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**MHSRS**  
**2024**

# Breakout Sessions

Monday, 26 August

# BREAKOUT SESSIONS

Monday, 26 August | 1300 – 1400

## Experimentation – Beyond the Bench

Moderators: Joan Cmarik, Ph.D., COL Denise Milhorn, USA

LOCATION: Coastal A

- 1300 – 1315      **Experimentation Overview** (MHSRS-24-13509)  
Presenter: Eva Rosvold, M.S.
- 1315 – 1330      **Field Experimentation of a Remote Patient Management System (RPMS), a Telemedicine Platform for Monitoring and Control of Patient Care in CASEVAC and Pre-Hospital Environments** (MHSRS-24-12456)  
Presenter: Zachary Buono, MSE
- 1330 – 1345      **Results of BATDOK End-user Surveys Collected During Unit Rotations at NTC** (MHSRS-24-13406)  
Presenter: Laura Scott, Ph.D.
- 1345 – 1400      **Panel Discussion**  
Presenters: CDR Lee Dortzbach, USN, Douglas Jones, Ph.D., COL Laura McGhee, USA, MAJ David Preczewski, USA, Eva Rosvold, M.S.

## Cellular Therapeutics for Treatment of Shock and Trauma

Moderator: Barbara Christy, Ph.D.

LOCATION: Coastal C

- 1300 – 1315      **Development of a Scalable Manufacturing Process for Stem-Derived Red Blood Cells** (MHSRS-24-11490)  
Presenter: Shobhit Saxena, Ph.D.
- 1315 – 1330      **Phenotypic and Molecular Characterization of Cardiomyocytes During Hypoxic Conditioning** (MHSRS-24-11345)  
Presenter: Hensin Tsao, M.D., Ph.D.
- 1330 – 1345      **Commercial Growth Media and Transport Media Effects on Mesenchymal Stromal Cell Storage** (MHSRS-24-12967)  
Presenter: Maryanne Herzig, Ph.D.
- 1345 – 1400      **Overcoming Economic and Logistical Hurdles to Creating Manufactured Red Blood Cells for Defense and Civilian Applications** (MHSRS-24-12103)  
Presenter: Robert Thomas, Ph.D.

## Directed Energy Health Effects Research for the Warfighter

Moderators: Martin LaFrance, OD, Ph.D., CDR Rachel L. Werner, USN

LOCATION: Sun A

- 1300 – 1315      **Suprathreshold RF Injury Effects: Simulating Exposures Beyond the Standard** (MHSRS-24-13230)  
Presenter: Jason Payne, M.S.
- 1315 – 1330      **Damage Assessment and Histological Analysis of Suprathreshold Near-Infrared Laser Exposures to Skin in the Yucatan Mini Pig** (MHSRS-24-11168)  
Presenter: Morgan Schmidt, Ph.D.
- 1330 – 1345      **Hazard Analysis for Dual Band Radar Operations** (MHSRS-24-12025)  
Presenter: LCDR Jason Cole, USN
- 1345 – 1400      **A Digital Ophthalmoscope for the Automatic Detection of Laser Lesions** (MHSRS-24-10834)  
Presenter: Edward Pier, Ph.D.

# BREAKOUT SESSIONS

Monday, 26 August | 1300 – 1400

## Research and Training in Military Medicine in the Age of AI – Strategies and Perspectives from HA, DHA, and USUHS

Moderator: Jesus J. Caban, Ph.D.

LOCATION: Sun B

### Military Medicine in the Age of AI - HA Perspective (MHSRS-24-NAS601)

Presenter: Ms. Seileen Mullen, Principal Deputy Assistant Secretary of Defense for HA

1300 – 1315

### Research and Training in Military Medicine in the Age of AI - HA Perspective (MHSRS-24-NAS602)

Presenter: Terry Rauch, Ph.D.

1315 – 1330

### Research and Training in Military Medicine in the Age of AI - USUHS Perspective (MHSRS-24-NAS603)

Presenter: Eric Elster, M.D.

1330 – 1345

### Research and Training in Military Medicine in the Age of AI - DHA Perspective (MHSRS-24-NAS604)

Presenter: Bob Walker, M.D.

