

# ITEC+ 2025

June 17 - 20 Anaheim, CA



KEYNOTE SPEAKER

## Hengchun Mao

*President at Quanten Technologies*

# ITEC+ 2025

ITEC is aimed at helping the industry in the transition from conventional vehicles to advanced electrified vehicles. The conference is focused on components, systems, standards, and grid interface technologies, related to efficient power conversion for all types of electrified transportation, including electric vehicles, hybrid electric vehicles, and plug-in hybrid electric vehicles (EVs, HEVs, and PHEVs) as well as heavy-duty, rail, and off-road vehicles and airplanes and ships.

## SPEAKER BIO

Dr. Hengchun Mao is the founder and CEO of Quantentech, a startup of high-performance motor and drive systems for EVs, eVTOLs and Robots. He received his Ph. D. degree from Virginia Tech in 1996, and has been working in power electronics and motor drive industries for over 30 years. He was a staff researcher of power systems in Bell Labs, the principal architect of Huawei's Digital Power department, and a business unit general manager at Diodes Semiconductor. He founded Quanten Technologies, NuVolta Technologies, and NetPower Technologies, respectively in the business of advanced EV drives, wireless charging technologies, and high efficiency power modules. In recent years, Dr. Mao has been focusing on advanced high performance multi-phase motor drive system with dynamically adjustable magnetic structure, with the aid of power electronics and advanced drive algorithm to adapt the magnetic configurations of the motor in real-time according to its load condition, achieving 50% power density improvement for hybrid and electric vehicle applications. He has authored over 100 US patent applications in these fields.

In recent years, multi-phase drive systems are attracting more attention due to their ability to achieve higher power and better reliability than three-phase drives. However, almost all of the multi-phase motors are designed and controlled as multi three-phase systems in parallel, practically limiting the performance improvement and thus application appeal of multi-phase technology. To fully release the potential of such technology, innovative "true" multi-phase design approach and control algorithm have to be developed. Dr. Mao will mainly present advancement of multi-phase motor and drive system development, and discuss how to significantly improve power and torque density of motors and create more reliable and cost-effective drive solutions than conventional three-phase technology. Target applications include electric and hybrid vehicles and eVTOLs.

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KEYNOTE SPEAKER

**Zubair A. Baig**

*Senior Technical Fellow Electrical Systems  
Electric Propulsion Expert  
Pratt & Whitney*

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## SPEAKER BIO

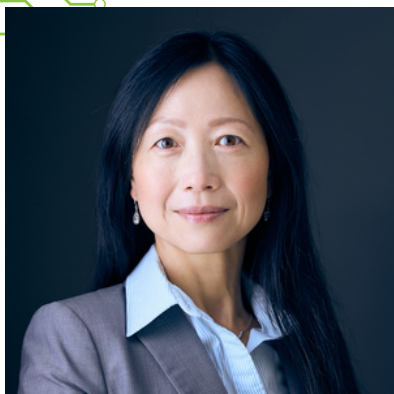
Zubair Baig is the Senior Fellow for Electric Systems and Electrification at Pratt and Whitney managing the electrification portfolio for P&W. With over a decade of experience in electric propulsion, he has deep technical knowledge and expertise with development of integrated high power electrical powertrains. Zubair has led the strategic and technical development of Pratt & Whitney's hybrid electric development programs and has established P&W's electrical systems engineering group. He holds over 25 patents and has published various technical papers. Zubair leads the long-term strategic roadmap planning for electrification technologies at the Raytheon Technologies Corporate level is also a member of SAE E-40 and AE-7D helping to develop aerospace certification standard for electrical and hybrid propulsion and is very active within the electric propulsion technology development community.

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KEYNOTE SPEAKER

**Xin Wu**

*Technology-to-Market Advisor  
ARPA-E*

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## SPEAKER BIO

Dr. Xin Wu is a Technology-to-Market Advisor at the Advanced Research Projects Agency - Energy (ARPA-E). With over 16 years of experience in power electronics, system integration, advanced sensors, real-time modeling, and health monitoring, Dr. Wu has a proven track record in cutting-edge technology development.

Before ARPA-E, Dr. Wu served as Discipline Chief for Integrated Electrical Systems at Pratt & Whitney, where she led technology strategies, collaborated with partners and government labs, and advanced system development for military and commercial programs. Previously, at Raytheon Technologies Research Center, she drove innovations in semiconductor applications, wireless power transfer, and embedded sensing systems. She began her career at Ansys Corporation in electromechanical system modeling.

Dr. Wu holds a Bachelor's in Electrical Engineering from Huazhong University of Science and Technology, China, and a Ph.D. in Electrical Engineering from the University of South Carolina.

