



# Network of Minority Health Research Investigators (NMRI)

## NMRI News Fall 2019



National Institute of  
Diabetes and Digestive  
and Kidney Diseases



## A Message from Dr. Agodoa

The Network of Minority Health Research Investigators (NMRI) was established to address the pressing need to increase the representation of minority health researchers among the National Institutes of Health (NIH) grantees. The Director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) took the lead in addressing the need for greater diversity in the biomedical research community by establishing the Office of Minority Health Research Coordination (OMHRC). The NIDDK formed the Network to foster communication among biomedical research investigators and technical personnel interested in minority health research.

The NMRI continues to—

- Encourage minority health investigators to conduct research in areas related to NIDDK's mission, including diabetes; endocrinology; metabolism; digestive diseases; nutrition; and kidney, urologic, and hematologic diseases.
- Promote two-way communication between the NIDDK and NMRI members.
- Recommend strategies to support and advance underrepresented individuals and others in biomedical research.
- Advance scientific knowledge and contribute to reducing and eliminating racial and ethnic health disparities.

More than 700 members have joined the NMRI since 2003, and the Network continues to grow. NMRI's success in achieving its mission is rooted in the dedication of senior members who mentor junior investigators and serve as role models. The Network's senior members help junior members develop grant applications, navigate the tenure process, and learn to balance faculty commitments. Mentoring occurs during NMRI's annual and regional workshops, by email, and by telephone, with the help of the NMRI Membership Directory, which facilitates mentor-mentee relationships and collaborations among members with similar research interests. The NMRI's success depends on the members' leadership and input. The NIDDK provides the necessary resources to support those endeavors. In 2019, the NIDDK/OMHRC published in the February 2019 issue of *Ethnicity and Disease* the results of its programmatic review of the Network's impact on junior minority faculty. This report revealed four recurring reasons members indicated for attending an NMRI annual workshop: (1) mentoring, (2) career development, (3) academic networking, and (4) social support.

Best wishes for a successful year of research, mentoring, and community!

**Lawrence Y.C. Agodoa, M.D., FACP**

Director, OMHRC, NIDDK, NIH

## Awards and Accomplishments

**Emilyn Alejandro, Ph.D.**, University of Minnesota, received the McKnight Land-Grant Professorship in May 2019 to study the fetal origins of health and disease.

**Ricardo Azziz, M.D., M.P.H., M.B.A.**, Chief Officer, Academic Health and Hospital Affairs, State University of New York System Administration, was selected as the Chief Executive Officer of the American Society for Reproductive Medicine and will assume his new duties in the fall of 2019.

**Marissa DeFritas, Ph.D.**, University of Miami, was awarded the Micah Batchelor Scholar award to study developmental changes in kidney progenitor cell profiles among preterm infants.

**Clarissa Jonas Diamantidis, M.D., M.H.S.**, is Associate Professor of Medicine, Duke University School of Medicine.

**Absalon Gutierrez, M.D.**, is Associate Professor at The University of Texas, and received a first NIH R21 grant.

**Marja Hurley, M.D.**, University of Connecticut, was selected as a member of the American Society for Bone and Mineral Research Council.

**Chandra Jackson, Ph.D.**, National Institute of Environmental Health Sciences, was selected for a Presidential Early Career Award for Scientists and Engineers, which was announced on July 2, 2019.

**John Kuawe, Ph.D.**, was promoted to Professor and selected Chair of Biology, Brigham Young University, in 2018 and was appointed the Dean of Graduate Studies in 2019.

**Evangeline Motley-Johnson, Ph.D.**, is Interim Dean, School of Graduate Studies and Research, Meharry Medical College, and chaired a review panel for the American Heart Association on October 17, 2019.

**Virginia Sarapura, M.D.**, is Professor of Medicine, University of Colorado Anschutz Medical Campus.

**April Stull, Ph.D., RDN, FAND**, University of Maryland Eastern Shore, was recognized as a Fellow of the Academy of Nutrition and Dietetics (FAND).

**Karen Tabb, Ph.D.**, is Associate Professor, University of Illinois at Urbana–Champaign, and a recipient of the Robert Wood Johnson Foundation's Thought Leader Award for Leading in Peer-Reviewed Publications.

**Claudio Villanueva, Ph.D.**, is Associate Professor, Department of Integrative Biology and Physiology, University of California, Los Angeles, and published a paper titled "Loss of TLE3 Promotes the Mitochondrial Program in Beige Adipocytes and Improves Glucose Metabolism" in the October 2019 issue of *Genes & Development*.

**Lavoria Williams, Ph.D.**, University of Kentucky, received the 2019 Nurse Researcher of the Year Award from the National Black Nurses Association.



*"NMRI has positively impacted my career by providing a platform for me to present my work, network with peers, obtain mentorship from national leaders and leverage these relationships for promotion and sponsorship for leadership opportunities."*

**Lavoria Williams, Ph.D.**  
Associate Professor, University of Kentucky

## START PLANNING:

Announcing the NMRI 18th Annual Workshop

April 22–24, 2020

Bethesda, MD

## Member Collaborations

NMRI scholars are encouraged to network and identify opportunities for junior and senior Network members to collaborate.

### Annual Workshop Travel Award

Attending the NMRI Annual Meeting is a great way to learn more about the Network. Scholarships are available to support attendance.

### Are you a nephrologist or kidney researcher?

The ASN offers a limited number of travel awards to attend the NMRI Annual Workshop. Application materials are available on the ASN website: [www.asn-online.org/grants/travel/nmri.aspx](http://www.asn-online.org/grants/travel/nmri.aspx).

### Never attended an NMRI workshop? Junior faculty member? Have an abstract to present?

Limited travel awards are available through the generosity of our professional society sponsors for eligible members to attend the NMRI Annual Meeting. For more information, contact Ms. Winnie Martinez, NIDDK, [winnie.martinez@nih.gov](mailto:winnie.martinez@nih.gov).



*I would like to thank Dr. Lawrence Agodoa and the members of the NMRI for their encouragement and support in moving forward through my academic career since I joined the NMRI in 2003. My involvement with this wonderful group was key in making it possible this year to transition from Associate to Full Professor in the Department of Medicine at the University of Colorado.*

**Virginia Sarapura, M.D.**

Professor, University of Colorado Anschutz Medical Campus

## SAVE THE DATE

Announcing the NMRI Midwest  
Regional Workshop

November 14–15, 2019

Iowa City, IA



## NMRI 17th Annual Workshop Sponsors

The NMRI would like to thank the following professional societies for sponsoring travel awards to the NMRI 17th Annual Workshop:

- American Association for the Study of Liver Diseases (AASLD)
- American Society for Bone and Mineral Research (ASBMR)
- American Society of Nephrology (ASN)
- Endocrine Society (ES)

## NMRI 17th Annual Workshop Travel Award Recipients

### *AASLD Travel Award Recipients*

Essa Mohamed, M.D.  
Bolni Nagalo, Ph.D.

### *ASBMR Travel Award Recipient*

Theodore Busby

### *ASN Travel Award Recipients*

Hostensia Beng, M.D.	Anberitha Matthews, Ph.D.
Amanda Brown-Tortorici, M.S.	Devika Nair, M.D.
Alexander Bullen, M.D.	Jordan Nestor, M.D.
Isaac Campo	Javier Neyra, M.D.
Glen Chertow, M.D.	Angie Nishio Lucar, M.D.
Yelena Drexler, M.D.	Elimelda Onger, Ph.D.
Titilola Falasinnu, Ph.D.	Ankit Patel, Ph.D.
Jorge Gamboa, M.D.	George Vasquez Rios, M.D.
Dianna Hernandez, Ph.D.	Anawin Sanguankeo, M.D.
Chinaemere Igwebuike, Ph.D.	Milda Saunders, M.D.
Tanya Johns, M.D.	Silvi Shah, M.D.
Janice Lea, M.D.	Rajkumar Venkatadari, Ph.D.

### *ES Travel Award Recipients*

Angelina Hernandez-Carretero, Ph.D.  
Crystal Hill, Ph.D.



## Report from the NMRI 17th Annual Workshop

Highlights of the NMRI 17th Annual Workshop follow. A full meeting summary will be provided in the 2019 NMRI Directory.

