“TRANSACTIONS”

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ASSOCIATION FOR ACADEMIC MINORITY PHYSICIANS 2022

VIRTUAL MEETING

SATURDAY, OCTOBER 2, 2022
7:30 A.M.—2:00 P.M.

WWW.AAMPINC.ORG

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WELCOME MESSAGE

THE ASSOCIATION FOR ACADEMIC MINORITY PHYSICIANS, INC.
P.O. Box 271
Stevenson, Maryland 21153-0271

October 1, 2022

Dear Colleagues,

"WELCOME"

DEMOCRACY AND HEALTH DISPARITIES

During the last two decades, there has been increasing national interest in documenting, understanding and eliminating the existence of health and healthcare disparities, based upon racial, ethnic and personal characteristics. Somewhat grudgingly, we have come to understand that these disparities are not primarily chromosomal. Moreover, we now know that while medical care plays a major role, non-health specific characteristics such as education, finances, environment, housing, employment, etc. are also critical factors in the determination of health. Finally, a majority of our nation has come to understand that a lack of diversity in all of the representative workforces is indeed a root cause of disparities in health.

The Covid- 19 pandemic has clearly worsened health disparities . We have lost significant ground not only in the medical factors, but also the non- medical factors of health disparities, particularly education and income. As the nation's perception of the threat of Covid- 19 lessens, we are nevertheless facing an existential threat to our society- the loss of our democracy. I am neither qualified, nor desirous of engaging in a political dialogue. However, the loss of our democracy will destroy any opportunity for non-disparity existence in our country. For those of you who have never read anything or do not remember much about our nation's history during slavery, Reconstruction, "Jim Crow," or ratification of the 19th amendment to our constitution, I urge you to rush to educate yourselves. If we are to succeed in our quest to diversify healthcare, health policy and biomedical research to achieve health equality, we must now speak and act to sustain our democracy. Otherwise, notwithstanding the battles we win, we will lose the war to ensure high quality healthcare for all in our country. Our goals will become only words written in reports and books that may well be banned in some places.

Donald E. Wilson, M.D., M.A.C.P.
AAMP Executive Director/Founder
John Z. and Akiko K. Bowers, Distinguished Professor and Dean Emeritus
University of Maryland School of Medicine

THE ASSOCIATION FOR ACADEMIC MINORITY PHYSICIANS, INC.
P.O. Box 271
Stevenson, Maryland 21153-0271

PRESIDENT'S WELCOME MESSAGE

October 1, 2022

"WELCOME"

Inclusive Excellence: Sustaining the Trinity of Diversity, Equity and Inclusion

There is so much to be thankful for, as we emerge from a devastating pandemic and a period of great change and upheaval that continues to reverberate across the nation.

I am grateful for the opportunity to serve as president of the Association for Academic Minority Physicians over the past two years. It is with honor and humility that I welcome you to our first in-person meeting during my presidency.

The resilience of an organization like the AAMP is due to its people and resources. We owe a debt of gratitude to Dr. Donald Wilson, Executive Director, and Ms. Pamela Nixon, Administrator, for their coordinated and tireless efforts that enable the AAMP to function at a high level. This is most evident in the planning and execution of our annual scientific conference. The annual conference will feature a keynote address from Dr. Marie Bernard, Chief Officer for Scientific Workforce Diversity at the National Institutes of Health, as well as expert panels and cutting edge scientific work from early stage investigators.

The AAMP has a longstanding focus on mentoring as key to sustaining a diverse workforce. AAMP members work across traditional institutional and professional society boundaries. As an organization, the AAMP is uniquely positioned to build on this tradition, by working collaboratively with academic health centers and professional societies.

There is increasing recognition that the gap in representation of racial/ethnic groups and women is perpetuated by institutional cultures lacking inclusion and equity. The NIH Faculty Institutional Recruitment for Sustainable Transformation (FIRST) Program aims to transform culture at NIH-funded extramural institutions by implementing a cohort faculty recruitment model and by building a self-reinforcing community of scientists committed to diversity and inclusive excellence (IE). Morehouse School of Medicine is pleased to serve as the Coordination and Evaluation Center (CEC) for the NIH FIRST Program.

The FIRST CEC is working with grantee institutions to develop common metrics for evaluation that will create a path to sustaining inclusive excellence for a diverse and inclusive biomedical science workforce.

As a key component of its dissemination of the FIRST Program evaluation products, the FIRST CEC is very pleased to announce: The Louis W. Sullivan Award to an Institution for Inclusive Excellence, and the Donald E. Wilson Award to an Investigator for Inclusive Excellence. These awards will honor these founding members of the AAMP, both tireless advocates and icons of workforce diversity.

Please join me in honoring these leaders during this year's AAMP annual scientific conference. As a community invested in the trinity of diversity, equity and inclusion, we look forward to joining them as they present these awards during upcoming meetings of the NIH FIRST Program Awardees.

Sincerely,

Elizabeth Ofili, MD

Elizabeth O. Ofili, MD, MPH, FACC
President, AAMP

OFFICERS: January 1, 2022 – December 31, 2022

EXECUTIVE DIRECTOR

DONALD E. WILSON, M.D

PRESIDENT

ELIZABETH O. OFILI, M.D., M.P.H.

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THE ASSOCIATION FOR ACADEMIC MINORITY PHYSICIANS, INC

AAMP

THE FOUNDERS

From left to right, Drs. *John L. Townsend, Gerald E. Thomson, Bruce W. Trotman, Louis W. Sullivan, *Carroll M. Leevy, and Donald E. Wilson

*** Deceased**

HISTORY

The Association for Academic Minority Physicians, Inc., (AAMP), was formed in 1986 by six minority academicians (FOUNDERS), who held prominent and visible positions.

The FOUNDERS had previously discussed the striking absence of minorities in academic medicine, particularly in leadership positions, as well as the lack of progress being made to increase underrepresented minority representation in these areas. For example, in 1986 under-represented minorities accounted for only 3% of U.S. medical school faculty 1.9% of professors, and no academic Dean, (except for traditionally minority schools). Moreover, a significant number of the 3% minority faculty was in the traditional minority schools such as Howard, Meharry, Morehouse and Drew. The lack of minority representation (role models) failed to provide a stimulus for young minority students to enter into medical careers. All of this translates into not only less progress academically, but also poorer health care in the U.S. for minority populations.

The FOUNDERS sought to provide a forum for scientific exchange, a clearinghouse for minority academic opportunities, an impetus for more effective utilization of programs targeted toward minorities, and also to develop support for increased training of minorities, particularly at the entry level. On February 25, 1991, the AAMP co-sponsored with HRSA a national consensus meeting in Rockville, Maryland to address these issues.

The AAMP has held successful annual meetings from 1987 through 2019. During this time AAMP supported travel fellowships for young investigators and medical students to attend and present their research at the meeting. The AAMP has a national reputation as an organization dedicated to working on behalf of minorities to effect change. The AAMP published a national journal (JAAMP) for eighteen years. The JAAMP is no longer published due to increasing costs.

