



# Pathways to a Renewable Energy Economy through the Weather Enterprise

**SEPTEMBER 27-28, 2023 • ETEC**  
1220 Washington Ave. Albany, NY 12226



# Pathways to a Renewable Energy Economy through the Weather Enterprise

## Conference Objectives

The weather enterprise is expected to play a significant role in the ongoing expansion of renewable energy sources in New York as well as nationally. Not only does weather drive the location and performance of solar and wind energy systems, it also dynamically impacts the grid's electricity demand and delivery capability. This co-dependency on weather is complex and will only grow as renewable energy expands geographically and reaches higher grid penetrations. This conference is intended to discuss this situation and address topics such as:

- The appropriate role of the weather enterprise in support of the expansion of renewable energy
- Requirements and concerns among key stakeholders as they perform their roles during this transition
- Technical challenges and opportunities associated with different weather and renewable energy technologies, energy storage, and grid integration
- Innovations and collaborations necessary to ensure a sustainable transition to a renewables-dominant future



## John Williams: Vice President for Policy and Regulatory Affairs at NYSERDA



John Williams was appointed executive vice president for Policy and Regulatory Affairs of the New York State Energy Research and Development Authority (NYSERDA) on October 3, 2022. Mr. Williams holds a Bachelor of Arts degree in History from Columbia University, a Juris Doctor degree from St. John's University School of Law, and a Master of Laws degree in Environmental Law from Pace University School of Law. He is a registered attorney in the states of New York and New Jersey. Mr. Williams serves as the designee for the NYSERDA Chairman on the New York State Board on Electric Generation Siting and the Environment.

In this position, Mr. Williams has expanded his responsibilities from his previous role as vice president for Policy and Regulatory Affairs to include the reporting and performance of NYSERDA's West Valley Site Management Program. In addition, Mr. Williams is responsible for providing oversight and guidance of energy policy development for NYSERDA and New York State, including most notably through the Climate Action Council. He oversees the Energy and Environmental Analysis team, providing economic analysis and scientific research to best inform policymakers in energy and environmental issues as well as the Performance Management unit, which provides market characterization and evaluation, markets and statistical insights, and metrics and performance analysis, all of which guide effective clean energy strategies.



## Dr. Havidán Rodríguez: President of UAlbany

Dr. Havidán Rodríguez is the 20th president of the University at Albany, one of the nation's most diverse research universities. The first Hispanic/Latino president of a SUNY four-year institution, he took office in September 2017. Dr. Rodríguez earned a B.S. in psychology from the University of Maryland, an M.A. in sociology from the University of Wisconsin-Milwaukee, and a Ph.D. in sociology from the University of Wisconsin-Madison.

Dr. Rodríguez has received funding from the National Science Foundation (NSF), the Ford Foundation, the National Institute of Mental Health, FEMA, the U.S. Army Corps of Engineers, and the UPRM Sea Grant Program, among others, for a number of research projects focusing on the social science aspects of disasters and for projects aimed at providing hands-on research training and mentoring to undergraduate and graduate students, as well as faculty. He has served as the principal investigator for the NSF Research Experience for Undergraduates (REU) Program: Training the Next Generation of Disaster Researchers; and for NSF ADVANCE Adaptation and Institutional Transformation grants aimed at increasing the representation, participation, and leadership of women faculty in STEM fields. He was also one of the project leaders for the AACSB FRONTIER SET PROJECT focusing on student success, funded by the Bill & Melinda Gates Foundation.

In addition to Dr. Rodríguez's numerous journal articles and book chapters in the areas of disasters as well as Latinos/as in the United States, his publications include *Hurricane Maria in Puerto Rico: Disaster, Vulnerability & Resiliency* (co-edited with Mora and Dávila, 2021); the *Handbook of Disaster Research 2nd Edition* (co-edited with Donner and Trainor, 2018); and *Population, Migration, and Socioeconomic Outcomes among Island and Mainland Puerto Ricans: La Crisis Boricua* (coauthored with Mora and Dávila, 2017), among others. Dr. Rodríguez has also led and participated in a number of field research projects, including trips to Honduras following Hurricane Mitch; India and Sri Lanka following the Indian Ocean Tsunami; the Gulf Coast following Hurricane Katrina; and Puerto Rico following Hurricane Maria.



## Dr. Kesh Kesavadas: UAlbany's Vice President for Research & Economic Development



Vice President Dr. Kesavadas was the founding director of the University of Illinois Urbana-Champaign's Health Care Engineering Systems Center (HCESC), the largest endowed center in the University of Illinois system. In the center he managed research, IP and commercialization, data warehouse management (HIPAA), regulatory affairs, IRB and human subject protocols, student exchange, graduate programs, external partnerships, government relations, etc. HCESC has 186 members and affiliates.

