

# SOUTHEAST ENERGY STORAGE WORKSHOP SERIES

Presented by the DOE Office of Electricity Energy Storage Program, Southern Research, Sandia National Laboratories, and Oak Ridge National Laboratory.

## Workforce Development; Decarbonization & Energy Equity

Tuesday, May 24, 2022

1:00 PM – 4:00 PM (Central Time)

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The need to transition from fossil fuels to renewable energy is becoming ever more obvious and urgent. Energy storage is a critical component of the energy transition. Advances in energy storage technology, policy, and applications are quickly increasing around the world, and keeping up with those changes is an ongoing challenge. This workshop series—targeting many issues specific to the Southeast—addresses those advances in energy storage to help stakeholders stay up to date on energy storage roles and capabilities.

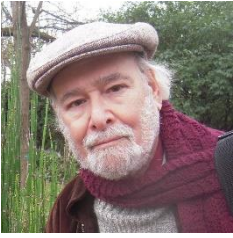
## Agenda

### Session 5: Workforce Development; Decarbonization and Energy Equity

1:00 – 1:10	<b>Introductory Remarks</b> Imre Gyuk, Director, Energy Storage Program, U.S. DOE Office of Electricity
1:10 – 1:25	<b>Workforce Development</b> Brian Engle, Amphenol and Vice President of NaatBatt
1:25 – 1:40	<b>Workforce Development</b> Justice Smyth, Outreach Director for the Alabama Transportation Institute (ATI), The University of Alabama
1:40 – 2:00	<b>Community College/Trade School Programs</b> Stephen Gómez, Department Chair, Santa Fe Community College Frank Currie, Smart- and Micro-grid Training Center, Santa Fe Community College
2:00 – 2:15	<b>Alabama Department of Economic and Community Affairs</b> Elaine Fincannon, Deputy Director, Alabama Department of Economic and Community Affairs (ADECA)
2:15 – 2:25	<b>Q&amp;A</b>
2:25 – 2:30	<b>Break</b>
2:30 – 2:50	<b>Decarbonization &amp; Transmission</b> Liza Reed, Research Manager for Electricity Transmission, Climate Policy Department, Niskanen Center
2:50 – 3:10	<b>Decarbonization Modeling</b> Howard Passell, Energy Resource Analyst, Sandia National Laboratories
3:10 – 3:30	<b>Energy Equity/Social Equity</b> Imre Gyuk, Director, Energy Storage Program, U.S. DOE Office of Electricity
3:30 – 4:00	<b>Q&amp;A</b> <b>Closing Remarks</b>



## Speaker Biographies



After taking a B.S. from Fordham University, **Dr. Imre Gyuk** did graduate work at Brown University on Superconductivity. Having received a Ph.D. in Theoretical Particle Physics from Purdue University he became a Research Associate at Syracuse. As an Assistant Professor he taught Physics, Civil Engineering, and Environmental Architecture at the University of Wisconsin. Dr. Gyuk became an Associate Professor in the Department of Physics at Kuwait University where he became interested in issues of sustainability. Dr. Gyuk joined the Department of Energy to manage the Thermal and Physical Storage program. For the past two decades he has directed the Electrical Energy Storage research program in the Office of Electricity, developing a wide portfolio of storage technologies for a broad spectrum of applications. He supervised the \$185M ARRA stimulus funding for Grid Scale Energy Storage Demonstrations and is now partnering with the States on numerous storage projects for grid resilience. His work has led to 12 R&D 100 awards, two EPA Green Chemistry Challenge Awards, and Lifetime Achievement Awards from ESA and NAATBatt. He is internationally recognized as a leader in the energy storage field.



**Brian Engle** is responsible for developing new technologies and partnerships to address emerging sensor needs across various industries as Business Development Manager for Amphenol Advanced Sensors. With over 30 years of experience in research, development, and business roles within global OEM and Tier 1 automotive companies, Brian blends system engineering disciplines with business acumen to develop cost effective solutions to the most challenging needs within the industry.

Within Amphenol, Brian is currently leading the development of Amphenol's "Robust Early Detection of Thermal Runaway" Sensor platform for lithium ion batteries as well as a number of electrification initiatives.

Brian is currently serving as Vice President, NAATBatt, a battery industry trade organization that is working with the US Department of Energy as part of the LiBridge initiative as well as co-chairing committees on Regulatory Compliance & Liability, Education, and Recycling. As an active member of SAE, Brian supports a number of battery and xEV safety initiatives including chairing the SAE First Responders Task Force as well as working together with OEM's, xEV supply chain partners, and government organizations to develop technology to support the rapidly growing xEV and battery energy storage market.



**Justice Smyth** is Outreach Director for the Alabama Transportation Institute (ATI) at The University of Alabama. Prior to joining ATI, Justice was the Director of Corporate Development with the Montgomery Area Chamber of Commerce where he was responsible for managing the new industry recruitment projects and marketing efforts on behalf of the City of Montgomery and Montgomery County. During his time at the Chamber, Justice was involved in the recruitment of more than 7,500 new jobs and \$1.5 billion in capital investment. Justice is a graduate of The University of Alabama. While an undergraduate, he was elected President of the Student Government Association and was also selected for membership in the JASONS Men's Honorary and Omicron Delta Kappa National Leadership Honor Society. He is a graduate of the University of Oklahoma Economic Development Institute and is currently pursuing designation as a Certified Economic Developer (CEcD). Justice serves on the Board of Directors of the Economic Development Association of Alabama (EDAA) and is actively involved with the River Region United Way, Montgomery YMCA Boys Work Committee, and EMERGE Montgomery.