1345 – 1400

### Panel Discussion (MHSRS-24-NAS605)

Presenters: Ms. Seileen Mullen, Terry Rauch, Ph.D., Eric Elster, M.D., Bob Walker, M.D.

## Scientific Abstracts of Distinction

### Plenary

Moderator: Farrukh Rizvi, Ph.D.

LOCATION: Sun C

1300 – 1315

### Prehospital Intranasal Ketamine as an Adjunct to Fentanyl for the Treatment of Acute Traumatic Pain: A Randomized Clinical Trial (MHSRS-24-11178)

Presenter: Jason McMullan, M.D., University of Cincinnati, Cincinnati, OH

1315 – 1330

### Gun Carrying Among Youth with a Parent in the U.S. Military: Results of a National Survey (MHSRS-24-11832)

Presenter: Ian H. Stanley, Ph.D., University of Colorado School of Medicine, Aurora, CO

1330 – 1345

### Clinical Trial: Evaluating the Safety and Efficacy of Acellular Tissue Engineered Vessels to Repair Arterial Traumatic Injuries in a Military Setting (MHSRS-24-11905)

Presenter: Shamik Parikh, M.D., Humacyte Global Inc., Durham, NC

1345 – 1400

### Leveraging Big Data to Identify and Understand the Mechanisms Underlying Unplanned Loss Among Enlisted Submariners (MHSRS-24-12619)

Presenter: LCDR Neal D. McNeal, USN, Naval Submarine Medical Research Laboratory, Naval Submarine Base, New London, CT

# BREAKOUT SESSIONS

## Monday, 26 August | 1430 – 1630

### Young Investigator Competition

#### Plenary

**Moderators:** Michael J. Morris, M.D., Lt Col Adam M. Willis, USAF

**LOCATION:** Coastal 4

- 1430 – 1445**      **Saving Limbs and Lives: A Novel Percutaneous Vessel Occlusion Device to Combat Junctional Hemorrhage in Trauma** (MHSRS-24-11202)  
Presenter: MAJ Bobby Zhang, USA, Madigan Army Medical Center, Tacoma, WA
- 1445 – 1500**      **Gene Expression Signature of Leukocytes in a Combination Injury from Ionizing Radiation and Trauma** (MHSRS-24-11230)  
Presenter: Olivia Tran, Ph.D., U.S. Army Institute of Surgical Research, San Antonio, TX
- 1500 – 1515**      **Neural Network Correlates of Apathy, Executive Dysfunction, and Disinhibition in Active-Duty United States Special Operations Forces** (MHSRS-24-11377)  
Presenter: Isabella McKinney, B.S., Massachusetts General Hospital, Boston, MA
- 1515 – 1530**      **Mental Health Disparities in Military Affiliated vs. Civilian Adolescents: Analysis of 2015-2019 National Survey of Drug Use and Health (NSDUH) Data** (MHSRS-24-11517)  
Presenter: LCDR Kezia Edmonson, USN, Duty Under Instruction - Naval Medical Leader & Professional Development Command, Bethesda, MD
- 1530 – 1545**      **Ketamine Sedation Decreases Survival After Extremity Trauma and Hemorrhage in Rats** (MHSRS-24-11519)  
Presenter: Miryam Pando, Ph.D., U.S. Army Institute of Surgical Research, San Antonio, TX
- 1545 – 1600**      **Pharmacogenetics in the MHS: Comparing PGx Genotyping and Next Generation Sequencing** (MHSRS-24-11658)  
Presenter: Lydia Hellwig, Ph.D., Uniformed Services University of the Health Sciences; The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc., Bethesda, MD
- 1600 – 1615**      **Acute Neurological Effects of Repeat Low-Level Blast Exposure** (MHSRS-24-11764)  
Presenter: Amy Stahl, Au.D., Vanderbilt University, Nashville, TN
- 1615 – 1630**      **Integrating Point of Care Ultrasound (POCUS) for Peripheral Intravenous Catheter Placement within a Military Pediatric Residency Program** (MHSRS-24-12628)  
Presenter: CPT Joseph Marotto, USA, Madigan Army Medical Center, Joint Base Lewis McChord, WA

# BREAKOUT SESSIONS

Monday, 26 August | 1430 – 1730

## Lessons Learned from Current Conflicts in Ukraine and Israel to Improve Combat Casualty Care Strategies

Moderators: Kimberly B. Pope, Ph.D., CAPT Travis M. Polk, USN, Brig. Gen. Elon Glassberg, IDF

