NATIONAL ACADEMIES Sciences Engineering Medicine

Building Defense Research Capacity at HBCUs, TCUs, HSIs, and ANNHSIs: Town Hall on True Partnerships (May 22 & 23, 2023)
Albuquerque, NM (Hybrid)

MONDAY, MAY 22, 2023 (MST)
10:30 – 11:30 Igniting the Defense Research Ecosystem
Moderator: **Melvin Greer, PhD – Intel Corporation**

Melvin Greer is Chief Data Scientist, Americas, Intel Corporation. Melvin is responsible for building Intel's data science platform through artificial intelligence, machine learning, and neuromorphic computing to accelerate transformation of data into a strategic asset for global enterprises. His systems and software engineering experience has resulted in patented inventions incloud computing, synthetic biology, and IoT bio-sensors for edge analytics. He functions as a university professor and principal investigator where he significantly advances the body of knowledge in basic research and advanced engineering. Melvin is one of the 2018 LinkedIn Top 10 Voices in data science and analytics. He also received the Washington Exec inaugural Pinnacle Award as the 2018 Artificial Intelligence Executive of the Year. Melvin received the 2017 BDPA Lifetime Achievement Award and the 2012 BEYA Technologist of the Year Award which recognize his outstanding technical contributions that have had a material impact and high value to society as a whole. Melvin is a member of the American Association for the Advancement of Science (AAAS) and has served for eight years on the National Academies' Government University Industry Research Roundtable (GUIRR). Melvin has been appointed Senior Advisor and Fellow at the FBI IT and Data Division. Melvin is charged with the acceleration of the FBI mission by supporting appropriate data collection, data analytics, discovery and visualization via advanced data science and AI techniques.

Panelists:
Victor McCrary, PhD – University of the District of Columbia

Victor R. McCrary, Vice President for Research at the University of the District of Columbia (UDC), is an advocate for the growth, development, and strategic direction of the University's research enterprise. UDC is the Nation's Capital only public institution of higher education to offer students degree opportunities from 2 year, 4-year, graduate and law school degrees and research opportunities that offer hands-on experience in urban sustainability and resiliency. UDC is 'DC's Research Laboratory'. He is also the current Vice Chair of the National Science Board, the governing body for the National Science Foundation. In October 2016, President Barack Obama appointed Dr. McCrary to serve on the National Science Board. In May 2022, Dr. McCrary was re-appointed by President Joseph Biden to a six-year term on the National Science Board. He is a change agent and serial innovator, always seeking to make a difference by unlocking the creative potential in individuals and organizations. He has held executive positions at the Johns Hopkins University Applied Physics Laboratory, Morgan State University, and as division chief at the National Institute of Standards and Technology, NIST. His accomplishments include the development of the first industry-led electronic book

standards and an electronic book Braille reader which led to him being co-recipient of the U.S. Department of Commerce's Gold Medal in 2000. Dr. McCrary served six years as the national president of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) and was awarded the organization's 2002 Percy Julian Award. He is a Fellow of the American Chemical Society. In 2011, he was honored as Scientist of the Year by the Annual Black Engineer of the Year Award (BEYA) STEM Conference. He received his doctoral degree in chemistry from Howard University in 1985, a masters degree in engineering from the University of Pennsylvania in 1995, and a bachelors degree in chemistry from The Catholic University of America in 1978. Dr. McCrary enjoys mentoring students and the next generation of research and technology professionals in order that they look to give back to their communities and seek to make a positive change in the world for all. He is member of the Knights of Columbus, and his council over the past decade has raised over $200,000 for the Tanzanian Children's Fund to dig wells for water and to build medical facilities.

