FACULTY RESEARCH DAY

Celebrating Excellence

Awards Ceremony

APRIL 21, 2021
BRYANT CONFERENCE CENTER
TUSCALOOSA, ALABAMA
EVENT PROGRAM

OPENING REMARKS
Russell J Mumper, PhD
Vice President for Research & Economic Development

WELCOME
Stuart R Bell, PhD
President

NATIONAL ACADEMY OF INVENTORS’ INDUCTEE PRESENTATIONS
Lauren A Wilson, JD
Assistant Vice President for Research & Technology Agreements

PRESIDENT’S FACULTY RESEARCH AWARD PRESENTATIONS
John C Higginbotham, PhD, MPH
Senior Associate Vice President for Research & Economic Development

CONCLUDING REMARKS
Russell J Mumper, PhD
Vice President for Research & Economic Development
The National Academy of Inventors’ is a member organization comprising United States and international universities, and governmental and non-profit research institutes, with over 4,000 individual inventor members and Fellows spanning more than 250 institutions worldwide.
Dr. Xiangrong Shen is a professor in the department of mechanical engineering at The University of Alabama, where he has been a faculty member since 2008. He received his doctorate in mechanical engineering from Vanderbilt University in 2006, and subsequently completed a two-year postdoctoral training in rehabilitation robotics, also at Vanderbilt.

Professor Shen’s research is focused on assistive and rehabilitation robotics, and the specific topics include robotic lower-limb prostheses, portable power-assist lower-limb orthoses, and legged/wheeled robotic platforms for assistive and therapeutic purposes. His research has been supported by multiple NSF and NIH grants, including an NSF CAREER award in 2014.

He served as an associate editor for the journal of Control Engineering Practice from 2008 to 2014, and currently, he is Fellow of the Alabama Life Research Institute.
2021 PRESIDENT'S FACULTY RESEARCH AWARD RECIPIENTS

EMERGING SCHOLARS

ARTS & HUMANITIES
Richard Newton, PhD
Assistant Professor

PHYSICAL & BIOLOGICAL SCIENCES, MATHEMATICS AND ENGINEERING
Kevin M Kocot, PhD
Assistant Professor

SOCIAL & BEHAVIORAL SCIENCES
Mercy N Mumba, PhD, RN, CMSRN
Associate Professor
Richard Newton, PhD
Assistant Professor
Religious Studies
College of Arts & Sciences

Dr. Richard Newton has served as Assistant Professor of Religious Studies at the University of Alabama since 2018. He holds a PhD in Critical Comparative Scriptures from the Claremont Graduate University’s School of Religion. His research focuses on “scriptures” as social texts and their role in social formation. His monograph, *Identifying Roots: Alex Haley and the Anthropology of Scriptures* (Equinox 2020) examines the critically acclaimed book and mini-series as a case study in the dynamics of scriptures, race, and identity. He is also Editor of the *Bulletin for the Study of Religion*.

Dr. Newton’s research has been featured in the *Journal of Biblical Literature, Method & Theory in the Study of Religion, Religion & Theology*, and other scholarly journals. A popular public speaker, his work has been discussed in local, regional, and national media venues. He is also the founder and curator of the social media platform, Sowing the Seed: Fruitful Conversations in Religion, Culture and Teaching. Newton’s current research project is a collection of essays that theorize familiar concepts associated with “religion” in light of how they are signified differently in African American cultural history.
Dr. Kevin M. Kocot is an assistant professor in the Department of Biological Sciences and Curator of Invertebrates in the Alabama Museum of Natural History. Dr. Kocot’s research program is focused on the biodiversity, systematics, and genomics of marine invertebrates. His work has taken him to the ends of the Earth on Antarctic and Arctic ship-based research expeditions and to over a kilometer below the ocean’s surface in HOV Alvin. Research in the Kocot lab employs both cutting-edge and traditional techniques to understand the evolutionary history and diversity of some of the strangest animals on the planet. As such, his students receive integrative training in diverse approaches ranging from molecular laboratory techniques to bioinformatics to naming of species that are new to science.

