

Tuesday March 12th

8:15am Welcome and Introductions – Cassie Mullenger

Keynote by Dr. Shender (USN) – Guidelines for Developing Human Injury Mitigation Technologies: Innovation, Integration, Transition

9:00am **Body Modeling Session:**

1. Augmented Reality Capability for Injury Prevention based on Predicted Internal Anatomy – Robert Armiger (Johns Hopkins Applied Physics Laboratory)
2. Parametric Human Body Models for Dynamic Assessment – Matt Reed (University of Michigan Transportation Research Institute)
3. Comparison of body segment masses in male and female postmortem human specimens – Dr. Rebecca Fellin (US Army, DEVCOM)
4. Segmentation Analysis of CT Scans Used to Find Mass Properties of the Human Head with Respect to the OC Joint – Josiah Zurick (Cedarville University)
5. Occipital Condyle Centroid as Reference for Mass Properties Calculations for Biodynamics Simulations – Thaddeus Krueger (Cedarville University)

11:00am **Ejection and Cockpit Session:**

1. Facilitating a Safe Environment for the Aircrew Population: Protecting against Known Injury Patterns and Mechanisms – Dr. Jackie Paver (Center for Injury Research)
2. Ergonomics meets biomechanics – An integrated solution for human-centric cockpit design – Andre Lueke (Humanetics)
3. Seated Center of Gravity Estimation for a Legacy Pilot Size Database by Applying Linear Regression to the Results of a Principal Component Analysis – Dr. Jeff Hudson (USAF Airmen Accommodation Lab)

12:15pm **Offsite Lunch**

1:30pm **Manikins and PPE Session:**

1. Assessment of the Currently Available Female ATDs for Use in Dynamic Testing for the Military Crashworthiness: Anthropometry and Body Mass Distribution – Danielle Rhodes (USAARL)
2. Physical v. Virtual Testing to Evaluate Anthropometry, Seats and Catapult Thrust, Helmets, HMDs or NVGs, and Restraint Systems, etc. – Dr. Jackie Paver (Center for Injury Research)
3. Population Accommodation for NASA Spacesuit and Hardware – Han Kim (NASA)

3:00pm **Personal Protective Equipment Session:**

1. A Process to Develop Product Specific Anthropometry: A Case Study of Respirator Specific Face Anthropometry Development and Testing – Linsey Griffin (University of Minnesota)
2. A New Method for Optimizing Protective Glove Fit – Linsey Griffin (University of Minnesota)
3. A Methodological Framework for the Evaluation of Form, Fit, and Function of Body Armor Systems – Todd Garlie (US Army DEVCOM)
4. Anthropometry and Equitable Personal Protective Equipment Design – Patrick Dempsey (NIOSH)

4:30pm **Cocktail and Social Hour Mixer**

Wednesday March 13th

- 8:00am** **Keynote by Chief Chris Dawson – Women’s Initiative Team (WIT)**
- 8:30am** **Panel Presentation from Innovision LLC:**
1. Integrated Digital Engineering Environment for PPE Development
 2. LLM-Based Deep Knowledge Center for Injury Biomechanics
 3. Neck Injury Model Development and Validation
 4. Pilot Digital Twin
- 10:30am** **Female Fitment and Women’s Initiatives Session:**
1. Jet Flow: Menstrual Product Design Considerations for Female Tactical Aviators (Kaila Vento, NAMRU-D)
 2. Female Uniform Sizing and Evaluation Techniques (Tracy Roan, USAF Uniform Office)
 3. Next Level Protection: Inclusive Armor, Rifle Insert System (HighCom Armor)
- 12:30pm** **Offsite Lunch**
- 1:30pm** **Anthropometric Databases Session:**
1. Status of the USN/USMC Aircrew Anthropometric Study, Associated Research Products, and Follow-on Efforts – Lori Basham (USN, NAWCAD)
 2. Development of a 3D Hand Database for an Industrial Manufacturing Workforce – Dr. Linsey Griffin (University of Minnesota)
 3. The Devil is in the Details: Comparing Anthropometric Definitions – Robin Carufel (US Army, DEVCOM)
- 3:00pm** **Military Entrance Requirements Session:**
1. Potential Impact of the New United States Air Force Waist-to-Height Ratio Standard on Body Size and Shape – Brian Corner (USAF Airmen Accommodation Lab)
 2. Bell 505 - Rotary Wing Aircraft Accommodation Envelope Evaluation – Sarah Hollis (USAF Airmen Accommodation Lab)
 3. Career Enlisted Aviator (CEA) HUB for Air Force Recruitment Stations – Frank Maranje (USAF Airmen Accommodation Lab)
- 4:15pm** **Breakout Discussions**
- Breakout Manikin Discussion – led by Nathan Wright (USAF)
 - Breakout MEPS Discussion – led by Cassie Mullenger (USAF Airmen Accommodation Lab)

Thursday March 14th

- 8:00am** **Panel Presentation from AFRL Biodynamics Group (Dr. Le):**
1. Overview of the Advanced Research in Musculoskeletal Modeling for Operational Readiness (ARMMOR) Research Portfolio
 2. Application of Neck Coactivation Index to Assess Complex Movements with Head Supported Mass
 3. Effects of Parachute Jump Profiles on Whole-Body Kinematics During Landing
 4. Exploratory Development of a Four-Stage Cascaded Machine Learning Model for Predicting Neck Force Dynamics
- 10:15am** **Lab Methodology Session:**
1. Anthropometric Measurement Procedures at the Anthropometry and Biomechanics Facility – Garima Gupta (NASA)
 2. Exoskeleton Evaluation Methods – Matt Degnan (USAF Airmen Accommodation Lab)
 3. Core Lab Overview – Evan Pitts (USAF CORE Lab)
- 12:00pm** **Offsite Lunch**
- 1:00pm** **3D Scanning and Ear Anthropometry Session:**
1. MOVE4D moves forward the collection and use of military anthropometric data – Alfredo Ballester (Human Solutions, Humanetics)
 2. Assessing Comfort & Effectiveness of Hearing Protection Devices Through an Anthropometric Study of West Point Cadet Ears – Samuel LoDuca (West Point)
 3. PassFit: Design and Validation of a Portable 3D Anthropometry Survey Tool – Daniel Park (University of Michigan Transportation Research Institute)
 4. Integrated Parametric Head Models with Detailed Face, Scalp, and Ear Geometry – Matt Reed (University of Michigan Transportation Research Institute)
- 2:30pm** Event Summary, Closing Remarks – Cassie Mullenger
- 2:45pm** Lab Tours at Airmen Accommodation Lab – Edwards AFB and NASA
Anthro Training Sessions – Airmen Accommodation Lab and Edwards AFB