Santosh Devasia, PhD – University of Washington

Santosh Devasia received the B.Tech. (Hons) from the Indian Institute of Technology, Kharagpur, India, in 1988, and the M.S. and Ph.D. degrees in Mechanical Engineering from the University of California at Santa Barbara in 1990 and 1993 respectively. He joined the UW Department of Mechanical Engineering in 2000. In addition to directing the Precision Controls Laboratory, he serves as the Associate Director of the Boeing Advanced Research Center at the University of Washington, which focuses on the manufacturing and assembly of aircraft and spacecraft structures.

Thomas Tubon – BioMADE

Thomas Tubon is the Chief Workforce Development Officer for BioMADE. Prior to his appointment with BioMADE, he served as a Professor in the Biotechnology Program at Madison Area Technical College for 13 years. During this time, he led several National Science Foundation Advanced Technological Education initiatives to establish and scale an emerging technology program in Stem Cells and Cell Manufacturing and directed a National Coordination Network in Advanced Manufacturing of Cell and Tissue Products. While at Madison College, Dr. Tubon was responsible for the development of bioscience workforce and strategic implementation of programs for local, regional, and national-level adoption and scale-up. In this role, he has facilitated the creation of a broad network of industry, community, and academic stakeholders designed to foster career pathways in Science, Technology, Engineering, and Mathematics (STEM). Tubon also serves as a mentor with the NSF ATE Mentor Connect and Project Vision Programs. Dr. Tubon held leadership roles with the NSF ATE InnovATEBIO Center for Biotechnology Education, and the NSF Advancing Research Impact in Society (ARIS) Center with a focus on education, workforce development, and strategic partnerships. Dr. Tubon holds a Ph.D. in Molecular Genetics from Stony Brook University and Cold Spring Harbor Laboratory and a BS in Molecular Biology from San Diego State University.

11:50–12:50 Articulating the Value Proposition for Equitable Partnerships
Moderator: **Oscar Barton, PhD – Morgan State University**

Oscar Barton, Jr., PhD, PE is a Professor and Dean of the Morgan State University Clarence M. Mitchell, Jr. School of Engineering. A native of Washington, D.C., he received his B.S. in Mechanical Engineering from Tuskegee (Institute) University, his M.S. in Mechanical Engineering and Ph.D. in Applied Mechanics from Howard University in 1993. Barton joined Morgan Fall 2020, after completing a 6 years at George Mason University and a 22-year career at the US Naval Academy. Dr. Barton's research focuses on the development of approximate closed form solutions for linear self-adjoint systems, those that govern the responses of composite structures, and the analysis of dynamic systems. More recently, he investigated the dynamic response of flexible composite structures subject to periodic and random excitation. He has mentored numerous midshipmen through independent research projects and has directed two Trident Scholars, the Naval Academy's flagship research program. He has published over 60 journal and conference articles on these topics. While at the US Naval Academy and in its 163-year history, Dr. Barton was one of only three African-Americans to obtain the rank of tenured full professor and the first to achieve this milestone in the Division of Engineering and Weapons, Division I. In 2010, he assumed the role of chairman of the mechanical engineering department, responsible for its strategic leadership and planning of its faculty, midshipmen-student body, curriculum and resources. During his time as chair, the department revived and accredited the General Engineering program and created the nuclear engineering program, the first ever offering at the academy. Dr. Barton chaired the largest department in the Division I consisting of 42 civilian and military faculty professionals, and promoted a vibrant research and academic environment in energy and propulsion, nuclear energy, structures and materials, and design. As the founding department chair at Mason, Dr. Barton ushered growth of the department from 3 faculty and 12 students to 17 faculty and 385 undergraduate students and 6 doctoral students as of spring 2020. Under his leadership the undergraduate program received initial EAC-ABET accreditation retroactive to fall of 2015, and was reaccredited to fall 2024, established state-of- the-art teaching and research labs on the Mason's Sci-Tech campus, and authored an interim Ph.D. program which is in its final stages of seeking approval from the State Council of Higher Education for Virginia, SCHEV. A fellow of ASME, Barton is actively involved in academic innovations and program assessment. He chairs ASME's Committee on Engineering Education, is member of ASME Public Affairs and Outreach Council, and is a member-at-large on the Engineering Accreditation Commission's Executive Committee of ABET, after having served numerous years as a program evaluator and commissioner. He is a registered engineer licensed to practice engineering in the State of Maryland.