LOCATION: Coastal C

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|-------------|--|
| 1430 – 1445 | <b>If You Want Peace Prepare for War: Pragmatic Assessment of War-Related Data Collection Challenges in Ukraine</b><br>(MHSRS-24-13243)<br>Presenter: Andriy Batchinsky, M.D.  |
| 1445 – 1500 | <b>Assessment of Ukrainian Trauma and Combat Casualty Care: Medical Capabilities in an Active Combat Zone</b><br>(MHSRS-24-12343)<br>Presenter: Tiffany Hamm, Ph.D.  |
| 1500 – 1515 | <b>Immediate Impact on Ukrainian Trauma System and United States Combat Casualty Care Through a Series of Targeted Symposia</b> (MHSRS-24-11998)<br>Presenter: John Holcomb, M.D.  |
| 1515 – 1530 | <b>Frontline Casualty Care in Ukraine: Blood Products, Training and Use of Non-Medical Personnel</b> (MHSRS-24-11897)<br>Presenter: Tracey Parnell, M.D.   |
| 1530 – 1545 | <b>Use of Partial Resuscitative Endovascular Balloon Occlusion of the Aorta by Ukrainian Medical Personnel to Sustain and Evacuate Warfighters Beyond 30 Minutes</b> (MHSRS-24-13274)<br>Presenter: Jonathan Morrison, Ph.D. |
| 1545 – 1600 | <b>Characteristics of Israel Defense Forces' Injuries during the 2023-2024 Israel-Hamas War</b> (MHSRS-24-13198)<br>Presenter: LTC Ofer Almog, IDF   |
| 1600 – 1615 | <b>The Management of Ongoing Multiple Mass Casualty Events Under Threat – Lessons Learned from the October 7th Terror Attack on Israel</b> (MHSRS-24-13140)<br>Presenter: Ortal Tamam, M.D., MSc                             |
| 1615 – 1630 | <b>Assessing the Efficacy of Personal Protective Gear Against Penetrating Torso Injuries in IDF Soldiers During the 2023-2024 Israel-Hamas War</b> (MHSRS-24-12903)<br>Presenter: CPT Inbal Gozani, IDF                      |
| 1630 – 1645 | <b>Harnessing Business Intelligence Capabilities to Facilitate Ongoing Data-Driven Learning During War</b><br>(MHSRS-24-13270)<br>Presenter: MAJ Cole Bendor, IDF  |
| 1645 – 1700 | <b>The Introduction and Impact of a Digital Documentation and Casualty Management System in the IDF</b><br>(MHSRS-24-13122)<br>Presenter: CPT Danielle Akler, IDF  |
| 1700 – 1715 | <b>Introducing Low Titer Group O Whole Blood to the Battlefield: Blood Product Administration in Operation Protective Edge and The 2023-2024 Israel-Hamas War</b> (MHSRS-24-12776)<br>Presenter: LTC Ofer Almog, IDF         |
| 1715 – 1730 | <b>Discussion with Presenters and Guest Moderators</b>   |



