

Med School Watercooler

NEWS FROM FREDERICK P. WHIDDON COLLEGE OF MEDICINE
AT THE UNIVERSITY OF SOUTH ALABAMA

Friday, February 28, 2020

New research published by USA Basic Medical Sciences graduate student



Barnita Haldar, M.D., a student in the Basic Medical Sciences Graduate Program, is researching endothelial calcium signaling and how it affects endothelial barrier integrity.

Barnita Haldar, M.D., a fifth-year Ph.D. student in the University of South Alabama Basic Medical Sciences Graduate Program, recently published an article in the Journal of the Federation of American Societies for Experimental Biology.

The research paper, titled "S100A6 is a positive regulator of PPP5C-FKBP51-dependent regulation of endothelial calcium signaling" was included in the January 2020 edition.

Endothelial cells line the blood vessels and form a protective barrier in the body, according to Haldar, who notes that disruption of the endothelial barrier leads to endothelial dysfunction. Such dysfunction can be caused by inter-endothelial cell gap formation and lead to increased endothelial permeability, a vascular event contributing to cardiovascular pathologies such as acute respiratory distress syndrome, also known as ARDS.

ARDS is a rapidly progressive inflammatory disorder of the lungs in critically ill patients with a high mortality rate. Currently, there are no direct pharmacological therapies to prevent or reverse ARDS, Haldar said. The main complication in ARDS is that fluid leaks into the lungs making breathing difficult or impossible. Research shows there are as many as 150,000 cases of ARDS each year in the United States.

To develop therapeutic strategies for ARDS, Haldar said, researchers need to understand the mechanism by which inter-endothelial cell gap formation can be prevented so that the endothelial barrier is protected.

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"In the published study," she said, "we show for the first time that the small, calcium-binding protein S100A6 plays a role in the PPP5C-FKBP51 axis which regulates the endothelial calcium signaling and downstream effects on barrier integrity." More research is being conducted now, she said, to better understand endothelial calcium signaling.

The work outlined in the research paper was supported by National Institutes of Health grant funding and USA College of Medicine intramural grant programs

Haldar is completing graduate studies under the direction of Donna Cioffi, Ph.D., associate professor of biochemistry and molecular biology at the USA College of Medicine.

Haldar earned a bachelor of medicine and surgery from Calcutta National Medical College and Hospital in India. She then earned a medical degree in biochemistry from R.G. Kar Medical College and Hospital in India. In 2016, Haldar received the Edwin R. Hughes Memorial Award at USA, recognizing the student with the best performance in a specific curriculum. She also received the trainee poster presentation award at the Experimental Biology international conference in Orlando, Fla., held in April 2019, for a presentation on the recently published research project.

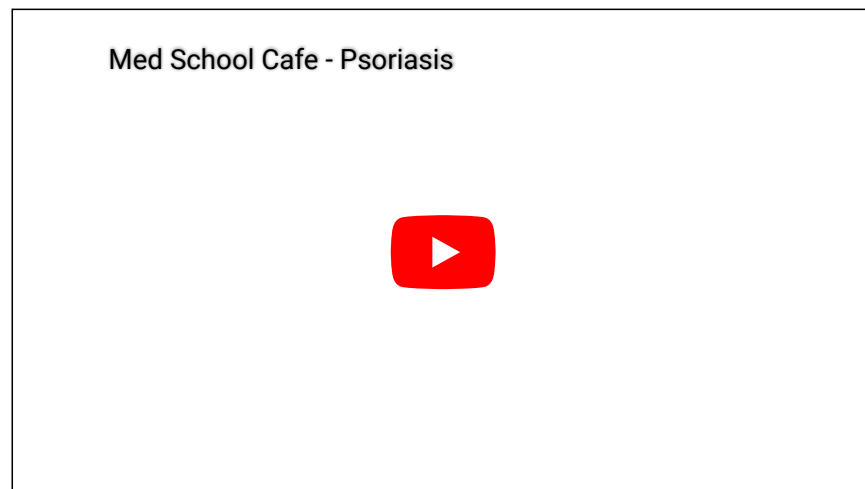
Posted by [Med School Watercooler](#) at [10:05 AM](#) No comments:

Thursday, February 27, 2020

Med School Café video online: 'Psoriasis'

Fred Bodie, M.D., a dermatologist with USA Health Dermatology, presented "Psoriasis" at the February Med School Café.