The NMRI met for its 17th Annual Workshop April 24–26, 2019, at the DoubleTree Hotel in Bethesda, MD. Participants' careers ranged from premedical and predoctoral students to tenured professors, and several participants were first-time attendees of a national NMRI workshop. Research areas included diabetes, epidemiology, endocrinology, health disparities, hematology, nephrology, nutrition, and obesity. **Francesco Villarreal, M.D., Ph.D.**, Professor, University of California (UC), San Diego, and chair of the NMRI Planning Committee, welcomed participants from across the United States to the NMRI 17th Annual Workshop and expressed appreciation to the NMRI leadership for their continued support. **Lawrence Agodoa, M.D.**, Director, OMHRC, also welcomed participants and explained that the NMRI was established by the OMHRC in 2002 to encourage new minority investigators in pursuing their research and foster mentoring relationships. He elaborated on OMHRC's current role in relation to the NMRI, which is to provide the necessary resources for members to succeed.

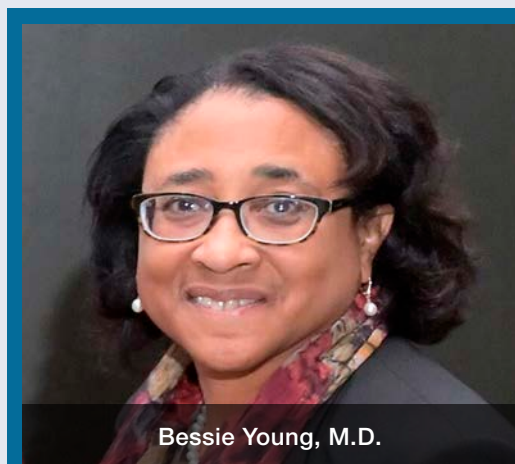
### KEYNOTE ADDRESS

During her presentation titled "Women in Academia: Becoming an Academic Nephrologist," **Bessie Young, M.D., M.P.H.**, Professor, University of Washington, described her career path to becoming an academic nephrologist and noted the impact of the NMRI. She remarked on being the only woman in the 1983 entering class, one of two African American women in the 1987 graduating class of the University of Washington School of Medicine, and, initially, the only African American during her internship and residency. Dr. Young credits strong mentorship with encouraging her to pursue her dream of being an academician. As assistant professor, Dr. Young received a NIH R01 grant focused on increasing kidney transplant awareness in the African American community, and she received a second NIH R01 grant to develop a national chronic kidney disease (CKD) working group within the Jackson Heart Study, an NIH-funded, large-scale study that is evaluating

cardiovascular disease in more than 5,000 African Americans in Jackson, Mississippi.

Dr. Young spoke of becoming the first African American woman to be promoted to full professor in the Department of Medicine at the University of Washington School of Medicine in its 60-year history. She credits the NMRI with helping her attain this level of academic achievement. She later became Section Chief of Nephrology at the Veterans Affairs (VA) Puget Sound Health Care System, and her research interests focus on health disparities and kidney disease, home dialysis, CKD in rural areas within the VA system, and genetic testing for CKD. Dr. Young received a third NIH R01 grant to evaluate *APOL1* genetic testing in the African American community. She provides mentorship to medical students, residents, fellows, and junior faculty and, in 2018, was appointed Associate Chair of Diversity and Inclusion in the Department of Medicine at the University of Washington to increase the diversity of the university's trainee and faculty populations.

Dr. Young closed by sharing that mentorship, teaching and clinical work, grants, manuscripts, national involvement, and volunteer work are important for success in academia. She encouraged participants, especially new investigators, to discover and pursue their passions, find several good mentors for all aspects of life, find a sponsor who can provide local and national support, and develop guiding principles and remain true to them.



Bessie Young, M.D.

## STRATEGIES FOR GRANT WRITING

Workshop participants heard about basic science and clinical research grant writing strategies from a team of experts in the diabetes, digestive, and kidney disease field who also have written and reviewed research proposals.

**Frank Hamilton, M.D.**, Program Director, NIDDK, NIH, highlighted key elements that grant reviewers consider in evaluating research proposals, including the significance of the research, the tools and expertise necessary, the innovation, the institutional environment, and the planned outreach. He recommended that applicants attend to the funding opportunity announcement (FOA) requirements, present realistic and specific goals, and utilize NIH's resources and tools.

**Mark Lawson, Ph.D.**, Professor, University of California (UC), San Diego, elaborated on structuring a **basic science** grant proposal, especially for early stage investigators (ESIs). K awards provide a resource for training on managing a team, developing effective research goals, and transitioning to independence as an investigator. He shared three key points for writing an NIH grant. (1) Understand the purpose of the research and target audience. (2) Become familiar with the scope of the grant and history of the applicable study section. (3) Assemble a skilled team. Dr. Lawson also emphasized the importance of including all necessary information and justification in the proposal and recommended that first-time grant submitters consult established investigators for advice. He added that grant revisions should clearly address and accommodate the reviewers' concerns.

**Samuel Dagogo-Jack, M.D., D.M.**, Professor of Medicine, The University of Tennessee Health Science Center (UTHSC), highlighted strategies related to applying for **clinical** R01 grants. The FOA is the key driver for choosing a research area, but Dr. Dagogo-Jack recommended that current and future applicants consider common conditions, national and institutional priorities, and individual interests. He explained that applicants may also consider building on a mentor's field of study, addressing emerging areas, or researching the topics of interest to the particular NIH Institute or Center (IC). Dr. Dagogo-Jack also recommended conducting background reading and setting a specific timeline for

developing the research plan. He emphasized the importance of acquiring pilot funding, generating preliminary data, surveying available institutional resources, and identifying collaborators. Dr. Dagogo-Jack explained his steps in preparing a clinical research proposal, including identifying a gap in research and formulating a research question to address that gap, as well as the resulting objective, specific aims, and hypothesis. In closing, he emphasized the importance of incorporating specific language and scope from the FOA into the proposal and noted that innovation can be included in several sections of the proposal.

## WELCOME REMARKS

**Griffin P. Rodgers, M.D., MACP**, Director, NIDDK, welcomed participants to NMRI's 17th annual workshop. He remarked on the NMRI as a signature NIDDK program that is an inspiration and a model for other ICs. More than 1,000 participants have attended the annual workshop in the past 10 years, and NMRI members have received a number of grants, had numerous publications, and have been well represented at national and international conferences. In its research mission, Dr. Rodgers explained, the NIDDK supports research on diabetes and other endocrine disorders and metabolic disorders; digestive diseases, nutritional disorders, and obesity; and kidney, urologic, and hematological diseases. These comprise the most common, costly, and consequential diseases affecting many people in the United States and abroad and disproportionately affect minority populations.



*NMRI has been impactful in my career trajectory by providing an open environment for learning, networking, sharing ideas, and discussing challenges with other minority researchers and/or academicians. Additionally, NMRI had a definitive impact on me obtaining my first federal research grant (NIH NCCIH-K01 grant).*

**April Stull, Ph.D., RDN, FAND**  
Associate Professor of Nutrition,  
University of Maryland Eastern Shore

Dr. Rodgers elaborated on how the NIDDK works to preserve the investment in the next generation of researchers by supporting research training and career development programs to address critical moves between career levels. He highlighted the NIDDK programs for underrepresented minority (URM) groups that are channels for building the biomedical research workforce.

- The Medical Student Research Program in Diabetes.
- Aspironaut™ (meaning one who aspires, seeks, and achieves)
- Short-Term Research Experience for Underrepresented Persons (commonly called STEP-UP)

Dr. Rodgers closed by encouraging participants to visit the NIDDK website for additional information on NIDDK diversity and inclusion efforts and existing programs.

## ROUNDTABLE DISCUSSIONS—FROM CAREER DEVELOPMENT ADVICE TO THE GRANT WRITING AND REVIEW PROCESS

Workshop attendees participated in two sessions of roundtable discussions, during which they had a choice of participating in two of the five groups focused on career-oriented topics: navigating difficult conversations, other federal opportunities, funding of women's health, NIH funding opportunities, and NIH diversity programs.