From1992 until 2000 with support from the Merck Company Foundation, AAMP sponsored summer research fellowships for medical students. With support from SmithKline Beecham, the AAMP also sponsored junior faculty research awards.

Considering projections indicating that in the year 2030 over 50% of the U.S. population will be “minority,” it is essential that we do all possible to prepare this work force, particularly in the areas of health care, research and education.

PROGRAM

Saturday, October 01, 2022

7:40 - 7:45 **Opening Remarks**
Donald E. Wilson, MD, MACP
AAMP Executive Director

ABSTRACTS SESSION I
7:45 - 9:45 **Esam Z. Dajani, Ph.D., FACG , Moderator**

9:45 - 10:15 **State of The Art Lecture**
Georges C. Benjamin, MD, MACP, FACEP(E), FNAPA, Hon FFPH

10:15 - 10:30 **Presidential Address**
Elizabeth O. Ofili, M.D., M.P.H.
AAMP President

10:30 - 11:00 **Keynote Address**
Marie A. Bernard, M.D.

ABSTRACTS SESSION II
11:00 - 12:00 **David L. Stewart, M.D. , Moderator**

12:00 - 1:00 **Cobb Mini-Symposium**
Randall C Morgan Jr, MD, MBA

1:00 - 2:00 **MENTORING 101-301**
MODERATORS: *Bruce W. Trotman, M.D.*
Gregory B. Carey, PhD.

MEETING ADJOURN

PROGRAM

SATURDAY, OCTOBER 1, 2022

7:40 A.M.—7:45 A.M. **Welcome Opening Remarks**
Donald E. Wilson, MD, MACP
AAMP Executive Director

7:45 A.M.—9:45 A.M. **SCIENTIFIC SESSION I**
Esam Z. Dajani, PhD., FACG , Moderator

7:45-8:00 **CHARACTERIZATION OF THE IRIS AND LENS IN CONGENITAL GLAUCOMA USING ULTRASOUND BIOMICROSCOPY: A CASE-CONTROL STUDY.** R. Gholap, E. Xu, J. Alexander; Dept. of Ophthalmology and Visual Sciences, University of Maryland School of Medicine, Baltimore, MD

8:00-8:15 **NEUROPROTECTIVE EFFECT OF PHARMACOLOGICAL AGENT JTE-013 IN CARDIAC ARREST RAT MODEL.** L. Colliver, S. Marasini, X. Lui, J. Du, X. Jia; Department of Neurosurgery, University of Maryland School of Medicine, Baltimore, MD.

8:15-8:30 **CHARACTERIZATION OF THE ANTERIOR EYE IN TRISOMY 21 PATIENTS USING ULTRASOUND BIOMICROSCOPY.** E. Xu, D. Shah, R. Gholap, J.L. Alex ander; Department of Ophthalmology and Visual Sciences, University of Maryland School of Medicine, Baltimore, MD

8:30-8:45 **GENERALIZABILITY AND CLINICAL FEASIBILITY OF SYNTHETIC ARTIFICIAL INTELLIGENCE-BASED FAT-SUPPRESSED MAGNETIC RESO NANCE KNEE IMAGING.** V. Zhang, V. Parekh, P. Yi; Department of Diagnostic Radiology and Nuclear Medicine, University of Maryland Medical Center, Baltimore, MD

8:45-9:00 **DISTINCT PAIN TRAJECTORIES FOLLOWING SUBARACHNOID HEMOR RHAGE ARE ASSOCIATED WITH CEREBRAL VASOSPASM AND DELAYED CEREBRAL ISCHEMIA.** D. Elsaesser, A. Kardon, M. Jaffa, R. M. Jha, J. Elmer, J. Podell, M. C. Smith, J. M. Simard, G. Parikh, N. Badjatia, N. A. Morris; Dept. of Neurology, University of Maryland School of Medicine, Baltimore, MD.

SCIENTIFIC SESSION I (con't)

9:00-9:15 **PRENATAL ULTRASOUND FINDINGS OF CIRCUMVALLATE PLACENTA AND PREGNANCY OUTCOMES.** C.L. Herrera, T.M. Chu, S. Mendoza Stanteen, E.C. Twichell, J. Cardona, D.D. McIntire, D.M. Twickler, C.Y. Spong; Dept. of OB GYN, UT Southwestern Medical Center, Dallas, TX

9:15-9:30 **STAR-PREP AN INTENSE AND IMMERSIVE POST-BACCALAUREATE MENTORED RESEARCH PROGRAM INCREASES ASCENSION AND RETEN TION OF UNDER-REPRESENTED STUDENTS TO TERMINAL DEGREE PRO GRAMS IN HEALTHCARE AND BIOMEDICAL RESEARCH.** G.B. Carey, B.A. Hassel, T.J. Webb, T. Antalis, T. Rogers, L. Simington, L.P. Jones; Department of Bio chemistry, of Epidemiology and Public Health, of Microbiology and Immunology, and of Physiology, University of Maryland, School of Medicine, Baltimore, MD

9:30-9:45 **FACULTY INSTITUTIONAL RECRUITMENT FOR SUSTAINABLE TRANSFORMATION (FIRST) PROGRAM: THE ROLE OF THE COORDINA TION AND EVALUATION CENTER IN STAKEHOLDER ENGAGEMENT AND EVALUATION PLAN DESIGN.** Y. A. Levites Strekalova, D. Sarpong, M. Mubasher, A. Quarshie, E. Ofili; Morehouse School of Medicine, Atlanta, GA

9:45 A.M.—10:15 P.M. **"STATE OF THE ART LECTURE"**
Georges C. Benjamin, MD, MACP, FACEP(E), FNAPA, Hon FFPH
"Preventing Disease & Protecting Health: Lessons Learned From Covid"

10:15 A.M.—10:30 A.M. **PRESIDENTIAL ADDRESS**
Elizabeth O. Ofili, M.D., M.P.H.
AAMP President

10:30 A.M.—11:00 A.M. **"KEYNOTE ADDRESS"**
Marie A. Bernard, M.D
Chief Officer for Scientific Workforce Diversity, NIH
"UNITEd We're Stronger -An Update On Diversity Efforts At The NIH"

11:00-12:00 **SCIENTIFIC SESSION II**
David L. Stewart, M.D. Moderator

11:00-11:15 **ADJUVANT PROTON THERAPY FOR BREAST CANCER TREATMENT: WHY BLACK WOMEN MAY DERIVE A GREATER BENEFIT FROM THIS TREATMENT MODALITY**. G. Singh, S. McAvoy, A. Patel, S. Ruff, E. Nichols, M. Vyfhuis; Department of Radiation Oncology, University of Maryland School of Medicine, Baltimore, MD

11:15-11:30 **ANESTHESIA COUNSELING, CONSENT, & PROFESSIONALISM.** O. Tomobi, J. Lee, T. Tran, A. Schiavi, O. Akca, T. Azefor, A. Chari, J. Sampson; Johns Hopkins University School of Medicine, Baltimore, MD.