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KEYNOTE SPEAKER

## GAUDY BEZOS O'CONNOR

EPFD PROJECT MANAGER  
NASA

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## SPEAKER BIO

Ms. Bezos-O'Connor has over 4 decades of project management and R&D experience delivering high-risk, high-pay-off aerospace solutions for NASA in partnership with the FAA, the aerospace industry and academia. A highly collaborative leader, she brings a solid history of success in public-private partnerships and innovative project management strategies. For the past decade and a half, Ms. Bezos-O'Connor has been at the forefront of enabling sustainable aviation through NASA's Environmentally Responsible Aviation Project, and Advanced Air Transport Technology Project and the FAA CLEEN Program. Currently she is the Project Manager of NASA's aviation industry-led MW-class electrified powertrain flight demonstration (EPFD) project whose goal is to reduce EIS technology barriers and accelerate adoption of hybrid electric propulsion systems that enable a sustainable aviation future.

Ms. Bezos-O'Connor, is an AIAA Associate Fellow and earned a B.S. in Aeronautical Engineering from Rensselaer Polytechnic Institute and a M.E. in Engineering Management from Old Dominion University.

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KEYNOTE SPEAKER

**Sanjeev Naik**

*Director of Energy & Propulsion System  
Research Laboratory  
GM*

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## SPEAKER BIO

“Dr. Sanjeev Naik is Director of Energy & Propulsion System Research at GM. He has held multiple management and technical leadership positions in vehicle electrification, propulsion systems, controls, and active safety. Dr. Naik is a recipient of GM's Boss Kettering Award, the Charles McCuen R&D Award, and the Chairman's Honors Award. His technical interests are in developing innovative electric mobility solutions.

He is an IEEE Senior Member, an SAE Member, and has several publications and over fifty patents.

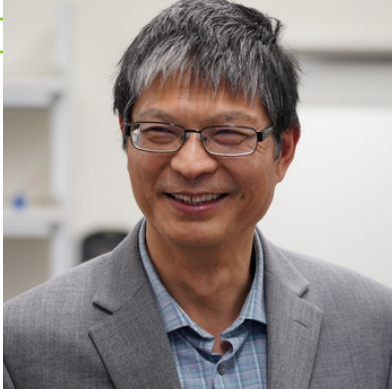
Sanjeev received his Bachelor's degree from IIT Bombay, India, M.S.E.E. from the University of Michigan, Ann Arbor, and Ph.D. from the University of Illinois, Urbana-Champaign, all in electrical engineering, and M.B.A. in corporate strategy from the University of Michigan, Ann Arbor.

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KEYNOTE SPEAKER

**Chris Mi**

Fellow IEEE & SAE  
Distinguished Professor  
Electrical and Computer Engineering  
San Diego State University

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## SPEAKER BIO

Dr. Mi is the Distinguished Professor of Electrical and Computer Engineering at San Diego State University. He is a Fellow of IEEE (Institute of Electrical and Electronics Engineers) and SAE (Society of Automotive Engineers). He is also the Director of the US Department of Energy-funded Graduate Automotive Technology Education (GATE) Center for Electric Drive Transportation at SDSU. He was previously a faculty member at the University of Michigan-Dearborn from 2001 to 2015, and an Electrical Engineer with General Electric from 2000 to 2001. He also served as the CTO of 1Power Solutions from 2008 to 2011, and CTO of EV Safe Charger, Inc. from 2021. Dr. Mi received his Ph.D from the University of Toronto, Canada, in 2001.

Dr. Mi has published five books, 200+ journal papers, 130 conference papers, and 20+ issued and pending patents. He served as Editor-in-Chief, Area Editor, Guest Editor, and Associate Editor of multiple IEEE Transactions and international journals, as well as the General Chair of over ten IEEE international conferences. Dr. Mi has won numerous awards, including the "Distinguished Teaching Award" and "Distinguished Research Award" from the University of Michigan-Dearborn, IEEE Region 4 "Outstanding Engineer Award," IEEE Southeastern Michigan Section "Outstanding Professional Award," and SAE "Environmental Excellence in Transportation (E2T) Award." He is the recipient of three Best Paper Awards from IEEE Transactions on Power Electronics and the 2017 ECCE Student Demonstration Award. In 2019, he received the Inaugural IEEE Power Electronics Emerging Technology Award. In 2022, he received the Albert W. Johnson Research Lectureship and was named the Distinguished Professor, the highest honor given to an SDSU faculty member, and only one award is given each year. He received the 2023 IEEE PELS Vehicle and Transportation Systems Achievement Award, the IEEE Transactions on Industry Applications Best Paper Award, and the SDSU Innovator of the Year Award. In 2024, he received the prestigious Alumni Distinguished Faculty Award from SDSU.

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KEYNOTE SPEAKER

**Charlie Roberts**

*Executive Director  
Southwest Research Institute*

## SPEAKER BIO

Dr. Charles E. Roberts, Jr., holds the position of Executive Director, Commercial Vehicle Systems, at Southwest Research Institute (SwRI) and is a Fellow of SAE. Dr. Roberts has over 35 technical publications and holds 35 U.S. and International patents. Dr. Roberts' formal training is in the general area of Mechanical Engineering, with specialization in Engine Research, Combustion Systems and Combustion Chemistry.