The Center collaborated and funded research in engineering, social and behavioral sciences, education, applied health sciences, medicine, and veterinary medicine. Twenty research laboratories and institutes, and affiliated hospitals, including Mayo clinic, are supported through the program. A professor of Industrial and Enterprise Systems Engineering, Computer Science, Electrical and Computer Engineering, and a member of the inaugural faculty of the Carle-Illinois College of Medicine, Dr. Kesavadas was named a distinguished University Presidential Executive Leadership Fellow in 2019.

Dr. Kesavadas previously served as a faculty member at the University at Buffalo, where he advanced his research interests in medical robotics, virtual reality/augmented reality in healthcare, manufacturing automation and design of systems. Dr. Kesavadas received his B. Tech degree in Mechanical Engineering from the University of Calicut, India in 1985, his M. Tech degree in Aircraft Production Engineering from the Indian Institute of Technology, Madras in 1987, and his Ph.D. in Industrial Engineering from The Pennsylvania State University in 1995.

## Dr. Chris Thorncroft: Director of Atmospheric Sciences Research Center at UAlbany



Dr. Christopher Thorncroft is Director of the Atmospheric Sciences Research Center and a Professor in the Department of Atmospheric and Environmental Sciences, both at the University at Albany, State University of New York. He is also the Director of the Center of Excellence in Weather and Climate Analytics and of the New York State Mesonet. The NYS Mesonet, a network of 126 automatic weather stations throughout NYS, supports applied research for the economic benefit of NY State through key weather observations in support of protection of life and property.

Dr. Thorncroft is Co-principal Investigator of the National Science Foundation funded Artificial Intelligence Institute, The Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography (AI2ES).

Dr. Thorncroft's research is mainly focused on improving our understanding of the nature and variability of atmospheric weather systems with a special emphasis on tropical weather systems over West Africa and how they impact Atlantic tropical cyclones. His work emphasizes improving knowledge and understanding of the dynamics of high-impact weather systems through analysis of observations and modeling. Current research also includes an emphasis on the nature and causes of extreme weather variability in North-East US that includes a contribution from land-falling hurricanes.

Dr. Thorncroft is a Fellow of the American Meteorological Society and was recently awarded the 2023 American Meteorological Society Joanne Simpson Tropical Meteorology Research Award. He received his PhD in Meteorology from the University of Reading, UK.



## Dr. Bruce Bailey: Conference Chair

Dr. Bruce Bailey currently serves as the Executive in Residence at the NYSTAR Center of Excellence in Weather & Climate Analytics at UAlbany. He has an undergraduate degree in Atmospheric Sciences from Cornell University and a doctorate in Engineering Management from California Coast University. His career began as a Research Associate at UAlbany's Atmospheric Sciences Research Center, where he became the manager of wind energy programs.

He eventually left the Center to run the technical consulting firm he founded—AWS Truepower—which specialized in meteorological and engineering-related services to the clean energy and air quality sectors. His firm grew to become one of the renewable energy industry's largest and most-respected consultancies. In 2016 the firm was acquired by UL, a global safety science company, where Bruce became its VP for Renewables. He has since retired from UL.

In addition to his current role at UAlbany, Bruce gives guest lectures, serves on multiple boards, is a technical reviewer for the Renewable Energy journal, and leads development of the new Virtual Offshore Wind Energy Laboratory and Simulator (VOWELS) program. He has also established an Endowed Fellowship at UAlbany that encourages interdisciplinary research for the deployment of grid-connected renewable energy using innovative insights from the atmospheric sciences and other fields.



## Jan Woodcock: Director, NYS Weather & Climate Analytics Center of Excellence

Jan Timothy Woodcock is the Director of Operations for the NYS Weather and Climate Analytics Center of Excellence. Mr. Woodcock has deep experience driving innovation and transformation in High Tech Industries. He was a senior partner at Deloitte Consulting, Global Partner at Wipro Technologies, and Transformation Leader at Cognizant. His industry experience encompasses the Fortune 100, the small business sector, and Venture Funded start-ups. He specializes in the areas of strategy and operations, with experience spanning data analytics, financial management, customer and product strategy, and digital transformation. His Reverse Innovation research drove a CEO panel at the Davos World Economic Forum.