11:30-11:45 **ATP-DEPENDENT POTASSIUM CHANNELS FORM THE LINK BETWEEN METABOLISM AND EPILEPSY.** D. McAfee, M. Moyer, M. Bachani, A. Ksendzovsky; Dept. of Neurosurgery, University of Maryland Baltimore School of Medicine, Baltimore, MD

11:45-12:00 **THE ROLE OF MOCK REVIEW SESSIONS IN THE NATIONAL RESEARCH MENTORING NETWORK (NRMN) SETH RANDOMIZED CONTROLLED STUDY.** M. Mubasher, T. Pearson, K. Lawson, J. Holmes, P. Pemu, Y. Strekalova, A. Baez, J. K. Stiles, M. S. Salazar, L. S. Caplan, M. Y. Idris, W. E. Thompson, A. Quarshie, E. Ofili; Morehouse School of Medicine, Atlanta, GA

12:00 P.M.—1:00 P.M. **Cobb Institute Research Scholars Program**
Randall Morgan, MD, MBA
Cobb Scholars Program
"*Year Three: The Present and Future*"

1:00-2:00 **MENTORING 101-301**

MODERATORS: Bruce W. Trotman, M.D.
Gregory B. Carey, PhD.

MEETING ADJOURN

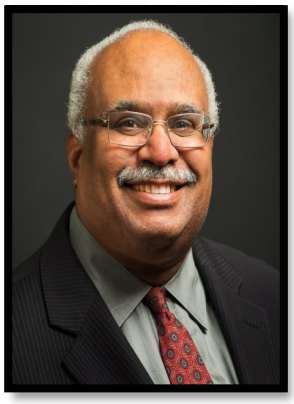
NEXT YEAR'S MEETING
HILTON ALEXANDRIA MARK CENTER
5000 SEMINARY ROAD
ALEXANDRIA, VIRGINIA 22311
SEPTEMBER 28, 2023 — OCTOBER 1, 2023

STATE OF THE ART LECTURE

"PREVENTING DISEASE & PROTECTING HEALTH: LESSONS LEARNED FROM COVID"

Georges C. Benjamin, MD, MACP, FACEP(E), FNAPA, Hon FFPH
Executive Director
American Public Health Association
Washington, D.C.

STATE OF THE ART LECTURE



Georges C. Benjamin, MD, MACP, FACEP(E), FNAPA, Hon FFPH
Executive Director
American Public Health Association
Washington, D.C.

Georges C. Benjamin, MD, is the Executive Director of the American Public Health Association, the nation's oldest and largest organization of public health professionals. Formerly, he was Secretary for Health for the State of Maryland. A graduate of the Illinois Institute of Technology and the University Of Illinois College Of Medicine. He is board-certified in internal medicine, a Master of the American College of Physicians, a fellow of the National Academy of Public Administration, a fellow emeritus of the American College of Emergency Physicians, and a member of the National Academy of Medicine. He formerly served on the National Infrastructure Advisory Council, a council that advises the President on how best to assure the security of the nation’s critical infrastructure.

NOTES

KEYNOTE ADDRESS

"UNITEd WE'RE STRONGER - AN UPDATE ON DIVERSITY EFFORTS AT THE NIH"

Marie A. Bernard, M.D.
National Institutes of Health (NIH) Chief Officer for Scientific Workforce Diversity (COSWD)

KEYNOTE ADDRESS

Marie A. Bernard, M.D.
Chief Officer for Scientific Workforce Diversity, NIH

Marie A. Bernard, MD is the National Institutes of Health (NIH) Chief Officer for Scientific Workforce Diversity (COSWD). As COSWD, she leads NIH thought regarding the science of scientific workforce diversity, assuring that the full range of talent is accessed to promote scientific creativity and innovation, both intramurally and extramurally. Dr. Bernard also co-leads NIH's UNITE initiative to end structural racism. Prior to being selected as the COSWD in May 2021, she was deputy director of the National Institute on Aging (NIA). As NIA's senior geriatrician, she served as the principal advisor to the NIA director. She also led a broad range of activities, including co-chairing two Department of Health and Human Services Healthy People 2020/2030 objectives – 1) Older Adults, and 2) Dementias, including Alzheimer's disease. She co-led the NIH-wide Inclusion Governance Committee that ensures appropriate inclusion of individuals in clinical studies, including by sex/gender, race/ethnicity, and inclusion of children and older adults. She also led the Women of Color Committee of the NIH-wide Working Group on Women in Biomedical Careers. Her national leadership in geriatrics research, teaching, and clinical practice has been recognized by the Clark Tibbits award from the Academy for Gerontology in Higher Education (2013), and the Donald P Kent award from the Gerontological Society of America (2014). Her work within NIH has been recognized with NIH Director's awards (2018 and 2019), including the NIH Director's award for Equity, Diversity, and Inclusion in 2020.

Until October 2008 she was the endowed professor and founding chairman of the Donald W. Reynolds Department of Geriatric Medicine at the University of Oklahoma College of Medicine, and Associate Chief of Staff for Geriatrics and Extended Care at the Oklahoma City Veterans Affairs Medical Center. She has held numerous national leadership roles, including chair of the Department of Veterans Affairs National Research Advisory Committee, chair of the Clinical Medicine (now Health Sciences) Section of the Gerontological Society of America, board member of the American Geriatrics Society, president of the Association for Gerontology in Higher Education, and president of the Association of Directors of Geriatric Academic Programs. She has lectured and published widely in her area of research, nutrition and function in older adults, with particular focus on underrepresented minority populations.

Dr. Bernard completed her undergraduate education at Bryn Mawr College, Bryn Mawr, Pennsylvania, and received her M.D. from the University of Pennsylvania, Philadelphia. She trained in internal medicine at Temple University Hospital, Philadelphia, where she also served as chief resident. She received additional training through the Association of American Medical Colleges Health Services Research Institute, the Geriatric Education Center of Pennsylvania, and the Wharton School Executive Development program.

