

# MHSRS 2024 HJF Poster Presentations

| Poster Session | Poster Number | Breakout Name   | Full Name                    | Abstract Title   |
|----------------|---------------|---|------------------------------|--|
| 1              | 300           | Treating Refractory Hypoxemia On The Battlefield: What Does The Future Hold?                      | Michael Rouse                | Evaluating the Cytokine Response Associated with Pulmonary Dysfunction in Severe Traumatic Injury and COVID-19   |
| 1              | 301           | Casualty Care During Multi-Domain Operations, Large Scale Combat Operations, And Prolonged Care   | Michael Rouse                | Electrochemiluminescence LDT Assay Validation Using Human Wound Effluent for the Development of Clinical Decision Support Tools                            |
| 1              | 600           | Advances In Life Saving Interventions At Point Of Injury And In Prolonged Care                    | John Vitucci                 | Targeting MDRO Wound Infections with Gatekeeper™: A Preclinical Evaluation of Safety and Efficacy  |
| 1              | 718           | Trauma Resuscitation And Critical Care On The Future Battlefield                                  | Scott Grey                   | Development and Evaluation of Prediction Algorithms Using Only Information Available at ED Presentation to Identify Patients Needing a Massive Transfusion |
| 1              | 1115          | Severe Burn Injury: Strategies To Accelerate Casualty Functional Recovery                         | Kristo Nuutila               | Silk Protein-Based Field Applicable Spray for Acute Burn Wound Management  |
| 1              | 1215          | Clinical Studies To Advance Combat Casualty Care  | Antuione Perry               | Enhancing Combat Readiness: Field Improvised Exoskeletons for Prolonged Casualty Care  |
| 1              | 1222          | Assuaging Agony: Novel Pain Therapeutics  | Christopher Fellin           | MiR-155 Therapy for the Treatment of Peripheral Neuropathy in a Rat Spared Nerve Injury Model  |
| 1              | 1310          | Implementation Of Evidence-Based Pain Management Practices In The Mhs                             | Tracy Rupp                   | Massage Therapist Provider Engagement in the Military Health System  |
| 1              | 1311          | Implementation Of Evidence-Based Pain Management Practices In The Mhs                             | Mary McDuffie                | An Update to The Defense and Veterans Center for Integrative Pain Management's Pain Registry Biobank: Remains a Valuable Asset For Future Research Studies |
| 1              | 1502          | Organ Support In Trauma   | Bongwe Ngwenyama             | Acetazolamide Alleviates Tourniquet-induced Acute Kidney Injury through Inhibition of Cathepsin D  |
| 1              | 1608          | Protecting The Warfighter From Nuclear Threats: Acute Radiation Syndrome And Radiation Polytrauma | Venkateshwara Rao Dronamraju | FSL-1: A Promising prophylactic countermeasure in the AFRR1 murine H-ARS mouse model   |
| 1              | 1807          | Current Challenges In Dod Aerospace Medicine  | Amelia Barrett               | Assessing History of Self-Reported Low Back Pain and Healthcare Seeking Behaviors in Military Aircrew: Preliminary Findings                                |
| 1              | 1815          | Undersea Operational Research Panel   | Alan Metelko                 | Follow-up Analysis of Breath Based Volatile Organic Compounds for Prediction of Pulmonary Oxygen Toxicity in Divers  |
| 1              | 2002          | From Theory To Practice: Transitioning S&T Findings Into Actionable Knowledge                     | Norma Quintanilla            | Reevaluation of Disaster Core Competencies: Updates for a New Decade   |
| 1              | 2007          | From Theory To Practice: Transitioning S&T Findings Into Actionable Knowledge                     | Emily Post                   | Expanding Case Management Surge Capabilities of the Military Health System (MHS)   |

# MHSRS 2024 HJF Poster Presentations

| Poster Session | Poster Number | Breakout Name   | Full Name        | Abstract Title   |
|----------------|---------------|---|------------------|--|
| 1              | 2008          | From Theory To Practice: Transitioning S&T Findings Into Actionable Knowledge | Alison Ng        | The Impact of Reserve Components Mobilizations in Support of Large-Scale Combat Operations on Domestic Healthcare Staffing |
| 1              | 2019          | From Theory To Practice: Transitioning S&T Findings Into Actionable Knowledge | Cathaleen Madsen | Creation of an Integrated Practice Unit Assessment Tool for the Military Health System                                     |