[Watch the full lecture on YouTube](#) or below:



Posted by [Med School Watercooler](#) at [2:12 PM](#) No comments:

Knowing the past, shaping the future

Sitting in a conference room filled with more than 20 African American medical students, Johnson Haynes Jr., M.D., remembers not being able to see a face like his among his peers in that same building just 30 years ago. "We've come a long way," Haynes reflected. "The present state of the USA College of Medicine is quite diverse and there are currently more African American students enrolled than at any other time in the history of the College of Medicine."

The University of South Alabama College of Medicine charter class began in 1973, just 10 years after USA was founded. The first class of 25 students included John

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Johnson Haynes Jr., M.D., professor of internal medicine at the University of South Alabama College of Medicine and assistant dean of the Office of Diversity and Inclusion, looks through a copy of Review of Systems, the USA College of Medicine class yearbook. Haynes, who is a 1980 graduate of the USA College of Medicine, went on to become the first African American clinical faculty member and the first and only African American basic science faculty member at the USA College of Medicine.

Wagner, the only African American. The first African American female – Pat Sanders – followed soon after in 1974.

The same year, a three-story Medical Sciences Building opened and still serves as the home for the College of Medicine. After constructing the building, a plaque reading “Medical Sciences Building 1973, George C. Wallace, Governor,” was fixed in the brick wall, now serving as a memento of the College of Medicine’s humble beginnings for many who enter.

George Wallace, who is known for his stand in the schoolhouse door protest at the University of Alabama when an African American student enrolled for the first time, served as governor of Alabama during the time the medical school was established in Mobile.

According to Haynes, the plaque – positioned near the “schoolhouse door” at the USA College of Medicine – now serves as a visual reminder of just how far the College of Medicine has come.

A 1980 graduate of the USA College of Medicine, Haynes went on to be the first African American clinical faculty member and the first and only African American basic science faculty member at the USA College of Medicine.

Currently serving in numerous leadership roles – as professor of internal medicine at the USA College of Medicine, assistant dean of the Office of Diversity and Inclusion, a pulmonologist with USA Health, and director of the USA Health Comprehensive Sickle Cell Center – Haynes has experienced every facet of the College of Medicine, from medical school and residency to fellowship training and ultimately a faculty member.

“In 1980, I was the only African American in my graduating class and no faculty members looked like me,” Haynes said. “If mutual respect amongst different cultures and races is to be achieved, establishment of a critical mass is essential at every level of the College of Medicine. The highest level of success in doing this is amongst the students, where African American representation now approaches 10 percent but still is far less than the 26.2 percent of African Americans living in Alabama.”

“What often goes unrecognized is the significance of students not seeing anyone that look like them in places where decisions are being made,” Haynes said. “The need remains for a more diverse faculty and administration. The openness to achieve this is perhaps the most significant change in culture I have experienced since joining the faculty in 1988.”

As part of a settlement agreement in 2006 in a case known as Knight, et al. v. United States of America, et al, the University of South Alabama agreed to draft a

Strategic Diversity Plan to help guide the university in its continued efforts to expand and increase diversity. As part of the Knight settlement, the university put in place certain programs designed specifically to help minority students more successfully transition to the rigors of graduate school, particularly medical school.