NOTES

COBB SCHOLAR'S PROGRAM

MINI-SYMPOSIUM

Year Three:

"The Present and Future"

Randall C Morgan Jr, MD, MBA
Executive Director of the W. Montague Cobb/NMA Health Institute

SPECIAL PRESENTATION

Randall C Morgan Jr, MD, MBA
Executive Director of the W. Montague Cobb/NMA Health Institute
Founded the Orthopedic Centers of Northwest Indiana
Diplomat of the American Board of Orthopedic Surgery and American Board of Managed Care Medicine
Sarasota, FL

Dr. Randall C. Morgan, Jr. is an Orthopedic Surgeon and the Executive Director of the W. Montague Cobb/ NMA Health Institute as well as the J. Robert Gladden Orthopedic Society, and he is a member of the Editorial Board for the Journal of Racial and Ethnic Health Disparities -- the Institute's official journal. His past distinguished leadership includes serving as the 95th NMA President. Dr. Morgan is the recipient of several awards for his significant contributions to community service, including the NAACP Joseph Pitts Award for Community Service, and he was elected to the Alpha Omega Alpha, an honor medical society recognizing, advocating for, and inspiring physicians in the care of patients and promotion of health. A Diplomat of the American Board of Orthopedic Surgery and Fellow of the American College of Surgeons, Dr. Morgan serves as Clinical Assistant Professor of Orthopedic Surgery at Florida State School of Medicine, Clinical Assistant Professor of Community Medicine at the University of Connecticut Health Center, and Emeritus Associate Professor of Orthopedic Surgery at Indiana University School of Medicine. During his career, he has given over 200 scientific publications and presentations on healthcare and musculoskeletal disparities. He holds a B.A. in Chemistry from Grinnell College, M.D. from Howard University College of Medicine, and M.B.A. from the University of South Florida. He completed his internship and orthopedic surgery residency at Northwestern University and a fellowship in Pediatric Orthopedics at the Children’s Hospital of Cincinnati. He also holds an honorary doctor of science (Hon. D.Sci.) from his alma mater Grinnell College.

NOTES

GENERAL DISCUSSION

Meet the mentors. Member student interaction
Students, Trainees, Guest, Members

ABSTRACTS

SESSION I

CHARACTERIZATION OF THE IRIS AND LENS IN CONGENITAL GLAUCOMA USING ULTRASOUND BIOMICROSCOPY: A CASE-CONTROL STUDY. R. Gholap, E. Xu, J. Alexander; Dept. of Ophthalmology and Visual Sciences, University of Maryland School of Medicine, Baltimore, MD

Glaucoma is a rare but devastating cause of irreversible vision loss with variable incidence worldwide between 1:1,250 and 1:50,000. This study focused on Congenital Glaucoma (PCG), defined as isolated, non-syndromic glaucoma occurring in the first three years of life. Glaucoma is defined by progressive degeneration of retinal ganglion cells due to elevated intraocular pressure (IOP) because of an imbalance in secretion and drainage of aqueous humor (fluid) in the anterior segment (AS) of the eye. Common ophthalmological findings include excessive tearing, photophobia, cloudy and enlarged cornea, and progressive peripheral vision loss. Currently, diagnostic tools for PCG are limited to measurement of IOP and clinical exams; however, IOP can be highly variable and notoriously difficult to measure accurately in infants and toddlers. We propose using ultrasound biomicroscopy (UBM), a noninvasive high-resolution real-time imaging technique. The aim of this study is to use UBM to identify quantitative differences in AS iris and lens structures between 10 PCG subjects and 10 age-matched controls. Pediatric patients and controls (0.25-12.42 years) were enrolled, consented, and imaged with intra-operative UBM using a protocol developed at UMMS. Twenty-three AS parameters of the iris and lens were measured in 80 UBM images with ImageJ software using another protocol developed at UMMS. 10 of the 23 parameters were found to be statistically significant between glaucoma and control eyes using student's t-test. Our data suggests that glaucomatous eyes' irises are longer, more curved, and thinner as seen by iris length (P=0.035), iris convexity (P=0.0002), and mid-iris (P=0.011) and peripupillary iris thicknesses (P=2.170 x 10-6), respectively. PCG eyes have larger angle-opening distance (P=3.018 x 10-7), larger angles between the trabecular meshwork-iris, iris-cornea, and ciliary body-cornea, and thinner lens (P=0.004). These results yield clinically meaningful information about anatomical differences in PCG patients, providing an additional avenue for clinicians to earlier diagnose glaucoma, determine severity, and initiate treatment.

NEUROPROTECTIVE EFFECT OF PHARMACOLOGICAL AGENT JTE-013 IN CARDIAC ARREST RAT MODEL. L. Colliver, S. Marasini, X. Lui, J. Du, X. Jia; Department of Neurosurgery, University of Maryland School of Medicine, Baltimore, MD.

Out of 290,000 in-hospital cardiac arrest (CA) patients and 350,000 out-of-hospital CA patients every year, 92.6% of the survivors are left with neurological deficits. Increased inflammation, due to the recruitment of microglial cells, exacerbates brain injury and worsens neurological function. Despite the alarming number of patients that suffer from neurological dysfunction after CA, there are few therapeutic strategies for CA patients targeting the inflammatory pathway. A drug, known as JTE-013, has shown promising results in reducing microglial activation through inhibition of a microglial activating receptor, sphingosine 1-phosphate 2 in rodent stroke models, however its therapeutic efficacy in CA has not been studied. This study investigates the neuroprotective effects of JTE-013 in oxygen glucose deprivation/reperfusion (OGD/R) models, which mimics ischemic conditions through incubation in glucose free medium and low oxygen concentration, and in in-vivo CA rat models. Primary rat hippocampal neurons were exposed to OGD/R (1% O2) for 3 hours and then cultured in control medium or medium containing 10 μM JTE-013. Immunocytochemistry was performed to analyze axonal loss (NF200), myelin loss (MBP), and synapse loss (synapsin1). The positive cell area and intensity of fluorescence were measured revealing more cell positivity and intensity of NF200, MBP, and synapsin in neurons cultured with JTE-013 ($p < 0.05$). In order to verify the effect of JTE-013 in-vivo, 8-min asphyxia CA rats were injected with either 5μM vehicle control (PBS) or 5μM JTE-013 intracerebroventricularly 3 hours after return of spontaneous circulation (ROSC). 7 male Wistar rats (average weight 350 ± 43g) were randomly assigned to the control group (PBS n = 3) or to JTE-013 treatment group (JTE-013 n = 4). Neurological deficit scores (NDS) were assessed at 6, 24, 48, and 72h after ROSC along with the survival rate of the rats. NDS revealed improved neurological function of JTE-013 treated rats compared to control rats ($p < 0.05$). An increased survival rate among the JTE-013 treated rats was also observed ($p < 0.01$). The pharmacological agent JTE-013 therefore demonstrated a neuroprotective effect in global ischemia and proposes a possible therapeutic intervention for ischemic brain injury after CA.

CHARACTERIZATION OF THE ANTERIOR EYE IN TRISOMY 21 PATIENTS USING ULTRASOUND BIOMICROSCOPY. E. Xu, D. Shah, R. Gholap, J.L. Alexander; Department of Ophthalmology and Visual Sciences, University of Maryland School of Medicine, Baltimore, MD

Introduction: Trisomy 21 (T21) occurs in 1 in 800 live births, making it a common birth abnormality. Individuals with T21 are at risk for many ophthalmic diseases, including cataracts, which are the most frequent ophthalmic disorder in patients with T21 and the most sight threatening. Moreover, in pediatric patients, cataracts can impair normal visual development if not caught and treated early. Understanding structural features in T21 eyes with and without cataracts can optimize treatment strategies and detect childhood cataracts before longer-term complications arise. These structural features can be assessed through ultrasound biomicroscopy (UBM), and previous research on this topic revealed that lens thickness is altered in T21 patients with cataracts compared to controls. This case-control study utilized UBM imaging to compare anterior segment features in T21 patients without cataracts, T21 patients with cataracts and age-matched controls.