# MHSRS 2024 HJF Poster Presentations

| Poster Session | Poster Number | Breakout Name   | Full Name        | Abstract Title   |
|----------------|---------------|---|------------------|--|
| 2              | 206           | Advances In Diagnosis Of Tbi: Biomarkers And Beyond   | Chen Lai         | Establishing an Extracellular Vesicle-Based Laboratory Platform for Traumatic Brain Injury Specific Biomarker Discovery: An MTBI2 Presentation   |
| 2              | 208           | Advances In Diagnosis Of Tbi: Biomarkers And Beyond   | Yifan He         | A Collaborative Laboratory Platform Provides Biorepository Management and Multidimensional Biomarker Analysis for Brain Injury Research: An MTBI2 Presentation                           |
| 2              | 211           | Advances In Diagnosis Of Tbi: Biomarkers And Beyond   | Mihika Gangolli  | Evaluating the Feasibility of Assessing Longitudinal Microstructural Changes in Mild Traumatic Brain Injury with Mean Apparent Propagator MRI  |
| 2              | 216           | Advances In Diagnosis Of Tbi: Biomarkers And Beyond   | Dominic Nathan   | Assessing the Utility of the Vestibular/Ocular-Motor Screening (VOMS) Tool Longitudinal Chronic TBI Outcome Measures: an MTBI Study  |
| 2              | 217           | Advances In Diagnosis Of Tbi: Biomarkers And Beyond   | Dominic Nathan   | Is Apolipoprotein E associated with chronic TBI symptoms? Implications for personalized medicine and screening: an MTBI study  |
| 2              | 312           | Advances In Diagnosis Of Tbi: Biomarkers And Beyond   | Franchesca Scott | Risk Factors for Mental Health Symptoms in Military Service Academy Cadets and Midshipmen: Preliminary Evidence  |
| 2              | 511           | Tbi Management: Epidemiology And Down Range Management  | Elsa Ermer       | The NCAA-DoD CARE-SALTOS Integrated (CSI) Study: An Update on the Explosive Ordnance Disposal (EOD) Cohort   |
| 2              | 517           | Tbi Management: Epidemiology And Down Range Management  | Martin Cota      | Public Health Tools and Military Traumatic Brain Injury: Presenting a Causal Loop Diagram to Visualize Traumatic Brain Injury Related Variables in U.S. Service Members, an MTBI2 Study. |
| 2              | 518           | Tbi Management: Epidemiology And Down Range Management  | Martin Cota      | A Retrospective Cohort Study of TBI Exposed Military Population and Reported Outcomes and Recovery, an MTBI2 Study.  |
| 2              | 613           | Tbi Management: Epidemiology And Down Range Management  | Drake Ryff       | The CARE-SALTOS Integrated (CSI) Study: Characterizing Potential Chronic Brain Health Effects of Concussion and Repetitive Head Impact Exposures - Tier 3                                |
| 2              | 708           | Brain Impact Of Sub-Concussive Blast Exposure In Military Service Members: Implications For Prevention And Health | Yuan-Chiao Lu    | Natural Oscillatory Modes and MRI-Detected Deformation of the Biofidelic ANGUS Phantom under Mild Head Impacts   |