Two components of the consent decree directly involved the educational opportunities within the College of Medicine. The first included a more aggressive approach to the recruitment of academically qualified minority African Americans through the normal admissions process. The second component of the consent decree is the Pre-professional Biomedical Enrichment and Recruitment Program (BEAR). The BEAR program was later updated and renamed to Diversity Recruitment and Enrichment for Admission (DREAM). DREAM continues today under the leadership of Jeff Sosnowski, M.D., Ph.D., associate professor of medical education at the USA College of Medicine, with 11 medical students currently enrolled in the College of Medicine. More than 50 graduates of BEAR/DREAM have matriculated into the USA College of Medicine, with graduates serving the Gulf Coast communities and beyond.

In 2011, the Association of American Medical Colleges encouraged academic medical institutions to embrace a framework for diversity that included removing social and legal barriers to diversity, intentionally integrating diversity into teaching, and embedding diversity into the core workings of the institution.

In response, Haynes developed the USA Office of Diversity and Cultural Competence, which changed to the Office of Diversity and Inclusion in 2014. The office supports various activities including development of a collegiate level pipeline program, SouthMed Prep Scholars. Currently, SouthMed Prep Scholars has four medical students enrolled at the USA College of Medicine.

In 2018 – in an effort to further address the state of diversity and inclusion at the College of Medicine and throughout USA Health – R. Franklin Trimm, M.D., was appointed associate dean for diversity and inclusion at the USA College of Medicine and assistant vice president for medical affairs at USA Health.

In this new role, Trimm is responsible for the oversight of policies and programs related to diversity and inclusion for students, residents, faculty and staff at USA Health and the USA College of Medicine. "Diversity and inclusion at our academic medical center is one of our primary strengths," Trimm said.

The office actively sponsors and supports activities within the College of Medicine and USA Health to promote diversity and inclusion. In addition to coordinating DREAM and SouthMed Prep Scholars programs, the Office of Diversity and Inclusion also provides support for and recognition of student clubs to promote safe spaces, group activities and educational activities that promote diversity and inclusion. Sessions on the impact of unconscious bias have been integral to this effort.

Shortly after Trimm's appointment, LoRen Burroughs Modisa – a 2013 graduate of USA – was named diversity coordinator for the USA College of Medicine. In her position, Burroughs is responsible for helping to foster a supportive and inclusive environment for students, faculty and staff through programming and targeted initiatives. She also oversees various USA College of Medicine pipeline programs in an effort to give high-achieving students from underrepresented groups access and exposure to a career in medicine.

Since its inception, both the Office of Diversity and Cultural Competence and the Office of Diversity and Inclusion have become an integral and vital part of the College of Medicine.

According to the Association of American Medical Colleges, African Americans make up 8.4 percent of medical students in the United States during 2018-2019, compared to the 9.1 percent of African American students at the USA College of Medicine.

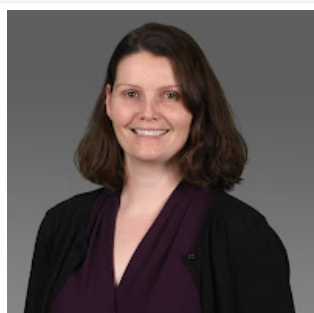
Trimm, Modisa and Haynes agree that by knowing and acknowledging the past, and celebrating the progress being made, USA Health has a great opportunity to continue striving towards excellence in diversity and inclusion. "Excellence on

every front involves a diverse group of people being part of a team," Trimm said. "The higher the diversity, the greater chance we have of achieving excellence."

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Wednesday, February 26, 2020

USA College of Medicine faculty receive funding from Breast Cancer Research Foundation of Alabama

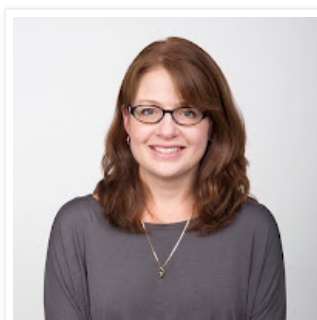


Natalie Gassman, Ph.D.

Faculty members at the University of South Alabama College of Medicine have received funding for three research projects related to breast cancer. The funding was part of \$1.05 million given to several Alabama organizations by the Breast Cancer Research Foundation of Alabama, based in Birmingham.