Dr. Kocot has four active grants including an NSF CAREER award. To date, he has published 58 peer-reviewed scientific articles including four papers in Nature, one of the most highly ranked scientific journals in the world. Dr. Kocot teaches Invertebrate Zoology, Principles of Systematics, and Principles of Biology II and mentors one postdoctoral researcher, four Ph.D. students, and nine undergraduate students.

Dr. Kocot earned a B.S. from Illinois State University, a Ph.D. from Auburn University, and trained as a postdoctoral researcher at Auburn University and The University of Queensland. He joined the Department of Biological Sciences in January 2016.
Dr. Mercy Ngosa Mumba is an award-winning scientist and philanthropist. She is a published author in peer-reviewed scientific journals, and her research is widely funded by various agencies, including the National Institutes of Health (NIH). She is an Associate Professor in the Capstone College of Nursing at the University of Alabama. She graduated with her PhD from the University of Texas at Arlington College of Nursing and Health Innovation in December 2016 and with her Honors Bachelor of Science in Nursing in December 2010. Her research focuses on substance use disorders, addictive behaviors, and their comorbid mental health conditions. She is particularly interested in the impact of social determinants of health and the role of health disparities in preventing, treating, and managing these conditions.

Dr. Mumba is passionate about improving the human condition through evidence-based initiatives and interventions, and is a strong advocate for increasing research productivity, infrastructure, and human capital globally. She is personally involved in many initiatives that improve health care outcomes and promote holistic wellness and quality of life among individuals and communities.
2021 PRESIDENT'S FACULTY RESEARCH AWARD RECIPIENTS

MID-CAREER SCHOLARS

ARTS & HUMANITIES
Lawrence M. Jackson, MFA
Associate Professor

PHYSICAL & BIOLOGICAL SCIENCES, MATHEMATICS AND ENGINEERING
Paul G. Allison, PhD
Associate Professor

SOCIAL & BEHAVIORAL SCIENCES
Nicole Ruggiano, PhD, MSW
Associate Professor
Lawrence M Jackson, MFA
Associate Professor
Theatre & Dance
College of Arts & Sciences

Lawrence M. Jackson is an Associate Professor and serves as the Associate Chair of Dance and Director of Graduate Studies in Dance within the Department of Theatre and Dance at the University of Alabama. Within the Dance program, Jackson teaches both undergraduate and graduate courses in Jazz, Contemporary, Dance History, Pedagogy, African American Dance Studies, Improvisation and Choreography. In addition to his duties within the Department of Theatre and Dance, Jackson also serves as Chair of the College of Arts and Sciences Diversity Committee, Distinguished Teaching Fellow within the College of Arts and Sciences and President of the Alabama Dance Council Executive Board.

As a scholar, Jackson has published in many scholarly journals in the field of Black Dance. Most notably, he authored, co-edited and published a special edition devoted to Black Dance in the Journal of Pan African Studies, the second occurrence in history, where an academic journal edition was committed solely to Black Dance.

Professionally, he devoted several years with the internationally acclaimed modern dance company, Cleo Parker Robinson Dance Ensemble. Additionally, he has performed as a guest artist in a variety of concert dance venues. Choreographically, Jackson has produced over 95 original choreographic works. Most recently, Lawrence choreographed an off-Broadway production, Separate and Equal, which was subsequently nominated for an AUDELCO Award for Best Choreography.

Jackson has served as a guest artist/choreographer/master teacher at the University of Michigan, California State University Northridge, University of Nevada Las Vegas, University of Florida, University of Wyoming, Alabama State University, Brenau University, University of Northern Colorado, West Virginia University, Western Wyoming Community College, Dancer’s Workshop, Ballet Society of Colorado Springs, Red Mountain Theatre Company, Gus Giordano Dance School, Men in Motion, Wichita School of Performing Arts, American Ballet Theatre Summer Intensive, Alabama Dance Festival, Chicago National Association of Dance Masters, International Association of Blacks in Dance, Florida Dance Festival, Tennessee Dance Festival, Alabama Dance Festival, American College Dance Association, Academic and Performing Arts Complex, University of Alabama Opera House, Gulf Coast Dance Alliance, Alabama Repertory Dance Theatre, Snowy Range Summer Dance Festival and West Virginia University Summer Dance Festival.
Dr. Paul G. Allison is an Associate Professor in the Mechanical Engineering Department at The University of Alabama (UA), Tuscaloosa, AL. Within the department, he teaches undergraduate and graduate courses on manufacturing and material behavior. Dr. Allison is pioneering computational and experimental research on solid-state advanced manufacturing processes leading the UA Point-of-Need Manufacturing Initiative, and is involved in developing the fundamental understanding of the processing-structure-property-performance relations for a variety of material systems to support basic and applied research projects. His research has been supported by a variety of industrial sponsors as well as the Army, Air Force, DHS, DOE, FHWA, Marine Corps, Navy, and NASA during his career. Dr. Allison has a book published on the Fatigue of Friction Stir Welding, and over 100 journal articles, book chapters, technical reports and conference papers that have been cited over 1,100 times (h-factor=20, according to scholar.google.com).