# MHSRS 2024 HJF Poster Presentations

| Poster Session | Poster Number | Breakout Name  | Full Name             | Abstract Title   |
|----------------|---------------|--|-----------------------|--|
| 2              | 923           | Novel Interventions To Address Post-Traumatic Stress Disorder In Service Members And Veterans  | Shannon Fichter       | The Impact of Service Dog Training on Resilience and Stress in Service Members.  |
| 2              | 1004          | Novel Interventions To Address Post-Traumatic Stress Disorder In Service Members And Veterans  | Patricia Spangler     | Randomized Pilot Trial of Emerging Exposure and Non-Exposure Treatments for Trauma-Related Nightmares  |
| 2              | 1009          | Novel Interventions To Address Post-Traumatic Stress Disorder In Service Members And Veterans  | Tiffany Riggleman     | The Impact of a Service Dog Training Program on Quality of Life Among Military Members with PTSD and mTBI  |
| 2              | 1023          | Moving The Needle On Preventing Harmful Behaviors In The Military Community – Implementing Cross Agency Research Priorities – Current And Future State | Catherine Dempsey     | Reasons for Personal Firearm Ownership, Firearm Storage Practices and Suicide Risk in Servicemembers   |
| 2              | 1101          | Moving The Needle On Preventing Harmful Behaviors In The Military Community – Implementing Cross Agency Research Priorities – Current And Future State | Cindy Crawford        | Predatory Marketing and Low Quality of Dietary Supplements Promoted for Weight Loss Pose a Threat to Military Members: Preventative Approaches and Lessons Learned from an Analysis of Select Products |
| 2              | 1111          | Moving The Needle On Preventing Harmful Behaviors In The Military Community – Implementing Cross Agency Research Priorities – Current And Future State | Maegan Paxton Willing | Community Based Participatory Research for Studies Involving Military-Connected Individuals  |
| 2              | 1120          | Moving The Needle On Preventing Harmful Behaviors In The Military Community – Implementing Cross Agency Research Priorities – Current And Future State | Christy Collete       | A Quality Assurance Process Model of the Comprehensive Integrated Primary Prevention Plan to Reduce Harmful Behaviors in the United States National Guard  |
| 2              | 1219          | Military Family Health And Readiness: Understanding The Interdependence Of The Military Family System  | Erin Frick            | Priorities for Addressing the Behavioral Health Needs of Military Children and Families  |
| 2              | 1221          | Military Family Health And Readiness: Understanding The Interdependence Of The Military Family System  | Matthew Mester        | Differences in Mental Health Care Visit Rates by State for Military Connected Children   |
| 2              | 1222          | Military Family Health And Readiness: Understanding The Interdependence Of The Military Family System  | Ian Sorensen          | Effects of Injury Type, Family, and Demographic Factors on Mental Health Care Needs of Soldiers Returning to the Active Force After Serious Injury   |

## MHSRS 2024 HJF Poster Presentations

| Poster Session | Poster Number | Breakout Name   | Full Name      | Abstract Title   |
|----------------|---------------|---|----------------|--|
| 2              | 1317          | Warfighter Operational Resilience: Next Generation Programs To Sustain Performance Under Fire   | Michael Smuda  | Technology Enhanced Mobile Platform for Performance Optimization (TEMPPO): Holistic Total Force Fitness Web-Based Mobile Application for the Army National Guard - Will they come if we build it?  |
| 2              | 1318          | Warfighter Operational Resilience: Next Generation Programs To Sustain Performance Under Fire   | Michael Smuda  | An Overview of Self-Reported Total Fitness Among ARNG Soldiers   |
| 2              | 1410          | Solutions Addressing Behavioral Health Clinician Shortage - Leveraging Telebehavioral Health    | Calvin Lu      | Remote health observation in combat Veterans: A novel approach by the War-Related Illness and Injury Study Center (WRIISC) to understand habitual sleep patterns, autonomic function, and Post-Traumatic Stress Disorder (PTSD) symptoms |
| 2              | 1501          | Women'S Health And Readiness: Health Focused Updates  | Rebecca Schulz | An Examination of Musculoskeletal Injuries, Injury Rehabilitation, and Return-to-Duty Times Among Female Active Duty Service Members Treated in the Military Health System   |
| 2              | 1509          | Women'S Health And Readiness: Health Focused Updates  | Kathleen Darcy | Prognostic Biomarker Validation in High Grade Serous Carcinoma with the Ovarian Tumor Tissue Analysis Consortium and the Multidisciplinary Ovarian Cancer Outcomes Group   |
| 2              | 1510          | Women'S Health And Readiness: Health Focused Updates  | Kathleen Darcy | Racial Disparities in Survival and Molecular Features in Black vs. White Patients with Uterine Serous Carcinoma: An Integrated Study in Real World Registries and Legacy NRG Oncology/Gynecologic Oncology Group Clinical Trials         |
| 2              | 1511          | Women'S Health And Readiness: Health Focused Updates  | Kathleen Darcy | Disparities in Clinical Outcomes and Molecular Features in Black and White Patients with Endometrioid Endometrial Carcinoma Persist in Real-World Registries and Randomized Clinical Trials  |
| 2              | 1609          | Big Data And Machine Learning For Full Spectrum Military Health Readiness, Performance And Care | Renhua Li      | Using 12 Cytokines to Accurately Predict Pneumonia and Total Hospital Days After Rib Fractures   |
| 2              | 1614          | Big Data And Machine Learning For Full Spectrum Military Health Readiness, Performance And Care | Jie Lin        | Differences in Survival between Black and White Patients with Lung Cancer: Comparison of Data from the DoD Central Cancer Registry (CCR) and the National Surveillance, Epidemiology and End Results (SEER) Program                      |