The discussion leaders were **Leon McDougle, M.D.**, Chief Diversity Officer, The Ohio State University (OSU); **Mark Lawson, Ph.D.**, Professor, UC San Diego; **Ricardo Azziz, M.D., M.P.H., M.B.A.**, Chief Officer, Academic Health and Hospital Affairs, State University of New York System Administration; **Francesco Villarreal, M.D., Ph.D.**, Professor, UC San Diego; **Victoria Cargill, M.D.**, Associate Director for Interdisciplinary Research, Office of Research on Women's Health, NIH; **Patricia Heyn, Ph.D.**, Associate Professor, University of Colorado Anschutz Medical Campus; **Frank Hamilton, M.D., M.P.H.**, Program Director, NIDDK, NIH;

and **Luis Cubano, Ph.D.**, Program Director, National Institute of General Medical Sciences, NIH.

## PARALLEL SESSION

This session provided the opportunity for participants to attend a mock study section for different types of NIH awards—R01 Basic/Clinical, K01 Basic/Clinical, and R21 Basic/Clinical. During these sessions, session leaders were given sample grant applications to review and critique. Meeting participants attended the session of their choice. Each mock study section was composed of an NIDDK Scientific Review Officer (SRO) and a Chair. This year's mock study sections were led by SROs **Ann Jerkins, Ph.D.**, **Ryan Morris, Ph.D.**, and **Michele Barnard, Ph.D.**, Deputy Branch Chief, Grants Review Branch, NIDDK, NIH; The sections were chaired by **Francesco Villarreal, M.D., Ph.D.**, Professor, UC San Diego; **Mark Lawson, Ph.D.**, Professor, UC San Diego; and **Jose Romero, Ph.D.**, Associate Physiologist, Brigham and Women's Hospital, Harvard Medical School.

## CHALLENGES FOR WOMEN IN ACADEMIA

**Yvette Huet, Ph.D.**, Director, ADVANCE Faculty Affairs and Diversity Office, the University of North Carolina at Charlotte, described her experiences as a woman in academia and noted that, during her undergraduate and doctoral studies, a complete lack of women faculty members in the basic sciences seemed normal. More women were staff scientists during her postdoctoral research, and many of these, like herself, were married to another scientist. Faculty placement for both members of a couple required either separation by distance or dual positions at the same institution. The difficulty of starting a family in a research position relied on the institution's leave policies and, later, the Family and Medical Leave Act. When Dr. Huet became director of the ADVANCE Faculty Affairs and Diversity Office, she changed the policies across the university to better support work-life balance.



**Leon McDougle, M.D., M.P.H.**, Chief Diversity Officer, OSU Wexner School of Medicine, recounted how his female mentor was denied tenure three times and resorted to legal action. The OSU Allies & Advocates for Equity program includes senior faculty and administrative men who have a record of supporting women staff and faculty; advocates are trained by Women's Place staff to lead conversations with other men and train them as allies for gender equity, resulting in positive personal, departmental, and institutional change. Dr. McDougle described his experience facilitating these discussions, which includes sharing data on implicit bias and real narratives of women faculty.

**Rocio Pereira, M.D.**, Chief of Endocrinology, Denver Health, Associate Professor, University of Colorado School of Medicine, encouraged women who currently are or aspire to be academic faculty to develop a plan for their careers, maintain focus regardless of challenges, clearly communicate their needs, learn to say "no," and promote their own successes.

## STRATEGIES FOR STRENGTHENING YOUR RESEARCH: BUILDING A TEAM

**Ricardo Azziz, M.D., M.P.H., M.B.A.**, Chief Officer, Academic Health and Hospital Affairs, State University of New York System Administration, provided guidance on leading, building, managing, and sustaining a research team. Dr. Azziz stated that recruiting the right team members involves clearly describing the job and workplace culture and the leader's style and abilities. He recommended using a structured interview process with behavioral and professional questions and a demonstration of proposed duties, as well as determining the candidate's short- and long-term expectations. He emphasized that retaining employees requires flexibility, investment in training, and creation of a satisfying and inspiring job experience; employees also should have clearly defined duties, and their family, personal, and social needs should be respected. Dr. Azziz recommended that team leaders provide regular feedback, follow-up to meetings in writing, and clear metrics for improvement when needed. He pointed out that conflicts in the laboratory are common, so strategies for resolution are necessary. He also commented that leaders should

have zero tolerance for unethical behavior or any form of harassment. Dr. Azziz closed by emphasizing the importance of collaborations, highlighting methods to identify potential collaborators with expertise that aligns with that of the existing team.

## DINNER ADDRESS—DR. LAWRENCE Y.C. AGODOA HONORARY LECTURE OF THE NMRI

The dinner address was presented by **Samuel Dagogo-Jack, M.D., D.M.**, UTHSC, who discussed the physician-scientist at the convergence of the art and science of medicine. Dr. Dagogo-Jack described his experiences as a physician-scientist, his training of new investigators, and his research. Born in West Africa, he graduated the University of Ibadan College of Medicine, Nigeria, completed his residency at the University of Newcastle, United Kingdom, and became a Member of the Royal College of Physicians in 1982. Subsequently, embracing his curiosity and endorsed by one of his professors, he continued at the University of Newcastle, trained in research, and earned an M.S. and a Doctorate in Medicine (equivalent to an American Ph.D.). He conducted postdoctoral fellowship training studying endocrinology, diabetes, and metabolism at the Washington University School of Medicine in St. Louis. He then became Assistant Professor at UTHSC.

Dr. Dagogo-Jack expounded on how a diversified workforce engages patients differently and in a culturally sensitive manner. He referenced an often unstated hypothesis—URM Replicon Hypothesis—that attracting and mentoring a scientist from a URM population and supporting their early career results in a URM faculty member and role model. The URM role model, in turn, attracts other URM proteges and builds a diverse team that advances the mission. Dr. Dagogo-Jack emphasized that this model has been demonstrated and holds true, which he has witnessed in his diverse laboratory group. Several of his students and postdoctoral fellows have gone on to be educated at well-known universities and Ivy League schools. In closing, Dr. Dagogo-Jack suggested that physician-scientists consider human understanding as an essential tool for treating patients.

Characteristically, he explained, the universal patient wants empathy, pathophysiologic information, treatment possibilities, and preservation of hope and faith.

## MENTORING AT THE 17TH ANNUAL WORKSHOP

During the 17th Annual Workshop's Mentor/Mentee Session, junior investigators met with one of several senior investigators willing to serve as mentors. Each mentor hosted a roundtable discussion with his or her mentees, answering questions and offering advice about career- or research-related topics. The session was designed to promote active mentoring relationships between senior and junior members.

## BUILDING THE NIDDK NMRI

**Shirley Blanchard, Ph.D.**, described results of the recent NIDDK report titled "Building the Network of Minority Health Research Investigators: A Novel Program to Enhance Leadership and Success of Underrepresented Minorities in Biomedical Research," which was a collaborative effort of the OMHRC, NMRI committees, and the Network. From 2008 to the present, an average of 97 members attended meetings and workshops. Of the 97, 34 percent were senior members and 66 percent were junior members. Dr. Blanchard emphasized that this 2:1 ratio of junior to senior researchers is optimal for promoting mentoring and networking opportunities at the meetings. She noted that the apparent benefits of members attending the NMRI annual meeting were career development, grant writing assistance, and time management strategies.

## ROLES OF SCIENTIFIC SOCIETIES AND PROFESSIONAL ORGANIZATIONS

Workshop participants were provided information about the roles and activities of scientific societies and professional organizations that are important to the NMRI's work.

**Mark E. Rosenberg, M.D., FASN**, President, ASN, elaborated on his work with the ASN and how it affected his career and advancement as a nephrologist and clinical researcher. He

conveyed that approximately 850 million people worldwide have kidney diseases, 40 million of whom live in the United States. Treating kidney disease accounts for \$114 billion in annual Medicare costs. The ASN—which has more than 20,000 members from 131 different countries—has a mission to prevent, treat, and cure kidney diseases throughout the world by educating health professionals and scientists, advancing innovation, communicating knowledge, and advocating for patients. He remarked on ASN's support of career development for kidney professionals at all levels of training, noting that the ASN is proud to have sponsored 24 participants to travel to the 17th Annual NMRI Workshop. Dr. Rosenberg explained that ASN's values statement on diversity and inclusion—which cites inclusiveness, mentorship, health equity, patient advocacy, and engagement—emphasizes the society's level of commitment. Establishing the Diversity and Inclusion Committee, which the NMRI strongly supports, is one such embodiment. He pointed out the many benefits of becoming an ASN member and lauded the NMRI for its success.