Materials & Methods: 7 subjects (11 eyes) with T21 but no cataracts were consented, enrolled, and imaged using UBM imaging techniques. Healthy controls were consented, enrolled, and imaged with 4:1 age-matching. UBM images were taken using the Aviso Ultrasound Platform A/B UBM or UBM Plus equipment. After obtaining images, 31 structural parameters were then measured using the ImageJ software, following image analysis protocol developed by UMMS. These structural measurements were then compared to previously collected cohorts of T21 patients with cataracts and statistical analysis was performed using student's t-test to look at associations between each pair of groups. The mean age of the study participants was 9.06 years. Research participants were split into three different age groups, < 1 year, 2 years, and 20-25 years.

Results: In patients < 1 year old, T21 patients with cataracts were found to have thinner lenses than T21 patients without cataracts ($p = 0.027$) and healthy controls ($p = 8.61 \times 10\text{-}5$). In patients in the 20–25-year group, T21 patients with cataracts also had significantly thinner lenses than T21 patients without cataracts ($p = 0.003$). Looking at corneal features, T21 patients without cataracts in the < 1 year group had thinner corneas that healthy controls ($p = 0.045$) and T21 patients with cataracts ($p = 0.007$). T21 patients with cataracts also had thicker corneas than healthy controls in this same age group ($p = 0.002$). Corneal features changed with age as corneas became thinner in T21 patients without cataracts, but thicker in healthy controls and T21 patients with cataracts.

Conclusions: These results suggest that specific features of the lens are associated with cataracts. Corneal features are altered in cases of T21 alone as well as with the development of cataracts, and as patients age, there are unique structural changes in the cornea depending on T21 or cataract status. These results will enhance the understanding of the structural characteristics of T21 eyes and provide a better avenue for early cataract detection in these and possibly other patients.

GENERALIZABILITY AND CLINICAL FEASIBILITY OF SYNTHETIC ARTIFICIAL INTELLIGENCE-BASED FAT-SUPPRESSED MAGNETIC RESONANCE KNEE IMAGING.

V. Zhang, V. Parekh, P. Yi; Department of Diagnostic Radiology and Nuclear Medicine, University of Maryland Medical Center, Baltimore, MD

PURPOSE: Although magnetic resonance imaging (MRI) is the gold-standard imaging study for diagnosing knee injuries, they are time consuming. Developments in artificial intelligence (AI) and deep learning (DL) have made it possible to perform "fast MRI" by converting one MRI sequence into another, although it is unclear if these methods generalize to hospitals whose data was not used to develop them. Our purpose was to externally validate a previously developed "fast MRI" algorithm on two external knee MRI datasets not originally used for algorithm development.

METHODS: Our group previously developed a DL algorithm that converts a non-fat suppressed knee MRI sequence into a 'synthetic' fat-suppressed sequence ("AI-based fat-suppressed MRI [AFSMRI]") and which was shown to be clinically valid on MRI data from Johns Hopkins Hospital (JHH). We evaluated AFSMRI on two external knee MRI datasets (1212 and 20 scans from NYU and Gradient Health, respectively). We quantitatively evaluated synthetic images using image correlation to compare ground-truth and synthetic images; mean correlation was compared between datasets using t-tests. To assess clinical utility, we performed a reader study where a radiologist diagnosed presence/absence of ACL tear based on 20 synthetic MRI scans.

RESULTS: On NYU and Gradient Health MRI scans, AFSMRI had mean image correlation of 0.46 and 0.55, respectively, compared to 0.8 for JHH scans ($p<0.05$, both), indicating image quality degradation. In clinical evaluation, radiologist accuracy was 75% for ACL tear diagnosis using synthetic MRI images.

CONCLUSIONS: Although synthetic knee images created by a "fast MRI" DL algorithm demonstrated quantitative image quality degradation, qualitatively, the algorithm performed well by preserving diagnostic information for ACL tear diagnosis. These initial results are promising, as performance will likely improve with retraining the algorithm on external MRI scans (transfer learning) – this is our next step in our research, the results of which we anticipate having ready by the time of presentation.

DISTINCT PAIN TRAJECTORIES FOLLOWING SUBARACHNOID HEMORRHAGE ARE ASSOCIATED WITH CEREBRAL VASOSPASM AND DELAYED CEREBRAL ISCHEMIA.

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Aneurysmal subarachnoid hemorrhage (SAH) is a devastating neurologic injury with high morbidity. Debilitating headache and chronic pain often persist following the acute thunderclap headache. Cerebral vasospasm and delayed cerebral ischemia (DCI) are late complications of SAH and may represent modifiable causes of secondary brain injury. The relationship between headache pain following SAH and risk of vasospasm and/or DCI has not been explored. The objective of this study was to identify pain trajectories that can predict patients who are at risk for DCI. It was hypothesized that patients reporting increased pain would go on to develop vasospasm and DCI at higher rates. A retrospective review of 305 patients with aneurysmal or perimesencephalic SAH was completed at a tertiary neurocritical care unit from 2015-2019. Pain scores were collected over fourteen days and were analyzed using group-based trajectory modeling to identify individual pain trajectories. The primary outcomes of interest were vasospasm and DCI. Multivariable logistic regression was utilized to identify independent predictors of each outcome. Vasospasm location was analyzed as a covariate in an exploratory analysis. Five distinct pain trajectories were identified during the fourteen days following subarachnoid hemorrhage, two of which were associated with vasospasm. Trajectory groups were roughly similar in terms of age, sex, race, and comorbid conditions. Age, clinical severity, and trajectory group were found to be independent predictors of vasospasm and DCI. Trajectory groups with low pain scores were found to have higher rates of anterior cerebral artery vasospasm. These findings suggest that distinct inpatient pain trajectories following subarachnoid hemorrhage can predict secondary brain injury, and that patients experiencing anterior cerebral artery vasospasm may be less likely to report pain during hospitalization.

