

# Seminar

## "Using Technomorphism to Understand What Makes Us Human"

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### abstract

Operators working on the Mars rover were asked about their interactions with the distant robot. One engineer described how she used her knowledge of the robot's vision to help move the rover by "cupping her hands around her face like the head of the Rover's mast" (Moroney, 2010, p. 23). Although traditionally researchers have focused on how to make robotics more user-friendly from a human perspective, we may also consider an opposing but related concept, in which the human makes decisions based on how a robot would. In the example above, this type of thinking enabled those working on the Mars rover to use their knowledge of how the robot viewed this strange world to go beyond the limitations of how a human would typically tackle the problem. This concept, termed technomorphism, is the focus of this seminar talk and includes the theoretical underpinnings as well as a scale designed to measure this evolving construct. Dr. Lum will discuss the original scale creation, its adoption, and its subsequent revision, and how it has been used to study aspects of human-technology interaction. Through the study of technomorphism, researchers gain greater insight when examining how technology is influencing our perceptions of what it means to be human. The findings from this work will help fuel researchers in the field to think about the influences of technomorphism and how it can impact various aspects of teamwork; both for human-human and human-non-human teams.

### biosketch

Heather C. Lum is an associate professor at Embry-Riddle Aeronautical University. She earned her Ph.D. in applied experimental and human factors psychology from the University of Central Florida in 2011. Her primary research interests focus on perceptions of technology, specifically the ways in which technology is impacting the way we interact with each other as humans. Other areas of interest include the use of psychophysiological measures such as eye tracking and vocal analyses to better determine and study the critical applied cognitive and experimental topics such as spatial cognition, human-human and human-robot team interactions. She has also turned her attention to the use of games and virtual reality for training and educational purposes. In addition to her research pursuits, Dr. Lum is currently the faculty advisor for the ERAU Prescott chapter of Psi Chi. She also served as the chair for the HFES Cognitive Engineering & Decision-Making Technical Group as well as the chair HFES Education Technical Group from 2019-2021. She was also previously the events chair for HF/E Women's Organization for Mentoring and Networking (HFE WOMAN) as well as Secretary Treasurer for APA Division 21-Applied Experimental and Engineering Psychology.



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