# BREAKOUT SESSIONS

## Monday, 26 August | 1430 – 1730

### Women's Health and Readiness: Health Focused Updates

Moderators: Maj Angela Phillips, USAF, Lynette Hamlin Ph.D., RN

LOCATION: Sun A

- 1430 – 1445**      **Association Between Body Composition Standards and Disordered Eating Among Active-duty Service Women, FY 2018-2019** (MHSRS-24-12584)  
Presenter: Tracey Koehlmoos, Ph.D., MHA
- 1445 – 1500**      **Does SARS-CoV-2 Infection or Vaccination Impact Menstrual Health? Results from a Longitudinal Cohort Study Among Military Health System Beneficiaries** (MHSRS-24-10823)  
Presenter: Stephanie Richard, Ph.D., MHS
- 1500 – 1515**      **Psychological Risk and Resiliency in Female Military Medical Personnel Across the Deployment Cycle** (MHSRS-24-11294)  
Presenter: Chelsea J. Sterne, Ph.D.
- 1515 – 1530**      **The Effect of Alpha-Linolenic Acid on Post-Traumatic Stress Disorder-like Symptoms in Female Mice Following mild Traumatic Brain Injury** (MHSRS-24-12774)  
Presenter: Maj Kathryn Capple, USAF
- 1530 – 1545**      **A Focus on Fertility Preservation and Family Planning in Military Healthcare: Examining Knowledge, Perceptions, and Expectations about Oocyte Cryopreservation Among Military Healthcare Students** (MHSRS-24-11361)  
Presenter: ENS Claire Sturek, USN
- 1545 – 1600**      **Break**
- 1600 – 1615**      **Pregnancy Delivery Methods and Postpartum Health Care Use of Active Duty Servicewomen Delivering in Military Treatment Facilities** (MHSRS-24-11739)  
Presenter: CDR Ryan Smith, USN
- 1615 – 1630**      **Female Endocrinology in Arduous Training (FEAT) Study: Sex Differences in Dynamic Stress and Reproductive Function During Basic Military Training** (MHSRS-24-11995)  
Presenter: Wg Cdr Robert M. Gifford, RAF
- 1630 – 1645**      **Rates of Testing and Treatment Follow-up for Chlamydia trachomatis Among Active-Duty Service Women in the San Antonio Market of the Military Health System** (MHSRS-24-12087)  
Presenter: CPT James Marsh, USA
- 1645 – 1700**      **Multi-omic Analysis of Uterine Leiomyomas in Black and White Women: Insights into Health Disparity** (MHSRS-24-12117)  
Presenter: G. Larry Maxwell, M.D.
- 1700 – 1715**      **Perceptions and Engagement with the Military Health System: Exploring Gender Dynamics and the Reproductive Health Burden on Women** (MHSRS-24-12145)  
Presenter: Sara Vargas, Ph.D.
- 1715 – 1730**      **Gender and Unit Cohesion Impact Neurobehavioral Health in Veterans with Military Environmental Exposure Concerns** (MHSRS-24-13166)  
Presenter: Abou Ibrahim-Biangoro, Ph.D.(c), MPH

# BREAKOUT SESSIONS

Monday, 26 August | 1430 – 1730

## Advances in Diagnosis of TBI: Biomarkers and Beyond

Moderators: Stacey Harcum, MPH, M.S., Stephanie S. Sloley, Ph.D., Manish Bhomia, Ph.D.

LOCATION: Coastal 9

- 1430 – 1445**      **Blood Biomarker Differences Between Military versus Civilian and Blast-related versus Blunt Mechanism Traumatic Brain Injury in the Chronic Phase (MHSRS-24-13451)**  
Presenter: Ava M. Puccio, Ph.D.
- 1445 – 1500**      **Plasma Concentrations of Trauma-related and Neurodegenerative Biomarkers Among Service Members and Veterans with Chronic Combat-deployed mild Traumatic Brain Injury (MHSRS-24-12957)**  
Presenter: Jessica M. Gill, RN, Ph.D.
- 1500 – 1515**      **Acute HPA and IL-6 Family Biomarker Level Associations with Global Outcome After Moderate-severe (ms)TBI: A NEXUS (NeuroImmunoEndocrine Interface: Exploring a Unifying Axis for Studying Precision Care in Psychological Health and TBI) Study (MHSRS-24-13548)**  
Presenter: Amy K. Wagner, M.D.
- 1515 – 1530**      **Serum Biomarkers to Predict Therapeutic Intensity and Loss of Cerebral Autoregulation in Severe TBI (MHSRS-24-11724)**  
Presenter: Janet Ashley, M.D.
- 1530 – 1545**      **Traumatic Brain Injury Biomarkers Glial Fibrillary Acidic Protein and Ubiquitin C-terminal Hydrolase L1 Increase with Glasgow Coma Scale Severity in Hyperacute Period of Trauma Assessment (MHSRS-24-11841)**  
Presenter: Saul A. Datwyler, Ph.D.
- 1545 – 1600**      **Break**
- 1600 – 1615**      **Traditional Clinical Criteria Do Not Accurately Predict Biomarker-Positive Traumatic Brain Injury: Results From a Large-Scale Prospective Cohort Study (MHSRS-24-11837)**  
Presenter: Samuel A. McLean, M.D., MPH
- 1615 – 1630**      **Quantitative Pupillometry Predicts Return to Play and Tracks Clinical Evolution of mild Traumatic Brain Injury: An MTBI2 Study (MHSRS-24-10824)**  
Presenter: LTC Bradley Dengler, USA
- 1630 – 1645**      **The Relationship Between Headaches, Dizziness, and Sensory Phenotype After Traumatic Brain Injury in Veterans and First Responders (MHSRS-24-11886)**  
Presenters: Wesley Cole, Ph.D., Heidi Greata, DPT
- 1645 – 1700**      **Saccadic Markers of White Matter Integrity After mild and Moderate-to-Severe TBI in Active Duty Military Personnel (MHSRS-24-10853)**  
Presenter: Mark L. Ettenhofer, Ph.D.
- 1700 – 1715**      **Perivascular Space Burden and Cerebrospinal Fluid Biomarkers in U.S. Veterans with Blast-related mild Traumatic Brain Injury (MHSRS-24-12615)**  
Presenter: Juan Piantino, M.D.
- 1715 – 1730**      **Culture Shift Within the Department of Defense Regarding Brain Injury Detection and Treatment (MHSRS-24-11501)**  
Presenter: Deveney Ching, Ph.D.