Dr. Roberts manages the SwRI Commercial Vehicle emissions laboratories, which provide engine and emissions development and certification activities to heavy-duty and non-road vehicle companies worldwide. Dr. Roberts also oversees all heavy-duty and non-road powertrain systems advanced R&D activities, including internal research programs and advanced R&D for external clients.

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KEYNOTE SPEAKER

**Venkat Vishwanathan**

*Associate Professor, Co-Founder  
University of Michigan, Battery Aero*

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## SPEAKER BIO

Venkat Viswanathan is an Associate Professor in the Aerospace Department at the University of Michigan and co-founder of And Battery Aero and Aionics. He is a prominent researcher in electric aviation, renowned for defining the unique battery performance metrics essential for electrifying flight. His work determined a performance needs chart for eVTOLs, widely known as the "AND chart," which highlights the dual challenges of achieving both high specific power and specific energy and has attracted significant attention from the media and industry. He is the recipient of numerous prestigious awards including MIT Technology Review Innovators Under 35 and Alfred P. Sloan Fellowship.





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KEYNOTE SPEAKER

## Scott Hotz

Founder & CEO  
Simplify Tech LLC

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## SPEAKER BIO

Scott Hotz is a systems-level multidisciplinary engineering expert, entrepreneur and leader delivering energy optimization, efficiency improvements and emissions reductions. Mr. Hotz founded Simplify Tech LLC in Ann Arbor, Michigan to provide world-class multidisciplinary engineering services in support of research and development programs, and most importantly to commercialize technologies that change the world. Prior to forming Simplify Tech, Mr. Hotz spent 25 years at Southwest Research Institute where he was Director of the Control Systems Department supporting five (5) of SwRI's 11 technical divisions. He founded SwRI's Ann Arbor Technical Center in 2002, to support work at the EPA's National Vehicle & Fuel Emissions Laboratory, US Army GVSC and SwRI's many commercial clients in the Michigan region. From 2016 to 2025 Mr. Hotz served as Principal Investigator for a \$9MM ARPA-E (DOE) research grant. The NEXT-Generation Energy Technologies for Connected and Automated On-Road Vehicles "NEXTCAR" program leveraged connected-vehicle enabled "preview" of the route ahead to operate vehicles more efficiently, saving over 30% energy with no changes to the vehicle powertrain. Mr. Hotz earned his B.S. Electrical Engineering from the University of Toledo in 1999 and his MBA from the University of Michigan's Ross School of Business in 2012. Mr. Hotz is a Professional Engineer in the State of Michigan.

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KEYNOTE SPEAKER

## Erika Holtz

Engineering & Quality Manager  
Harbour Air Group

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## SPEAKER BIO

Erika has been involved in aviation all her life, particularly in the Part 23 aircraft aftermarket repairs and modifications sector, as well as developing aviation quality management systems. Achieving her delegation status in 2010 as a Structural Delegate under the Design Approval Representative Program with Transport Canada, Erika became one of only ten structural DARs in the Pacific Region and started her own engineering company.

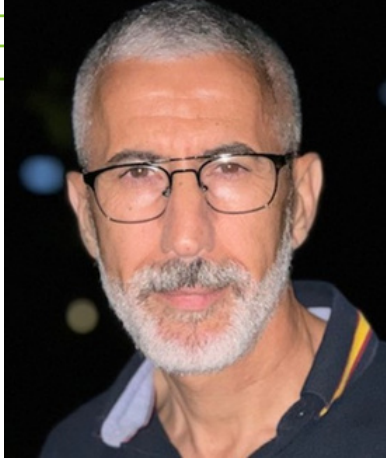
Erika has over 25 years of experience with modifications to general aircraft and 20 years spent managing quality systems. Currently, Erika is the Project Manager and Lead Engineer for the Harbour Air electrification of the DHC-2 Beaver project, and was chosen in 2023 as one of 8 "Women of Inspire" by Elevate Aviation. Last year Erika was added to the National Research Council of Canada Advisory Board for their Aero Research group, as well as named the Vice-Chair of the Initiative for Sustainable Aviation Technology™ (INSAT) Board of Directors. INSAT is a joint industry-government initiative to support the growth of one of Canada's most innovative and export-driven sectors - Aerospace.

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KEYNOTE SPEAKER

## Momo Kechmir

Vice President  
Electronics & Systems Engineering

## SPEAKER BIO

Momo Kechmir has over two decades of extensive experience in the field of power electronics. Initially, he specialized in developing innovative switch-mode power technology during the early 1990s before pioneering advancements in wireless power technology. His current expertise encompasses the integration of battery energy storage systems combined with advanced power electronics, delivering state-of-the-art DC fast charging (DCFC) solutions.

His solutions effectively mitigate peak demand charges and grid upgrade costs, simultaneously providing valuable grid services such as demand response and power factor correction, ultimately enhancing grid resilience.

Additionally, Momo actively contributes to the development and deployment of AI/ML algorithms aimed at optimizing energy management and significantly improving system efficiency and reliability

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