

Meredith Carroll, Ph.D.

Professor | College of Aeronautics at Florida Tech

Melbourne, FL, US

Dr. Carroll's research focuses on decision-making in complex systems, human-machine teaming, performance assessment and adaptive training.

About

Dr. Meredith Carroll is a professor of aviation human factors and director of the Advancing Technology-interaction and Learning in Aviation Systems (ATLAS) Lab at Florida Tech's College of Aeronautics. She has nearly 20 years of experience studying human/team performance and training in complex systems. Her research focuses on decision-making in complex systems, cognition and learning, human-machine teaming, performance assessment and adaptive training. She has been funded by the Federal Aviation Administration, the Air Force Research Laboratory, the Air Force Office of Scientific Research (AFOSR), the Office of Naval Research (ONR) and the Army Research Laboratory to study different facets of these areas. Dr. Carroll also worked at the Kennedy Space Center conducting user-centered design of International Space Station payloads, processing facilities and ground support equipment. She teaches a range of human factors courses aimed at giving students practical, hands-on experience in applying theories of cognition and learning to optimize performance in a range of situations from aviation to defense. Some of Dr. Carroll's projects include research currently funded by AFOSR to study trust in heterogeneous, multi-level human-agent teams, including interventions to ensure proper calibration of human trust in agents/autonomous systems and strategies to repair trust after a trust violation. She is also currently funded by ONR to examine instructional strategies to engage and educate under represented minorities (women and minorities) in the field of cybersecurity, including development of a pilot training program for local high schools. Dr. Carroll is also conducting research in the field of Urban/Advanced Air Mobility (U/AAM), examining human factors considerations for pilot operations of emerging vehicle and operational concepts. She was also recently funded by the FAA to study pilot decision making on the flight deck, including how to effectively integrate information from multiple sources and support pilots in making effective decisions when faced with information with varying levels of integrity, reliability and security.

Areas of Expertise

Training Fidelity Analysis, Adaptive Training, Individual Differences, Urban Air Mobility (UAM), Cybersecurity, Learner Engagement, Decision Making, Stress and Resilience, Human Machine Teaming, Unmanned Aircraft Systems (UAS), Cognitive and Affective State, Behavioral and Physiological Assessment, Return on Training Investment

Affiliations

Florida Tech Research Council : Chair, Florida Tech Women's Council : Professional Development Subcommittee Co-Chair, Florida Tech University Teaching Track Promotion Board : Member, College of Aeronautics Graduate Program Committee : Member, College of Aeronautics Doctoral Comprehensive Examination Committee : Member, College of Aeronautics Undergraduate Curriculum Committee : Member, Florida Tech Drone Club : Advisor, Florida Tech Catholic Campus Ministry : Board Member

Event Appearances

Training Approaches to Promote Resilient Performance in Pilots
Global ATS-V

Education

University of Central Florida
Ph.D. Applied Experimental/Human Factors Psychology

Florida Institute of Technology
M.S. Aviation Science

University of Virginia
B.S. Aerospace Engineering

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