Panelists:
Eric Adolphe, Esq – Forward Edge-AI, Inc.

Eric Adolphe is CEO of Forward Edge-AI, Inc. Of Haitian heritage, he is a technology-savvy executive with over thirty years of success building high-growth firms focused on mission impact, revenue, and margin attainment. Eric leverages expertise in deep technology including Artificial Intelligence/Machine Learning, Quantum Encryption, and Blockchain/Distributed Ledger Technology to solve complex social, public safety and national security challenges. As PI under a NASA Small Business Innovative Research, Eric developed a data analytics solution designed to facilitate the interpretation of large volumes of data that can be retrieved from distributed sources to provide a highly efficient method to extract causal factors underlying aerospace mishaps attributable to human factors. Each source providing data on aerospace mishaps was modeled as an information retrieval system. A uniform identification scheme – based on a uniform resource identifier (UFI) made up of descriptors from a controlled set – would be used to encode the 'raw data', thus ensuring comparability in data reports from different sources. Eric has led cross-disciplinary R/R&D teams (biology, computation, chemistry, engineering, psychology) of typically 3 to 28 researchers on 25 SBIRs over his career. Eric's products have been installed in every air traffic control facility in the US. Eric's EPIC SBIR won NASA's Most Innovative SBIR Software Product of the Year award. As a result, Eric received one of NASA's highest civilian commendations, and is one of 11 Black American honorees at the National Inventors Hall of Fame. EPIC is in use today by the commercial space launch industry. Eric also developed a DNN to detect aircraft in high clutter radar images (ASDE-X radar), under Phase I/II SBIR projects for the DOT/Volpe Center. Full key personnel resumes and publications are provided in Volume 5. Eric holds a Bachelor of Engineering Degree in Electrical Engineering from CUNY City College of New York and is a Cum Laude graduate from Catholic University of America, Columbus School of Law, and a Member of the Maryland Bar. Eric is a winner of the Maryland High Tech Entrepreneur of the Year. Eric is also a National Capital Business Ethics, and Service to the Citizens awards winner, and National Inventors Hall of Fame Honoree. Eric is also a winner of one of NASA's Highest Civilian Honors, and a SBIR Tibbetts award winner.

Christina Deckard – Office of the Under Secretary of Defense, Biotechnology

Christina "Chris" Deckard is Senior Scientist at the Sciences Applications International Corporation (SAIC) with the Office of the Secretary of Defense for Research and Engineering, Biotechnology. She has also served as Director of Military and Veteran Services at Dallas Baptist University. Her department works with over 300 military-affiliated students per semester. She also serves as a member of the Veterans Business Alliance for the Arlington, TX Chamber of Commerce. Chris is a Veteran of the United States Air Force and holds a master's degree in organizational leadership from Waldorf University.

Robert St. Amant, PhD - DEVCOM Army Research Laboratory

Robert St. Amant is a computer scientist with the U.S. Army DEVCOM Army Research Laboratory. His B.S. is Electric Engineering and Computer Science from Johns Hopkins

University, and his Ph.D. is in Computer Science from the University of Massachusetts. He was a Professor in the Department of Computer Science at North Carolina State University. He received the 2013 Outstanding Teacher of the Year Award from the NC State College of Engineering. He has written papers on human-computer interaction, cognitive science, artificial intelligence, and the use of tools by non-human animals; his popular science book, Computing for Ordinary Mortals, was published by Oxford in 2012.