# BREAKOUT SESSIONS

## Monday, 26 August | 1430 – 1730

### **Military Exposures and Subsequent Long-term Outcomes**

Moderator: Col Ian J. Stewart, USAF

LOCATION: Sun C

- 1430 – 1445**      **Impact of Burn Pit Exposure on the Severity of Obstructive Sleep Apnea in U.S. Veterans: A Retrospective Analysis** (MHSRS-24-12525)  
Presenter: Javad Razjouyan, Ph.D.
- 1445 – 1500**      **Association of Neurocognition and Obstructive Sleep Apnea in Participants with Chronic Blast-Related Traumatic Brain Injury** (MHSRS-24-13097)  
Presenter: Shawn Eagle, Ph.D.
- 1500 – 1515**      **Subjective Cognitive Decline and Correlated Biomarkers in Gulf War Veterans** (MHSRS-24-13502)  
Presenter: Rosemary Toomey, Ph.D.
- 1515 – 1530**      **Break**
- 1530 – 1545**      **Exposure Assessment of Iraq and Afghanistan Deployers Using a Job Exposure Matrix** (MHSRS-24-12989)  
Presenter: Andrew Dey, MPH
- 1545 – 1600**      **The Impact of Military Deployment on the Development of Lymphoma** (MHSRS-24-13399)  
Presenter: Maj Matthew Rendo, USAF
- 1600 – 1615**      **The Relationship of Deployment Exposures to Bronchiectasis in a Military Population** (MHSRS-24-12223)  
Presenter: Maj Lorena North, USAF
- 1615 – 1630**      **Traumatic Brain Injury Increases the Risk of Subsequent Atrial Fibrillation and Atrial Flutter** (MHSRS-24-11444)  
Presenter: Mark Haigney, M.D.
- 1630 – 1645**      **Brain Cancer Mortality (1979 -2019) in the Vietnam Era Veteran Cohort** (MHSRS-24-13077)  
Presenter: Aaron Schneiderman, Ph.D.
- 1645 – 1700**      **Incidence Rate Trends of Cardiac Outcomes in Active Duty Service Members relative to the COVID-19 Pandemic** (MHSRS-24-12760)  
Presenter: Anthony Marrama, MPH
- 1700 – 1715**      **Selective Motoric Dysfunction in Service Members with Combat-related mild TBI Compared to Non-injured Combat Deployed Controls – A Longitudinal Assessment of Outcome Over the First Decade Post-injury** (MHSRS-24-12485)  
Presenter: Christine Mac Donald, Ph.D.
- 1715 – 1730**      **Blast Exposure and Chronic Medical Conditions Among Veterans: A Millennium Cohort Study Investigation of High- and Low-level Blast** (MHSRS-24-11144)  
Presenter: Sarah Martindale, Ph.D.



# BREAKOUT SESSIONS

Monday, 26 August | 1430 – 1730

## Casualty Care During Multi-Domain Operations, Large Scale Combat Operations, and Prolonged Care

Moderators: Jose Salinas, Ph.D., Nathan Fisher, M.S., Kathy Grochowski, B.A.