**Nicole Wright, Ph.D.**, co-chair of the ASBMR Diversity in Bone and Mineral Research Committee, informed participants that the Society's mission is to advance excellence in bone, mineral, and musculoskeletal science worldwide and promote translation of basic and clinical research to improve human health. Established in 1977, the ASBMR has served the bone, mineral, and musculoskeletal scientific community for more than 40 years. The membership is diverse and consists of approximately 4,000 members worldwide, 52 percent of whom are in the United States. Fifty-four percent hold Ph.D.s; 46 percent hold M.D.s; and 22 percent are ESIs. The ASBMR annual meeting is the world's largest and most diverse meeting in the bone, mineral, and musculoskeletal research field, attracting more than 3,000 attendees from more than 70 countries. More than 150 travel grants and awards are available to U.S. and international members at every stage of their careers. ASBMR publications include the *Journal of Bone and Mineral Research (JBMR)*, *JBMR Plus*, and the *Primer on the Metabolic Bone Diseases and Disorders of Mineral Metabolism*. The ASBMR continues to increase its activities to promote the visibility of URM members throughout the society. Dr. Wright encouraged participants to



visit the ASBMR website or contact ASBMR staff for more information.

Rocio Pereira, M.D., former chair of the ES Committee on Diversity and Inclusion, told participants that the Society, an international community, has more than 18,000 members, 60 percent of whom are in the United States. Its membership of clinical practitioners and basic and clinical researchers represents 122 countries. The Society's peer-reviewed publications include *Endocrine Reviews*, *Endocrinology*, the *Journal of the Endocrine Society*, and the *Journal of Clinical Endocrinology and Metabolism*. The ES convenes an annual meeting (commonly called ENDO) and features an online career center (Endocareers), which provides a mentor exchange program, in-training and early career resources, and board certification training for clinical endocrinologists. One of the Society's diversity initiatives is the NIDDK-sponsored Future Leaders Advancing Research in Endocrinology (FLARE) program to support training in endocrine research for URM students. ES's Committee on Diversity and Inclusion also works to increase diversity within endocrine science and medicine. In closing, Dr. Pereira remarked on how representation on the Society's committees, as well as committees for other groups, has benefited her career and provided access to leading endocrine researchers.

## EARLY RESEARCH OPPORTUNITIES LAY THE FOUNDATION FOR NETWORKING THROUGH A CAREER IN BIOMEDICAL RESEARCH

**Rudy M. Ortiz, Ph.D.**, Professor, UC Merced, in his capacity as program director of the UC Merced Maximizing Access to Research Careers—Undergraduate Student Training in Academic Research (MARC U\*STAR) NIH

training grant (T34), pointed out the similarities between biochemical and professional and social networks relative to clusters in relationships and intermediates of interaction. He maintained that a major aspect of networking is more about “who” you know than “what” you know. Dr. Ortiz pointed out three types of career-building networks— aspirational, professional, and social—that are of equal value and emphasized the importance of professional societies to develop a network and of building networks and professional connections with scholars worldwide. To build a network, Dr. Ortiz recommended keeping a record of the people you meet, being genuine about the relationships, and articulating your aspirations to the people with whom you are connecting. Knowing your expertise, making the most of feedback and criticism, and advocating for yourself are key to career advancement, and networking is essential. Dr. Ortiz encouraged participants to spend time reflecting on their current networks.

## POSTER CONTEST WINNERS ANNOUNCED

The 41 posters submitted to the 2019 Poster Contest were assessed for content, presentation, and the presenter's response to questions. Awards were presented for exemplary poster presentations in the areas of basic (**Theodore Busby**, The University of Alabama at Birmingham [UAB]; **Ilse Daehn, Ph.D.**, Icahn School of Medicine at Mount Sinai), translational (**Oluremi Ajala, M.D.**, Brigham and Women's Hospital), and clinical science (**Jorge Gamboa, M.D.**, Vanderbilt University Medical Center). Abbreviated versions of the winning abstracts are presented here. Full abstracts are contained in the 2019 NMRI Annual Meeting Program book and are available upon request from NIDDK Program Officer Ms. Winnie Martinez at [winnie.martinez@nih.gov](mailto:winnie.martinez@nih.gov).



**Basic Science: Theodore Busby, UAB,** “Molecular Role of the Mammalian SWI/SNF (BAF) Chromatin Remodeling Complex in Mineralized Tissue”

### Abbreviated Abstract

The mammalian SWI/SNF (BAF) chromatin remodeling complex contributes to gene activation repositioning nucleosomes into an open conformation around gene promoters and enhancers. Cell-specific regulation arises from the homolog composition of BAF subunits, but little is known about BAF complex regulation in mineralized tissue. Previous studies by Dr. Quamarul Hassan’s laboratory at UAB identified BAF45A as an essential BAF subunit for differentiation in osteoblasts, the primary mineral-depositing cells of the bone, suggesting similar expression in odontoblasts, the primary mineralizing cells of the tooth. The objective of this study is to characterize the molecular function of BAF45A and its homologs—BAF45B, BAF45C, and BAF45D—during differentiation and mineralization of both bone and tooth cells. Micro-computed tomography was used to analyze mineral density of molars in 2-month-old wild-type and BAF45A knockout mice. The functional role of BAF45A was determined *in vitro* under differentiating conditions. Gene expression changes specific to odontoblast and mineralized tissue at varying stages of differentiation were assessed using molecular biology techniques (ChIP-QPCR and ATAC-seq). The results showed preferential expression of BAF45A and BAF45D, but not BAF45B or BAF45C, in both osteoblasts and odontoblasts. BAF45A was demonstrated an important member of the Polybromo-BAF complex and in the development of mineralized tissue, in both tooth and bone. In addition, BAF45A deletion *in vivo* leads to defects in craniofacial development.

Conversely, the data suggested a limited role of BAF45B and BAF45C in bone and tooth cell differentiation and development.



**Basic Science: Ilse Daehn, Ph.D.,** Icahn School of Medicine at Mount Sinai, “Genetic Susceptibility of Diabetic Kidney Disease in Mice Is Linked to a Promoter Variant That Regulates XOR Activity in Mice”

### Abbreviated Abstract

Diabetic kidney disease (DKD) is the leading single cause of end-stage renal disease (ESRD) in the United States. Approximately 30 percent of diabetic patients develop DKD even with comparable blood glucose levels, indicating a genetic component for disease susceptibility. Differential susceptibilities to DKD have also been observed in well-defined strains of inbred mice. The underlying mechanisms that contribute to differential susceptibility to DKD are poorly understood in both patients and rodent models. The glomerulus is the primary site of injury in DKD: glomerular hypertrophy and podocyte depletion are the hallmark features of progressive DKD. In this study, parent strains of inbred DBA/2J (D2) mice that are susceptible to diabetes-induced podocyte depletion and C57BL/6J (B6) mice that are resistant were used. Genetic mapping via the BXD recombinant inbred panel was used to identify podocytes after long-term diabetes (i.e., 6 months). A cis-acting regulatory promoter of the *Xdh* gene encoding xanthine dehydrogenase (XDH) and xanthine oxidoreductase (XOR) were evaluated as markers of cardiovascular disease.

