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# FAA Center of Excellence for Technical Training and Human Performance

## Technical Panel A – Improving the Mission Readiness of Employees and the Safety of the NAS

*Moderator: Jeff Tyrcha*

## Panel – Executive Committee Participants

- Walt Cochran, Leidos
- Dr. Scott Tarry, University of Nebraska - Omaha
- Captain Scott Shankland, American Airlines

## Panel – Research Project Participants

- **Applied Game Theory (AR Training Tools):**

- This research project focuses on applying game theory and gamification in augmented reality so that ATC learners can enhance uptake and retention.
  - *Dr. James Taylor, University of Nebraska - Omaha*
  - *Dr. Jibo He, Wichita State University*

- **Enhanced AT-CPC Training:**

- This research project focuses on reviewing and developing recurrent and skill enhancement training to Certified Professional Controllers through a variety of methods.
  - *Paul Drechsel, University of North Dakota*
  - *Terra Jorgenson, University of North Dakota*
  - *Marty Lauth, Embry-Riddle Aeronautical University*

## Panel – Research Project Participants, Cont.

- **Characterization and Application of ATCS Visual Search Patterns and Control Strategies:**
  - This research project aims to characterize and classify the visual scanning patterns and control strategies of expert air traffic control specialists (ATCS) in order to support the efficient and effective training of air traffic control candidates.
    - *Dr. Ziho Kang, University of Oklahoma*
- **Training of Pilots and ATCS in Weather-Related Decision Making:**
  - This research is designed to advance weather-simulation capabilities and behavioral-modeling techniques to improve weather-related flight skills among pilots and controllers.
    - *Dr. Chen Ling, University of Akron*
    - *Dr. Michael Wiggins, Embry-Riddle Aeronautical University*

## Panel – Research Project Participants, Cont.

- **Feasibility Study of Flight Inspection Aided by UAS-Based Sensing and Calibration:**
  - This research is designed to develop and apply a novel approach to improve the existing solutions for signal strength (SS) measurement during flight inspection and calibration of the navigational aid signals from VHF to L bands.
    - *Dr. John Dyer, University of Oklahoma*

# Improving the Mission Readiness of Employees and the Safety of the NAS

## - Safety #1 Priority

- Enhanced Situational Awareness
- Decision Making

## - Future State of the NAS

- Data Centric Environment
- Enhanced Route Efficiency
- Advanced Automation Tools
- New Entrants
  - UAS Integration
  - Commercial Space
- Predictive Failure System Support

### Key Questions

- What gaps exist?
- What is the FAA unprepared for in addressing training management, training delivery, training technology, human factors and/or safety issues?
- What solutions have been identified to drive critical change in the research area?