LOCATION: Coastal A

- 1430 – 1445      **Randomized Controlled Trial of Telementoring During 14-hour Prolonged Casualty Care Simulation Improves Caregiver Performance and Casualty Survival (MHSRS-24-12026)**  
Presenter: COL Jeremy Pamplin, USA
- 1445 – 1500      **Pilot Comparison of Vital Sign Frequency for Manual versus Automated Data Capture to Enable Machine Learning in En Route Care Environments (MHSRS-24-12204)**  
Presenter: Maj William T. Davis, USAF
- 1500 – 1515      **Advanced Trauma Skills Training for Ukrainian Surgeons – Preliminary Results (MHSRS-24-12662)**  
Presenter: CAPT Travis Polk, USN
- 1515 – 1530      **Adapting Artificial Intelligence for Automated Triage from a UAV (MHSRS-24-13420)**  
Presenter: Kelly Roman, B.S.
- 1530 – 1545      **APRAISE-HRI: An FDA-cleared AI Algorithm for Triage of Hemorrhage in Trauma Casualties (MHSRS-24-12056)**  
Presenter: Jaques Reifman, Ph.D.
- 1545 – 1600      **Advanced Decision Support for Monitoring Casualties with Hemorrhage: Why Is There Continued Reliance on the Use of Standard Vital Signs? (MHSRS-24-12068)**  
Presenter: Victor Convertino, Ph.D.
- 1600 – 1615      **Break**
- 1615 – 1630      **Investigation and Analysis of Available Chatbot Technologies to Integrate in a Multi-Domain Operational (MDO), Delayed/Disconnected, Intermittently Connected, Low-Bandwidth (DIL) Conditions (MHSRS-24-11687)**  
Presenter: Richard Barnhill, B.A.
- 1630 – 1645      **Artificially Intelligent (AI) Perception System for Tactical Combat Casualty Care Scene Interpretation and Automated Documentation on an ATAK Enabled Smartphone (MHSRS-24-11718)**  
Presenter: Rebecca Kwasinski, M.S.
- 1645 – 1700      **Towards a Multi-fidelity Digital Human Model for Use in Simulation Environments for Tactile Human/Robot Interactions (MHSRS-24-11698)**  
Presenter: Rajarshi Roy, Ph.D.
- 1700 – 1715      **In Silico Modeling of the Electromechanical Properties of the Heart in Hemorrhagic Shock (MHSRS-24-12323)**  
Presenter: MAJ John Green, USA
- 1715 – 1730      **Multimodal Monitoring and Artificial Intelligence to Enhance TBI Management in Role 1 of Care (MHSRS-24-13088)**  
Presenter: Ethan J. Moyer, B.S.