The results showed significantly higher levels of *Xdh* expression in the glomeruli and increased XOR activity in serum in diabetic



*The NMRI has been incredibly valuable to me. I recently received my first independent NIH grant, which could not have happened without the constant feedback and constructive criticism regarding the creation of my Specific Aims page. Over the years, I have also received amazing mentorship that has guided me to this point. I hope to give back in the future!*

**Absalon Gutierrez, M.D.**

Associate Professor of Medicine, University of Texas



D2 mice compared with B6 resistant mice. Inhibition of XOR significantly reduced the albuminuria, prevented podocyte loss, and reduced oxidative stress damage in the glomeruli of diabetic D2 mice. Building on prior findings that a two-nucleotide variant influences XOR activity *in vitro*, mice with knock-in variants (B6-TG mice) using gene editing technology (CRISPR/Cas9) were generated to determine the functional role in DKD susceptibility in B6 resistant mice. The results revealed significantly higher XOR activity and increased glomeruli oxidative stress damage in the B6-TG mice. These mice also developed DKD with endothelial injury, podocyte loss, albuminuria, glomerular sclerotic lesions and tubular injury. Combined, these data suggest that the identified promoter variant regulates XOR activity and is linked to DKD susceptibility.

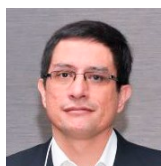


**Translational Science:**  
**Oluremi Ajala, M.D.**, Brigham and Women's Hospital, "Anti-inflammatory HDL Function and Incident Cardiovascular/Death Events: A Secondary Analysis of the JUPITER Trial"

## Abbreviated Abstract

The high-density lipoprotein (HDL) cholesterol has anti-inflammatory properties *in vitro* and is an established marker of cardiovascular disease (CVD) risk. It is unclear whether the anti-inflammatory quality of HDL in patients treated with statin therapy may be protective against clinical events. This research investigated the functional ability of HDL to inhibit oxidation of low-density lipoprotein (LDL) at baseline and 12 months after random allocation of rosuvastatin or placebo in a nested case-control study of the Justification for the Use of Statins in Primary Prevention: An Intervention Trial Evaluating Rosuvastatin (commonly called JUPITER) clinical trial. A cell-free assay was used. Inhibition of LDL oxidation is a measure of the HDL inflammatory index (HII), and a ratio less than 1 is considered anti-inflammatory. A total of 517 incident CVD/all-cause death cases were compared to age- and sex-matched controls. Multivariable conditional logistic regression models evaluated associations of HII with CVD/all-cause death after adjusting for CVD risk factors. The data showed that HII was significantly associated

with incident CVD/death in a J-shaped relationship, suggesting an anti-inflammatory range of HII between 0.5 and 1.3.



**Clinical Science: Jorge Gamboa, M.D.**, Vanderbilt University Medical Center, "Intermuscular Adipose Tissue Is Associated with Inflammation and Insulin Resistance in Patients with Chronic Kidney Disease"

## Abbreviated Abstract

Patients with CKD have a higher prevalence of sarcopenia, which is defined as a reduction in muscle mass and/or muscle strength. Muscle quality, especially fat infiltration, may provide insight into the links between muscle metabolic health and physical functioning beyond traditional muscle mass assessment. The hypothesis tested is that intermuscular adipose tissue is increased in patients with CKD and it is associated with inflammation and insulin resistance. Fifty one patients were evaluated in a cross-sectional study. Of the 50 evaluated, 20 had CKD stage 3–4 and 15 had CKD stage 5 and were on hemodialysis. The CKD patients were compared with 16 age-matched controls with no history of CKD. Intermuscular adipose tissue was measured in the quadriceps muscle using sequential thigh magnetic resonance images. Markers of inflammation were evaluated using the Meso Scale Discovery® (MSD) multiplex platform and insulin resistance was evaluated using the updated homeostasis model assessment index (HOMA2). Groups were matched by gender, body mass index, and history of diabetes and hypertension. The baseline characteristics of the cohort showed that patients with CKD stage 5 were younger than patients with CKD stage 3–4 but had similar age compared to controls. Intermuscular fat was greater in patients with CKD stage 5 compared to patients with CKD stage 3–4 and controls.

The results showed a positive correlation between quadriceps intermuscular adipose tissue (IMAT) and markers of inflammation, particularly interleukin-6 and tumor necrosis factor alpha. In addition, the HOMA-insulin resistance index, was associated with increased intramuscular adipose tissue. The data indicated that CKD associates with greater intermuscular





adipose tissue, which in turn associates with inflammation and insulin resistance. Future studies are needed to evaluate the effectiveness of interventions that might improve the muscle quality in patients with CKD by reducing fat accumulation in skeletal muscle, which may also have positive metabolic impact in this population.

## NEWS FROM THE NMRI OVERSIGHT AND PLANNING COMMITTEES AND THE NMRI CHAPTER SUBGROUP

### Oversight Committee

At the NMRI 17th Annual Workshop, Juan Sanabria, M.D., Professor, Case Western Reserve University School of Medicine, Oversight Committee Chair, reported on the activities and responsibilities of the committee. He explained that the Oversight Committee helps to guide the NMRI and relies heavily on the feedback of its members. The committee advocates for funding, recruits new members, and coordinates with professional societies and organizations to facilitate informal gatherings at scientific conferences, such as the NMRI Annual Workshop. He remarked on the high number of junior members in attendance at the 17th Annual Workshop. Dr. Sanabria reminded members to publicize the Network among their peers and home institutions and share news of accomplishments and personal anecdotes to be included in the 2019 NMRI Newsletter.

### Planning Committee

**Francesco Villarreal, M.D., Ph.D.**, Professor, UC San Diego, Planning Committee Chair,

provided an update on the 2018 activities. The Planning Committee convened by monthly teleconference in 2018 to share and discuss ideas and make decisions related to the broad mandate of the Committee. Members serve 2-year terms. He encouraged members to send in contact information for potential speakers at their institutions who would be a good fit for the Network and forward comments and suggestions for future NMRI meetings to the Planning Committee. The 2020 Annual Workshop is being planned and is scheduled to be held in Bethesda, Maryland; the dates are yet to be determined. Members are welcome to provide input on the theme and topical sessions.

### NMRI CHAPTER OVERVIEW

**Patricia Heyn, Ph.D.**, Associate Professor, University of Colorado Anschutz Medical Campus, encouraged Network members to consider establishing chapters at their respective institutions. She explained that NMRI chapters will adopt NMRI's 4-fold mission. Individual chapters will provide an opportunity to engage students early in their studies, and Dr. Heyn and others in the Network will assist those who are interested.

**Lawrence Agodoa, M.D.**, Director, OMHRC, accompanied by **Winnie Martinez**, Program Director, OMHRC, presented NMRI Committee chairs with certificates in appreciation of their service. Ms. Martinez acknowledged the incoming NMRI Committee chairs—Oversight Committee chair, Dr. Myra Kleinpeter, Associate Professor of Clinical Medicine, Tulane School of Medicine, and Planning Committee chair, Dr. Patricia Heyn, Associate Professor, University of Colorado Anschutz Medical Campus.



## SCIENTIFIC PRESENTATIONS

Out of 41 NMRI members who submitted abstracts, three were invited to present their research at the NMRI 17th Annual Workshop. The selected speakers and abbreviated versions of their abstracts are presented below. Full abstracts are contained in the 2019 NMRI Annual Meeting Program book and are available upon request from NIDDK Program Officer Ms. Winnie Martinez at [winnie.martinez@nih.gov](mailto:winnie.martinez@nih.gov).



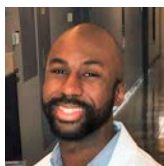
**Mariya Sweetwyne, Ph.D.,**  
Acting Instructor, University of Washington, “Late-age Mitochondrial Intervention Alters the Organ-specific Landscape of Mitochondrial DNA Mutations in Aged Tissue as Revealed by Ultra-sensitive Duplex Sequencing”

### Abbreviated Abstract

Cellular damage derived from mitochondrial dysfunction has been proposed as a causative mechanism for age-related tissue damage. The underlying mechanisms behind age-linked mitochondrial dysfunction are unclear; however, one possible process is the chronological accumulation of mutations in the mitochondrial genome (mtDNA). This study introduces an ultra-sensitive duplex sequencing (DS), a modified next-generation sequencing (NGS) technique in which both DNA strands are sequenced thus achieving higher accuracy and sequencing depth with standard NGS. The hypothesis tested is that aging impacts the rate of mtDNA

mutation in a tissue-specific manner. A cohort of C57BL/6J mice was obtained from the aging colony at the National Institute on Aging. Aged male mice were 26 months of age ( $n = 5$ ). Young control animals were between 4 and 5 months of age ( $n = 4$ ). The mtDNA from multiple tissues with high mitochondrial metabolic dependence was isolated from aged and young animals. Mutations that occurred on complementary strands of the DNA were considered “true” mutations. To directly test the link between aging, mitochondrial dysfunction, and mtDNA mutation, tissues from a third cohort of aged mice that were systemically treated a mitochondrial rejuvenating tetrapeptide (SS-31) were analyzed.

