Southern University Smith-Brown Memorial Union • E Street, Baton Rouge, LA 70807



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2023 Symbosium

"Promoting Healthy Communities"

MONDAY, MARCH 27, 2023

8:00 a.m. - 9:00 a.m. Registration/Check-in/Poster Set-up

Location: Smith-Brown Memorial Student Union

9:00 a.m. - 9:15 a.m. Opening Remarks

Dr. Orlando F. McMeans, Chancellor-Dean

Southern University Agricultural Research and Extension Center and the College of Agricultural, Family & Consumer Sciences

Overview

Dr. Fatemeh Malekian, Professor of Food Science/ Director of Southern University Institute for Food, Nutrition and Wellness/Project Director for Center of Excellence for Nutrition, Health, Wellness and Quality of Life

Southern University Agricultural Research and Extension Center

9:15 a.m. - 9:45 a.m. Presentation

Dr. Dionne Toombs, Director (Acting), National Institute of Food and Agriculture (NIFA)

United States Department of Agriculture (USDA)

9:45 a.m. - 10:15 a.m. Keynote Presentation

Dr. Alma Stewart, RN, MS, CCHC, Founder & President

Louisiana Center for Health Equity

10:15 a.m. - 10:30 a.m. BREAK

10:30 a.m. - 10:45 a.m. Presentation

Dr. Antonio McLaren, Vice President for Program Innovation and Implementation

The 1890 Universities Foundation

10:45 a.m. - 11:00 a.m. Presentation

Allison Johnson, National Outreach Coordinator-East

United States Department of Agriculture (USDA) Office of Partnerships and Public Engagement

11:00 a.m. - 11:15 a.m. Presentation

Robert Newton, Associate Professor & Director of the Physical Activity and Ethnic Minority Health Laboratory

Pennington Biomedical Research Center



2023 Symposium

"Promoting Healthy Communities"

MONDAY, MARCH 27, 2023 (CONT.)

11:15 a.m. - 11:30 a.m. Presentation

Alexis Motley, M.S., RD, Dietetic Internship Director Southern University College of Agricultural, Family and Consumer Sciences

11:30 a.m. - 11:45 a.m. Presentation

Charlotta Carter, Founder of LLENA(AI)

Health Solutions, Inc

11:45 a.m. - 12:00 p.m. Presentation

Pat Leduff, Community Activist/Organizer/

Co-founder & President

Community Against Drugs and Violence, (CADAV, Inc.)

and Scotlandville CDC

12:00 p.m. – 1:15 p.m. NETWORKING LUNCHEON

CENTER OF EXCELLENCE

1:15 p.m. - 1:30 p.m. Presentation

Dr. Fatemeh Malekian, Professor of Food Science/
Director of Southern University Institute for Food,
Nutrition and Wallpass/Project Director for the Contr

Nutrition and Wellness/Project Director for the Center of Excellence for Nutrition, Health, Wellness and Quality of Life

Southern University Agricultural Research and Extension Center

1:30 p.m. - 1:45 p.m. Presentation

Dr. Shengmin Sang, Professor of Functional Foods

and Human Health

North Carolina Agricultural and Technical State University/North Carolina

Research Campus

1:45 p.m. - 2:00 p.m. Presentation

Dr. Norma Dawkins, Professor and Chair,

Department of Food & Nutritional Sciences

Tuskegee University



2023 Symbosium "Promoting Healthy Communities"

MONDAY, MARCH 27, 2023

CENTER OF EXCELLENCE PILOT PROJECTS

CENTER OF EXCELLENCE THEOT TROOPERS	
2:00 p.m 2:15 p.m.	Presentation
	Dr. Ayesha Sarker, West Virginia State University Yogurt Fortification with Green Papaya Powder and Banana Resistant Starch to Improve Gut Microbiota and General Gastrointestinal Health of Appalachians
2:15 p.m 2:30 p.m.	Presentation
	Dr. Samuel Besong, Delaware State University Assess the Impact of COVID-19 Pandemic on Food Consumption Behavior and Develop Approaches to Improve Access to Healthful Foods Among Low-income Families.
2:30 p.m 2:45 p.m.	Presentation
	Dr. Juzhong Tan, Florida A&M University Building Research and Education Capacity by Valorizing Muscadine Grape Pomace to Fight Health Disparities in Underserved Communities in the South
2:45 p.m 3:00 p.m.	Presentation
	Dr. Tokesha Warner, Tennessee State University Food Justice Leadership Academy
3:00 p.m 3:10 p.m.	BREAK
3:10 p.m 4:15 p.m.	Panel Dissussion: Promoting Healthy Communities Pamela Broom of NewCorp; Chauna Banks, Councilwoman District 2; and Charlotta Carter, LLENA App
4:15 p.m 4:30 p.m.	Closing Remarks
	Dr. Venu (Kal) Kalavacharla, Deputy Director, Institute of Youth, Family, and Community, NIFA United States Department of Agriculture (USDA)
4:30 p.m 5:30 p.m.	Poster Viewing:
	Undergraduate and Graduate Students

5:30 p.m. - 7:00 p.m. Reception and Awards Presentation



1023 Symbosium "Promoting Healthy Communities"

Reception and Awards PRESENTATION

MARCH 27, 2023 | 5:30 p.m. - 7:00 p.m.

Presiding

Dr. Norma L. Dawkins, Ph.D., CFS

Professor, Chair, Department of Food & Nutritional Sciences, College of Agriculture, **Environment and Nutrition Sciences**

Tuskegee University

Greetings

Brittany Howard, B.S.

Center of Excellence Project Manager/ Research Associate

Southern University Agricultural Research & Extension Center

Occasion

Renita W. Marshall, DVM, M.S. Vice Chancellor for Academics and Student Support-Associate Dean

College of Agricultural, Family and Consumer Sciences Southern University Agricultural Research & Extension Center

Reception and Final Poster Viewing

Undergraduate Students

Evan Egana, B.S. **Nutrition Educator**

Southern University Agricultural Research & Extension Center

Ashlyn Harrison, M.A., CALT, NCC, LPC Assistant Specialist-Mental Health

Southern University Agricultural Research & Extension Center

Graduate Students

Krystle J. Allen, Ph.D.

Program Leader, Family and Consumer Sciences/Assistant Specialist, Community and Economic Development

Southern University Agricultural Research & Extension Center

Jasmin Mathews, MPH

Assistant Specialist, Public Health Director, Communities of Color Network

Southern University Agricultural Research & Extension Center

Acknowledgements

Joshua B. McDonald, MPA **Nutrition Education Programs Coordinator** SNAP-Ed and EFNEP

Southern University Agricultural Research & Extension Center

Closing Remarks

De'Shoin A. York, Ph.D. Vice Chancellor, Extension and Outreach

Cooperative Extension Program Southern University Agricultural Research & Extension Center



2023 Symposium

"Promoting Healthy Communities"

TUESDAY, MARCH 28, 2023

8:00 a.m. - 9:00 a.m. Check-in

9:00 a.m. - 9:15 a.m. Welcome

Dr. De'Shoin York, Vice Chancellor for Extension & Outreach

Southern University Agricultural Research and Extension Center

Dr. Renita Marshall, Vice Chancellor for Academic and

Student Services/Associate Dean

Southern University College of Agricultural, Family and Consumer Sciences

9:15 a.m. - 9:45 a.m. Presentation

Alberto Gonzales, Senior Advisor for External Engagement

United States Department of Agriculture (USDA)

9:45 a.m. - 10:15 a.m. Presentation

Dr. Jodi Williams, National Program Leader in Food Safety

National Institute of Food and Agriculture (NIFA) United States Department of Agriculture (USDA)

10:15 a.m. - 10:45 a.m. Presentation

Ashlyn Harrison, M.A., CALT, NCC, LPC

Assistant Specialist-Mental Health

Southern University Agricultural Research and Extension Center

10:45 a.m. - 11:00 a.m. BREAK/FINAL POSTER VIEWING

11:00 a.m. - 12:00 p.m. Panel Dissussion: The Role of Communities in the Efforts to Combat Health Disparities

Janice Patterson, Healthy Fruits, and Vegetables Project

Tuskegee, Alabama

Dr. Alfreda Bester, Esq. MBA Special Counsel for Human Services,

Southern University Law Center

Nicole Honore, Director of Equity in Cancer Care

Mary Bird Perkins Cancer Center

12:00 p.m. - 12:05 p.m. CLOSING REMARKS/EVALUATIONS

Brittany Howard, BS, Center of Excellence Project Manager

and Research Associate

Southern University Agricultural Research and Extension Center

12:05 p.m. – 2:00 p.m. EXHIBITORS/MOBILE TRUCKS/ FOOD DEMONSTRATION AND LUNCH



2023 Symbosium "Promoting Healthy Communities"

DR. DIONNE TOOMBS

Presentation Title: NIFA and the 1890s: Proven Partners in Health

Abstract: USDA's National Institute of Food and Agriculture (NIFA) is committed to providing the broadest support possible to the 1890 Land-Grant Colleges and Universities, their faculty, and their students. In fiscal year 2022, NIFA oversaw \$212.5 million in competitive and capacity grants awarded to its 1890 Land-Grant University (LGU) partners. These investments included scholarships, capacity and facilities grants, and investments in Centers of Excellence, among others. These are just the latest examples



of a long and productive partnership between NIFA and the 1890 LGU System – one poised for even stronger success in the future. This presentation will shine a light on the impact of the 1890s, particularly in the areas of health and wellness. It will offer a look ahead at NIFA's ongoing investments in nutrition, health, wellness, and quality of life and how NIFA and 1890 LGUs can continue to assist underserved communities effectively.

Speaker Bio: Dr. Dionne Toombs is the Acting Director of the National Institute of Food and Agriculture, the U.S. Department of Agriculture's extramural grant funding agency for agricultural research, education, and extension programs across the nation. Previously, she was the Director of the Office of the Chief Scientist, where she led a wide range of issues affecting science programs and science policy in agricultural research, education, and economics. Dr. Toombs also provided scientific leadership and coordination to the White House, Office of Science and Technology Policy, National Science and Technology Council working groups, across USDA and other federal agencies, and the agricultural community. With over a decade of USDA service, Dr. Toombs was the Director of the Division of Nutrition at NIFA where she led USDA nutrition science leaders who helped steer science policy and program development to ensure America's food supply was safe, nutritious, and accessible to all citizens. She was the National Program Leader for NIFA's Agriculture Food and Research Initiative, leading large competitive grant programs to fund research in nutrition, food science and technology and food safety and as a Program Specialist for Food Science and Nutrition at the former USDA Cooperative State Research Education and Extension Service, which is now NIFA. Since she started at USDA as a student intern at USDA's Agricultural Research Service, Dr. Toombs has been repeatedly featured as one of USDA's most impactful women scientists and recognized by the Secretary of Agriculture for outstanding leadership. Throughout her career, she has helped her colleagues, staff, and students maximize their potential by bolstering their talents and developing their leadership skills. Always willing to champion the next generation of scientists, she often emphasizes the importance of relationship building, citing collaboration as a key to her success.



ALMA C. STEWART, RN, M.S., CCHC

Presentation Title: Louisiana Health Equity

Speaker Bio: Alma C. Stewart, RN, MS, CCHC is the Founder and President of the Louisiana Center for Health Equity, a nonpartisan nonprofit organization she established in 2010 to address disparities in health and health care, with a focus on wellness and community health. Stewart is a registered nurse, former career state civil servant, entrepreneur, and avid public health policy advocate. Throughout her decades-long career, she has testified at countless legislative hearings, spearheaded multiple advocacy campaigns



and addressed social and political determinants of health in a manner that boldly places the needs of disparate populations at the forefront of Louisiana's political and social agenda. Stewart's strong convictions as a woman of faith coupled with her tireless civic engagement and uncanny ability to rally community stakeholders at the grassroots level have earned recognition on national, state and local stages. Among her recent notable accomplishments is being recognized nationally as the recipient of the NAACP Dr. William Montague Cobb Award for her outstanding efforts to advance health policy, health advocacy and social justice in the State of Louisiana. Stewart is also a recent fellow of the second cohort of the National Children's Health Leadership Network and a current member of the Children's Advocacy Leadership Network to advance child health policy and advocacy with a focus on reducing health disparities for children and families. As the leader of LCHE, one of her most noteworthy accomplishments to date was organizing and leading a broad coalition, the Campaign for Healthcare for Everyone - Louisiana, to advocate for access to healthcare coverage through Medicaid expansion. After a three-year battle for this policy, in January 2016, Louisiana became the first state in the Deep South to expand Medicaid under the Affordable Care Act closing the coverage gap for over 500,000 adults who now have healthcare insurance. She is the host of Today's Health Topics, a weekly radio show on WTQT 106.1 FM, Facebook Live and the worldwide web far-reaching local, national and international audiences. Stewart earned a Bachelor of Science in Nursing from Northwestern State University, a Master of Arts in Human Relations and Supervision from Louisiana Tech University, a Master of Science in Rehabilitation Counseling from Southern University of Baton Rouge and a Certificate of Organization Development from Georgetown University. She has also studied at the Louisiana State University Governmental Services Institute. Lastly, Stewart is a proud mother and grandmother and enjoys reading, traveling and spending time with family and friends.