1:10–2:10 Models for Synergistic Partnerships

Moderator: **Bryn Adams, PhD – DEVCOM Army Research Laboratory**

Dr. Bryn L. Adams received a BS in Biology in 2001 and a PhD in Interdisciplinary Biology in 2009 from the University of North Carolina at Charlotte. Her doctoral studies included a variety of research projects in the field of applied and environmental microbiology. Dr. Adams completed two postdoctoral fellowships; the first was a collaborative project, as a National Academy of Sciences postdoctoral fellow, between DEVCOM Chemical Biological Center and the Institute of Bioscience and Biotechnology Research at the University of Maryland at College Park focused on the development of non-specific threat agent detection using simple biological sensing and signal transduction pathways. The second fellowship was with DEVCOM Army Research Laboratory as an Oak Ridge Associated Universities postdoctoral fellow where she conducted research into the development of synthetic molecular recognition agents for biosensing and biomaterials. In 2014, Dr. Adams converted to a federal civilian research scientist at the Army Research Lab. She has led the Synbio Tools and Chassis Team in the Biotechnology Branch since 2018. Her research efforts currently focus on developing synthetic biology tools for non-model host bacteria and establishing the capability to synthetic biology from the lab and into the hands of the Warfighter. She has published over 20 peer-reviewed manuscripts on a wide range of bacterial biotechnology topics across several disciplines and was awarded DoD Scientist of the Quarter in 2019 for her contributions to the field of biotechnology for the DoD. Dr. Adams is currently on a one-year detail assignment to the Office of the Undersecretary of Defense for Research and Engineering, where she leads the Education and Workforce Development component of the Biotechnology Modernization Priority.

Panelists:

Kelly Freidenfelds, PhD – Princeton-HBCU Alliance for Collaborative Research

As Senior Associate Director of Foundation Relations, Kelly works to build stronger relationships with foundations and other partners in support of faculty research and University priorities. She specializes in supporting the humanities, social sciences, natural sciences and diversity, equity and inclusion, as well as organizations central to campus life such as the Princeton University Library, Princeton University Art Museum and the Office of Religious Life. Before joining CEFR, Kelly served as manager of corporate, foundation and government relations at the Princeton University Art Museum. Prior to coming to Princeton, she supported development efforts at the Kingsborough Community College Foundation of the City University of New York, New York University

Stern School of Business, and the Bard Graduate Center. Kelly has presented with NCURA (National Council of University Research Administrators), SRAI (Society of Research Administrators International) and CASE (Council for the Advancement and Support of Education) and has served on the organizing committee for the CASE Corporate and Foundation Relations conference. Kelly holds a Ph.D. in cultural anthropology from Stanford University and a B.A. from Wesleyan University. She lives in Princeton and recently served on the board of the Princeton Public Library Foundation.

Robert Shepard, PhD – The Shepard Institute LLC

Robert Louis Shepard, PhD has pushed hard for increased participation of faculty and students from Historically Black Colleges and Universities (HBCUs) in the federal government's research enterprise. He is Principal at The Shepard Institute (TSI), LLC. TSI mentoring services are offered to underutilized academic institutions looking to expand their research portfolio, to pubic and private organizations seeking to fulfill their diversity goals by broadening participation to include talent that has been historically underutilized, and to individuals desiring to add value to their personal lives, to the organizations they serve, and ultimately to the global community. Early in his federal career, Shepard provided definitive data showing the role a small cadre of these institutions can play in conducting high-quality research. In 1984, he was in the Office of Research at the U.S. Nuclear Regulatory Commission (NRC) when he successfully secured joint funding from inside the agency to create NRC's first HBCU research support program. That same year, NRC granted Shepard a leave of absence under the Intergovernmental Personnel Assistance (IPA) program to become a Visiting Research Scientist in the Department of Chemistry at Howard University. Shepard used his IPA assignment to develop a conceptual framework demonstrating how collaborations and partnerships could be used to strengthen the research infrastructure at HBCUs resulting in more research output by these institutions. At the end of his IPA assignment in 1988, Shepard returned to NRC. In 1990, he resigned from NRC to lead the formation of a University, Government, and Federal Laboratory 501(c)(3), non-profit partnership called the Science and Engineering Alliance, Inc. (known as SEA). Dr. Shepard earned degrees in chemistry - a B.S. degree from Saint Augustine’s College (now University) in 1969, and M.S. and Ph.D. degrees from Howard University in 1971 and 1973 respectively. His specialty at the graduate level was Physical Organic Chemistry with a focus on Mass Spectroscopy. In addition to the U.S., Shepard has traveled internationally to engage in research collaborations and present his work in Scotland, England, France, Germany, Austria, Italy, China, and Africa. He serves on several advisory boards, a member of various societies and organizations, a past Sigma Xi Distinguished Lecturer and has received numerous awards and honors including the 21st Century Trailblazer Award from the City Council of Jackson Mississippi. He is a member of Alpha Phi Alpha fraternity.