The results showed that aged organs carried a higher mutation burden than young organs and that the severity of mutation accumulation varied by tissue in both the frequency and type of mutation. The mutation signature, defined by the specific type of point mutation, varied between tissues. The skeletal muscle and kidney of aged mice treated with SS-31 showed a significant reduction in the mutations signifying oxidative damage, without any reduction in the point mutations signifying a polymerase error, suggesting that SS-31 reduction of oxidative stress may have an indirect effect on mtDNA maintenance. This study demonstrated that the mtDNA mutational burden is highly tissue specific and could be potentially tractable with age. Further studies are needed to determine whether a specific mtDNA mutation (i.e., oxidative or polymerase error) can be specifically cleared from, or repaired in, aging cells with mitochondrial intervention.



**Chinamere Igwebuike, Ph.D.**, Boston University School of Medicine, “Cross-organelle Stress Response (CORE) Dysfunction Associated with Gentamicin-induced Proximal Tubule Injury”

## Abbreviated Abstract

Nephrotoxic antibiotics, such as gentamicin, cause substantial morbidity and mortality due to proximal tubule cell death and acute kidney injury (AKI). The uncertain mechanism for this form of nephrotoxicity impedes the discovery of therapeutic targets. The purpose of this study was to use signal pathway screening to identify both the key mechanism and an effective therapeutic against gentamicin-induced proximal tubule cell death. Computational analysis of RNA interference signal screens in gentamicin-exposed human proximal tubule cells was used to identify the Cross Organelle Stress Response (CORE), the Unfolded Protein Response (UPR), and cellular chaperones as key injury targets of gentamicin-induced proteotoxicity. To test these targets, the effect of gentamicin on CORE, UPR, and cell chaperone function was measured, and the therapeutic efficacy of reducing gentamicin-induced proteotoxicity was tested *in vitro*.

The results showed that gentamicin-induced proteotoxicity rapidly impairs the CORE and contributes to oxidative stress, protein misfolding and lethal UPR activation. Preserving the CORE, preventing the protein misfolding, and reducing inappropriate UPR activation significantly improve renal cell survival by ameliorating gentamicin-induced proteotoxicity.



**Milda Saunders, M.D.**, Assistant Professor, The University of Chicago, “Neighborhood Socioeconomic Status and Risk of Hospitalization in Patients with Chronic Kidney Disease”

## Abbreviated Abstract

Despite the evidence showing the educating patients with advanced chronic kidney disease (CKD) delays their progression to ESRD and improves outcomes in renal replacement therapy (RRT) selection, many minority patients face barriers in receiving pre-ESRD education. More than 62 percent of advanced CKD patients are hospitalized in the year prior to dialysis initiation, indicating that the

hospital is an important site for patient education and linkage to care. This pilot intervention—Patient Referral and Education Program prior to Renal Replacement Therapy (PREP-RRT)—an in-person education intervention for hospitalized African American patients with advanced CKD, is being evaluated at The University of Chicago Medical Center.

Participants were recruited through the Hospitalist Project, and hospitalized general medicine patients ages 18 to 75 who self-identified as African American and who had an estimated glomerular filtration rate (eGFR) of less than 45 mL/min/1.73 m<sup>2</sup> (i.e., CKD Stage 3B or above) were enrolled. The PREP-RRT patient educator was an African American nephrology social worker trained in motivational interviewing techniques, CKD self-management, and RRT options. During a brief in-hospital session, patients were evaluated on current knowledge, assessed on barriers to self-care and strategies for overcoming these barriers, and then were provided knowledge about RRT. Patients also were referred to the appropriate inpatient or outpatient services. The Kidney Disease Knowledge Survey (KiKS) was used to assess participants pre- and post-intervention about their knowledge, attitudes, and intent about CKD self-management and RRT options.

Regarding the study cohort, 46 patients were recruited over 9 months; all were African American. Of the 46 patients, 61 percent were female with a mean age of 59.5 years; 56.5 percent had CKD Stage 3B; 24 percent had Stage 4 CKD; and 20 percent had Stage 5 CKD. The KiKS showed that patient knowledge significantly improved from 63.3 percent to 80.2 percent, and participants also appeared to have increased knowledge of RRT modalities, but only reached statistical significance for peritoneal dialysis. No statistically significant differences were seen in patient-reported intent to participate in CKD self-management or RRT selection. This study suggests the PREP-RRT is a feasible and effective way to identify, educate, and refer hospitalized minority patients with advanced CKD. Although knowledge increased during the brief intervention, increasing patient intent for action around CKD self-care and RRT choice may require a more intensive intervention.



## NMRI Leadership Opportunities

The NMRI Planning, Regional Planning, and Oversight Committees offer opportunities to become more involved in the Network. Annual and regional planning committees are responsible for planning all aspects of upcoming meetings, from identifying speakers to setting agendas. The Oversight Committee facilitates the development of mentoring relationships, the identification of new members, and the recruitment of professional organizations to support the network. These committees are described in detail on the NMRI website at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-committees/Pages/nmri-committees.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-committees/Pages/nmri-committees.aspx).

## The NMRI on the Web

The NMRI website contains several resources for members:

- **NMRI workshops and meetings:** Upcoming NMRI events are announced at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators). Please visit this site for additional information about future meetings and access to past meeting reports, presentations, and other resources.
- **Resources for junior investigators and mentoring and career development:** Information about the funding process, tips for reviewers, and mentoring and career development resources, including for the fields of endocrinology and hematology, are available at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-member-resources/Pages/nmri-member-resources.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-member-resources/Pages/nmri-member-resources.aspx).
- **The 2018 NMRI Membership Directory:** Contact information for NMRI members is available at [www.niddk.nih.gov/-/media/Files/Research-Funding/Research-Programs/2018-NMRI-Directory.pdf](http://www.niddk.nih.gov/-/media/Files/Research-Funding/Research-Programs/2018-NMRI-Directory.pdf).
- **The NMRI Mentor/Mentee Program:** This program gives young investigators the opportunity to work closely with senior investigators in research areas of interest to both the mentor and mentee. Forms to sign up to be a mentor or and mentee are available at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/mentor-program/Pages/mentor-program.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/mentor-program/Pages/mentor-program.aspx).

- **The NMRI newsletter:** Previous editions are available at [www.niddk.nih.gov/research-funding/research-programs/diversity-programs/network-minority-health-research-investigators-nmri/newsletters](http://www.niddk.nih.gov/research-funding/research-programs/diversity-programs/network-minority-health-research-investigators-nmri/newsletters)

## NMRI Frequently Asked Questions

### Who is eligible for NMRI membership?

NMRI membership is available only to investigators who are—

- At the postgraduate doctoral level or higher
- Interested in minority health research, including individuals from traditionally underserved communities (African American, Hispanic American, American Indian, Alaska Native, Native Hawaiian, and Pacific Islanders)
- Conducting research in diabetes; endocrinology; metabolism; nutrition; or digestive, kidney, urologic, or hematologic diseases
- U.S. citizens or individuals with permanent resident status

Medical students from URM groups are welcome to attend NMRI meetings if they are conducting research in one of the NIDDK mission areas noted above.

### How do I apply for membership?

Individuals who qualify should apply for membership on the NMRI website. Please visit [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx) and click the “NMRI Online

## NMRI Members Are a Vital Force in the Biomedical Research Community

We would like to stay up-to-date on the career progress that has been made by all of our members. NMRI members, please complete the NMRI Questionnaire (<http://www.scgcorp.com/NMRI/Survey/>) and update your NMRI profile for next year's NMRI directory so we can analyze how the careers of our membership and our members' impact on the biomedical research community have grown over the Network's 17-year history.

System" link to create an account and apply for membership.