Professionally, Dr. Allison has given multiple invited talks while helping to organize conferences by chairing/co-chairing mini-symposiums at the Society of Experimental Mechanics (SEM), The Minerals, Metals, & Materials Society (TMS) annual meetings, Nanotechnology for Defense, and ASME Symposia. He is active on multiple technical committees for SEM, TMS, and is the ASME Constitutive Equations technical committee Chair and SEM Dynamic Behavior of Materials Technical Committee Secretary. He is also the past Vice Chair for the ASME Mississippi Section. Dr. Allison also sits on the Graphene Academic Council for the National Graphene Association. He is on the Editorial Board for the journal, Metals, and is on the Metals journal Section Board for Metal Failure Analysis. Additionally, Dr. Allison serves as the faculty advisors for the UA SEM student chapter and Tau Beta Pi engineering honor society. He also serves as the co-advisor for the SAE Baja student design organization at UA.

Prior to joining UA, Dr. Allison performed research in the areas of force protection and force projection at the US Army Engineer Research and Development Center (ERDC) where Dr. Allison received the US Army ERDC - Research and Development Achievement Award for 2013 and 2014, the 2014 Department of the Army Commander’s Award for Civilian Service, the 2011 Department of the Army Achievement Medal for Civilian Service, and the 2013 Department of the Army Research & Development Achievement Award for Technical Excellence.
Dr. Nicole Ruggiano is an Associate Professor in the School of Social Work, joining the University of Alabama in 2016. Dr. Ruggiano’s research focuses on healthcare and caregiving for older adults with chronic conditions. She specifically focuses on developing and testing technologies to support people living with dementia and their caregivers. As a Principal Investigator, her work has been supported by more than $2 million in funding from the AHRQ, NIH, NSF, and the John A. Hartford Foundation. Dr. Ruggiano’s current research involves developing a touchscreen tablet technology that supports people with dementia in communicating their daily care preferences and experiences. Her research findings have been disseminated through more than 35 peer-reviewed journal articles and 60 international, national, regional, and local presentations. Dr. Ruggiano is also an Affiliated Scientist at UAB’s Alzheimer’s Disease Center (ADC), and an Affiliate Associate Professor in the Department of Neurology within UAB’s School of Medicine.

In 2018 Dr. Ruggiano became the Founding Director of the new Doctor of Social Work (DSW) degree program at the University of Alabama. She has played a leadership role with faculty in building the practice doctorate program, which has received national recognition and is in high demand after only two years of accepting students. This year, the program received more than 200 applications for only 20 spots in its upcoming 2021 cohort. Through her leadership, the DSW program supports advanced social workers in the field in learning to develop and integrate evidence-base into practice, with a focus on practical-based applications of research methodologies.

