OVERVIEW

This meeting is the resurgence of the Basic Science Section.

Specifically, the focus of this program is to examine how the erosion of scientific rigor and evidence-based decision-making disproportionately worsens health outcomes for communities of color and other minoritized populations. Unscientific and non-evidence-based health policy decisions undermine effective care delivery and amplify existing inequities, particularly when they replace mechanistic understanding with ideology, expediency, or incomplete data.

These challenges are further compounded by the rapid evolution of artificial intelligence in both basic science and clinical medicine. While AI has the potential to accelerate medical advances, the persistent underrepresentation of Black and Latinx researchers, coupled with declining research funding, places certain populations at risk of being excluded from its benefits. Moreover, some algorithms currently deployed in basic science and clinical applications reflect implicit bias and insufficient biological grounding, threatening to erode decades of progress toward reducing health disparities.

Similarly, climate change represents a growing public health crisis in which failure to integrate robust scientific evidence into policy and practice has measurable consequences. Through this program, the transfer of information on climate change research and its health impacts will support application to clinical practice, informed engagement with the public and policymakers, and collaboration with low-income communities and communities of color in climate action efforts. Without urgent, science-driven responses, climate-related health effects will continue to cause societal disruption, overwhelm healthcare systems, and threaten population health.

Comparable adverse outcomes are already evident in efforts to weaken established public health vaccine frameworks that have historically saved countless lives and reduced disparities in vaccination rates. Across these domains vaccination policy, climate-related health risks, AI-driven tools, and public health interventions basic science research remains essential for informing sound policy and developing effective clinical guidelines. Ongoing research in areas such as autism, cancer risk, gun violence, and substance use disorders illustrates the critical role of scientific evidence in shaping responsible healthcare decisions.

In addition to these system-level challenges, there is a parallel educational gap in how basic science is translated to future physicians. As unscientific policies, biased technologies, and weakened public health frameworks increasingly influence healthcare delivery, medical education must ensure that learners possess the scientific reasoning skills necessary to evaluate evidence, adapt to uncertainty, and apply emerging knowledge responsibly. Strengthening how foundational science is taught, reinforced, and assessed across the medical education continuum is essential to preparing physicians who can respond effectively to these interconnected challenges.

REFERENCES

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Bekkar B, Pacheco S, Basu R, DeNicola N. Association of Air Pollution and Heat Exposure With Preterm Birth, Low Birth Weight, and Stillbirth in the US: A Systematic Review. JAMA Netw Open. 2020;3(6):e208243. doi:10.1001/jamanetworkopen.2020.8243
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Zhang W, Spero TL, Nolte CG, et al. Projected Changes in Maternal Heat Exposure During Early Pregnancy and the Associated Congenital Heart Defect Burden in the United States. J Am Heart Assoc. 2019;8(3):e010995. doi:10.1161/JAHA.118.010995 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6405581/

DETAILED PROGRAM

"Ensuring the Security & Health of Science"

1:00 p.m. . . . ..Welcome and Introduction of the Keynote Speaker
Winston Price, M.D., FAAP, FACPE, Past President, NMA; VP Education & Technology for the W. Montague Cobb/NMA Health Institute; Co-Chair Basic Science Section
Basic Science vs Basic Finance- What Governs Progress?

1:05 p.m. . . . ..Keynote : The Ethics of Sound Scientific Principle
Ronnie Sebro, M.D, Ph.D; Professor of Radiology,, Epidemiology and Imaging- MD Anderson Medical Center

1:25 p.m Q&A

1:30 p.m. . . . ..Extreme Heat: A Deadly Climate Risk
Moderator: Nicky Chin, M.D,, Associate Professor of Pediatrics- Morehouse School of Medicine

"Turning the Heat Up and the Impact on Health"-- Cheryl Holder, M.D., Professor Department of Internal Medicine-FIU Herbert Wertheim College of Medicine

"OB Impact of Extreme Heat"- US and Caribbean Perspective"
Karen Walker Jefferson, M.D., Assistant Professor of Ob-GYN University of Virginia Health Systems

"The Cobb Scholars & Research Opportunities in Environmental Health & Justice" - Kimberly Williams, Ph.D. Executive Director -Clinicians for Climate Action- GA

"Financing Equitable Basic Science Research in PR" – Pablo Mendez Lazaro, Ph.D, Associate Professor of Environmental Health Department
Graduate School of Public Health, University of Puerto Rico

2:30 p.m. . . PANEL TRANSITION

2:35 p.m. . . . ..From Bench to Blackboard to Bedside: What Future Physicians Actually Need From Basic Science
Moderator: Jacqueline Powell, Ph.D.; Morehouse School of Medicine President's Cabinet- Morehouse School of Medicine

Panel: Darryl Crenshaw, M.D.; Clinical Asst Professor Medicine-Nephrology-PCOM