### Whom do I contact with questions about the NMRI?

Direct your questions or comments to NIDDK Program Officer Ms. Winnie Martinez, who oversees the NMRI, at [winnie.martinez@nih.gov](mailto:winnie.martinez@nih.gov).

### Does the NMRI have a website with more information?

The NMRI maintains and frequently updates its website at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx). The website contains information about the NMRI, including meeting announcements, NIDDK funding opportunities, the NMRI Membership Directory, and summary reports from past NMRI meetings.

### How can I find a mentor if I am an NMRI member?

The NMRI Oversight Committee, which created the NMRI Mentor Program, maintains a list of NMRI members who have volunteered to serve as mentors. The biographies and research interests of NMRI members are listed in the NMRI Membership Directory available at [www.niddk.nih.gov/-/media/Files/Research-Funding/Research-Programs/2018-NMRI-Directory.pdf](http://www.niddk.nih.gov/-/media/Files/Research-Funding/Research-Programs/2018-NMRI-Directory.pdf).

### How do I sign up to be a mentor if I am an NMRI member?

If you are a member and would like to volunteer as a mentor, go to the NMRI Mentor/Mentee Program page and complete the form found at [www.niddk.nih.gov/research-funding/research-programs/diversity-programs/network-minority-health-research-investigators-nmri/mentor-mentee-program](http://www.niddk.nih.gov/research-funding/research-programs/diversity-programs/network-minority-health-research-investigators-nmri/mentor-mentee-program).



*The NMRI delivers an enthusiastic and well-connected cohort of physicians/scientists who are available to offer mentorship at a variety of academic levels. My personal experience with the NMRI has provided me with experienced mentors near my home institution who have offered targeted advice as I progress to the next stage of my career.*

**Chinamere Igwebuike, Ph.D.**

Graduate Student, Boston University School of Medicine



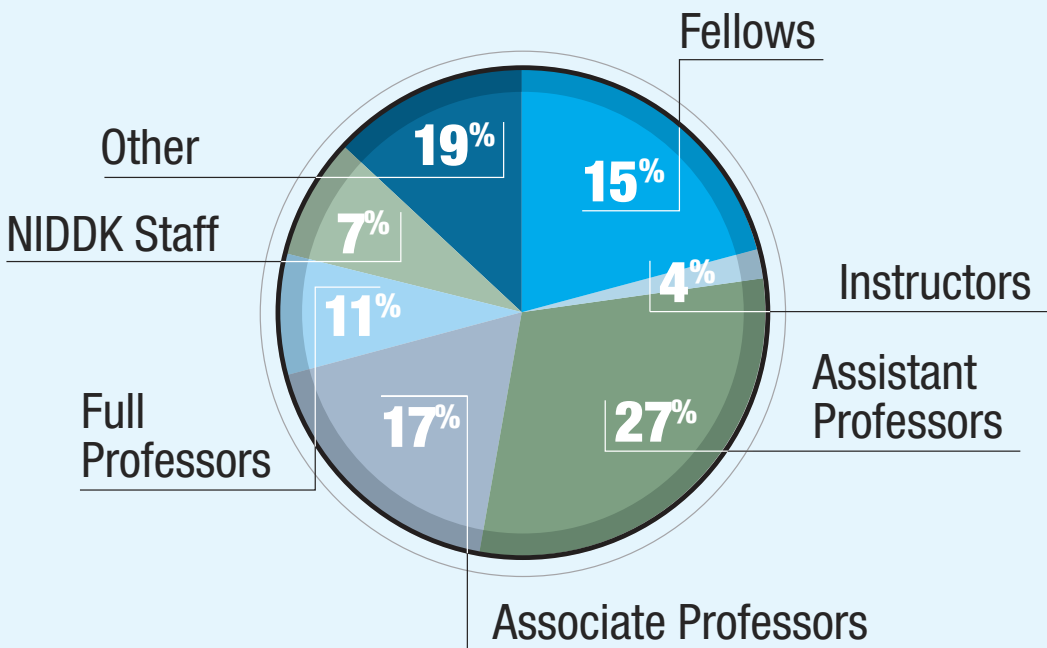
## SNAPSHOT OF THE NMRI

Established in 2003, the NMRI is 700 members strong and growing. The 17th NMRI Annual Meeting attracted more than 100 attendees from across the biomedical research community. Twenty-five of the attendees were new NMRI members, and many of those were K awardees.

The attendees came from all levels of the biomedical research community:

Among the attendees from outside academia were leaders from professional societies (**Mark E. Rosenberg, M.D., FASN**, President, ASN and **Laura Hefner**, Workforce and Career Advancement Associate, ASN).

### Snapshot of NMRI Attendees



“Networking at the annual NMRI meeting has been integral to my career. The NMRI facilitated my connecting with my current mentor and has been a platform for valuable feedback on research ideas and data.”

**Dequina A. Nicholas, Ph.D.**

President’s Postdoctoral Fellow, University of California, San Diego

## NMRI 17th Annual Workshop Poster Abstracts

The posters submitted for presentation at the NMRI 17th Annual Workshop represented outstanding research conducted at a broad range of academic institutions. The poster authors and titles are listed below. Abstracts are available in the 2019 NMRI Annual Meeting Program book. To obtain a copy, contact NIDDK Program Officer Ms. Winnie Martinez at [winnie.martinez@nih.gov](mailto:winnie.martinez@nih.gov).

[Oluremi N. Ajala](#), [Olga V. Demler](#), [Zareen Farukhi](#), [Yanyan Liu](#), [Steven J. Adelman](#), [Heidi L. Collins](#), [Robert J. Glynn](#), [Paul M. Ridker](#), [Amit V. Khera](#), [Daniel J. Rader](#), and [Samia Mora](#): “Anti-inflammatory HDL Function and Incident Cardiovascular/Death Events: A Secondary Analysis of the JUPITER Trial”

[Sydney Brown](#): “Determination of the Clinical Usefulness of C-terminal FGF23 in the Differential Diagnosis of Hypophosphatemia”

[Jacentha Buggs](#), [Hussien Mohamed](#), [Ciara Myer](#), [Sierra Lloyd](#), [Ebonie Rogers](#), [Heidi Pearson](#), [Julie Clement](#), [Deborah Zuknick](#), [Ambuj Kumar](#), and [Victor Bowers](#): “Racial Disparity in Pre-kidney Transplant Workup”

[Theodore Busby](#), [Tanner Godfrey](#), [Mohammed Rehan](#), [Benjamin Wildman](#), and [Quamarul Hassan](#): “Molecular Role of the Mammalian SWI/SNF (BAF) Chromatin Remodeling Complex in Mineralized Tissue”

[Marc Cook](#): “Gut Microbial Metabolite Butyrate Attenuates Exacerbated Basal MMP-2 Expression in African American Endothelial Cells”

[Qin Wang](#), [Haiying Qi](#), [Liping Yu](#), [Shaolin Shi](#), [Gabriella Casalena](#), [Erwin Bottinger](#), and [Ilse Daehn](#): “Genetic Susceptibility of Diabetic Kidney Disease in Mice Is Linked to a Promoter Variant That Regulates XOR Activity in Mice”

[Tekeda Ferguson](#), [Liz Simon](#), [Martin Ronis](#), [Curtis Vande Stouwe](#), [Don Mercante](#), [Katherine Theall](#), [David Welsh](#), and [Patricia E. Molina](#): “Increased Burden of Liver Disease and Hazardous Alcohol Use in People Living with HIV: New Orleans Alcohol Use in HIV”

[Jorge Gamboa](#), [Chad Keller](#), [Aaron Falck](#), [Baback Roshanravan](#), [Nancy J. Brown](#), and [Alp Ikizler](#): “Intermuscular Adipose Tissue Is Associated with Inflammation and Insulin Resistance in Patients with Chronic Kidney Disease”

[Pablo Garcia](#), [Mario Funes](#), [Paris Charilaou](#), [Xavier Vela](#), and [Sagar Nigwekar](#): “National Trends in Hospitalization in the United States (U.S.) Calciphylaxis Population from 2007 to 2014”

[Jacqueline Harris](#): “Using Exploratory Structural Equation Modeling to Explore Network Perturbations Due to Genetic Variation and Environment”