Aaron Wecksler, PhD -- Genentech

Aaron Wecksler, PhD is a Technical Development Senior Scientist at Genentech. He is a protein biochemist with expertise in analytical characterization of therapeutic antibodies, preclinical small molecule anti-cancer therapeutics and protein structure-function relationships. He is responsible for the assay development and characterization of therapeutic antibodies, analytical lead for early/late stage biotherapeutics, and the technical development lead of footprinting-mass spectrometry technologies for protein structural analysis. He has a strong interest in the development of young scientists as reflected by being a standing mentor for multiple programs including the PTD Postdoc Program and Process Development Rotational Program (PDRP). Dr. Wecksler was an NIH Postdoctoral Fellow at University of California Davis. He has a PhD in Chemistry and Biochemistry from the University of California, Santa Cruz, where he also received his BS in Biochemistry and Molecular Biology.

TUESDAY, MAY 23, 2023 (MST)
10:00–11:30 Institutional Challenges to Developing Partnerships
Moderator: **Abigail S. Newsome, PhD – Mississippi Valley State University**

Abigail S. Newsome, a native of Itta Bena, Miss., attended Leflore County High School. After her graduation, she studied biology at Mississippi Valley State University (MVSU) and later attended the University of Southern Mississippi where she obtained her Doctorate of Philosophy in Biology with a concentration in Molecular Biology. She then began her professional tenure at Mississippi Valley State University in August of 1997 where she began teaching Biology and Microbiology in the Department of Natural Sciences and Environmental Health. During this time, she worked closely with the MVSU Football Team serving as Film/Video Coordinator. Dr. Newsome has also served as a visiting professor of biology at the University of the Virgin Islands in St. Thomas, USVI as well as engaged in various collaborations and partnerships at universities across the country and abroad. Dr. Newsome presently serves as Mississippi Valley State University's Faculty Athletics Representative. Her academic position at MVSU is the Director of Bioinformatics where her efforts are focused on graduate education and research in genomics. Dr. Newsome and her husband, Dr. Albert L. Love, have 3 adult children and 2 grandsons.

Panelists:
Ganesh C. Bora, PhD – Fayetteville State University

Ganesh Bora, Ph.D., is Fayetteville State University's (FSU) associate vice chancellor for research and innovation, effective August 01, 2022.Bora comes to FSU from the United States Department of Agriculture (USDA) where he served as the national program leader of data science and biological engineering at USDA's National Institute of Food and Agriculture (NIFA). NIFA is the grant funding agency of the USDA where Bora led Urban, Indoor, and Emerging Agriculture; Regional Innovation and Climate Smart Agriculture for Future Farms; Farm of the Future; National Robotic Initiative (NRI); and Artificial Intelligence (AI) Institutes and Data Science for Food and Agricultural Systems (DSFAS) programs. Bora represented the USDA at the Networking

and Information Technology Research and Development (NITRD) committee of the National Science and Technology Council of The White House. Prior to that he served as a tenured faculty member at Mississippi State University and North Dakota State University. He collaborated on projects with nine countries in Asia, Europe and Africa. Bora earned his Ph.D. in biological and agricultural engineering from Kansas State University in Manhattan, Kansas. He is active in professional pursuits and is an engineering program evaluator for the Accreditation Board for Engineering and Technology, Inc. (ABET). He has been an active member of the American Society of Agricultural and Biological Engineers (ASABE) for 20 years and chaired the Executive Committee on Global Engagement. Bora is also a U.S. expert on smart farming and agricultural machinery in the International Standard Organization (ISO)