## Dr. Jeff Freedman: Research Faculty, ASRC

Dr. Jeff Freedman is a researcher in ASRC's Boundary Layer Meteorology and Renewable Energy Groups, specializing in renewable energy and atmospheric boundary layer processes. Dr. Freedman's research centers on advancing wind and solar power forecasting, outage prediction modeling, refining offshore wind energy approaches, and leveraging ASRC's assets for insights into weather and climate impact on renewable resources.

# Day 1 Itinerary

## Renewable Energy Pathways September 27th

8:00-8:30 AM	<u>Breakfast &amp; Networking</u>
8:30-9:00 AM	<b>Keynote Speaker/ Introduction</b>
9:00-10:30 AM	<b>Panel 1:</b> The Current Relationship Between Weather and the Grid
10:30-11:00 AM	<u>Coffee Break &amp; Networking</u>
11:00-12:30 PM	<b>Panel 2:</b> Implications of More Renewables and the Electrification of More Things
12:30-1:30 PM	<b>LUNCH</b>
1:30-3:00 PM	<b>Panel 3:</b> State of the Art of Weather Data, Weather Forecasting, and Climate Change Modeling
3:00-3:30 PM	<u>Coffee Break &amp; Networking</u>
3:30-5:00 PM	<b>Panel 4:</b> Transitioning Towards a Renewables Driven Energy Economy
5:00-5:15 PM	<b>The Virtual Offshore Wind Energy Laboratory &amp; Simulator (VOWELS):</b> A preview of a new collaborative initiative
5:15-7:15 PM	<b>Reception &amp; Networking</b>

# Day 2 Itinerary

Renewable Energy Pathways  
September 28th

- 8:00-9:00 AM Breakfast & Networking
- 9:00-10:30 AM **Panel 5:** Advanced Weather Technologies
- 10:30-11:00 AM Coffee Break & Networking
- 11:00-12:30 PM **Panel 6:** Applications of AI & Machine Learning
- 12:30 PM Adjourn
- 12:30-1:30 PM **Optional ETEC Tour**

# Panels

## Renewable Energy Pathways

### **Panel 1: The Current Relationship Between Weather and the Grid**

**Moderator:** Bruce Bailey

**Panelists:**

- **Telos Energy** - Derek Stenclik
- **EPRI** - Daniel B. Kirk-Davidoff
- **National Grid** - Matthew Barnett
- **NYISO** - Maxim Schuler

### **Panel 2: Implications of More Renewables and the Electrification of More Things**

**Moderator:** Jan Woodcock

**Panelists:**

- **Gravity Renewables** - Omay Elphick
- **ConEdison** - Jackson Koo
- **NE-ISO** - Victoria Rojo
- **EDF Renewables** - Dennis Phayre

### **Panel 3: State of the Art of Weather Data, Weather Forecasting, and Climate Change Modeling**

**Moderator:** Sue Haupt

**Panelists:**

- **UL Solutions** - Matthew Cote
- **Weather Routing Inc.** - Brandon Capasso
- **NYS Mesonet** - June Wang
- **UAlbany ASRC** - Jeff Freedman



# Panels

## Renewable Energy Pathways

### Panel 4: Transitioning Towards a Renewables Driven Energy Economy

**Moderator:** Chris Thorncroft

**Panelists:**

- **NYISO** - Amanda Myott
- **US Wind** - Matt Filippelli
- **JP Morgan** - Eric White
- **NYSERDA** - John Bernecker

### Panel 5: Advanced Weather Technologies

**Moderator:** Jeff Freedman

**Panelists:**

- **Climavision** - Chris Goode
- **IBM** - Anthony Praino
- **Natural Power** - Chris Ziesler
- **Key Capture Energy** - Mike Carella

### Panel 6: Applications of AI & Machine Learning

**Moderator:** Kara Sulia

**Panelists:**

- **NCAR** - Sue Haupt
- **National Grid** - Pavel Ozhogin
- **NYPA** - Qing Wei
- **UAlbany ASRC** - Sukanta Basu

# **Introducing...** **Weather Innovation, Smart Energy, and Resilience (WISER)**



**WISER is a National Science Foundation (NSF) Industry-University Collaborative Research Center (IUCRC) chaired by UAlbany and UConn. WISER is developing state-of-the-art weather and climate research with Energy Industry partners.**

Sat IR 02/03/2022 18:40

**Are you interested in learning more?  
Contact Jan Timothy Woodcock at [jwoodcock2@albany.edu](mailto:jwoodcock2@albany.edu).**

# THANK YOU

Speakers and Panelists



# THANK YOU

For Attending the Renewable Energy  
Pathways Conference

