INSTRUCTIONAL AND BIG DATA APPROACHES ENABLING PERSONALIZED LEARNING IN MILITARY MEDICINE

PROJECT DESCRIPTION: This effort focuses on methods to integrate assessments leveraging dynamical systems theory into USAF training contexts. The maturation of objective, unobtrusive measures of team coordination skill for deliberate practice and feedback is critical for accelerating team skill acquisition in training and operations. Increasing demands on instructors’ schedule and time make it impossible for them to observe all teams during all training. This effort focuses on the maturation of instructor-focused tools that enable dynamical systems theory and related team-level analyses and tools to supplement assessment and support for human and human-machine teams. Efforts will focus on the validation of individual and team level coordination, performance and process measures in USAF training. This opportunity will include literature reviews, data collection and data analysis efforts aimed at quantifying the acquisition of skilled team performance.

ACADEMIC LEVEL: PhD

DISCIPLINE NEEDED:
- Mathematics
- Human Factors Psychology
- Experimental Psychology

RESEARCH LOCATION: Wright-Patterson AFB Dayton, OH

RESEARCH ADVISER: Jennifer Winner, MS, MBA
Applied Psychology; Master of Business Administration, Arizona State Uni; Wright State Uni, 2008; 2017

Ms. Winner is a Research Psychologist at the Air Force Research Laboratory under the 711th Human Performance Wing’s Airman Systems Directorate, in the Warfighter Interactions and Readiness Division. Ms. Winner supports the Division's Personalized Learning and Readiness Sciences research. Her current focus is on the assessment of realism, training fidelity, and team dynamics in the context of medical and simulation-based training. The research also investigates instructional approaches to maximize training effectiveness for the Military Health System. Current measurement interests include the calibration between confidence and performance, and challenges associated with connecting near-term training outcomes with patient outcomes. Previously, Ms. Winner had spearheaded and led the growth of a multidisciplinary team to infuse school districts within the State of Ohio with science, technology, engineering, and mathematics (STEM) curriculum and modeling and simulation technology. Ms. Winner received an M.S. in Applied Psychology from Arizona State University and an M.B.A. from Wright State University. Photo courtesy the U.S. Air Force Research Laboratory.