DR. ANTONIO MCLAREN

Presentation Title: The 1890 Universities Foundation: Elevating the 19-Strong

Abstract: The session will provide an overview of the 1890 Universities Foundation, which is a 501c3 non-profit organization that supports the 1890 land-grant institutions. The presentation will highlight the Foundation's history, goals and objectives, priority programs, initiatives, and significant accomplishments.



Speaker Bio: In April 2021, Dr. Antonio McLaren joined the 1890 Universities Foundation as the Vice President for Program Innovation and Implementation. In this role, he assists in the mobilization of resources to facilitate broad-based educational and outreach programs, initiatives, and approaches across the 1890 land-grant institutions to help them respond to new/emerging opportunities and challenges in the 21st century. Prior to this appointment, Dr. McLaren worked for the United States Department of Agriculture (USDA) / National Institute of Food and Agriculture (NIFA) as a National Program Leader between 2015 and 2020. In this role, he provided national leadership, management, and support for NIFA's 1890 programs portfolio, which was valued at over \$180 million in annual federal funds across 6 programs. From 2011 to 2015, Dr. McLaren worked for USDA's Office of Advocacy and Outreach as the USDA/1890 Program Liaison at Virginia State University (VSU). In that role, he worked to advance VSU's 1890 land-grant programs by emphasizing outreach to the university and surrounding community, and recruitment of students to VSU's College of Agriculture. In 2003 to 2011, Dr. McLaren worked as a USDA/NIFA program specialist – providing support for competitive programs that targeted limited-resource and underserved farmers and producers. In all, he has more than 22 years of federal service – all with USDA. Dr. McLaren was selected as a USDA/1890 National Scholar in 1997. He earned his Bachelor of Science degree in Agricultural Business/Economics in 2001, and his Master of Arts degree in Economics and Finance in 2003 – both from Virginia State University. In May 2015, he graduated with a Doctorate degree in Educational Leadership from Virginia Commonwealth University. Dr. McLaren was a recipient of NIFA's A.J. Dye Diversity Award in 2009, and APLU's inaugural 1890 Universities Career Exemplar Award in 2015.



ALLISON JOHNSON

Presentation Title: The USDA-1890s Partnership -34 Years and Counting

Abstract: This session will provide a historical overview of the 1890's partnership with the United States Department of Agriculture. This partnership officially began in 1988 in Nashville, TN, because of the 1890 Universities citing unequitable access to USDA programs, grants, cooperative agreements, student work experiences, scientists and of course, funding. This partnership created a closer partnership between USDA and



the universities, upgraded the physical facilities on the campuses, established the USDA Liaison Program and so much more. President Biden signed Executive Order 13985 of January 20, 2021, his first day on the job, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, a charge the USDA Liaison has been intentional about for over 34 years. Join to learn more about the role of the USDA Liaison in the USDA-1890 Partnership.

Speaker Bio: Allison Johnson is presently the National Outreach Coordinator-East with the USDA Office of Partnerships and Public Engagement, managing 25 states on the Eastern half of the US from West Virginia to Mississippi. In this position, she ensures USDA program outreach for all 17 USDA agencies to underserved/unserved farmers, veterans and ranchers, recruitment of minority students to pursue careers in agriculture and collaborative research opportunities for the 1890 land grants with the USDA. Allison is a graduate of Southern University and from a family of PROUD Jaguars.



DR. ROBERT NEWTON

Presentation Title: Working with Communities to Promote Behavior Change

Abstract: Behavior change is difficult to initiate and maintain. There is a growing awareness that behavior change does not exist at the individual level and that community level factors also affect behavior change. The presentation will provide examples of research studies conducted with the community. The results of these studies will be presented as well as ongoing research.



Speaker Bio: Dr. Robert L. Newton, Jr. is currently an Associate Professor and Director of the Physical Activity and Ethnic Minority Health Laboratory at the Pennington Biomedical Research Center. His research examines the effect of community-based lifestyle interventions on the health of African Americans. A growing area of research is lifestyle interventions in older African Americans and its effects on cognitive function. He has obtained federal, state, industry, and private foundation funding to support his research efforts.



ALEXIS MOTLEY, M.S., RD

Presentation Title: MyPlate is My Community Garden

Abstract: The presentation will focus on the importance of community gardens particularly in food deserts/low-income communities. The audience will understand the basic steps of starting a community garden and how to maintain the garden. Additionally, we will discuss how healthy food access can assist in decreasing chronic diseases.



Speaker Bio: Alexis Motley, M.S., RD is the Director of the Southern University A&M College Dietetic Internship Program. She has expertise in Community Nutrition, Diabetes, Obesity and Weight Management. Also, she has experience in diabetes education, community and school gardens, and military/government nutrition. Alexis has volunteered and served on numerous committees with the Louisiana Academy of Nutrition and Dietetics and the Baton Rouge Academy of Nutrition and Dietetics. Motley's affiliations include My Kid Plate Foundation, Girls Scouts of Baton Rouge, and Baton Rouge Sigma Alumnae Chapter of Delta Sigma Theta. Motley graduated from Southern University and A&M College, earned a master's degree, and completed her dietetic internship at McNeese State University.



CHARLOTTA CARTER

Presentation Title: Barriers, Opportunities, and Challenges for Addressing Diet Related Disparities

Abstract: Barriers, Opportunities and Challenges for Addressing Diet Related Disparities: What are food disparities, food insecurity and food deserts? Who does it affect the most? How do we combat it for the masses? How does technology play a part? What is the university doing to support the community in this area?



Speaker Bio: Charlotta Carter is a visionary leader and board director with over 25 years of experience in leading high performance software development and human resource teams and organizations. She is the CEO of GRI Technology Solutions, Inc., and founder of LLENA(AI) Health Solutions, Inc. She has held senior level positions overseeing software development teams at leading technology corporations such as IBM, Microsoft, Sun Microsystems, and SGI among others. Her experience extends into the realm of international commerce - as developing high value software is increasingly a global endeavor requiring the right balance of personnel across multiple countries and the requisite commercial and cultural acumen to maintain team effectiveness and efficiency. Moreover, Mrs. Carter further serves as the Managing Partner for PWC Technology Services, an IT Consulting and global staffing firm based in Toronto and focused on growing businesses in the Canadian market. Charlotta has provided leadership and advisory service across diverse industry segments such as technology, finance, healthcare, and cyber security. She has been the recipient of numerous awards and recognition - including, but not limited to: First Woman-Owned firm accepted in Goldman Sachs' 10K Small Business in Silicon Valley; State of California Governor's appointee to the SBAC (Small Business Advisory Board); and an Amazon partner with a focus on addressing chronic diseases by leveraging the power of Artificial Intelligence (AI). Charlotta earned a B.S. in Computer Science from Southern University, Additionally, Charlotta has been recognized by the Silicon Valley Business Journal as a Women of Influence and by both the San Francisco Business Times and Silicon Valley Business Journal as a Top Minority Owned Business and Top Woman Owned Business.

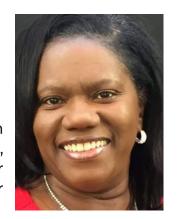


2023 Symbosium "Promoting Healthy Communities"

PAT LEDUFF

Presentation Title: Welcome to Scotlandville Working on a Healthier Community

Abstract: Explore, create, and execute. This presentation will focus on what has been done and what is currently happening in Scotlandville, La. Attendees will learn ways to partner and collaborate for a healthier community, using resources right at your fingertips, and enjoy a virtual tour of some amazing projects in the pipeline, including upcoming events.



Speaker Bio: Pat McCallister-LeDuff is a community activist, organizer and a 50-year member of the Progressive Baptist Church. She has well over 15,000 community service hours. She is married to Ernest LeDuff, Jr., the mother of 4 wonderful children and Mimi of 10 grandchildren. Pat's passion through the Scotlandville CDC is to revitalize Scotlandville by striving to create positive change that will create a "crime-free" and thriving community environment while elevating the quality of life and promoting homeownership with "upscale" affordable housing and economic development. Pat is co-founder and current President of both, Community Against Drugs and Violence, (CADAV) Inc. and Scotlandville CDC, founded in 1993. Through her efforts, CADAV's mission is to combat drugs and street violence thereby, creating a safer and cleaner place for children to grow and prosper to become productive, self-sufficient citizens. The goal is to provide a road to resources by building capacity within each Scotlandville family.



DR. FATEMEH MALEKIAN

Presentation Title: The Center of Excellence for Nutrition, Health, Wellness and Quality of Life

Abstract: Establishing an 1890 Center of Excellence (COE) for Nutrition, Health, Wellness, and Quality of Life is very timely and will strengthen 1890 institution's capacities in research, teaching, and extension. The Center addresses diet-related health disparities in African Americans. Louisiana, North Carolina, and Alabama are among the top 10 most obese states



in non-Hispanic black adults. Southern University, North Carolina A&T State University, and Tuskegee University have complementary strengths in research, teaching, and extension, and are in a unique position to work as a team to establish a COE, which is on the tripartite "landgrant" mission of research, teaching, and extension to improve the health and well-being of underserved and minority population. The primary goal of this COE is to increase the capacities of 1890 institutions to address health disparities through nutrition research, teaching, and extension. The specific objectives are: 1) Research: To enhance the research capacity at 1890 institutions focusing on food intake and nutritional/health outcomes; 2) Teaching: To strengthen and advance innovative food and nutrition educational and instructional strategies for students at 1890 institutions; and 3) Extension: To provide training and education to underrepresented communities through multi-state food and innovative nutrition outreach programs.

Speaker Bio: Dr. Fatemeh Malekian is a Professor of Food Science, Director of the Southern University Institute for Food, Nutrition and Wellness and Project Director for the Center of Excellence for Nutrition, Health, Wellness and Quality of Life at the Southern University Agricultural Research and Extension Center (SUAREC) in Baton Rouge, Louisiana. Dr. Malekian received her Ph.D. and M.S. in Food Science/Food Chemistry and Processing from Louisiana State University. Dr. Malekian has been director and co-director of several projects funded by the USDA, FDA, and other agencies. Her research focuses on food, nutrition and physical activities, obesity and obesity related diseases, non-traditional meats, product development (Hibiscus, Whey Protein, and Resistant Starch), chemical analysis of foods, stability, processing, packaging, and food safety. Dr. Fatemeh provides training and support for extension professionals and paraprofessionals and other individuals throughout Louisiana. Her influence and leadership are not confined to Louisiana alone. She has been an invited participant internationally in nutrition and food safety programs in Armenia, Kenya, Malawi (Africa), Iran, and China. In addition to educating people about nutrition and health, Dr. Malekian has directed several research and extension projects. The results of these projects have made a great impact on people's lives and well-being.



DR. SHENGMIN SANG

Presentation Title: Building the Metabolomic Capacity at North Carolina A&T University (NCA&T) to Study Diet-Related Health Disparities: Fecal Metabolome as the Indicator to Reflect an Individual's Dietary and Health Status

Brief Abstract of Presentation: The primary goal of this research is to increase the capacities of 1890 institutions to address health disparities through nutrition research, teaching and extension. The short-term goal



of this project is to use fecal metabolome as the indicator to reflect an individual's dietary and health status. This presentation will give you an update about the progress that we made to build the metabolomic capacity at NCA&T, the stool sample collections from lean and obese African American volunteers by the three partners (NCA&T, Tuskegee University, and Southern University), preparations of the stool samples for metabolomic and 16S sequencing analysis, and pilot data.