Elmer Guy, PhD – Navajo Technical University

Since 2006, Dr. Elmer Guy has served as the president of Navajo Technical University (NTU), which is a member of the American Indian Higher Education Consortium (AIHEC), a community of 37 tribally and federally chartered institutions of higher education. Navajo Technical University offers certificate to master's degree programs. Prior to becoming president, Dr. Guy also served NTU as its vice president of academics and student services and its dean of instruction. In 2011 and 2012, under Dr. Guy's leadership, NTU was named one of the top 120 community colleges in the United States by the Aspen Institute's College Excellence Program. Before joining NTU, Dr. Guy was appointed by the Navajo Nation president to serve as both the executive director and deputy director of the Navajo Nation Department of Education. During his tenure with the Navajo Nation Department of Education, several needed programs were successfully developed and implemented, including two trusts for the handicapped ($7 million) and for vocational education programs ($6 million); the Navajo Medicine Man Apprentice School; and a comprehensive teacher education program, all of which have been institutionalized and remain in full operation. Dr. Guy earned his undergraduate and doctorate degrees from the University of Arizona, and in between, a graduate degree from the University of San Francisco. Dr. Guy serves on the board of the American Indian High Education Consortium, the American Indian College Fund board, the College Board's Community Colleges Advisory Panel, as well as other regional and national associations.

Teresa Orok, PhD – Alabama A&M University

Dr. Teresa Merriweather Orok is an expert on economic and business innovation. While her career spans more than 30 years of experience across grants, government contract management, economic development, government, and higher education, she currently serves as the inaugural Director of the Center for Entrepreneurship, Innovation and Economic Development at Alabama A&M University. She assisted more than 200 businesses in start-up and business scaling, including her work with over 75 businesses across the state of Alabama to aid in COVID-19 pandemic revitalization and stabilization. In addition to her work with state-wide and regional incubating start-ups, growing small businesses, and managing large-scale business and government

partnerships, she also facilitates student education around entrepreneurship and innovation skills to best prepare students at HBCUs for the future of work.

Sheryl H. Eherman, PhD, PE – San José State University

Dr. Sheryl Ehrman has served as the Don Beall Dean of the College of Engineering at San Jose State University since 2017. As dean, she oversees 26 academic programs, delivered by 290 faculty and instructors, that serve 6500+ students, as well as the college of engineering's growing research enterprise. She has cultivated strong relationships between the university and Silicon Valley companies, hired award-winning engineering faculty, and established new speaker series and career-prep incentive programs for the college's students. On her watch, the percentage of female engineering professors has grown to one of the highest in the country. Before her current role, Dean Ehrman served as Keystone professor and chair of the Department of Chemical and Biomolecular Engineering at the University of Maryland, College Park. She is a licensed professional engineer in the state of Maryland. Dean Ehrman has a Ph.D. in Chemical Engineering (Aerosol Science and Technology with a minor in Atmospheric Science) from UCLA and a B.S. Chemical Engineering from U.C. Santa Barbara. Dean Ehrman served as a visiting scientist with the National Institute of Standards and Technology, in Maryland and as a National Science Foundation-sponsored post-doctoral fellow at the Paul. Scherrer Institute, in Switzerland. In 2006, she was named a Fulbright Scholar and visiting associate professor at the Indian Institute of Technology, Bombay, where she engaged with students and faculty in the Department of Chemical Engineering. She served as a Fulbright Alumni Ambassador from 2013-16.