Dr. Ruggiano has made an ongoing effort to use her research findings and expertise to make positive change in the community and through policy. Dr. Ruggiano was selected for the competitive American Political Science Association’s Health and Aging Policy Congressional Fellowship from 2018-2019. Here, she worked to advance AHRQ’s multiple chronic condition initiative, as well as its development of an interoperable e-care planning platform. Dr. Ruggiano was also selected by Governor Kay Ivey to serve on the Alabama Lifespan Respite Coalition to help advance community-based long-term care support. Dr. Ruggiano gives frequent talks to caregivers and healthcare providers in the community, with a particular focus on educating caregivers in the Black Belt region of Alabama. Responding to the COVID-19 pandemic, she provided several virtual public health talks for caregivers on navigating the pandemic while caring for someone living with dementia.
2021 PRESIDENT'S FACULTY RESEARCH AWARD RECIPIENTS

SENIOR SCHOLARS

ARTS & HUMANITIES
Heather Cass White, PhD
Professor

PHYSICAL & BIOLOGICAL SCIENCES, MATHEMATICS AND ENGINEERING
Fei Hu, PhD
Professor

SOCIAL & BEHAVIORAL SCIENCES
Rajesh Kana, PhD
Professor
Heather Cass White, PhD
Professor
English
College of Arts & Sciences

Heather Cass White is a Professor of English. She has been at the University of Alabama since 2000, after receiving a B.A. from Yale University, and a Ph.D. from Cornell University. Her specialty is American poetry of the twentieth century. For ten years the primary focus of her research was the poetry of Marianne Moore (1886-1972), one of the most important American poets of the interwar period. Her work resulted in three editions of Moore’s poetry: A-Quiver with Significance: Marianne Moore 1932-1936 (2008), Adversity and Grace: Marianne Moore 1936-1941 (2012), and the New Collected Poems of Marianne Moore (2017). In 2019 New Collected Poems won the Modern Language Association’s Prize for a Scholarly Edition.

She teaches broadly in the literature of the American twentieth century, fiction as well as poetry. In July of 2021 Farrar, Straus & Giroux will publish her monograph Books Promiscuously Read: Reading as a Way of Life, on the pleasure and meaning of reading over the course of a lifetime.
Fei Hu, PhD
Professor
Electrical & Computer Engineering
College of Engineering

Dr. Fei Hu received the first Ph.D. degree in signal processing from Tongji University, Shanghai, China, in 1999; and the second Ph.D. degree in electrical and computer engineering from Clarkson University, New York, NY, USA, in 2002. He is currently a Professor with the Department of Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL, USA.

Dr. Hu has published over 200 journal/conference papers (50 are IEEE journal papers) and 15 books in the field of wireless networks and machine learning. He has also filed 15 patents. His research interests are wireless networks, machine learning, big data, network security and their applications. His research has been supported by U.S. NSF, DoE, DoD, Cisco, and Sprint. He has won more than 10 U.S NSF awards and many other grants. He has graduated 20 Ph.D. students so far.
Dr. Rajesh Kana is Professor in the Department of Psychology at the University of Alabama. He directs the Center for Innovative Research in Autism (CIRA). Dr. Kana is also the director of the Alabama Life Research Institute (ALRI)'s Neuroscience Theme. His research focuses on basic and translational neuroscience involving neurodevelopmental disorders like autism. Dr. Kana uses a variety of brain imaging techniques to understand the functional and anatomical organization of the brain in autism. As a William Fulbright Fellow, Dr. Kana learned neuroimaging at the University of California Los Angeles (UCLA), followed by a postdoctoral training at Carnegie Mellon University in Pittsburgh, Pennsylvania.

Dr. Kana works with several graduate and undergraduate students in his research at the Cognition, Brain, and Autism Laboratory. He is a leader in autism research with more than 90 research publications. His work has been funded through different federal agencies, such as the National Institute of Deafness and Other Communication Disorders (NIDCD), the National Science Foundation (NSF), and other private foundation grants. Dr. Kana serves as Associate Editor of reputed journals like Autism Research and Frontiers in Human Neuroscience.
The purpose of Faculty Research Day is to showcase and celebrate excellence in research, creativity and scholarship by bringing together faculty from across our campus. The event is intended to increase awareness and generate enthusiasm for scholarship among faculty as the University advances its research enterprise and its impact. During the event, the President’s Faculty Research Award, sponsored by our President and the Vice President for Research & Economic Development, is presented to outstanding faculty researchers from across UA Colleges and Schools. National Academy of Inventors inductees are also recognized at the Faculty Research Day Awards Ceremony.

The Office for Research & Economic Development wishes to thank President Stuart R. Bell for supporting Faculty Research Day.
President's Faculty Research Award 2021