Speaker Bio: Dr. Shengmin Sang is a Distinguished Professor of Functional Foods and Human Health at North Carolina Agricultural and Technical State University/North Carolina Research Campus. He also serves as a full-faculty member at the University of North Carolina (UNC) Linebergar Comprehensive Cancer Center at UNC Chapel Hill, an adjunct Professor in the Department of Food, Bioprocessing and Nutritional Sciences at North Carolina State University, and the Associate Editor of Journal of Agricultural and Food Chemistry. Dr. Sang's research focuses on using precision nutrition-based dietary regimens to combat and prevent chronic diseases, which involves identifying bioactive food components for gut health and metabolic diseases prevention and utilizing metabolomic approaches to identify biomarkers for food intake and disease prevention and treatment. He has published over 200 peer-reviewed Science Citation Index articles in reputable journals, over 100 refereed conference abstracts, and over 20 book chapters. He has also received nine U.S. patents. Dr. Sang's research has been supported by research grants from National Institute of Health, U.S. Department of Agriculture, NCBC, private foundations as well as private companies. He has received several professional awards, such as the Advancement of Application of Agricultural and Food Chemistry Award, the Fellow Award, and the Young Scientist Award of the Agricultural and Food Chemistry Division of the American Chemical Society, the Matthew Suffness Young Investigator Award of the American Society of Pharmacognosy, and the Research Article of the Year Award of the Journal of Agricultural and Food Chemistry. He also serves as the Editorial Board member of Molecular Nutrition and Food Research and Journal of Functional Foods.



2023 Symbosium "Promoting Healthy Communities"

DR. NORMA DAWKINS

Presentation Title: The Impact of Individualized Vegetable Gardens on Fresh Vegetable Intake of Participants in Selected Black Belt Alabama Counties (BBC)

Abstract: The Dietary Guidelines for Americans 2020-2025 and MyPlate. gov recommend that one-half the plate should contain whole fruits and a variety of vegetables. Fruits and vegetables include a wide variety of plant foods with dietary fibers and bioactive compounds, which are linked to lower incidence of chronic diseases. Furthermore, several studies have indicated that limited resource communities, such as those that exist within the BBC,



frequently have limited availability and access to affordable, healthy foods at an affordable cost. More than 1.8 million Alabama residents live in areas with no grocery stores with access to fresh fruits and vegetables; additionally, federal data showed that, 156 Alabama census tracts are considered food deserts. Therefore, the purpose of this intervention is to establish container/ raised-beds gardens in selective Black Belt counties to increase fruits and vegetables intake among rural residents living in food deserts. Approximately 100 container/raised bed gardens were established in five Black Belt counties in Alabama; 70 were raised-bed box gardens and the remainder were various types of containers. A variety of vegetables were planted (collards, kale, romaine lettuce, three varieties of cabbage, turnip greens, brussel sprouts, broccoli sprouts, and cauliflower). Preliminary results revealed that 66 individuals (Phase 1) have access to fresh vegetables without the added cost of traveling to access fresh vegetables; a 60% increase in intake of fresh vegetables at 3-4 times weekly, and 28% increase in intafe of 5 times weekly/daily was reported. In Phase 2 an additional 87 individuals have access to fresh vegetables with an early harvest indicating 15-20lbs, among five of the households. The significance of this project is based on the willingness of the participants (90%) to continue planting vegetables and fruits in the containers provided from this project, thus promoting its sustainability, and the access to fresh vegetables at the individual household level.

Speaker Bio: Norma Dawkins, Ph.D., CFS is the Professor and Chair of the Department of Food & Nutritional Sciences at Tuskegee University. She graduated from Wayne State University, Ph.D. Food Science & Nutrition, Tuskegee University, with an M.S. Food Science & Nutrition, and obtained a B.S. in Food Science also from Tuskegee. She is currently a Professor in the Department of Food & Nutritional Sciences, Tuskegee University. She also has experience as the Senior Research Scientist at Slim Fast-Food Company, Covington, TN, 2000-2002, Associate Professor, Department of Human Nutrition & Food, Southern University 1999-2000, Assistant Professor, Department of Human Nutrition & Food, Southern University 1995-1999, Graduate Teaching Assistant, Wayne State University, Detroit, MI, 1990-1994, Research Associate, Tuskegee University, Tuskegee, 1989-1990, and Parish Officer/Director, Rural Farm Family Development, Ministry of Agriculture, Jamaica W.I.



2023 Symbosium "Promoting Healthy Communities"

DR. AYESHA SARKER

Presentation Title: Yogurt Fortification with Green Papaya Powder and Banana Resistant Starch - Effects on the Nutritional, Physicochemical and Bioactive Properties

Abstract: Functional yogurts from partially skimmed milk with banana resistant starch (BRS) and green papaya powder (GPP) were prepared for added nutritional and health benefits. To evaluate the effect of the supplementation with BRS and GPP on yogurt quality, physicochemical, microbiological, and bioactive properties were studied. Specifically, yogurts



were analyzed for their pH, titratable acidity (TA), firmness, viscosity, water activity (aw), whey syneresis, water holding capacity (WHC), color, probiotic viability, protein and dietary fiber content, antioxidant activity and total phenolic content (TPC) during 21 days of storage at 4 °C. It was observed that added BRS and GPP in optimum proportions remarkably improved WHC and nutritional, antioxidative, and TPC of yogurts. Moreover, added plant-based ingredients did not affect the viability of probiotic culture composed of Streptococcus thermophilus and Lactobacillus bulgaricus during 21 days of storage. However, supplementation with BRS and GPP significantly reduced yogurt firmness and viscosity compared to the control. To improve the physical and textural properties of fortified yogurts, ultrasonication technology was utilized as an alternative to conventional thermal treatment. Preliminary results suggest that ultrasonic processing of pre-inoculated fortified milk significantly improved the firmness, stiffness, stickiness, thickness, and viscosity of yogurts. Overall, adding plant-based ingredients such as BRS and GPP can be an effective strategy for developing yogurts with enhanced nutritional and functional value.

Speaker Bio: Dr. Ayesha Sarker is an Assistant Professor at West Virginia State University Research & Development Corporation. She develops safe and health-promoting foods with novel textures, improved physicochemical properties, and extended shelf-life with added bioactive ingredients. Dr. Sarker has been working to enhance the protein recovery yields from novel plant sources by adopting a combined approach of isoelectric solubilization-precipitation and enzymatic treatment. She also explores plant proteins for their applications as edible coatings/packaging for fresh produce and applies machine vision approaches for continuous and non-destructive quality assessment. Dr. Sarker also works on cold storage and postharvest handling program oversight and development. She completed her Ph.D. in Agricultural and Biological Engineering from University of Illinois Urbana-Champaign (UIUC). She did her Master's in Food Technology from Wageningen University, the Netherlands, and completed her B.Sc. in Food Engineering from Bangladesh Agricultural University.



2023 Symbosium "Promoting Healthy Communities"

DR. SAMUEL BESONG

Presentation Title: Assess the Impact of COVID-19 Pandemic on Food Consumption Behavior and Develop Approaches to Improve Access to Healthful Foods among Low-income Families

Abstract: Consumers' food consumption and food shopping behaviors have undergone significant changes since the outbreak of the novel coronavirus (COVID-19) in early 2020. To slow down the transmission of the virus, many states took strong containment measures that restricted daily mobility. These COVID-19 containment measures might have disrupted



the food supply chains, and limited access to grocery stores/farmers' markets and cause food insecurity. The pandemic may also affect the quality of consumers' diets. Consumers may shift towards greater consumption of processed food, such as convenience foods, junk foods, snacks, and ready-to-eat cereals, and purchase of foods with longer shelf-life. The project is to: (1) assess the impact of the COVID-19 pandemic on food consumption behavior and (2) identify and promote the consumption of healthy food, improve nutritional status, and mitigate preventable diseases. To assess the impact of the pandemic on consumer eating behavior, a questionnaire was developed and structured to gather information on socio-demographics, food purchase and shopping behavior, and consumption behavior. The survey was administered to the target population through SurveyMonkey. Data was analyzed using SPSS software (version 28.0). Data revealed that participants increased their consumption of fast food, vitamin and mineral supplements during the pandemic. Data also revealed that participants would purchase antioxidant and anti-inflammatory foods even at a higher price. Some specialty crops and vegetables with a high content of antioxidants and anti-inflammatory properties were identified and disseminated to the target population through email and formal and informal education. The project data has provided Cooperative Extension specialists with educational tools that can be used to educate consumers on healthy food choices during COVID-19 and future pandemics. The project strengthened the collaboration between researchers and extension specialists, and the research collaboration between Delaware State University and Prairie View A&M University.

Speaker Bio: Dr. Besong is a Professor of Food and Nutritional Sciences and the chairperson of the Department of Human Ecology at Delaware State University (DSU). He also serves as the Graduate Program Director in the department. Dr. Besong began his career as an Assistant Professor and moved through the ranks to become a tenured Professor. He received a B.S. degree from Berea College, Berea, Kentucky, and MS and Ph.D. degrees from the University of Kentucky, Lexington, KY. Throughout his tenure at DSU, he has built partnerships with federal agencies and professional societies that connect him to worldwide communities of science and scientists. His scholarly work and grantsmanship accomplishments further demonstrate his commitment and contribution to Delaware State University's Land-Grant mission of excellence in research, teaching, and extension.



DR. JUZHONG TAN

Presentation Title: Investigate the Antioxidant and Anticancer Activities of Chocolate Fortified with Muscadine Grape Pomace (MGP)

Abstract: Muscadine grape pomace (MGP) is a waste by-product containing potent bioactive compounds from wine and juice processing. Direct composting of MGP can cause potential soil and groundwater pollution. In this study, 3 varieties (Florina, Senole, and Alachua) of MGP were used as one ingredient for chocolates, and the total phenolic contents (TPC), total



flavonoid contents (TFC), antioxidant activities, and anticancer activities of the MGP and MGP chocolates were evaluated. Unmacerated MGP had lower TPC, TFC, and antioxidant activities than the control sample (cocoa powder); however, macerated MGP had higher TPC, TFC, and antioxidant activities than all the samples. Similarly, the highest TPC, TFC, and antioxidant activity were found in the macerated MGP chocolate samples. All MGP samples had potent anticancer activities but were relatively lower than the control sample. Senole MGP chocolates had stronger anticancer activities than the control sample; however, Florina and Senole MGP chocolate samples did not show anticancer activities. The finding of this study can be used by grape juice and wine processors to valorize grape pomace as a value-added ingredient for healthy food products.

Speaker Bio: Dr. Tan is an Assistant Professor at the College of Agriculture and Food Science, Florida A&M University. He is currently working on several research projects, including 1) application of cold plasma to sanitize food contact surface; 2) valorization of muscadine grape pomace as a value-added ingredient for chocolate and puffy snacks; 3) hydroponic farming of hemp and postharvest processing of hemp; 4) monitoring the ripeness, environmental stress, and diseases of grapes by drone; 5) rapid detection of cocoa bean quality using ResNet image processing. He has secured \$10 million dollars in research funding as the Principal Investigation in less than two years, and his research and teaching activities are supported by multiple funding agencies, including U.S. Department of Agriculture National Institute of Food and Agriculture, U.S. Departmental of Agriculture National Resources Defense Council, National Science Foundation, CPS, Florida Department of Agricultural Consumer Science, and industrial collaborators.



DR. TOKESHA WARNER

Presentation Title: The Food Justice Leadership Academy: Preparing Food Justice Advocates Across Disciplines

Abstract: The Food Justice Leadership Academy was a pilot minicourse that examined the structural, historical, and cultural roots of the U.S. food system and issues surrounding disparities in food access, land ownership, agricultural practices and distribution of technology within African American communities. Students from Tennessee State University,



Alabama A & M University, and the University of Arkansas at Pine Bluff participated. Students learned of current research on food and nutrition-related health disparities and how Cooperative Extension uses that information to provide services and programs to each of the communities of the host institutions.