PRENATAL ULTRASOUND FINDINGS OF CIRCUMVALLATE PLACENTA AND PREGNANCY OUTCOMES. C.L. Herrera, T.M. Chu, S. Mendoza Stanteen, E.C. Twichell, J. Cardona, D.D. McIntire, D.M. Twickler, C.Y. Spong; Dept. of OBGYN, UT Southwestern Medical Center, Dallas, TX

Circumvallate placenta has a suggested association with adverse pregnancy outcomes (antenatal bleeding, placental abruption, preterm birth, emergency cesarean, small for gestational age infants, fetal and neonatal death). To intervene, prenatal diagnosis is required, however whether these risks are observed with prenatal ultrasound (US) findings is unknown. The aim of this study was to determine if prenatal identification of circumvallate placenta is associated with adverse obstetric and neonatal outcomes and to evaluate the correlation of prenatal diagnosis with post-delivery placental pathology. Women with a singleton gestation prenatally diagnosed with circumvallate placenta between January 1, 2012 and March 31, 2021 were identified. Antepartum encounters, obstetric and neonatal outcomes, and pathologic reports were obtained. The rates of adverse obstetric and neonatal outcomes were determined among women with prenatally-diagnosed circumvallate placentas and compared to women without this prenatal diagnosis with a 4:1 control matched group. Women with known fetal anomalies or other placental abnormalities (e.g. placenta previa, placenta accreta spectrum, placental hematoma) were excluded. Statistical analyses included c2 with $p < 0.05$ considered significant. Prenatal US findings of circumvallate placenta were seen in 179 women (0.20% of all anatomic US studies and 0.17% of all deliveries). Diagnosis was made at a mean gestational age of 19.8±2.4 weeks. Except for presentations for antenatal bleeding (14% versus 8%, $P = 0.01$), adverse pregnancy outcomes were similar between groups (Table). Pathologic confirmation of circumvallate diagnosis was made in 7 of 39 available cases (18%). We conclude that prenatal US findings of circumvallate placenta do not correlate with adverse pregnancy outcomes other than increased incidences of antenatal bleeding. Given overall good prognosis, prenatal US findings of circumvallate placenta do not warrant additional surveillance during pregnancy. Furthermore, prenatal diagnosis and pathologic correlation is poor.

STAR-PREP AN INTENSE AND IMMERSIVE POST-BACCALAUREATE MENTORED RESEARCH PROGRAM INCREASES ASCENSION AND RETENTION OF UNDER-REPRESENTED STUDENTS TO TERMINAL DEGREE PROGRAMS IN HEALTHCARE AND BIOMEDICAL RESEARCH. G.B. Carey, B.A. Hassel, T.J. Webb, T. Antalis, T. Rogers, L. Simington, L.P. Jones; Department of Biochemistry, of Epidemiology and Public Health, of Microbiology and Immunology, and of Physiology, University of Maryland, School of Medicine, Baltimore.

The proportion of African-, Black- and Hispanic- and Latino-Americans increased from 24.8 to about 31% between 2000 and 2020 and the proportion of persons self-identifying as multiracial in 2020 was ~10%. Population diversity is expected to increase in coming decades. There is an urgent need for increased diversity in research and healthcare yet, in 2020, only 13% of PhDs were awarded to Under-represented persons (UR). Moreover, UR enrollment in medical school and MD-PhD programs, especially for UR males, has been falling and in some instances, has fallen to levels not seen since the 1970s.

Purpose and Methods: University of Maryland Baltimore (UMB) recently created an integrated family of programs forming a STEM diversity training pipeline to address shortages of UR PhD and MD-PhD degree holders. Led primarily by the School of Medicine (UM SOM) and the Greenebaum Comprehensive Cancer Center (GCCC), these extramurally-funded programs mentor and train UR students beginning at 6th grade and form a continuum that reaches to graduate and faculty training levels. **S**cience **T**raining for **A**dvancing Biomedical **R**esearch (STAR)-PREP, is a new UMB/UMSOM program in this pipeline and is sponsored by the NIGMS/NIH. The program is designed to increase URM Scholars' competitiveness for acceptance into top-notch PhD. or M.D.-Ph.D programs. STAR-PREP scholars are competitively reviewed, interviewed and selected using a complex assessment matrix which gauges their passion and demonstrated research commitment and potential for success in STAR-PREP and beyond. Scholars engage in intense cohort-building, an Orientation boot camp and are woven into the UMB research and academic communities through interactions with near-peers in 12 summer research programs in the summer, combined with later interactions with the UMB graduate student community. Scholars explore labs and make mutual selections with outstanding mentors based on research and career development interests. There is intentional and structured programming to address imposter syndrome and, to help students feel a sense of belonging to the UMB and scientific community. Moreover, the program includes robust academic and professional-development rigor such as graduate courses, graduate school preparation, scientific analysis and communication workshops, etc. (25% of the time) and intense, guided research (75% of the time). Scholars complete a project proposal and, an individualized development plan (IDP) for the year in conjunction with their mentors and with STAR-PREP program leadership, who are UM SOM faculty and also serve as advisors. Scholars are required to, and participate and present their research in campus, regional and national conferences (e.g. ABRCMS and SACNAS).

Results: Excitingly, in 6 years, 76% of our program 'graduates' (25/33) have ascended to high quality PhD and MD-PhD programs and 12% (4/33) to MD and MD-dual degrees (88% to terminal biomedical and healthcare programs.) Three alumni (3/33, 9%) have ascended to STEM careers including early leadership positions. One (1/33, 3%) remains in pre-PhD training at UMB. The retention rate in terminal degree programs to date is 100%. Based in part on this success, NIGMS renewed the STAR-PREP grant for another 5 years in 2021.

Conclusions: STAR-PREP has successfully employed both holistic and individualized components coupled to an intentional programming model that simultaneously addresses imposter syndrome, creates and instills a sense of belonging and, includes rigorous academic and research immersion to increase UR advancement to and retention in terminal degree programs in biomedical research and healthcare. Such programs may help meet workforce diversity goals.

FACULTY INSTITUTIONAL RECRUITMENT FOR SUSTAINABLE TRANSFORMATION (FIRST) PROGRAM: THE ROLE OF THE COORDINATION AND EVALUATION CENTER IN STAKEHOLDER ENGAGEMENT AND EVALUATION PLAN DESIGN. Y. A. Levites Strekalova, D. Sarpong, M. Mubasher, A. Quarshie, E. Ofili; Morehouse School of Medicine, Atlanta, GA

PURPOSE: The goal of this presentation is to report on the stakeholder engagement strategies that resulted in the development of the initial FIRST Logic Model, common metrics, and key approaches to the FIRST Program evaluation.

METHODS: Underrepresented racial/ethnic groups comprise 34% of the US population, but publicly available data indicate that only 15% of the PhD recipient pool, 12% of medical school graduates, 9% of current assistant professors, and 4% of tenured faculty comes from these groups. Because U.S. biomedical research is largely driven by NIH-funded faculty in academic institutions, the NIH Office of Strategic Coordination has funded the Faculty Institutional Recruitment for Sustainable Transformation (FIRST) program with two components: the FIRST Cohort institutions and the FIRST Coordination and Evaluation Center (CEC). Together, they are tasked to determine if a systematic approach that integrates multiple evidence-based strategies including the hiring of faculty cohorts with demonstrated commitments to inclusion and diversity will accelerate inclusive excellence, as measured by clearly defined metrics of institutional culture change, diversity, and inclusion.