[Diana R. Hernandez](#), [Yuntao Wei](#), [Fotios M. Andreopoulos](#), [Laisel Martinez](#), [Loay H. Salman](#), and [Roberto I. Vazquez-Padron](#): “Decreased Collagen Cross-linking Improves the Biomechanical Performance of Experimental Arteriovenous Fistulas”

[Angelina Hernandez-Carretero](#), [Emily Franco](#), and [Patrick T. Fueger](#): “LOX Enzymes Promote Obesity-induced Insulin Resistance and Dysfunction of Pancreatic Beta Cells”

[Patricia C. Heyn](#), [Jeff Kellerson](#), [Alex Tagawa](#), [Lilian Hoffecker](#), [Shilpa Krishnan](#), [Ahmed Negm](#), and [Kenneth Ottenbacher](#): “Effects of Randomized Exercise Training on Cognitive Function of Older Adults with Cognitive Impairments: An Umbrella Synthesis of Meta-analysis Reviews”

[Titilayo O. Ilori](#), [Yemi R. Raji](#), [Rasheed Gbadegesin](#), [Cheryl Anderson](#), [Rulan Parekh](#), [Dwoma Adu](#), [Akinlolu Ojo](#), and [H3Africa Consortium Investigators](#): “The Relationship between Body Mass Index, Waist Circumference, and Chronic Kidney Disease in the Human Hereditary and Health in Africa Kidney Disease Research Network”

[Cheedy Jaja](#): “Translational Pharmacogenomics and Structural Violence: A Case Study of Sickle Cell Research”

[Joseph Lunyera](#), [John W. Stanifer](#), [Clemontina A. Davenport](#), [Dinushika Mohottige](#), [Nrupen A. Bhavsar](#), [Julia J. Scialla](#), [Jane Pendergast](#), [L. Ebony Boulware](#), and [Clarissa J. Diamantidis](#): “Life Course Socioeconomic Status and Kidney Health in Blacks: Mediating Role of Allostatic Load”

*Continued next page*

[Essa Mohamed](#), [Hamdi A. Ali](#), [Michael P. Gustafson](#), [Svetlana Bornschlegl](#), [Nasra H. Giama](#), [Hassan M. Shaleh](#), [Ibrahim A. Waaeys](#), [Abdirashid M. Shire](#), [Allan B. Dietz](#), and [Lewis R. Roberts](#): “Elevated NK and T Cells among Somali Patients with Viral Hepatitis Infection”

[Darren D. Moore](#) and [Karen J. Coleman](#): “Motivation for Bariatric Surgery among African American Males”

[Nicha Wongjarupong](#), [Mohamed A. Hassan](#), [Mahamoudou Sanou](#), [Albert T. Yonli](#), [Bolni Nagalo](#), [Florenca Djigma](#), [Hwai-I. Yang](#), [Chien-Jen Chen](#), [Lewis R. Roberts](#), and [Jacques Simpore](#): “Chronic HBV-Infected Patients in Burkina Faso Have Low HBV Viral Load Compared to Patients from Taiwan”

[Lauren Nephew](#), [Zahra Zia](#), [Marwan Ghabril](#), [Eric Orman](#), [Craig Lammert](#), and [Naga Chalasani](#): “Black Patients with Acute Liver Failure Are Sicker and More Likely to Undergo Liver Transplantation Than White Patients”

[Dequina A. Nicholas](#), [Vashti Knight](#), [Tomohiro Terasaka](#), [Jeong in Choi](#), [Oscar Munoz](#), [Pamela L. Mellon](#), and [Mark A. Lawson](#): “GLUT1-mediated Glucose Metabolism Is Necessary for GnRH-induced Gonadotrope Secretion of LH and Is Increased by Androgen”

[Shanna-Leigh Davidson](#), [Jackie Shane](#), and [Tagbo Niepa](#): “Modeling *Clostridium difficile* Persistence in a Mock Community Generated in Polydimethylsiloxane-based Nanocultures”

[Diana Obanda](#), [Anne Raggio](#), [Ryan Page](#), [Justin Guice](#), [Diana Coulon](#), and [Michael Keenan](#): “Abundance of *Clostridium butyricum* in the Gut Microbiota Correlates with Obesity Phenotype, Irrespective of Diet in Outbred Sprague-Dawley CD Rats”

[Jessica Gooding](#), [Mizpha Fernander](#), [Faihaa Ahmed](#), [Zach Acuff](#), [Susan McRitchie](#), [Susan Sumner](#), and [Elimelda Moige Onger](#): “LC-MS-based Metabolomics Analysis to Identify Meprin B Metalloprotease-associated Changes in Kidney Tissue from Mice with STZ-induced Type 1 Diabetes”

[Christian Parry](#), [Guelaguetza Vazquez-Meves](#), [Andrey Ivanov](#), [Xionghao Lin](#), [Namita Kumari](#), and [Sergei Nekhai](#): “Structure of Human Ferroportin (SLC40A1) Inferred from Mass Spectrometry Restraints”

[Rose Marie Ramos](#): “Risk Factors That Impede Adherence to Medication: An Assessment of Social and Structural Determinants of Health”

[Julia Roncoroni](#) and [Wu Whitaker](#): “Health Correlates of Sleep in U.S. Hispanic Older Adults”

[A. Mallick](#), [J. A. Sanabria](#), [M. Schade](#), [M. Piaskowski](#), [R. Aguilar](#), [M. Andryka](#), [D. Schlatzer](#), [X. Li](#), [F. E. Hazlett](#), [M. Kachman](#), [A. Raskind](#), [H. Brunengraber](#), [K. Sodhi](#), [S. Pierre](#), [U. S. Udon](#), [Z. Xie](#), [J. Shapiro](#), and [J. Sanabria](#): “Blockage of the A1-Na/K-ATPase/Src Interaction Abrogates Accelerated Liver Cell Senescence with Paucity of Fibrosis and Microbiota Community Changes on Diet-induced NASH in the Rodent”

[Anawin Sanguankeeo](#) and [Sikarin Upala](#): “Efficacy of Teriparatide and Denosumab on Bone Mineral Density in Dialysis Patients: A Systematic Review and Meta-analysis”

[Milda Saunders](#), [Akilah King](#), [Eric Robinson](#), [Althera Steenes](#), and [Monica Peek](#): “Hospitalized Patients with Advanced CKD Gained Knowledge through PREP-RRT”

[Silvi Shah](#), [Anthony C. Leonard](#), [Karthikeyan Meganathan](#), [Annette L. Christianson](#), and [Charuhas V. Thakar](#): “Racial and Sex Disparities in Mortality in Incident End-stage Kidney Disease Patients”

[Aisha Siebert](#), [Shinnyi Chou](#), [Alexander J. Adami](#), [Hajwa Kim](#), [Dania Daye](#), and [Jennifer M. Kwan](#): “Factors Determining Underrepresented Minority Physician-scientists Career Choices”

[Erica G. Soltero](#), [Stephanie L. Ayers](#), [Marvyn Avalos](#), [Armando Pena](#), [Allison N. Williams](#), [Micah L. Olson](#), [Yolanda P. Konopken](#), [Felip G. Castro](#), [Kimberly S. Arcoleo](#), [Collen S. Keller](#), [Donald L. Patrick](#), [Justin Jager](#), and [Gabriel Q. Shaibi](#): “Social Cognitive Theory Mediators of Diabetes Risk and Quality of Life in a Culturally Grounded Diabetes Prevention Program for Latino Youth with Obesity”

[Tiahna Spencer](#), [M. Kassim Javaid](#), and [Alison M. Boyce](#): “Characterization of Pain in Patients with Fibrous Dysplasia”

*Continued next page*

*Mariya T. Sweetwyne, Monica Sanchez-Contreras, Kristine Tsantilas, Jeremy Whitson, Peter S. Rabinovitch, and Scott R. Kennedy:* “Late-age Mitochondrial Intervention Alters the Organ-Specific Landscape of Mitochondrial DNA Mutations in Aged Tissue as Revealed by Ultra-sensitive Duplex Sequencing”

*Ma’at Hembrick and Heather Tarleton:* “Sleep Duration and Fall Risk in a Cross-sectional Sample of Gynecologic Cancer Survivors in Los Angeles County”

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