Speaker Bio: Dr. Tokesha Warner serves as an Assistant Professor in Healthcare Administration at Tennessee State University. She earned a Bachelor's degree in physical anthropology from Earlham College (Richmond, IN), a Master's degree in Health Administration from Bellevue University (Bellevue, NE), and completed her Doctorate in Higher Education Leadership at Tennessee State University. Over her 25-year career in health administration and research, she has served at Vanderbilt University Medical Center, the University of Georgia, the Tennessee Department of Health, and HCA Healthcare. She has managed university programs and grants in global health, pediatrics, developmental pediatrics, infant mortality, health services training, health disparities, and health education. Dr. Warner's research is focused on health services, maternal mortality, health disparities, health equity, children with disabilities, maternal and child health, open educational resources (OER), and multidisciplinary research development.



PAMELA ARNETTE BROOM

Panel Discussion: Promoting Healthy Communities

Speaker Bio: Pamela is an experienced nonprofit administration professional specializing in project planning, implementation, evaluation, research, and grant writing. She is proficient in community development consulting locally, regionally, and nationally with a focus on intergenerational connectedness. The work of her passion is in urban agriculture development, outreach, infrastructure planning and hands-



on community-based growing to promote food as medicine. She is a graduate of Tulane University and completed Master of Urban Studies (MSUS) coursework at the University of New Orleans' Department of Urban Studies and Planning, focused on applied urban anthropology. Pamela is currently serving as the 7th Ward Revitalization Project (7WRP) Manager overseeing arts, culture, affordable housing, urban agriculture, green infrastructure, and economic development neighborhood-based revitalization strategies. Pamela manages 7th Ward community restorative efforts along the St. Bernard Avenue Commercial Corridor, within the A. P. Tureaud Cultural District, and at the FARMacia Wellness Hub (the FARMacia), a signature initiative of the 7WRP. The FARMacia is designed to focus on the intersection between urban agriculture and medicine for community wellness.



COUNCILWOMAN CHAUNA BANKS

Panel Discussion: Promoting Healthy Communities

Speaker Bio: A native of Baton Rouge, Chauna Banks graduated from the Southern University Laboratory High School and received her Bachelor of Science degree from Southern University in Computer Science. She also obtained a Master's degree in Education, Leadership, and Counseling graduating from Southern University's Graduate School. Banks is a career employee with the East Baton Rouge School System, having served



as a Mental Health Counselor, Graduation Coach, Grants Project Manager, Interim Dean of Students, and currently as a Professional School Counselor. Now in her third term representing Metropolitan Council District 2, she is also Department Head for the Jewel J. Newman Community Center. While rooted in a consistent tradition of empowering the underserved, Chauna has crafted a vision for Metro District 2 that focuses on equitable funding for blight elimination, infrastructure, and new housing construction. Creating economic opportunities for her constituent base, whose demographics are continually expanding, is a priority. She has likewise enhanced her district by increasing commercial development, experiencing a reduction in crime, and continuously advocating for healthcare access opportunities. Her dedication and hands-on approach with residents, business leaders, public and private institutions, community groups, and other elected officials has been fundamental in changing the "status quo." Councilwoman Banks has made a life-long commitment to move her community forward and will always work to foster an end to joblessness, neighborhood blight, and poor public education through using the tools of public policy, legislation, and public involvement. Her overall vision is to improve her constituents' quality of life — regardless of race, class, gender, or socioeconomic status. She continues to believe that there is a solution to every problem and that when we work together, everybody wins.



DR. VENU (KAL) KALAVACHARLA

Abstract: The brief remarks will focus on summarizing the progress made by the 1890 Center of Excellence (COE) for Nutrition, Health, Wellness and Quality of Life. Additional remarks will also include the collaborations and potential impacts of the COE, and next steps as outlined in the symposium.

Presentation Title: "NIFA and the 1890s: Proven Partners in Health" Speaker Bio: Dr. Venu Kalavacharla (Kal) joined the National Institute of

Food and Agriculture in 2021 as the Deputy Director responsible for the Institute of Youth, Family and Communities. Dr. Kalavacharla's portfolio at NIFA includes the Division of Community and Education, the Division of Family & Consumer Sciences, and the Division of Youth & 4-H. He is responsible for both capacity and competitive grants related to minority serving institutions including the 1890 HBCUs, the 1994 Tribal Colleges & Universities, Hispanic Serving Institutions, Alaska Native & Native Hawaiian Institutions, and Institutions in Insular Areas. Institute of Youth, Family, and Community is also responsible for NIFA's education portfolio including K-12, undergraduate and graduate education. Prior to joining NIFA, he served as Associate Dean for Research & Professor of Plant Molecular Genetics and EpiGenomics in the College of Agriculture, Science and Technology at Delaware State University (DSU). Dr. Kalavacharla joined Delaware State University as an assistant professor in 2006 rising through the ranks to full professor. Since 2009, he served as the founding Director of the Center for Integrated Biological and Environmental Research (CIBER) at DSU. Dr. Kalavacharla was actively engaged in understanding and improving crop responses to abiotic and biotic stressors in plants by using tools and methods from classical genetics and breeding to genomics, transcriptomics and epigenomics. He has secured more than \$19 Million in extramural grants to Delaware State University from the National Science Foundation and USDA/NIFA and has experience in many crops including Brassicas, common bean, wheat, switchgrass, and salt marshgrass. Dr. Kalavacharla is very interested and passionate about experiential learning and developed a layered mentoring program for students and staff while in Delaware. Through the National Science Foundation and NIFA funding, he strived to bring together cohorts of students from diverse student populations and backgrounds so that they can thrive in an environment that supports and encourages them. Prior to joining NIFA, Dr. Kalavacharla and colleagues developed a Ph.D. program in Integrative Agricultural, Food and Environmental Sciences at Delaware State University to encourage inter- and multidisciplinary research, training, and education aimed at developing today's scientists who can work in academia, industry, or government. Dr. Kalavacharla has also taught a wide variety of courses in the broader biological sciences and has also served in industry.



ALBERTO GONZALES

Presentation Title: USDA's Actions to Advance Food and Nutrition Security: The Role of Our 1890 Institutions

Abstract: This session will provide an overview of the United States Department of Agriculture's efforts to tackle food and nutrition insecurity and how it is leveraging the recent historic White House Conference on Hunger, Nutrition, and Health to help end hunger, improve nutrition and physical activity, and reduce diet-related diseases and disparities. The



session will detail how the USDA is using a four-pillar approach to advance food and nutrition security and the role that 1890 institutions can have in enhancing our efforts. The session will also provide an overview of the historic White House Conference and the corresponding National Strategy released the day before. The session will highlight relevant progress, non-government commitments to accelerating progress on the White House Conference goals, and opportunities for 1890 Institutions to help. The session will also lift opportunities for students to engage in this work, including a brief overview of how to apply for internships and other professional development supports.

Speaker Bio: Alberto Gonzalez currently serves as Senior Advisor for External Engagement at the U.S. Department of Agriculture's Food and Nutrition Service (FNS). Alberto's role at FNS involves engaging healthcare, food, nutrition, and anti-hunger partners on FNS's more than 15 federal nutrition assistance programs and the USDA's nutrition security initiative to advance health equity. Prior to his role at the USDA, Alberto was Senior Project Manager for Health Policy at UnidosUS, where he worked on health and nutrition policy related to federal government programs and led a federal legislative campaign to pass the Health Equity and Accountability Act (HEAA) of 2020. Before joining UnidosUS in 2018, he worked as a Senior State Advocacy Manager at Community Catalyst in Boston, MA and served on the steering committee for the Protecting Immigrant Families (PIF) Campaign. Alberto also held roles at the California Immigrant Policy Center (CIPC) and the California State Assembly. Gonzalez has a Master's degree in Public Policy from Harvard's Kennedy School of Government and a Bachelor's degree in Political Science and American Studies from the University of California, Berkeley.



DR. JODI WILLIAMS

Presentation Title: Supporting Healthy Communities – Beginning with Food Science and Food Safety

Abstract: The U.S. Department of Agriculture is committed to equitably supporting healthy communities. Food Science and Food Safety objectives are strategically interwoven throughout USDA's nutrition security agenda as a vital component for success. USDA/National Institute of Food and Agriculture is harnessing a holistic research, education, and outreach



agenda, across the food chain to build a more sustainable, resilient, equitable and nourishing food system which includes production, preparation, promotion, consumption, and disposal. NIFA's Food Science and Food Safety Grant Programs align with the USDA and NIFAs strategic goals "Ensure America's Agricultural System is Equitable, Resilient, and Prosperous" and "Provide All Americans Safe, Nutritious Food". This presentation will highlight the significant outcomes and impacts of USDA/NIFA's Food Science and Food Safety Grant Portfolio as we support healthy communities through an equity lens.

Speaker Bio: Dr. Jodi Williams is a National Program Leader in Food Safety with the U.S. Department of Agriculture in the National Institute of Food and Agriculture (NIFA) where she provides leadership for a \$30M portfolio of competitive and non-competitive grant programs in Food Science and Food Safety. Before her return to NIFA she worked with USDA's U.S. Codex Office (USCO) where she served as the Deputy Manager for U.S. Codex. Prior to working with USCO, Dr. Williams was the Senior Advisor for Food Safety, Nutrition, and Health in USDA's Office of the Chief Scientist where she advised the Under Secretary/Chief Scientist on policy development and operational planning pertaining to food safety, nutrition, and human health programs and activities. Dr. Williams has been with the U.S. Department of Agriculture for over 25 years. She received her Ph.D. and MS from Virginia Polytechnic Institute and State University in Food Science and Technology with a Food Chemistry focus and her BS from Delaware State University in Chemistry. She lives and works in Shrewsbury, PA with her husband, 3 children, and two dogs.



ASHLYN RAE HARRISON

Presentation Title: Eliminating the Stigma: Changing the Narrative Around Mental Health

Abstract: This presentation will outline the stigmas surrounding mental health in communities and how to address those stigmas directly. Mental health services and those in need of support have been scrutinized. The conversation needs to shift around the need for mental health supports and services for underserved and minority populations. The practice of mental



health supports the holistic person and, if not addressed, can affect multiple facets of life. Mental health wellness is a lifelong and proactive strategy to strengthen mental, emotional, social, and psychological resources. It also stems from a feeling balanced, connected to others, and ready to meet life's challenges. A range of treatments and supports can be provided to address the individualized needs. The audience will better understand the mental health stigmas, be provided community resources, and increase mental health wellness.

Speaker Bio: Ashlyn Harrison is a Licensed Professional Counselor, educator, and consultant with ten years of state and local agency experience, certified in Trauma-Focused Cognitive Behavioral Therapy (TFCBT), School Counseling, and Mindbody-Mindfulness. She currently serves as the Assistant Specialist for Mental Health at the Southern University Agricultural Research and Extenison Center's Cooperative Extension Program; where she supports and advocates for the mental health needs of students, faculty, youth, and adults. She graduated from Southern University with a Bachelor of Science in Sociology and returned shortly after to earn a Master's in Clinical Mental Health and Counselor Education. She is currently enrolled at Xavier University Louisiana, working to obtain a doctorate in Educational Leadership with an anticipated graduation date of December 2023. In her spare time, she is actively involved and serves on regional and national community organizations: Alpha Kappa Alpha Sorority Incorporated, The National Coalition of 100 Black Women Incorporated, Metropolitan Baton Rouge, The Baton Rouge Women's Council, The Louisiana Counseling Association, and the East Baton Rouge Parish Special Education Advisory Council. Her favorite quote is "Don't be a product of your environment, make your environment a product of you."



"Promoting Healthy Communities"

JANICE PATTERSON

Panel Discussion: Role of Community in the Efforts to Combat Health Disparities

Speaker Bio: Janice Patterson is a resident of Lowndes County Alabama. She is a retired Health Care worker and has been married for 46 years. She is very active in her community. Her participation in the panel will focus on solutions and finding ways to collectively help each other with education, health choices regardign the whole body, in health, dental, physical as



well as mental aspects to live a disease-free life. She is currently participating in the Tuskegee Healthy Fruits and Vegetables, a 3-year Container Garden Project.