# MHSRS 2024 HJF Poster Presentations

| Poster Session | Poster Number | Breakout Name   | Full Name               | Abstract Title  |
|----------------|---------------|---|-------------------------|---|
| 2              | 1615          | Big Data And Machine Learning For Full Spectrum Military Health Readiness, Performance And Care | Jie Lin                 | Post-diagnosis Statin Use and Survival among Lung Cancer Patients: A Study Based on MilCanEpi, Linked Database of the DoD Central Cancer Registry (CCR) and MHS Data Repository (MDR) |
| 2              | 1616          | Big Data And Machine Learning For Full Spectrum Military Health Readiness, Performance And Care | Yvonne Eaglehouse       | Comparing Black and White Patients with Rectal Cancer in Treatment and Outcomes in the U.S. Military Health System using the Department of Defense's Big Data on Cancer               |
| 2              | 1617          | Big Data And Machine Learning For Full Spectrum Military Health Readiness, Performance And Care | Yvonne Eaglehouse       | Using DoD big data to address cancer health disparities: Comparing racial-ethnic groups in receipt of treatment(s) for papillary thyroid cancers                                      |
| 2              | 1709          | Big Data And Machine Learning For Full Spectrum Military Health Readiness, Performance And Care | Yuan-Chiao Lu           | Sensitivity and Consistency of Image-Based and Statistical Approaches to Harmonizing Brain Volume Measurements  |
| 2              | 1711          | Big Data And Machine Learning For Full Spectrum Military Health Readiness, Performance And Care | Dominic Nathan          | Development of AI Natural Language Processing Tools in Clinical Decision Support Systems: an MTBI2 Presentation   |
| 2              | 1813          | Military Exposures And Subsequent Long-Term Outcomes  | Julie Bytnar            | Soft Tissue Sarcoma Incidence among U.S. Military Servicemen: Comparison with the Rates in the General U.S. Population  |
| 2              | 1814          | Military Exposures And Subsequent Long-Term Outcomes  | Julie Bytnar            | Incidence Rates of Bladder and Kidney Cancers among U.S. Military Servicemen: Comparison with the Rates in the General U.S. Population  |
| 2              | 1824          | Military Exposures And Subsequent Long-Term Outcomes  | Thomas Chacko           | Differential Psychological Impact of Combat Exposure and TBI among U.S. Vietnam Veterans  |
| 2              | 1900          | Military Exposures And Subsequent Long-Term Outcomes  | Nicole Barczak-Scarboro | Understanding Moral Injury in a Marine Student Sample and its Associations with Mental Health Outcomes  |