11:40–12:20 Applied Research Institute for Mathematics and Computational Sciences
Chad Womack, PhD – United Negro College Fund

Dr. Chad Womack is the Senior Director of National STEM Programs and Initiatives. Prior to joining UNCF, Dr. Womack co-founded The America21 Project and DC Innovates, both innovation-based community and economic development nonprofit organizations dedicated to empowering metro-centers and underserved communities through STEM education, tech-entrepreneurship and access to capital. In addition, Dr. Womack led the White House-based HBCU Startup and Innovation Initiative, which resulted in the launch of the HBCU Innovation, Commercialization and Entrepreneurship initiative at UNCF. At UNCF, Dr. Womack’s work portfolio includes the Fund II Foundation STEM Scholars Program—a $50 million and 10-year commitment to support 500 academically talented African American high school students pursuing STEM as majors in college and careers in the technology industry; the EE Just Life Sciences Institute, which includes the Bristol-Myers Squibb-sponsored EE Just Life Sciences Postgraduate Fellowship Program; the UNCF HBCU Innovation, Commercialization and Entrepreneurship (ICE) Initiative; the UNCF HBCU Innovation Summit and the HBCU Center of Excellence in Computing and Computer Science, which includes a partnership with Google. Dr. Womack was previously a member of the U.S. Department of Commerce, Economic Development Agency, National Advisory

Council for Innovation and Entrepreneurship and the DC Mayor's Innovation and Technology Inclusion Council. Dr. Womack completed several postdoctoral research fellowships at the National Institutes of Health in the National Institutes for Allergy and Infectious Diseases Vaccine Research Center, and at the Harvard AIDS Institute and the Harvard School of Public Health in the Department of Immunology and Infectious Diseases. Dr. Womack earned his doctoral degree in biomedical sciences from the Morehouse School of Medicine and is a proud graduate of Morehouse College where he majored in biology with minors in chemistry and applied physics.

12:30–1:30 Federal Partnership Programs
Moderator: **Keith McGee, PhD – Alcorn State University**

Dr. Keith A. McGee, a native of Quitman located in Clarke County MS, began his post-secondary education at Mississippi Valley State University, majoring in Biology culminating with a Doctor of Philosophy (Ph.D.) degree from the University of Southern Mississippi in Molecular Biology. Dr. McGee's research area, and his research focused on a family of ATP Transport Proteins, specifically those involved in phenotypic Multi-Drug resistance. As a faculty member, he sustained a productive graduate student training program, advising many Masters Degree seeking students, along with many undergraduates, and summer research students. Dr. McGee has served in multiple administrative capacities at Alcorn State University, most recently he was appointed to serve as the inaugural Associate Provost for Research, Innovation, and Graduate Education (AVP, IGE). In this role, Dr. McGee is responsible for providing leadership in developing a clear research vision and growing the University's research footprint while leading and elevating the university's interdisciplinary research activities. Dr. McGee is charged with promoting an understanding and drive for new research opportunities, working with the university deans on all aspects of research and graduate education to ensure alignment with their specific disciplines, while supporting and expanding innovative graduate programs and scholarly activity.

Jesus V. Soriano Molla, PhD – National Science Foundation

Jesus V. Soriano Molla, PhD is a Program Director at the National Science Foundation (NSF) for the SBIR and STTR programs. Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are highly competitive programs that encourage domestic small businesses to engage in Federal Research/Research and Development (R/R&D) with the potential for commercialization. Through a competitive awards-based program, SBIR and STTR enable small businesses to explore their technological potential and provide the incentive to profit from its commercialization. By including qualified small businesses in the nation's R&D arena, high-tech innovation is stimulated, and the United States gains entrepreneurial spirit as it meets its specific research and development needs. Central to the STTR program is the partnership between small businesses and nonprofit research institutions. The STTR program requires the small business to formally collaborate with a research institution in Phase I and Phase II. STTR's most important role is to bridge