ALFREDA TILLMAN BESTER

Panel Discussion: Role of Community in the Efforts to Combat Health Disparities

Speaker Bio: Alfreda Tillman Bester currently serves as Special Counsel for Human Services at Southern University Law Center's Vulnerable Communities & Peoples Initiative and as Adjunct Professor. She is a former Assistant Secretary of Family Support at the Louisiana Department of Children & Family Services (2016-2020) and is the principal Attorney with



Tillman Bester & Associates, LLC, a law firm located in Baton Rouge, Louisiana. Additionally, Ms. Bester served as General Counsel of the Louisiana State Conference of the NAACP for twelve years. She is host of "Perspective", a weekly community interest talk show, which airs every Tuesday, from 5:30-6:30 p.m. on WTQT 106.1 FM, in Baton Rouge. Ms. Bester is also a former Louisiana Secretary of Labor and Undersecretary of Labor. She is the publisher, editor and founder of Perspective News Magazine, LLC. Bester is a Cum Laude graduate of Southern University Law Center with a Juris Doctor Degree, she holds a Master's in Business Administration (MBA) from McNeese State University, and a B.S. in Human Resources from the University of Southern Mississippi. She is a graduate of Leadership Greater Baton Rouge, Chairperson of the Sponsoring Committee of the Urban League of Greater Baton Rouge; Baton Rouge Area YWCA's Young Woman of Achievement; Baton Rouge Business Report 40 Under 40; and formerly served on the Boards of Directors of EQ Health Solutions, the YWCA, Battered Women's Program, Conference of Minority Public Administrators, and the Louisiana Council on Child Abuse. She is a member of the Louisiana State Bar Association, American Bar Association, National Bar Association, American Civil Liberties Union, Southern Poverty Law Center, and the Louis A. Martinet Legal Society. Bester is admitted to practice in all State and Federal Courts in Louisiana, and the U.S. Court of Appeals for the Ninth Circuit.



NICOLE J. HONORE'

Panel Discussion: Role of Community in the Efforts to Combat Health Disparities

Speaker Bio: As an educator and non-profit administrator for nearly three decades, Nicole Honoré has seen firsthand the critical importance of education to empower residents across the capital region and all of Louisiana. With a focus on bridging economic and social gaps in minority communities, Honoré has attracted and managed tens of millions of dollars



in grants aimed at improving teacher and student advancement, and currently at Mary Bird Perkins Cancer Center, making healthcare resources conveniently accessible in North Baton Rouge. As Director of Equity in Cancer Care, Honoré oversees the day-to-day implementation of a \$2 million grant from the Merck Foundation to provide equitable cancer care in this specific community, which is prone to having higher cancer incidence rates, poorer five-year survival rates, higher mortality rates, and are more likely to be diagnosed with a later staged disease due to Social Determinants of Health (SDoH) challenges. For nearly 20 years, Honoré oversaw a variety of grants at the Louisiana Department of Education (LDOE) to incentivize and advance educators and improve schools, while also playing a critical role in developmental training and policy writing. After her stint at LDOE, Honoré raised more than \$800,000 for early college opportunities for underrepresented high school students as regional director for the Greater Education Opportunities Foundation, Inc. This highlights her career-long effort to improve access and remove barriers to equitable opportunities regardless of zip code. Prior to her work at the Louisiana Department of Education, Honore' served as a secondary math teacher in East Baton Rouge Parish School System, as well as Regional Coordinator for a National Science Foundation Rural Systemic Initiative focused on K-12 STEM education. Most recently, Honoré brought together her knowledge of various sectors – education, health equity and economic empowerment – to manage programs and resources for low-income, minority youth as a part of 100 Black Men of Metropolitan Baton Rouge. Over two years, she expanded youth programming and successfully secured grant funding to further the organization's reach in capital region communities. Being a product of Baton Rouge, Honoré understands the makeup and needs of the region. With this firsthand knowledge, she has a leg up in strengthening patient engagement, patient-provider, communication and community partnerships to reduce the toll of cancer on residents in North Baton Rouge through the Merck Foundation's grant.



2023 Symbosium "Promoting Healthy Communities"

ABSTRACT

UNDERGRADUATE STUDENT POSTER

Consumer's Emotional Response and Acceptance of Imperfect Fresh Produce E. M. Clay* and S. Yi., Southern University and A&M College, Baton Rouge, LA 70813

The purpose of this study is to investigate influential factors of grocery consumer's emotional response and acceptance of ugly fruits & vegetables. This study proposes three variables (i.e. appearance, utilitarian value, and food safety) that could affect grocery consumers' negative emotion, then connect their food acceptance. Therefore, we hypothesize, H1. The ugly appearance of imperfect produces negatively influences consumers' emotions. H2. Utilitarian value of imperfect produces negatively influences consumers' emotions. H3. Food safety concern negatively influences on consumers' emotions. H4. Consumers' negative emotion significantly influences on consumers' acceptance. Simple random sampling method is used to collect data from supermarket, public library, farmers market, and Southern University campus. Participants were 18 years or older and were primary grocery shoppers for their households. SPSS program was used to conduct various tests such as frequency, reliability test, factor analysis, crosstab, and regression analysis. From 41 participants, this polit study found that utilitarian value and safety issue of imperfect produces significantly influence on consumer's negative emotion, but not the ugly appearance. Consumers' negative emotion significantly influence on consumer's acceptance of imperfect produces. The result of this study will create positive impact on the ongoing endeavors of reducing food loss and waste when the imperfect fruits and vegetables (i.e. 20-40% of total production and \$165 billion worth of food) are anticipated to be saved. This study results will also provide the meaningful influence of imperfect fruits & vegetables as useful resources to support our community. Therefore, the study will play an important role in the improvement of the sense of citizenship, which is vital for protection of our neighborhood, society, and even our planet.



"Promoting Healthy Communities"

ABSTRACT

UNDERGRADUATE STUDENT POSTER

Overcoming Diet Disparities

D. Davis*, Southern University and A&M College, Baton Rouge, LA 70813

The goal is to create an environment that supports healthy eating and reduces diet-related disparities. By understanding the barriers, opportunities, and challenges, strategies can be developed to reduce disparities. Sisters Together: Move More, Eat Better is a program designed to encourage African American women to eat healthier foods. After each session, participants receive a journal to track their nutrition intake and physical fitness, along with a nutrition fact sheet, which reiterates the lesson or theme of the session. To further encourage the adoption of healthier habits, participants are encouraged to share new ideas and recipes during the upcoming sessions. As participants progress through the program, new friendships emerge and are encouraged for accountability. Each session is strategically designed to motivate and uplift women in communities where health disparities are most prominent. Nutrition is a huge component of adult health and well-being, Sisters Together: Move More, Eat Better invites women of all ages to join the program and become more health conscious about managing their nutritional needs. The goal of the pilot was to increase physical activity and healthy eating among young black women ages 18 to 35.



2023 Symbosium "Promoting Healthy Communities"

ABSTRACT

UNDERGRADUATE STUDENT POSTER

Food Deserts: A Worldwide Health Disparity

B. Henderson*, Department of Family and Consumer Sciences, Southern University and A&M College, Baton Rouge, LA 70807

Food deserts are characterized as an area that has poor access to healthy and affordable foods. This research was conducted to figure out just how common food deserts are and if there are any possible solutions to this problem. Food deserts are mostly associated with areas which people with low income or people who have to travel far distances for healthier food options. It is important to look into this so we can figure out solutions to this problem and get people living in these areas' proper food access. In order to find information on this particular topic I analyzed secondary research that had previously been done and my own observations of where food deserts are and how many food deserts there are. I analyzed quantitative and observational studies. After analyzing the data from secondary qualitative research articles, I have concluded that food desserts are still very common in the United States. The results also showed that food deserts are related to income and race. Places that had community gardens and more grocery stores built in the area saw a decrease in food deserts. A health disparity refers to the differences between groups that have different inequities. Healthy People 2020 defines a health disparity as a type of health difference that is related to social, economic, or environmental disadvantage. Food deserts are common in places where there are more minorities, low income, or where grocery stores are far from local residency. The results of this research are important so we can find new ways of reducing the amount of food deserts and give people living in these areas a better way of accessing healthier foods. Some of the ways we can reduce this problem is by increasing community gardens, changing government policies, increasing farmers market locations, and reducing fast food chains.



2023 Symbosium "Promoting Healthy Communities"

ABSTRACT

UNDERGRADUATE STUDENT POSTER

Emotional Eating by College Students: COVID Impact J. Crook*, M. Johnson, Family and Consumer Sciences, Southern University and A&M College, Baton Rouge, LA 70813

The COVID-19 pandemic has resulted in disruptions in "normal" social, mental/emotional, and physical well-being. To cope with this new normal, individuals have adapted and adopted many behaviors that they otherwise may not have. One such coping mechanism is emotional eating. Although not uncommon among college students, emotional eating may have short- and long-term consequences to health. The purpose of this research is to examine emotional eating behaviors among college students in response to primary and secondary emotions during the covid-19 pandemic. Thirty (N=30) college students enrolled in universities across the United States were recruited to complete an online survey regarding their eating behaviors when feeling certain (positive or negative) emotions. The likelihood of eating when feeling a specific emotion was determined using a 5-point Likert scale (very likely to very unlikely). Students were also asked to indicate their level of agreement with statements related to the influence of the covid-19 pandemic on their dietary behaviors and diet quality. Students eat when experiencing both positive and negative emotions. Emotions were "likely" and "somewhat likely" to determine the kinds of foods that most of the students eat. While the majority of students indicated that they "strongly agree" and "agree" that their diet has changed since the covid-19 pandemic, nearly half believe that the quality of their diet has not increased. Half of the students "strongly agree" and "agree" that their comfort food intake increased since the pandemic began. Examining emotional eating among college students may provide insight into the potential short-term consequences of emotional eating during a worldwide pandemic. Further, identifying specific emotions that trigger poorer dietary habits among college students may be beneficial in developing coping strategies as well as preventing chronic disease and disparities in health later in life.



"Promoting Healthy Communities"

ABSTRACT

UNDERGRADUATE STUDENT POSTER

H.E.R. Weekend: A Student Start-Up at Southern's Fab Lab T. Jordan* and S. K. Benson, Family and Consumer Sciences, Southern University and A&M College, Baton Rouge, LA 70813

The purpose of this research is to explore, evaluate and share my motives and experiences as a student entrepreneur in the pre-incubation phase of involvement with a universitybased fashion and business incubator. My brand, H.E.R. Weekend was selected as one of five student-ran businesses to be accepted into SU's FAB Lab, a Fashion and Business Incubator funded through the USDA's 1890 capacity building grant program, to Increase Underrepresented Populations in Apparel Merchandising and Textiles Entrepreneurship. The FAB Lab supports students enrolled in AMTX at SU wishing to start or improve on an existing fashion, apparel and textiles related small businesses through The FAB Fellows Leadership Program. FAB Fellows receive a stipend, mentorship and assistance with the development of a fashion line or apparel brand from pre-incubation phase to the official launch of their business. The students have access to design space complete with equipment, tools, materials and resources needed to support the development of sustainable fashion and apparel businesses. The acronym, H.E.R., stands for Have Everlasting Resilience and it is the message that I hope to convey to my customers. The concept behind my faith-based shoe and clothing brand is to creatively share a testimony of my life as a woman, mother, student and entrepreneur; inspire other women to walk by faith and fill a niche in the market for female sneakerheads and women's urban streetwear. The findings of this research can be useful to fashion, business and entrepreneurship students especially women and those from other underrepresented groups seeking information regarding starting their own business. Further, this research adds to dearth of scholarly literature concerning faith-based and women's urban streetwear apparel and shoe brands.