# BREAKOUT SESSIONS

Monday, 26 August | 1430 – 1730

## Innovative Tools and Technologies for Predicting and Assessing Musculoskeletal Injuries of the Warfighter

Moderators: Pinata H. Sessoms, Ph.D., CDR Joshua Swift, USN

LOCATION: Sun B

- 1430 – 1445      **A Warfighter Digital Twin Can Identify Personalized Risk Factors of Musculoskeletal Injury** (MHSRS-24-12695)  
Presenter: Nathan Pickle, Ph.D.
- 1445 – 1500      **Personalized Strength Scaling Improves Musculoskeletal Simulation Accuracy** (MHSRS-24-12477)  
Presenter: Anna Corman, M.S.
- 1500 – 1515      **Reactive Viscoelastic Material Model of the Annulus Fibrosus - Applications for Fatigue Modeling** (MHSRS-24-13177)  
Presenter: Lance Frazer, Ph.D.
- 1515 – 1530      **Pilot-specific Neck Morphologies to Determine Muscle Forces and Cervical Column Kinetics for predicting Musculoskeletal Injuries: An Upright Magnetic Resonance Imaging Study** (MHSRS-24-11363)  
Presenter: Narayan Yoganandan, Ph.D.
- 1530 – 1545      **Quantitative Ultrasound for Evaluation of Peripheral Nerve Injury** (MHSRS-24-11824)  
Presenter: Sameer Shah, Ph.D.
- 1545 – 1600      **Non-Invasive Measurement of Muscle Compartment Pressure in Battlefield Conditions Using Artificial Intelligence Powered Ultrasound** (MHSRS-24-13000)  
Presenter: Meir Marmor, M.D.
- 1600 – 1615      **Improved Trunk Extension Strength Assessment with a Portable and Low-cost Dynamometer** (MHSRS-24-13514)  
Presenter: Cole Dempsey, M.S.
- 1615 – 1630      **Break**
- 1630 – 1645      **MSK NEST - A Data Driven Tool for Future Intelligent and Collaborative MSK Surveillance** (MHSRS-24-12706)  
Presenter: Jason Lee, Ph.D.
- 1645 – 1700      **The Synergy of Health Care Encounters and Operational Data in the Extraction of Exposome Signatures Associated with Lower Back Pain in Military Helicopter Pilots** (MHSRS-24-11661)  
Presenter: Carlos Maldonado, Ph.D.
- 1700 – 1715      **Enabling Big Data Insights from a Musculoskeletal Injury Domain-Specific Database** (MHSRS-24-12172)  
Presenter: Mehrdad Rafiei, Ph.D.
- 1715 – 1730      **International Consensus for Minimum Common Data Elements for Tracking and Reporting Musculoskeletal Injuries in Military Settings: A Delphi Consensus Study** (MHSRS-24-10905)  
Presenter: Daniel I. Rhon, PT, DSc, Ph.D.

# BREAKOUT SESSIONS

Monday, 26 August | 1430 – 1730

## Big Data and Machine Learning for Full Spectrum Military Health Readiness, Performance and Care

Moderators: Dominic E. Nathan, Ph.D., Tracey K. Koehlmoos, Ph.D., Kent Etherton, Ph.D.

LOCATION: Sun 4

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| 1430 – 1445 | <b>Developing Machine Learning Models to Accurately Predict Post-Rib Fracture Pulmonary and Renal Complications</b><br>(MHSRS-24-11117)<br>Presenter: 2LT Ha Eun Kim, USA                                  |
| 1445 – 1500 | <b>Classification of Gender and Systemic Disease from External Eye Photographs Using Deep Learning</b><br>(MHSRS-24-11637)<br>Presenter: CPT Paul Chong, USA   |
| 1500 – 1515 | <b>Geospatial and Multilevel Analysis of Big Data for Decision-Making to Reduce Postpartum Hemorrhage in the U.S. Military Health System</b> (MHSRS-24-12703)<br>Presenter: Elizabeth H. Lee, DrPH         |
| 1515 – 1530 | <b>A Machine Learning Model to Streamline Medical Readiness via the eProfile System</b> (MHSRS-24-11676)<br>Presenter: David Hazel, M.S.   |
| 1530 – 1545 | <b>Prediction of Clinically Significant Improvements During the NiCoE Intensive Outpatient Program Using Machine Learning</b> (MHSRS-24-11021)<br>Presenter: Rujirutana Srikanthana, Ph.D.                 |
| 1545 – 1600 | <b>Break</b>   |
| 1600 – 1615 | <b>Asymptomatic Hypertension in Military Emergency Departments</b> (MHSRS-24-11567)<br>Presenter: 2LT Joseph Rhee, USA   |
| 1615 – 1630 | <b>Future Osteoarthritis Development Can Be Predicted by Peripheral Blood Epigenetic Machine-Learning Models Up to 96 Months in Advance</b> (MHSRS-24-11482)<br>Presenter: Matlock Jeffries, M.D.          |
| 1630 – 1645 | <b>Creating Deep Embeddings for Characterizing Military-Relevant Gastrointestinal Diseases with Computer Vision Models</b> (MHSRS-24-13280)<br>Presenter: Camilo Valdes, Ph.D.                             |
| 1645 – 1700 | <b>Adverse Physical and Mental Health Outcomes in Deployers with Primary Psychiatric Evacuation from CENTCOM 2001 to 2015: A Cohort Analysis</b> (MHSRS-24-12195)<br>Presenter: Lt Col Cubby Gardner, USAF |
| 1700 – 1715 | <b>Early Identification of Critical Care Patients at High Risk of Developing ARDS and Sepsis Using Machine Learning</b><br>(MHSRS-24-11088)<br>Presenter: Felipe A. Lisboa, M.D.                           |
| 1715 – 1730 | <b>Fishbowl Q&amp;A</b>  |