**Stephen Gómez** is a native New Mexican and land grant heir. He obtained a B.Sc. degree in Biology from the California Institute of Technology and holds a Ph.D. in Molecular, Cell and Developmental Biology from UCLA. Dr. Gomez is a two-time Ford Fellow; one in biochemistry at UCLA and the other in botany at U. of Wyoming. Currently, he is an assistant professor and chair of the Advanced Technologies and Sustainability Dept. (TATC) at SFCC. Dr. Gómez started his career in the biomedical field with appointments at the Dept. of Molecular Biotechnology, U. of Washington; Dept. of Oncology, Children's Hospital of Los Angeles; Pasarow Mass Spectrometry Laboratory, David Geffen School of Medicine, UCLA; and the Respiratory Immunology and Asthma Program, Lovelace Respiratory Research Institute. Before joining the faculty at SFCC in 2014 he taught at UCLA, U. of Washington, U. of Wyoming, UNM and CNM. At SFCC he has developed a college curriculum for Algae Cultivation under contract to the DOE/Algae Foundation and an introductory program in Sustainable Energy Technologies. He also helped establish the Controlled Environment Agriculture and the Distributed Energy Technologies programs at SFCC. The TATC is now 40% energy sovereign and has the only solar-powered welding and aquaponics greenhouse food production programs in the world.



**Frank Currie** is leading the development of the Smart- and Micro-grid Training Center at Santa Fe Community College (SFCC). Within this role, he is spearheading development of the Distributed Energy Systems Program, an AAS and AS degree program specializing in smart grid and microgrid systems technician training. Most recently, Frank worked as an R&D engineer in the Energy Storage Technologies and Systems group at Sandia National Laboratories (SNL). There he supported the design and construction of a groundbreaking data acquisition system for the new SNL Storage Controls and Analytics Lab and served as SNL project lead for a collaborative SFCC training center project. In addition to his prior engineering experience, Frank has taught at secondary institutions and community colleges. Before working for SNL, Frank worked as adjunct faculty at SFCC. Over the course of his career, Frank has also worked in industrial automation, electric utility systems planning, solar and wind project development, and on the implementation side of energy storage and microgrids. He holds a BS in Electrical Engineering from Michigan State University.



**Elaine Fincannon** is the Deputy Director of the Alabama Department of Economic and Community Affairs (ADECA). ADECA is responsible for administering a broad range of state and federal programs that contribute to the department's mission — Building Better Alabama Communities. ADECA grants support economic development projects, infrastructure improvements, job training, energy conservation, law enforcement, traffic safety, recreation development and assistance to low-income families. Prior to joining ADECA, she served as Senior Vice President for Investor Relations for the Business Council of Alabama. She worked with BCA for over 25 years as part of its senior team, working with a diverse range of business leaders and CEOs of Alabama's largest employers. During that time, she also served as BCA's liaison to Alabama's trade associations and to the more than 100 chambers of commerce throughout the state. She also served on the President's Committee and Corporate Partners Committee for the Alabama Automotive Manufacturer's Association and was a part of the Alabama Aerospace Industry Association's membership committee.



**Dr. Liza Reed** is the Niskanen Center's research manager for electricity transmission in the climate policy department. She is an expert in High Voltage Direct Current, electricity transmission, and technology innovation. At Niskanen she plans and conducts policy analysis for U.S. decarbonization, focusing on the intersections of electricity transmission, domestic manufacturing, electrification, and infrastructure deployment. In this role, Reed also leverages her strong relationships with coalitions to identify policy opportunities and promote results through governing networks.

Before joining the Niskanen Center, she worked on energy funding at the Great Lakes Energy Institute at Case Western Reserve University (CWRU). She represented CWRU in the White House Office of Science Technology Policy Metro Lab Network, working closely with Cuyahoga County Office of Sustainability on local research partnerships.

Reed has authored multiple peer-reviewed publications and published extensive and widely-cited research on electricity transmission. She is a SAFE Energy Security Fellows and a Clean Energy Leadership Institute Fellow.

Reed holds a Ph.D. from Carnegie Mellon University in Engineering and Public Policy and a master's degree, and a bachelor's degree in Electrical and Computer Engineering from The Ohio State University.



**Howard Passell** works in the Energy Storage Systems Department at Sandia National Laboratories in Albuquerque, New Mexico. His work focuses on energy storage, grid modernization, energy security, and decarbonization. Over 23 years at Sandia he has worked on energy and water resource monitoring, modeling, management, capacity building, and policy-related projects at various scales in the US, Central Asia, the Middle East, and North Africa. This included helping to lead Sandia's efforts in DOE's Solar America Cities initiative and

developing energy conservation software and methodology for large institutions. He has worked on emerging national security issues associated with energy, water, food, ecosystems, and population, with an emphasis on the relationships between resource scarcity and human security. He earned master's and doctorate degrees in conservation biology and hydrogeocology at the University of New Mexico. His undergraduate studies were in classical literature and the liberal arts at St. John's College in Santa Fe, NM and the Ohio State University in Columbus, Ohio.