RESULTS: Systematic program planning and evaluation are essential to test the primary hypothesis that a cohort model of faculty hiring, sponsorship, continual mentoring, and support for professional development, embedded within an institution implementing evidence-based practices to create academic cultures of inclusive excellence, will achieve significant improvements in metrics of institutional culture and scientific workforce diversity. Therefore, the FIRST CEC actively collaborates with FIRST Cohort institutions to identify and harmonize a set of common data elements to be used by each institution to facilitate an objective evaluation of the FIRST program goals. The evaluation of the FIRST Program presents a challenge in that the program will support the recruitment of 6-10 faculty at one of the 14 FIRST Cohort institutions. Furthermore, each institution will implement a unique and innovative set of programs to support faculty recruitment and development and achieve institutional culture change. To address this challenge, the CEC has developed a Data and Evaluation Protocol grounded in the participatory and realist evaluation (RE) frameworks. Working closely with the FIRST Cohort institutions, the CEC leads evaluation efforts that focus on identifying what configurations of program context, processes (activities and social mechanisms), and outcomes work, for whom, and in what circumstances.

CONCLUSION: The FIRST evaluation does not simply assess whether programs create change but explores configurations of pre-program resources and cultures (contexts) of the FIRST Cohort institutions, program activities, and participant reactions (processes and social mechanisms), and a range of effects (outcomes).

SESSION II

ADJUVANT PROTON THERAPY FOR BREAST CANCER TREATMENT: WHY BLACK WOMEN MAY DERIVE A GREATER BENEFIT FROM THIS TREATMENT MODALITY. G. Singh, S. McAvoy, A. Patel, S. Ruff, E. Nichols, M. Vyfhuis; Department of Radiation Oncology, University of Maryland School of Medicine, Baltimore, MD

Breast cancer (BC) patients receiving radiation therapy (RT) may experience an increased risk of cardiovascular morbidity and mortality from a combination of cardiotoxic systemic therapy, pre-existing comorbidities, and radiation dose to the heart. As a way to mitigate cardiovascular events, proton therapy (PT), a form of RT, can be utilized to decrease radiation dose to the heart. Yet, PT remains a scarce resource in the United States, especially for marginalized populations who reside in low socioeconomic areas. Black women are more likely to present with advanced breast cancer and are at higher risk for additional cardiac comorbidities when compared to other races. In comparison with White women, Black women are at increased risk for cardiovascular disease (CVD), develop CVD earlier, and have higher CVD-related mortality rates. The purpose of our study is to compare the cardiovascular events and risk factors in Black women versus non-Black women before and after receiving PT for BC. We hypothesize that Black women with BC will have a higher incidence of cardiovascular events and risk factors both before and after treatment and, hence, may derive a greater benefit from the cardiac-sparing effects of PT when compared to other races.

We performed a retrospective chart review on 368 breast cancer patients that received PT at the Maryland Proton Treatment Center (MPTC) from June 2016 to October 2021 under IRB approval. Chi-square tests were done to assess associations of categorical variables, Mann-Whitney U test was used to assess significant differences between populations, and Kaplan-Meir analysis estimated overall survival and freedom-from-recurrence between cohorts. Binary logistic regression analysis identified predictors of cardiopulmonary events.

With a median follow-up of 24 months (range:0.7—71 months), Black patients comprised 30.7% of the population (White: 60.3%; other: 9.0%) and had lower median incomes ($p<0.001$) when compared to non-Black patients. Black women were more likely to have triple negative (35.4%vs.16.1%; $p<0.001$), more advanced disease (stage IV: 7.1%vs.2.7%), and a higher mean total dose of RT given (60.86 Gy vs. 58.10 Gy; $p=0.026$). At time of consultation, Black patients had higher rates of diabetes ($p=0.008$), hypertension ($p<0.001$), higher mean BMI ($p<0.001$), and greater incidence of existing cardiopulmonary conditions ($p<0.001$). At follow-up, Black women continued to have higher rates of diabetes ($p=0.016$), hypertension ($p<0.001$), along with a higher mean BMI ($p<0.001$). Race was not a predictor of cardiopulmonary toxicity after PT (OR 1.859, 95% CI 0.946-3.656, $p=0.072$); however, patients who were older (OR: 1.041, 95% CI 1.013 – 1.069, $p=0.003$), with a worse performance status at consultation (OR: 1.922, 95% CI 1.205 – 3.068, $p=0.003$), with hypertension at consultation (OR: 2.257, 95% CI 1.155 – 4.409, $p=0.003$) or diagnosed with hyperlipidemia at their follow up appointment (OR: 2.381, 95% CI 1.184 – 4.785, $p=0.003$), were significant predictors of cardiopulmonary toxicity after proton treatment. In this cohort, Black women were 2 times more likely to die than their non-Black counterparts (unadjusted HR: 2.295 95% CI: 1.046-5.035, $p=0.033$), with 5-year overall survival of 94% vs. 49%.

Our preliminary results confirm that Black BC patients present with more aggressive, advanced disease with increased incidence of cardiovascular events and risk factors both before and after PT treatment. This indicates that Black women may derive a greater benefit to advanced RT techniques, such as proton therapy, which can decrease integral radiation dose to the heart, potentially diminishing further cardiopulmonary toxicity. This emphasizes the importance of minority recruitment to radiation-specific breast cancer clinical trials, such as RADCOMP, which aim to determine the cardiovascular benefit of proton therapy over photon therapy in women with locally advanced breast cancers.

ANESTHESIA COUNSELING, CONSENT, & PROFESSIONALISM. O. Tomobi, J. Lee, T. Tran, A. Schiavi, O. Akca, T. Azefor, A. Chari, J. Sampson; Johns Hopkins University School of Medicine, Baltimore, MD.

Introduction: The written anesthesia consent form has become a standard requirement throughout the United States. However, there has been little examination regarding the verbal aspects of anesthesia consent and of the value of the preoperative anesthesia discussion that should take place prior to surgery. Similarly, lack of understanding of the duties and responsibilities of anesthesiologists is damaging to the broader professional status of the field. This study uses patient pre-anesthesia discussions and post-operative questionnaires to examine their understanding of the duties and responsibilities of the anesthesiologist, and the role of the anesthesiologist within the operating room. The study will determine the need for a more structured and thorough pre-anesthesia discussion.

Methodology: The study design was a randomized clinical trial where patients were in a control or intervention group. Patient participants who were interested and eligible underwent the research informed consent process. The control group had their pre-op discussion performed by an anesthesiologist in a manner commensurate with their routine for preoperative discussion. The intervention group had their pre-operative discussion performed by one of the intervention group anesthesiologists with knowledge of specific material that must be addressed in the domains of consent, patient autonomy, and professionalism. Both groups completed post-operative questionnaires and results were statistically analyzed with descriptive statistics and by the Mann-Whitney U Test.