Recipients included Natalie Gassman, Ph.D., assistant professor of physiology; Michele Schuler, Ph.D., associate professor of comparative biology; Casey L. Daniel, Ph.D., M.P.H., assistant professor of family medicine; and Gary Piazza, Ph.D., professor of pharmacology.

Gassman, who conducts research at the USA Health Mitchell Cancer Institute, and Schuler were named the 2019 BCRFA Innovation Award Winners. Their project, "Blockage of CHK1 and EGFR Signaling in Triple Negative Breast Cancer to Enhance Anti-Tumor Efficacy," focuses on how the lack of hormone and growth factor receptors in triple negative breast cancer makes DNA damaging chemotherapies a first-line treatment. Cardiotoxicity is a significant problem for these therapies.



Michele Schuler, Ph.D.

Gassman and Schuler will test a novel combination of chemical inhibitors that are only modestly effective on their own but have the potential in combination to trigger death in triple negative cancer cells without cardiac side effects.



Casey Daniel, Ph.D.

Daniel, a member of the Division of Cancer Control and Prevention at the Mitchell Cancer Institute, and Gabrielle Roque, M.D., of the O'Neal Comprehensive Cancer Center at the University of Alabama at Birmingham, received a second year of support for a collaborative research project, "Quantifying Breast Cancer Patient Preferences and their Association with Financial Toxicity during Treatment Decision-Making."

Daniel and Roque plan to quantify the trade-offs that breast cancer patients make during

treatment decisions, with a focus on problems related to the cost of medical care. Their central hypothesis is that increased understanding of patient preferences, particularly those associated with medical care costs, through the evaluation of trade-offs, will optimize shared decision-making.

Quantification of breast cancer patient preferences will create opportunities for patient participation in decision-making, aid clinicians in understanding patient perspective during treatment decision-making, and ultimately achieve patient-centered, higher value healthcare for women living with breast cancer.

Piazza, who conducts research at the Mitchell Cancer Institute, and Clint Grubbs, Ph.D., of the O'Neal Comprehensive Cancer Center, received support for the collaborative research project, "A Novel Wnt/ β -catenin Inhibitor for Breast Cancer

Therapy." The research is based on results from a two-year project funded in 2017 by the BCRFA. The most recent funding will support research to evaluate the activity of an experimental anti-cancer drug developed at MCI in animal models of metastatic breast cancer in combination with a standard-of-care drug, doxorubicin.

Other organizations receiving funds are the O'Neal Comprehensive Cancer Center, Southern Research and CerFlux in Birmingham.

The current donation brings the total to almost \$10 million given for breast cancer research by BCRFA since 1996.

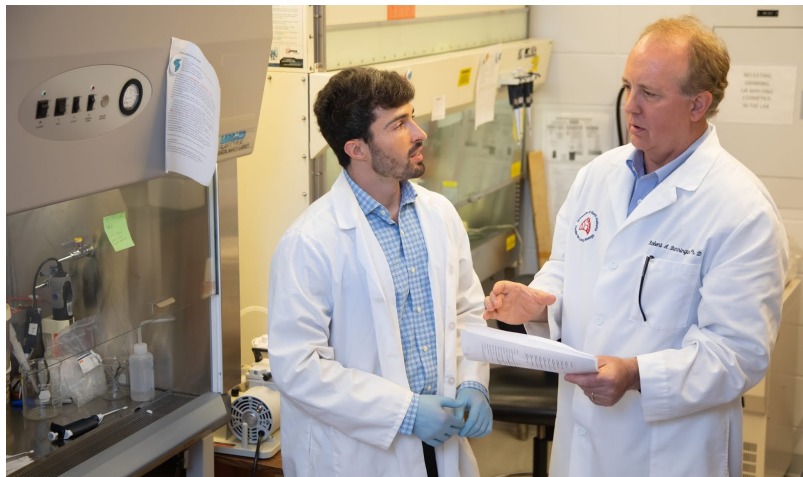


Gary Piazza, Ph.D.

