

SPRING 2026

MSE 690 SEMINAR SERIES

MONDAY, MARCH 9TH | 3:30 REFRESHMENTS | 3:45PM SEMINAR

ARMS 1010

Research in Materials for Extreme Environments at the Air Force Research Laboratory

Abstract:

Next-generation aerospace systems demand materials capable of withstanding extreme thermal, mechanical, and chemical loads that exceed the limits of traditional engineering materials. This seminar will highlight ongoing research at the Air Force Research Laboratory (AFRL) focused on leap-ahead material solutions for these extreme environments. We will first discuss advancements in the additive manufacturing of ultra-high temperature ceramics (UHTCs), focusing on novel processing strategies to create complex, near-net-shape architectures for thermal protection. The presentation will then pivot

Biography:

Dr. Lisa Rueschhoff is a Senior Materials Research Engineer at the Air Force Research Laboratory (AFRL) located at Wright-Patterson Air Force Base, Ohio. She has a B.S. and PhD in Materials Engineering from Iowa State and Purdue, respectively. She joined AFRL in 2017 first as a National Research Council Postdoctoral Fellow before converting to a civil servant role in 2018. Her research at AFRL focuses on developing transformative material composition and processing methods for extreme environments. She develops and leads large multi-disciplinary teams in these areas, securing and executing over \$12M as PI and \$29M as co-PI. She has been recognized with numerous awards including the Presidential Early Career Award for Scientists and Engineers (PECASE), the AFRL Early Career Award, and Purdue 38 by 38 Alumni award.



Lisa Rueschhoff

Senior Materials
Research Engineer

Air Force Research
Laboratory



School of Materials Engineering