the gap between performance of basic science and commercialization of resulting innovations. Previously, Jesus served as SBIR/STTR Program Director for Biomedical and Smart Health Technologies since 2012, when he joined NSF after 20 years of leadership experience across industry, non-profit and academic sectors. Prior to NSF, he was the Senior Advisor to the Puerto Rico Trust for Science, Technology and Research. Previously, he was Executive Vice President at QRxPharma, Ltd, Senior Director of Business Development at Osiris Therapeutics, Inc., held several executive leadership positions at ATCC, and was Associate Director for R&D Operations and Business Development at Entremed, Inc. Jesus began his career as a family doctor in Spain; then worked at the University of Geneva Medical School as a Research Scientist and Assistant Professor. He came to the US as a visiting scientist to the National Cancer Institute (NIH). He holds a MBA from the Johns Hopkins Carey Business School; a Ph.D. in Medical Sciences from the University of Geneva; and a M.D. from the University of Alicante, Spain.

Terrence Mosley – Department of Energy

Terrence Mosley is one of the Office of Energy Efficiency and Renewable Energy's leaders in ensuring diversity, equity, and inclusion are woven into EERE activities, programs, and engagement. As senior advisor for diversity, Mosley is focused on ensuring broad diversity in science, technology, engineering, and math (STEM) development, engagement, and recruitment programs. Based in his native Jackson, Mississippi, Mosley brings an extensive knowledge of the STEM field, having earned a B.S. in mechanical engineering at Southern University and A&M College, a historically Black university in Louisiana, and an M.S. in mechanical engineering at the Georgia Institute of Technology. He worked in the automotive industry for nearly two decades in various engineering and management roles with industry leaders like General Motors and Delphi Packard Electric Systems. One of his proudest STEM outreach accomplishments occurred during his time at Delphi, when he served as the executive sponsor for a new Jackson Public School FIRST Robotics competition team. A group of volunteers turned the team into multiple-award winners at the regional and national levels over 10 years. Mosley then pivoted his career to entrepreneurship and became the president of a small construction firm that redeveloped foreclosed properties into affordable homes, before he joined the U.S. Department of Energy (DOE). His DOE journey began in 2019 when he became an American Association for the Advancement of Science and Technology Policy Fellow. His background in construction and engineering made him a perfect match for the work underway in EERE's Building Technologies Office. There, he tackled initiatives focused on diversifying the pipeline of the STEM workforce, particularly in the sustainability and efficiency fields. Today Mosley is expanding on this work across all of EERE's program areas. "A really big part of my role is continuing to find creative means for us to do more business with historically Black colleges and universities and other minority-serving institutions (MSIs), as well as minority-owned businesses," he says. Some initiatives and collaborations he's working on include the Minority-Serving Institutions STEM Research and Development Consortium (MSRDC), a consortium of more than 70 MSIs that promote innovative research and development (R&D) in the clean energy space. The program has active

projects focused on building technologies and solar power, with potential projects in bioenergy, water, and wind power. “With the continued interest increasing from EERE program offices, I believe we can triple our current MSRDC funding levels devoted towards R&D work at minority-serving institutions over the next two to three years,” Mosley says. Another initiative is the Graduate Education for Minority Students (GEM) fellowship, which recruits underrepresented students seeking graduate degrees in applied science and STEM fields. “It’s an ongoing challenge to expose students to what we do and careers in our industry, so programs like the GEM fellowship can help us to bring more highly skilled minority students into the clean energy field,” Mosley says. Moving forward, much of Mosley’s focus is on partnering with other government agencies, like the National Science Foundation, to pool efforts and connect talented people in underrepresented groups with a range of STEM programs that EERE has to offer. Thanks to Mosley’s efforts, EERE continues to make daily strides to ensure all young Americans, regardless of background, can find pathways to pursue opportunities in clean energy and technology. EERE is proud to call Mosley a Clean Energy Champion.