Posted by Med School Watercooler at [3:12 PM](#) No comments:

Monday, February 24, 2020

Lions Club donation supports vision research and training at USA College of Medicine



Robert Barrington, Ph.D., associate professor of microbiology at the University of South Alabama College of Medicine, reviews data with medical student Brandon Rivers.

University of South Alabama researchers recently received funding from local Lions Clubs that will be used to buy equipment for conducting high-quality vision research and training the next generation of vision scientists.

A check for \$25,000 was presented by board members of the USA Lions Eye Research Institute, to the USA College of Medicine eye research team, led by Robert Barrington, Ph.D., at a meeting in February.

Barrington, a member of the University Lions Club and associate professor of microbiology at the USA College of Medicine, said the gathering provided an opportunity to showcase the impact of the support from area Lions Clubs.

The University Lions Club, a part of Lions Clubs International, is a civic organization that supports projects focusing on diabetes and vision.

During the meeting, area Lions Club members heard from three USA researchers, recent Ph.D. graduate student Steffani Fitzpatrick, and medical students Brandon Rivers and Jack Friend, who shared research project presentations with the group. Lions Club members also toured the research facilities that house instrumentation purchased for the College of Medicine through grants from the Lions Club International Foundation.

Barrington said the most recent donation will contribute to the purchase of another instrument, 10x Genomics, to facilitate cutting-edge eye research at USA.

"The instrument allows for identification of gene signatures for every individual cell analyzed," he said. "In particular, it is being implemented by the cancer research community to identify responder versus non-responder patients to immunotherapies. We will employ the technology to understand functional roles of diverse sets of immune cells to intracorneal HSV-1 infection."

Barrington's lab studies infectious blindness caused by herpes virus, the leading cause of infectious blindness in the developed world.

This year marks the 30th anniversary of the USA Lions Eye Research Institute, Barrington said. Since 1990, this group has provided approximately \$370,000 in direct funds for eye research. They've also been essential in bringing cutting-edge technologies to the University of South Alabama College of Medicine by sponsoring matching grants through Lions Club International.

All told, they've helped raise more than \$1 million through direct donations and instrumentation grants for basic science eye research at the USA College of Medicine.

"Their donations have supported more than 20 Ph.D. and M.D. student trainees," Barrington said, "and helped support more than 100 publications in peer-reviewed scientific journals. It's a rather remarkable example of how civic-minded individuals can impact basic science efforts."

Posted by [Med School Watercooler](#) at [12:08 PM](#) No comments:

Researcher awarded NIH supplemental grant



Antonio Ward, Ph.D., a postdoctoral fellow at USA Health Mitchell Cancer Institute, works in the lab. Ward has been awarded an NIH diversity supplemental grant to study the anti-cancer immunity benefits of targeting RAS in lung cancer.

Antonio Ward, Ph.D., a postdoctoral research fellow in the Drug Discovery Research Center at USA Health Mitchell Cancer Institute, is the recipient of a supplemental grant award from the National Institutes of Health to promote diversity in health-related research.

Ward is working with Gary A. Piazza, Ph.D., a professor of pharmacology at the University of South Alabama College of Medicine. He will test the effectiveness of an experimental RAS inhibitor, MCI-062, which was developed at the University of South Alabama. Ward will explore whether MCI-062 can combat lung cancer more effectively when combined with immunotherapy.

Ward holds a bachelor's degree in biochemistry and molecular biology, and a doctoral degree in environmental toxicology from Mississippi State University. He has worked as a postdoctoral student at MCI for more than three years during which he has focused his research on studying certain vulnerabilities of cancer cells with the goal of developing molecular targeted therapies to prevent or treat

solid tumors such as colon, lung, pancreatic and breast cancers.

Originally developed at the University of South Alabama, MCI-062 is currently being developed by ADT Pharmaceuticals, based in Gulf Shores, in collaboration with Anchiano Therapeutics, based in Cambridge, Mass. and Jerusalem.

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