"Promoting Healthy Communities"

ABSTRACT

UNDERGRADUATE STUDENT POSTER

Improving the Quality of Life Through Quilting

A. S. Comeaux*, K. Junius, and J-I Seo, Family and Consumer Sciences, Southern University and A&M College, Baton Rouge, LA 70813

Quilt making has a long history across the world, and it is one of the creative craft hobbies for all generations. Currently, more than 10 million quilters are creating quilts in the United States. Quilting can be positively impacting on health, well-being, and quality of our life, but there is limited research about a correlation between quilting and health or wellbeing. Therefore, the purposes of this study are to thematically analyze the benefits of quilting and to investigate how quilting impacts on human wellbeing. This study used the previous results to find the correlations among quilting, wellbeing, and healthy lifestyle. Besides the main purpose of creative guilting activities, it engages in physical and psychological well-being. Lots of quilt making requires the strong collaboration among many quilters. Those quilters are working with others, leading to strong social networks or friendships. Through social networks, quilters can improve their mental health. Moreover, by sharing information about new sewing skills, tricks and more with other quilters or people, the number of people who are feeling isolated will decrease. Quilting can help to reduce one's stress and anxiety and to overcome the family's difficult times. This study finds that quilting has a positive influence on mental health and guilting is a good leisure activity for people of all ages. Quilt making may be meant to be happy and fulfilling moments in human experiences, and it greatly affects healing process to enhance the quality of life. Hence, this study encourages our local communities to have experience in quilting in order to improve the physical and mental state in everyday life.



2023 Symbosium "Promoting Healthy Communities"

ABSTRACT

UNDERGRADUATE STUDENT POSTER

The Impact of Stress on Student Health & Wellness
P.J. Dupre* and M. Johnson, Family and Consumer Sciences,
Southern University and A&M College, Baton Rouge, LA 70813

College students are exposed to various sources of stress as they transition from adolescence into young adulthood. The type and frequency of stress may influence the strategies that students use to cope. Although some coping mechanisms to stress can be positive, others can be negative. The purpose of this study was to evaluate the sources of stress, frequency of feeling stressed out, behaviors when feeling stressed out and confidence in dealing with stress among college students. Students attending Southern University and A&M College were recruited via social media, QR code link, and a survey link posted on course pages, to complete an online Qualtrics survey. In addition to demographic characteristics, students were asked to indicate sources of stress, levels of stress, frequency of feeling stressed out, behaviors when feeling stressed out, and confidence in managing stress. The majority of participants were African American, female and between 18 and 24 years of age. Nearly half of the students indicated that they "strongly agree" that school is a source of stress. Many students indicated that they "sometimes" feel stressed out regarding their mental health, physical health, and social or emotional health. Over half of the students indicated that they "definitely" isolate themselves when they are feeling stressed. Three times as many students reported that they "definitely" eat fast food or junk food when stressed out, compared to those who "definitely" eat healthy foods when feeling stressed. Most students indicated that they were "fairly confident" or "somewhat confident" in their ability to manage stress. The findings of this research suggest that there are various sources of stress for college students. The source and frequency of feeling stressed out may influence coping behaviors, as well as confidence in managing stress.



"Promoting Healthy Communities"

ABSTRACT

UNDERGRADUATE STUDENT POSTER

Louisiana Pride: A Student Start-Up at Southern's Fab Lab D. Marks* and S. K. Benson, Family and Consumer Sciences, Southern University and A&M College, Baton Rouge, LA 70813

The purpose of this research is to share my experiences as a student entrepreneur in the pre-incubation phase of involvement with a university-based fashion and business incubator. My startup business, Louisiana Pride was selected as one of five studentran businesses accepted into SU's FAB Lab, a Fashion and Business Incubator funded through the USDA's 1890 capacity building grant program, to Increase Underrepresented Populations in Apparel Merchandising and Textiles Entrepreneurship. The FAB Lab supports students enrolled in AMTX at SU wishing to start or improve on an existing fashion, apparel and textiles related small businesses through The FAB Fellows Leadership Program. The concept behind Louisiana Pride stems from my roots as a proud Louisiana native. Like most Louisianans, my love for family, football and food is ingrained in my soul. Louisiana Pride captures the spirit and love of sports and the sport of tailgating by creating sports team themed aprons, oven mittens as well as other coordinating accessories and apparel. Louisiana Pride was created with the tailgate grillers and Sunday football chefs in mind providing them with gear that allows them to represent their favorite team from the stadium to the stove. All Louisiana Pride products are made with 100% cotton and adhere to environmentally sustainable practices. Currently, Louisiana Pride items are available on a custom order basis. Through the FAB lab, I am exploring digital textile printing and sublimation printing methods to produce sports themed fabric and to streamline the manufacturing of Louisiana Pride branded products for future retail sale.



"Promoting Healthy Communities"

ABSTRACT

UNDERGRADUATE STUDENT POSTER

Investigative Analysis of Qualities from Faux Leather Fabrics K. Reeves* and J-I Seo, Family and Consumer Sciences, Southern University and A&M College, Baton Rouge, LA 70813

Faux leather is one of substitute materials of genuine leather, and many fashion companies widely use faux leathers. The cheaper price and easy care are the main advantages of faux leathers. The fashion industries and fabric manufacturing companies provide the care labels of the faux leathers to consumers in their fashionable products. However, the companies do not share the quality information of faux leathers. Therefore, the purposes of this study are to inform consumers of detailed information about faux leather fabrics' durability, abrasion resistance, and colorfastness results. This study used three different types of black faux leather fabrics: (1) faux suede -100% polyester, (2) faux leather (coating - 100% polyurethane; base - 87% polyester, 10% cotton, and 3% other fibers), and (3) crocodile faux leather (coating - 100% polyvinyl chloride; base - 84% polyester and 16% cotton). These fabrics were tested by ASTM and AATCC standards test methods for tearing strength, braking strength, abrasion resistance, and colorfastness pertaining to corking. According to the test results, all faux leather fabrics were durable and strong compared to synthetic fabrics. Especially, faux suede had the greatest tearing strength, breaking strength, and abrasion resistance. However, faux suede discolored other fabrics a little bit in both wet and dry crocking test. Faux leather had the highest percentage of extension, and crocodile faux leather had the lowest scores in breaking strength and extension. The coating materials (100% polyurethane or 100% polyvinyl chloride) were not correlated with the durability or abrasion resistance, but the base materials had a strong influence on the strength and extension. This study assumes that the durability and strength were greatly dependent on the amount of polyester content in base materials and the types of weaving patterns.



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ABSTRACT

UNDERGRADUATE STUDENT POSTER

Eating Pattern Effects on Sleep Quality and Quantity N. K. Santos*, M. Johnson, Family and Consumer Sciences, Southern University and A&M College, Baton Rouge, LA 70813

It is recommended that young adults aged 18-25 years get between 7 to 9 hours of sleep per night. Failure to get adequate sleep may occur due to a number of factors. The time that would normally be spent sleeping may be occupied with other activities such as unhealthy eating and increased screen time, both of which may not promote health. This lack of sleep may eventually lead to poor health and potentially a shortened lifespan. The purpose of this study is to examine self-reports of eating patterns, sleep quality, and sleep quantity of college students. Undergraduate students enrolled at Southern University will be recruited through social media posts, word-of-mouth, and QR codes to complete an online Qualtrics survey. In addition to demographic characteristics, the survey will collect data regarding self-reported eating patterns (e.g., timing of meals), sleep quality and sleep quantity. We hypothesize that students who eat frequently during the latenight hours (e.g., after 10pm) will report lesser sleep quality and quantity. Further, we expect that students engaging in late-night eating are more likely to eat unhealthy foods and beverages (e.g., fast food, junk food), which will ultimately disrupt sleep quality and quantity. Adequate sleep quality and quantity are essential for optimal health and wellbeing. Late-night eating of unhealthy snacks and meals may unwittingly sabotage one from achieving the daily sleep recommendations. Poorer sleep quality and quantity may lead to increased risk for chronic disease, suboptimal health and health disparities. By examining eating patterns and the influence of these patterns on the sleep characteristics of college students, interventions may be designed that will optimize daily activities and promote improved health and overall wellness.



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ABSTRACT

UNDERGRADUATE STUDENT POSTER

What are Health Disparities and the Impact on Minority Health?

R. Washington IV* T. Mason*, College of Agriculture, Family and Consumer Sciences,

Southern University and A&M College, Baton Rouge, LA 70813

Health disparities is one leading issues among the minority communities pertaining to health. This is a systemic issue regarding the access to adequate healthcare and food, especially among black and brown communities. "Health disparities adversely affect groups of people who have systematically experienced greater social or economic obstacles to health based on their racial or ethnic group, religion, socioeconomic status... geographic location; or other characteristics historically linked to discrimination or exclusion". It is imperative that we understand the foundation of this issue and how to rebuild a better one that is substantially strong enough for all individuals and not just a particular group. Having access to nutritional food has such significant impact on person life from college students who live on campus or community members who reside in food desserts. It is detrimental to the minority communities holistically not having access to nutritional food and markets to shop for these items. R. Washington COE Scholar will discuss the overall impact of health disparities, research on food choices among African American community on based geographic location, and what steps can be taken to tackle this issue head on.



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ABSTRACT

UNDERGRADUATE STUDENT POSTER

Limitations to Consumption of Fresh Fruits and Vegetable Among Consumer in Alabama Black Belt Counties

A. Johnson*, N. Jones, and V. Lesure, Department of Food and Nutritional Sciences, Tuskegee University, Tuskegee, AL 36088

Consumption of fruits and vegetables include a wide variety of plant foods with dietary fibers and bioactive compounds (phytochemicals that function as antioxidants, phytoestrogens, and anti-inflammatory agents) that are associated with lower incidences of cardiovascular disease, obesity, diabetes, and hypertension. This project, examines limitation to consumption of fresh fruits and vegetables in Alabama Black Belt counties. In Alabama Black Belt (BBC) counties, obesity rates exceed 40% and the incidence of other chronic diseases is higher compared to non-Black Belt counties. Therefore, the specific objective of the study is to examine factors that inhibit intake of fruits and vegetables in this population. A survey consisting of 17 questions was used to gather information on the barriers and the willingness to consume fresh fruits and vegetables. The survey was created in google doc and consisted of Yes/No and Likert type questions. It was distributed electronically and hand delivered to individuals living within the Black Belt counties of Alabama. Preliminary data revealed that 13.5% of respondent were male and 86.5% were female. The largest group (53.3%) of respondents were within the 51+ age group. The main factors are price, health, and education; 6% of people in the age group of 18-23 noted that price influences their purchase of fresh fruits and vegetables. It is important to note that 80% of respondents minimally consumed fruits and vegetables in their diet. The survey also indicated that people are willing to grow their own fresh fruits and vegetables making container and raised-bed gardens a great choice. In conclusion, individuals living in the Alabama Black Belt counties are willing to increase their intake of fresh fruits and vegetables. The limiting factor is availability; therefore, the plan of action is to provide selected the Black Belt communities with container and raised-bed gardens that will provide access to available fresh fruits and vegetables.



"Promoting Healthy Communities"

ABSTRACT

UNDERGRADUATE STUDENT POSTER

Perceived Stress & Behaviors of College Students S. Dents and M. Johnson Family and Consumer Sciences, Southern University and A&M College, Baton Rouge, LA 70813

Exposure to stress may influence both short- and long-term health by promoting certain coping mechanisms. The college years offer a critical window in stress exposure and the development of coping mechanisms that may promote or inhibit health and wellness. The objective of this research is to identify perceived stressors and the stressor influence on eating habits and other lifestyle behaviors of college students. Undergraduate college students will be recruited through social media posts, word-of-mouth, and QR codes to complete an online Qualtrics survey examining sources of (i.e., academic, interpersonal relationships, finances, and environmental) and coping mechanisms (i.e., eating habits, lifestyle behaviors) related to stress exposure. We hypothesize that students will identify varying levels of stress in regard to academics, interpersonal relationships, finances, and environmental settings. Further, more frequent and intensive exposure to these stressors will lead to behaviors that may negatively influence health (e.g., poor eating habits, abnormal sleeping patterns, lack of physical activity, etc.). Poor eating habits and certain lifestyle behaviors may lead to increased risk for diet-related disease, as well as other adverse mental, social and financial consequences. Stress is of public health significance, as stress exposure may lead to negative outcomes that subsequently lead to poor health. Poorer health, particularly among more at-risk individuals, may intensify health disparities and enhance the burden of stress. By examining stress and the influence of stress on the behaviors of college students, interventions may be designed to reduce the burden of stress and diet-related disease on public health.