Results: One hundred forty-seven patient participants and their anesthesia care team members enrolled in the study, with 59 encounters in the intervention group, and 88 encounters in the control group. All patient participants underwent a postoperative interview within 3 days after surgery with a response rate of 100% in the control group and 98% in the intervention group. Participants in the intervention group were slightly more likely to rate the anesthesia discussion as very detailed, compared to the control group ((4.86/5 vs 4.45/5); $p = 0.0041$). The intervention group was more likely to recall which type of anesthesia they were consented for (100% vs 91.3%), why pre-oxygenation was important (61.5% vs 11.6%; $p < 0.0001$) and more likely to report a reduction in anxiety compared to the control group (3.83/5 vs. 3.33/5; $p = 0.00528$). The intervention group was more likely to recall a discussion of one or more anesthesia risks (88% vs 60%, $p = 0.01$). Both groups reported 100% satisfaction with the pre-anesthesia encounter, while the intervention group was more likely to know the roles of the members of their anesthesia care team (48.3% vs 24.6%, $p = 0.0018$), despite recognition that all anesthesia team members introduced themselves and their roles.

Conclusion: Patients in the intervention group were more likely to recognize the roles in an anesthesia team model. Having a more structured preoperative informed consent process can better help patients understand the roles of the anesthesiologist and other team members, increase recall of risks for general anesthesia, elicit cooperation with and understanding of pre-oxygenation, and help improve on the status and perceptions of the specialty.

ATP-DEPENDENT POTASSIUM CHANNELS FORM THE LINK BETWEEN METABOLISM AND EPILEPSY. D. McAfee, M. Moyer, M. Bachani, A. Ksendzovsky; Dept. of Neurosurgery, University of Maryland Baltimore School of Medicine, Baltimore, MD

Objective: The purpose of this study is to determine whether ATP-dependent potassium (KATP) channel inactivation leads to neuronal hyperactivation.

Methods: We used a primary mixed culture of cortical neurons from P1 rat pups on 96-well multi-electrode arraysplates for recording. A two-hour low-magnesium (Mg2+) model of neuronal hyperactivation induced pathological neuronal firing, seen through an increase in baseline neuronal burst frequency. After the 10 days of treatment, control and low-Mg2+ wells were treated with 10 uM of tifenazoxide (a specific KATP channel activator). We also compared the seizure response of 7-week-old heterozygous Kir6.2 (a pore subunit of the KATP channel) and wild-type mice after a 35 mg/kg intraperitoneal injection of pentylenetetrazole (PTZ).

Results: We found a significant reduction in neuronal burst frequency in the low-Mg2+ cells after 24 hours (0.023 vs. 0.010, $p = 0.033$). This reduction was larger than seen in controls (56% in low-Mg2+ vs. 32.6% in controls). Interestingly, we also observed a significant upregulation of lactate dehydrogenase A (LDHA) protein in the hyperactive low-Mg2+ group compared to controls (68% LDHA expressing neurons vs. 27% in controls). Although not significant, partial KATP knockout mice tended to have more seizures on average after the initial injection of a PTZ compared to controls (1.4 vs. 0.6 for controls) despite our small sample size for both groups (n=5 mice).

Conclusions: Our findings suggest that KATP channel inhibition may contribute to neuronal activation in culture and seizures in a mouse model of epilepsy. They also demonstrate a greater magnitude of KATP inactivation in pathological hyperactivity. The potential trend in baseline susceptibility to seizures in partial KATP knockouts suggests that mice with fewer KATP channels may lack an important protective mechanism against seizure propagation; however, we will repeat this experiment in a larger sample. Nonetheless, we plan to further describe the KATP channel's role in neuronal activation and seizures as well as investigate LDHA as a potential upstream regulator of KATP channel inactivation.

THE ROLE OF MOCK REVIEW SESSIONS IN THE NATIONAL RESEARCH MENTORING NETWORK (NRMN) SETH RANDOMIZED CONTROLLED STUDY. M. Mubasher, T. Pearson, K. Lawson, J. Holmes, P. Pemu, Y. Strekalova, A. Baez, J. K. Stiles, M. S. Salazar, L. S. Caplan, M. Y. Idris, W. E. Thompson, A. Quarshie, E. Ofili; Morehouse School of Medicine, Atlanta, GA

This NIH-funded NRMN SETH (Strategic Empowerment tailored for Health Equity Investigators) is a randomized controlled study to test the effectiveness of Developmental Network (DN) Coaching in the career advancement of diverse Early-Stage Investigators (ESIs). Adding focused NIH-formatted MOCK Review Sessions (MRS) prior to the submission of NIH grant applications can significantly enhance ESIs' scientific research capability that could potentially result in successful grant submissions. Herein, we present the most frequent design, conduct and analysis-specific factors that were deemed deficient or insufficient by Mock reviewers.

Methods: Three experienced members of the NRMN SETH study team with prior NIH reviewing experience were assigned to conduct the Mock Reviews. Applicants were asked to submit their completed draft applications 2-3 weeks before convening the MRS. Our study has thus far recruited 168 ESI participants since December 14, 2019 through 4 cohorts sequentially recruited over time. ESIs are required to work with their coaches and developers (for those randomized to the coaching plus developer group) and submit at least one NIH/extramural application for funding within the first 9 months of their enrollment in the program. MRS were optional for cohorts 1-2 and became mandatory starting July 2020 for cohort 3. The MRS were tailored after the NIH format which focuses on the scientific merits and feasibility of conducting and successfully completing the planned research. The NIH criteria focus on a) significance of the proposed research topic in terms of the pre-existing gaps in the scientific, clinical and public health literature, b) the suitability of the investigator(s) background, experience, training and research/scientific abilities to successfully conduct and achieve the proposed research aims, c) Innovation of the methodology and approaches underlying the design and conduct of the proposed research topic, d) appropriateness and reasonability of the proposed overall approach, strategy, methodology, and analysis to accomplishing the specific aims of the project, as well as protection of human subjects, inclusion of minorities and members of both sexes/genders, and the inclusion of children, e) alignment of institutional environment and available resources with implementation needs of the proposed research topic, so that the successful completion of the project is highly likely and f) justification of human subjects inclusion and plans for their protection when they participate in the proposed research. Based on these criteria, we computed the frequency distributions of the most prevalent design, conduct and analysis-related factors that were deemed deficient and/or insufficient.

Results: By August 2022, 60 applications went through the MRS. The proposed mechanisms of funding were distributed as follows: 40 (66.67%) R-series research grants, 16 (26.66%) career development (K series) grants and 4(6.67%) others (Support of Competitive Research (SCORE) and National Science Foundation grants). The most prevalent issues (not necessarily mutually exclusive, i.e. some may overlap with each other) that were detected by the MRS were distributed as follows: 45 (75%) lacking and/or insufficient statistical design considerations and statistical analyses plan (SAP) (e.g., missing /generic sample size and statistical power justifications, and lack of clarity identifying outcome measures and covariates /confounders/predictors of outcome), 17 (28.3%) lacking conceptual model/framework, 7 (11.7%) with overlapping specific aims, 2 (3.3%) with insufficient justification/ evidence of significance, and 2 (3.3%) with insufficient justification/evidence of innovation.

Conclusions: NRMN SETH MRS offer timely, specific, and constructive feedback to ESIs to allow for potential modifications/incorporation of suggestions into their applications to help in enhancing the scientific merits of their intended research.

NOTES