

DEPARTMENT OF MECHANICAL & AEROSPACE ENGINEERING

WILLIAM MAXWELL REED SEMINAR SERIES

“The Power of ?”

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Abstract:

Technology disruptions all start from the same point of singularity: a question.

The aerospace industry has undergone major technology disruptions from the earliest days of the Whittle engine to the advanced turbofan architectures powering passenger and freight transportation across the globe today. Revolutions in gas turbine technology have been driven by a need for better fuel efficiency, greater durability, and humanity’s desire to travel at faster and faster speeds. All such revolutions have started from probing questions that ask, “How could we?” or “Why can’t we?” – the pioneers who are courageous enough to ask these questions are now recognized as the forefathers of modern gas turbine engines.

The presentation will posit three questions, probing deeper into what could possibly be next for augmented (afterburning) engines, what the future of gas turbine inspection may entail, and how GE Aerospace is bridging between subsonic, supersonic, and hypersonic propulsion systems. Through the use of these illustrative examples, the power of ? will be highlighted.

Accordingly, plenty of time for questions will be afforded at the conclusion of the seminar.

Speaker Bio:



Dr. Eric J. Ruggiero received his Ph.D. from Virginia Tech in Mechanical Engineering in 2005 from the Center for Intelligent Material Systems and Structures as a National Science Foundation graduate research fellow. Upon graduation, Dr. Ruggiero started his industrial research career at GE Research in Niskayuna, New York. From 2011 through 2014, he served as Lab Manager for the Turbine Heat Transfer Technologies Laboratory, where he led global research teams on the innovation, design, test, and validation of advanced cooling schemes for gas turbines. In total at GE Research, he led over \$25MM in R&D efforts in the field of gas turbines. In 2014, Dr. Ruggiero joined GE Aerospace in Cincinnati, OH where he had responsibility for the hot gas path thermal design for GE’s commercial aviation fleet. Since 2017, Dr. Ruggiero has led advanced exhaust system aero and thermal design teams within GE Edison Works, held customer-facing roles to help fund technology maturation efforts for next gen air vehicles, and most recently, was promoted to lead the Advanced Programs engineering team within GE Edison Works. He has published over 30 peer-reviewed manuscripts, issued over 40 patents, and has received numerous awards from AIAA and ASME. Most recently, Dr. Ruggiero was honored with the 2023 AIAA Mary W. Jackson Diversity & Inclusion Award. He is an Associate Fellow of the AIAA and a Lifetime Fellow of the ASME. You can connect with him on LinkedIn @EricRuggieroGE.

Date: Friday, March 31, 2023
Place: Whitehall Classroom Building 110

Time: 3:00 PM EST
Contact: Dr. Jesse Hoagg

Attendance open to all interested persons