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ABSTRACT

GRADUATE STUDENT POSTERS

Possible Role of 19S Proteasome in E-Cigs-Induced Inflammation
D. Mutyala*, R. Begum, S. Thota, N. Bidarimath and S. Batra,
Laboratory of Pulmonary Immunotoxicology, Department of Environmental
Toxicology, Southern University and A&M College, Baton Rouge, LA 70813

The use of e-cigarettes has rapidly gained popularity due to their extensive marketing as a safer alternative to conventional smoking. However, recent investigations suggest that the molecular consequences of vaping are quite similar to conventional smoking. Earlier studies demonstrate that exposure to e-cig vapor condensate (ECVC) alters biological pathways involving protein homeostasis. The findings from our laboratory demonstrate the important role of inducible catalytic subunits of 20S proteasome (immunoproteasome) in ECVC-induced inflammation/cellular homeostasis. The preparatory steps involving the substrate binding and commitment; and gate (19S) opening of the 20S proteasome are equally important in the ubiquitin-mediated degradation of proteins. In this regard, the regulation and role of regulatory subunits and deubiquitylating enzymes which are the components of 19S gate/cap have not been well studied in ECVC-exposed cells. While Rpn10 is associated with the degradation of proteins with single chains of K48linked ubiquitin, Rpn13 has been shown to retard the degradation of various singlechain substrates in earlier studies. Contrarily, deubiquitylating enzymes-UCHL-5 cleaves 'Lys-48'-linked polyubiquitin chains, while Rpn11 possesses isopeptidase activity in the proteasome. Using RT-PCR and western blotting we analysed the transcriptional and translational levels of Rpn-10, Rpn-11, Rpn-13, and UCHL-5 along with NF-kB and IkBk in ECVC-challenged lung epithelial cells. We also performed ELISA to determine cytokine/ chemokine production. Our results demonstrate an increase in the transcription and translation of 19S subunits- Rpn10, Rpn-11, Rpn-13, and UCHL-5 in TF-ECVC-challenged cells. While we also observed an increase in NF-kB activation and IkBk degradation in ECVC-challenged cells, the latter being a substrate for the Rpn13/UCH37 complex. Overall, our findings provide evidence about the possible role of 19S gate subunits in **FCVC-induced inflammation.**



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ABSTRACT

GRADUATE STUDENT POSTERS

Possible Role of Rps6 In Sumo-Dependent Regulation of Cell Survival and Death Processes During Dpe-Exposure N. Bidarimath*, S. Thota, R. Begum, D. Mutyala, and S. Batra, Laboratory of Pulmonary Immunotoxicology, Department of Environmental Toxicology, Southern University and A&M College, Baton Rouge, LA 70813

Occupational exposure to air pollutants and diesel particulate extract (DPE) results in an immunomodulatory effect on the lungs. Ribosomal protein 6 (RPS6) has been shown to activate the TRAIL-mediated extrinsic apoptotic pathway. However, a precise mechanism interlinking RPS6 in SUMO-dependent autophagy/apoptotic cell death has not yet been explored in detail. Our objective is to understand the important role of RPS6 in regulating SUMO-dependent autophagy/TRAIL-mediated apoptosis. Using RT-PCR and western blotting, we measured the transcription and translational levels of RPS6, proapoptotic and caspase family, and autophagy-related components in DPE-challenged A549 cells. We performed an in-silico analysis on a SAMSON platform with Auto dock vina and HEX extension and UCSF chimera. Using DPE-challenged (25 µg/ml; 48h) human lung epithelial cells with type II characteristics (A549) we observed a significant increase in the transcription/translation of small ribosomal protein RPS6; pro-apoptotic markers (FADD, FAS, CASP8, and CASP3); SUMOylating (SUMO1; SUMO2/3) and deSUMOylating components (SENP5; SENP7). Interestingly, the DPE challenge reduced transcription of autophagy genes (Beclin1, AGT12, ATG16), SUMOylating component (SUMO1), and deSUMOylating component (SENP3). Interestingly, neutralization of RPS6 rescued DPEinduced expression of SUMO2, SENP5, SENP7; and apoptotic markers (FAS, FADD, CASP3) in A549 cells. Our results are consistent with previous studies which suggest a positive regulatory role of SUMO2/3 in apoptosis. Our findings suggest that the neutralization of RPS6 reversed the DPE-induced dip in the expression of autophagy genes in A549 cells. Our findings provide interesting evidence about the role of RPS6 in cellular processes which regulate cell survival/death during DPE exposure. Detailed in vitro/in silico studies are in progress to further elucidate the molecular mechanisms.



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ABSTRACT

GRADUATE STUDENT POSTERS

Differential Regulation of Inflammatory, Apoptotic, and Autophagy Mediators in Lung/Liver Epithelial Cells by Tchq and Pcp R. Kondatil*, S. Thotal R. Beguml, N. Bidarimathl, D. Muthyalal, W.C. Dorsey2, and S. Batral.1 Laboratory of Pulmonary Immunotoxicology, Department of Environmental Toxicology, Southern University and A&M College, Baton Rouge, Louisiana-70813, 2Molecular Toxicology Research Laboratory, Grambling State University (WCD), Grambling, LA 71245

Environmental exposure to immunotoxin substances, which can lead to cancer or immune system damage, has been steadily increasing over the past few decades. In the United States, pentachlorophenol (PCP) served dual purposes as a pesticide and a wood preservative. In addition to PCP, tetrachlorohydroquinone has been linked to PCP-mediated genotoxicity (TCHQ). Based on previous work in our lab, we know that PCP causes inflammation in lung and liver epithelial cells through TLR4 engagement with DAMPs-Hsp70 and HMGB1. However, the role of TCHQ in controlling inflammatory responses is poorly understood. Thus, we postulated that TCHQ exposure might trigger inflammatory responses in lung and/or liver epithelial cells, analogous to those triggered by PCP. Using type II human lung epithelial cells (A549 cells) and liver epithelial cells (HepG2), we were able to determine the effects of PCP and TCHQ on key inflammatory/ autophagy/apoptotic mediators. Our findings show that CCL2 and IL-8 mRNA expression was significantly increased in TCHQ-challenged A549 cells, while PCP exposure induced the transcription of NF-kB, STAT3, and TLR4. Additionally, lung epithelial cells challenged with TCHQ (25 µM; 24h) were also found to have a greater transcriptional induction of heat shock protein 70 (Hsp70) and the apoptotic mediators'- FAS and FADD. We also compared PCP and TCHQ (10 µM; 24h) on autophagy-related genes (Beclin-1 and LC3B) in HepG2 cells and found the greater impact of PCP exposure on their transcriptional regulation. Our findings demonstrate the differential impact of PCP and TCHQ on the expression of immune/apoptotic/autophagy mediators in lung or liver epithelial cells.



"Promoting Healthy Communities"

ABSTRACT

GRADUATE STUDENT POSTERS

Nutraceutical Approach to Mitigate Pentachlorophenol Induced Responses: In Vitro Study

N Tahniyat*, S. Thota, N. Bidarimath, and S. Batra Laboratory of Pulmonary Immunotoxicology, Department of Environmental Toxicology, Southern University and A&M College, Baton Rouge, LA 70813

Melatonin is a hormone primarily secreted by the pineal gland which plays important role in the circadian cycle. Its role has also been implicated in regulating immune responses and prevention of oxidative damage. Studies have shown that melatonin can rescue epigenetic changes caused during exposure to environmental pollutants. Pentachlorophenol (PCP) is an environmental pollutant that was widely used as a pesticide, herbicide, and fungicide. Although the use of PCP has been restricted in the US due to its carcinogenicity, its use is still prevalent in other countries. Earlier studies demonstrate that PCP exposure induces inflammatory responses and disrupts proteostasis in various study models. Using RT-PCR and western blotting we analyzed the transcriptional and translational levels of inflammatory mediators in PCP-challenged lung (A549) and liver (HepG2) epithelial cells. We observed increase in the expression of heat shock proteins-(HSP)40, HSP70, and HSP90 which play important role in protein folding and degradation in PCP-challenged A549 and HepG2 cells. Further, we also observed altered expression of catalytic inducible proteasome subunits (LMP2 and MECL-1) and increased production of cytokines/chemokines in PCP-challenged cells. It has been reported that proteasome regulates the turnover of histone proteins thereby impacting the epigenetic signatures. In this regard, we observed that PCP exposure resulted in altered DNA methylation signatures; expression of histone 3 and histone 4; and modified histone signatures in A549 and HepG2 cells. Our results demonstrate a possible crosstalk between proteasome function and epigenetic changes in PCP-challenged A549 and HepG2 cells. Further studies are in progress to delineate the molecular mechanisms in detail.



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ABSTRACT

GRADUATE STUDENT POSTERS

Urolithins Rescue E-Cigarette Condensate-Induced Inflammation in Lung Epithelial Cells

R. Begum*, S Thota, D Kambiranda and S Batra, Laboratory of Pulmonary Immuno-Toxicology, Department of Environmental Toxicology & Southern University and A&M College, Southern University Agriculture Research and Extension Center, Baton Rouge, LA 70813

A recent outbreak of vaping-related illnesses and deaths across the US sparked an outcry against e-cigarettes (e-cigs). These events have resulted in several restrictions on the sale of e-cigs. Earlier reports have shown that the molecular consequences of vaping are quite similar to that of conventional smoking. Diet supplementation and intervention strategies for the treatment of inflammation and cancer are attractive because the implementation is relatively easy even with populations with reduced incomes and resources. Naturally occurring phenolic acids, ellagic acid (EA) Ellagitannins (ETs) are such compounds that have a promising future. Hence, we postulate that both Urolithin (Uro)-A and C (ET metabolites) can reverse the tobacco-flavored e-cigarette vapor condensate (TF-ECVC) mediated inflammation in A549 cells. Human type II lung alveolar epithelial cells commonly called A549 cells were pre-treated with 5 µM Uro-A or Uro-C followed by air or (1%) TF-ECVC±N (6 mg/ml) challenge for 24hrs. Our experiments revealed that pretreatment of both Uro-A and Uro-C decreased the production of pro-inflammatory cytokines/chemokines and the expression of TLR-4 and RAGE at the transcriptional level. Also, the qPCR and protein expression studies revealed a decline in the expression of the transcription factor NF-кВ and an increase in IкВ-к (NF-кВ inhibitor) in both Uro-A and Uro-C treated ECVC-challenged A549 cells. Furthermore, we observed that urolithins reversed ECVC-mediated dysregulation of proteasome/immunoproteasome subunits. Overall, our findings unveil the important regulatory role of ellagic acid metabolites in ECVC-induced inflammation in A549 cells. Studies are in progress to identify the formation of mixed proteasomes.



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ABSTRACT

GRADUATE STUDENT POSTERS

Hsp70 Mediated Regulation of Autophagy in Pentachlorophenol-Challenged **Lung and Liver Epithelial Cells**

S. Thotal*, R. Begum, N. Bidarimath, WC Dorsey, S. Batra, Laboratory of Pulmonary Immunotoxicology, Department of Environmental Toxicology, Southern University and A&M College, Baton Rouge, LA 70813, Molecular Toxicology Research Laboratory, Grambling State University, Grambling, LA 71245

Pentachlorophenol (PCP) was a widely used organochlorine pesticide and wood preservative in the U.S. Due to its carcinogenic activity, the use of PCP was restricted by EPA. PCP is easily absorbed through the skin and lungs. Since it is an environmental toxicant, chronic exposure leads to severe lung and liver toxicity in humans. There are few reports which demonstrate a PCP-mediated increase in inflammatory responses and autophagy in various study models. The autophagy process plays a critical role in regulating the expression of inflammatory mediators, protein homeostasis, and cell survival. However, the associated molecular mechanisms are yet to be explored in detail. We used Human Lung (A549) and liver (HepG2) epithelial cells and treated with 1 and 10 µM PCP. We performed ELISA for cytokine/chemokine production, qPCR, and immunoblotting for expression profile. Gene silencing, Antibody-mediated neutralization, Immunoprecipitation, and computational approach for molecular interactions. Our findings demonstrate increased production of Inflammatory mediators by PCP-challenged A549 and HepG2 cells. We also observed significant induction of danger-associated molecular patterns (DAMPs) including Heat shock protein 70 (Hsp70) which has been described to induce inflammatory conditions under a wide variety of stimuli. Interestingly PCP challenge induced several autophagy proteins (Beclin-1, LC3B, ATG12, ATG16) in our study models. Furthermore, antibody-mediated neutralization and knockdown of Hsp70 show abrogated cytokine/chemokine (IL-6, IL-8) production; and expression of transcription factors (NF-kB, STAT3), Beclin1, LC3B, and membrane-bound receptor (TLR4). Overall, our study reveals key inflammatory mediators regulated by PCP in lung and liver epithelial cells.



"Promoting Healthy Communities"

ABSTRACT

GRADUATE STUDENT POSTERS

Role of carbon nanotubes in DPE-induced inflammation

M. Thakur*, A. Abdulkadir, and S. Batra Laboratory of Pulmonary Immunotoxicology, Department of Environmental Toxicology, Southern University and A&M College, Baton Rouge, LA 70813

Engineered nanoparticles, including single- or multi-walled carbon nanotubes (SWCNTs/ MWCNTs) have extensive use in industrial and consumer products. The SWCNTs/MWCNTspose severe human health risks upon inhalation. The carbon nanotubes (CNTs) by design have an extremely high surface area and avidly bind to pollutants or biomolecules and can modify the inflammatory responses of immune/non-immune cells that interact with them. Though CNTs are regarded as promising materials for cleaning up the environment, recent studies show severe exacerbation of allergen/smoking/diesel exhaust-induced lung inflammation and/or fibrosis by CNTs with molecular mechanisms not being clear. Using in silico and in vitro approaches we propose to determine the role of CNTs in DPE-induced inflammation. We observed diesel particulate extract (DPE)-mediated increase in cytokine/chemokine production; expression of NF-kB; and autophagy/ apoptotic pathway proteins in lung epithelial cells (A549). In order to understand the impact of CNTs on DPE-induced inflammation, we conducted in silico studies. The molecular docking of TLR4- surface receptor was performed with 34 DPE components using Samson 2022 R2. The highest binding affinities were observed for Dibenzo[a,c] anthracene, Benzo[ghi]perylene, coronene, coronene-D12, and dibenzo[b,k]fluoranthene. We also conducted molecular docking studies by coupling TLR4 with SWCNTs in the presence and absence of DPE components. Our findings show a significant increase in the binding affinity of SWCNTs with TLR4 in presence of DPE components. Overall, our in-silico results provide evidence about the possibility of inflated DPEinduced TLR4dependent immune/inflammatory response by CNTs. Further studies are in progress to demonstrate the surface and intracellular accumulation of CNTs, and their role in regulating DPEdependent inflammatory responses in lung epithelial cells.



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ABSTRACT

GRADUATE STUDENT POSTERS

Targeting Family and Child Health to Eliminate Health Disparities

J.E. Fletcher*, R. Hagler, H. Hovey, J. Humphrey, F.E. Omoniyi, J.M. Burwell, S. Sang,

North Carolina Agricultural and Technical State University

Targeting family and child health in underserved communities through nutrition education addresses the root causes of health disparities and promotes long-term health. The overall goal is to strengthen the USDA funded Center of Excellence (COE) for Nutrition, Health, Wellness, and Quality of Life (NHWQL) through nutritional outreach activities to not only help underserved communities live healthy lives, but also provide the training of five students as Walmart Health Disparity Scholars to prepare them as advocates for their communities. The Walmart Health Disparity Scholars worked collaboratively with the Child Development Laboratory staff at North Carolina A & T State University on implementing a nutrition education component to their community outreach initiatives. Scholars provided nutrition-themed family newsletters, trained children on effective handwashing, organized a lecture for parents on functional foods, and advocated the importance of understanding the recently updated food labels. Participating parents were receptive to learning about findings in functional food research and engaged in meaningful conversations with the scholars at social events. During their class activities, the children expressed interest in healthy food by asking questions and eating the nutritious snacks provided by the scholars. The knowledge gained from the scholars' activities will help participants maintain good hygiene and make informed decisions about the foods they consume, which could lead to an improvement in their overall health and well-being. The experience gained from engaging with parents on the topic of nutrition will help the scholars' confidence in not only sharing nutrition research with targeted groups but also in understanding their role in forming solutions to disparities in community health.



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ABSTRACT

GRADUATE STUDENT POSTERS

Studies on the Progression of Fatty Liver to Cirrhosis in Adult Male Sprague Dawley Rats Fed High Cholesterol and High Methionine Diets

G. Breaux1*, P. S. Vaddil, S.N. Murthy2., Environmental Toxicology, College Agricultural Family and Consumer Sciences, Southern University and A&M College, Baton Rouge, LA 70813

Previous studies from our lab were focused on understanding the hepatic and cardiac effects of feeding the dietary combination of cholesterol (Cho) and methionine (Met). Both Cho and homocysteine (Hcy), formed from Met have been associated with heart disease, stroke, and non-alcoholic fatty liver disease (NAFLD). Among others, Cho and Met are rich in several dietary components like poultry meat and dairy which are consumed extensively in the US. The rationale for our studies was to understand whether feeding a diet enriched in Met+Cho would result in an additive effect of hepatic and cardiac inflammation and oxidative stress apart from studying the individual effects as well. There have been studies on the individual effects of both Cho and Met but not many on the combination and more so in the hepatic context. Inflammation and oxidative stress were seen only in rats fed high Cho. In the next set of experiments, sitagliptin, an anti-diabetic drug (in clinical practice) was investigated to see if it was beneficial. This drug is known have anti-inflammatory and antioxidative effects that are independent of glucose lowering. Contrary to conventional understanding, sitagliptin enhanced hepatic inflammation and oxidative stress by multiple folds. This was a totally unanticipated finding. Interestingly, the addition of Met countered the inflammatory and oxidative stress effects of high Cho and more importantly, it significantly lowered even the increased responses due to sitagliptin in high Cho fed rats. The pathology observed were corroborated at gene, protein, structural and functional levels. Several of our findings are provocative and are likely to help in understanding the progression of simple steatosis to steatohepatitis and cirrhosis and further on. Our present focus is to understand the disease progression by assaying for molecular markers in tissues from previous experiments. Data obtained in this work will be presented.



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ABSTRACT

GRADUATE STUDENT POSTERS

Investigations of The Combined Effects of Cholesterol and Methionine on the Alterations of Hepatic Function and Structure in Sprague Dawley Rats
P. S. Vaddi* and S.N. Murthy, Environmental Toxicology,

College of Agricultural, Family and Consumer Sciences, Southern University and A&M College, Baton Rouge, LA 70813

Atherosclerosis and Non-alcoholic fatty liver disease (NAFLD) affect a large population world over. Consumption of high fat diet is considered to be a risk factor for the causation and progression of these inflammatory conditions. Animal products like dairy, poultry, and meat that form a major dietary component in the US and several other countries are rich in Cholesterol (Cho) and Methionine (Met), and therefore are rarely eaten separately. Apart from Cho, homocysteine (Hcy) formed from Met is considered a risk factor for atherosclerosis, stroke and NAFLD. Individually, Cho and Hcy have been extensively studied both in relation to cardiac and hepatic effects. However, there are limited studies on the combined effects of Cho and Met/Hcy in relation to cardiovascular effects, and almost none existed in the context of liver. Therefore, the combined effect of Cho and Met were investigated using adult male Sprague Dawley rats. Four groups of rats were fed a control, or 1.5% Met, or 2.0% Cho, or their combination (1.5% Met, a 2.0% Cho) for 35 and 98 days (short and long-term). Although hepatic inflammation and oxidative stress were anticipated to be seen in high Met, high Cho and an additive effect in the combination diet, these responses were seen only in the liver of high Cho fed rats. If the inflammatory responses due to high Cho could be countered was investigated using sitagliptin. This is an anti-diabetic drug with known anti-inflammatory and anti-oxidative stress properties that are independent of glucose lowering. Serendipitously sitagliptin instead of lowering inflammation and oxidative stress, exacerbated them in the livers of high Cho fed animals. Interestingly, the addition of Met to Cho, not only countered the inflammatory and oxidative stress responses due to high Cho, but also significantly reduced even the exacerbated inflammation and oxidative stress due to sitagliptin in high Cho fed rats. Most diabetics also have lipid abnormalities like high triglycerides and Cho, and use sitagliptin for their glucose management. Thus, it becomes imperative to understand more about the diet drug interactions since such studies have a true translational value. The ongoing work and major findings of this work will be presented.



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ABSTRACT

GRADUATE STUDENT POSTERS

Factors That Impact Nutrition, Health and Wellness During COVID-19 Pandemic V. Njoku*, D. Omachi, and T. Shahnaz, Department of Food and Nutritional Sciences, Tuskegee University, Tuskegee, Al 36088

Obesity is defined as excessive accumulation of body fat with links to chronic diseases such as hypertension, diabetes, stroke, heart disease and certain types of cancer. The prevalence of obesity among adults in the United States is 42.0%, it is noted that dietary lifestyle and physical activity continue to be the leading preventable risk factors. The emergence of coronavirus disease (COVID-19) has severely affected several domains of people's lives, such as daily routine, income, access to food, physical activity, and health care. The pandemic's long-term effects on the health of individuals garnered much interest and several research studies have been done to investigate the impact of OVID-19 restriction on overall quality of life and wellness. This review aimed at assessing the impact of dietary, exercise habits and changes in weight during the pandemic. The studies conducted were cross-sectional and longitudinal which captured the effects of COVID -19. Results indicated that individuals were aware that overweight and obesity are risk factors for certain chronic diseases. During this period, studies have shown an increase in bodyweight and body mass index, lower physical activity and higher consumption of unhealthy foods. The high rates of obesity observed globally is also observed in the Alabama Black Belt; which indicate the need to re-evaluate the messages and intervention strategies that are being used to alleviate obesity and related comorbidities. To develop an effective strategy research and policy makers may need to know the enhancers and barriers that may affect obesity and the long-term of effect of COVID-19 pandemic on the obesity and related comorbidities and the subsequent impact on healthcare in the U.S..



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Acknowledgements

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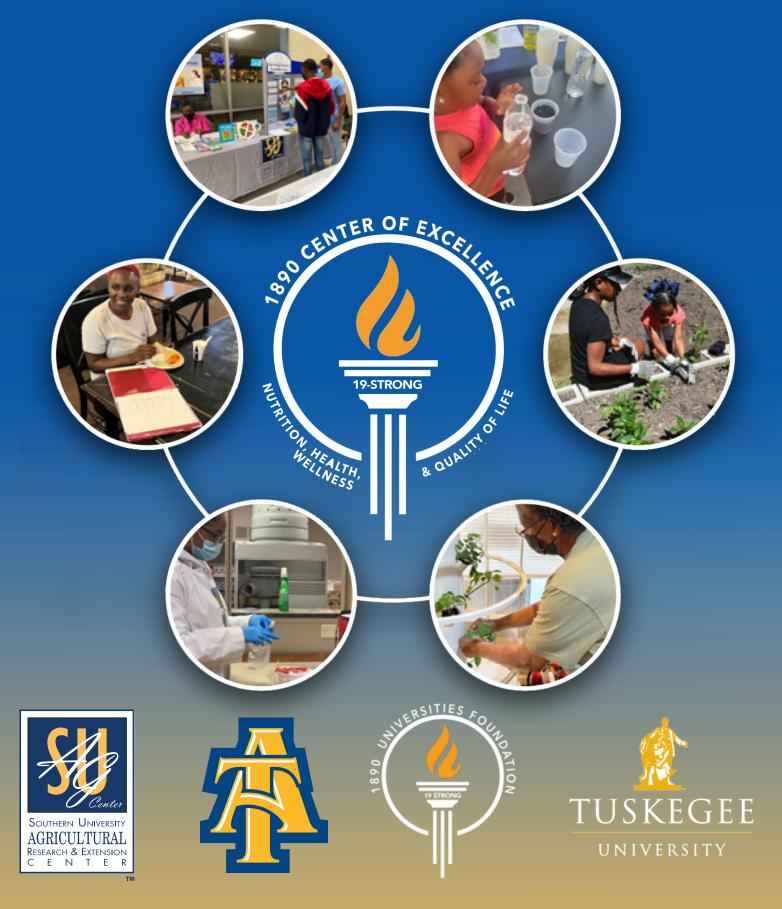
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