## MHSRS 2024 HJF Poster Presentations

| Poster Session | Poster Number | Breakout Name  | Full Name                 | Abstract Title   |
|----------------|---------------|--|---------------------------|--|
| 3              | 111           | Update In Emerging Infectious Diseases Of Military Importance: Predicting And Preventing Future Outbreaks In Military Settings | Rhonda Colombo            | Pragmatic Assessment of Influenza Vaccine Effectiveness in the Department of Defense (PAIVED): Results from a Multi-site Trial   |
| 3              | 113           | Update In Emerging Infectious Diseases Of Military Importance: Predicting And Preventing Future Outbreaks In Military Settings | Rhonda Colombo            | The Molecular Epidemiology and Transmission Dynamics of Acute Respiratory Infections (ARIs) at United States Naval Academy (USNA) during Plebe Summer  |
| 3              | 404           | Update In Emerging Infectious Diseases Of Military Importance: Predicting And Preventing Future Outbreaks In Military Settings | Abdulwasiu Bolaji Tiamiyu | Mpox Epidemiology and Vaccine Trial Preparedness Among Adults in Nigeria: Implications for Global Health Security  |
| 3              | 412           | Update In Emerging Infectious Diseases Of Military Importance: Predicting And Preventing Future Outbreaks In Military Settings | Simon Pollett             | Proteomic and transcriptomic signatures of SARS-CoV-2 associated myocarditis cases in the Military Health System   |
| 3              | 423           | New Approach Methodologies And Novel In Vivo Models For The Development Of Infectious Disease Countermeasures                  | Sounak Ghosh Roy          | Reconstitution of Human Microglia, Resident T cells, and ACE2 in Brain of the Human-Immune-System Humanized DRAGA Mouse as Therapeutic Targets for Infection-Mediated Neurological Disorders |
| 3              | 501           | New Approach Methodologies And Novel In Vivo Models For The Development Of Infectious Disease Countermeasures                  | Peter Bedocs              | Development and characterization of a novel two-hit swine model of ARDS  |
| 3              | 503           | An Ounce Of Prevention: Next Generation Vaccines And Passive Immunoprophylaxis To Enhance Warfighter Readiness                 | Simon Pollett             | Antigenic characterization of SARS-CoV-2 variants using hamster and human sera and antibody landscape methods: implications for future coronavirus vaccine development                       |
| 3              | 506           | An Ounce Of Prevention: Next Generation Vaccines And Passive Immunoprophylaxis To Enhance Warfighter Readiness                 | Thujitha Thuraisamy       | mRNA vaccine candidate selection via cell surface antigen detection for development of next generation vaccines  |
| 3              | 708           | Non-Traditional Treatments And Delivery Strategies For Wound Infections And Sepsis   | Ashley Ball               | Nimbolide reduces biofilm formation by ESKAPEE pathogens   |
| 3              | 711           | Non-Traditional Treatments And Delivery Strategies For Wound Infections And Sepsis   | Tai Huynh                 | Exploration and Identification of Natural Compounds to Advance Antimicrobial Solutions and Wound Care  |
| 3              | 725           | Innovative Technologies And Devices For Treatment Of Battlefield Wounds In Prolonged Care To Prevent Infection                 | Kylie Rapso               | Understanding the Crosstalk of Local and Systemic Cellular Networks in Military Trauma Patients  |

# MHSRS 2024 HJF Poster Presentations

| Poster Session | Poster Number | Breakout Name   | Full Name              | Abstract Title   |
|----------------|---------------|---|------------------------|--|
| 3              | 901           | Strategies For Mitigating The Development Of Post-Traumatic Wound Infections With Multi-Drug Resistant Organisms Across The Continuum Of Care | Erica Sercy            | Management of Invasive Fungal Infections in War Wounds: Assessment of Practice Guidance  |
| 3              | 925           | Musculoskeletal Injury Prevention: Highlighting Vulnerable Warfighters  | Mingqiang Ren          | Causal Relationship between Multiple Clinical Factors and Limb Fractures: Mendelian Randomization Analysis of UK Biobank and FinnGen Data  |
| 3              | 1003          | Musculoskeletal Injury Prevention: Highlighting Vulnerable Warfighters  | Sarah Prabhakar        | Musculoskeletal Injury risk in seriously injured soldiers who have completed the Warrior Care and Transition Program   |
| 3              | 1411          | Advances In Regenerative Medicine From Point Of Injury To Definitive Care And Beyond  | Donald Jr Aduba        | Treatment of Cellular Spheroids with Bioactive Peptides to Support Human Hair Follicle Neogenesis in Xenografts  |
| 3              | 1412          | Advances In Regenerative Medicine From Point Of Injury To Definitive Care And Beyond  | Sandhya Xavier         | Dermal Epidermal Composites Treated with Bioactive Peptides Show Improved Graft Durability and Epidermal Thickness   |
| 3              | 1416          | Advances In Regenerative Medicine From Point Of Injury To Definitive Care And Beyond  | Christopher Fellin     | A Combinatorial Strategy for Peripheral Nerve Repair Utilizing Photobiomodulation Therapy (PBMT) and 3D Printed Collagen Nerve Conduits  |
| 3              | 1725          | Optimizing The Human Weapon System: Utilizing Wearable Sensors To Inform Readiness Across The Joint Force                                     | Josh Chenoweth         | Wearable Biosensor Captured Data Predicts Outcomes in Patients with Severe Infections in Austere Settings  |
| 3              | 1808          | Genetic Readiness Of The Force: Genetics And Integrative Omics For Optimizing Warfighter Health And Performance                               | Shyh-Han Tan           | Proteogenomic analyses of prostate cancers from patients of African and European ancestries in a military patient cohort identify novel signatures of aggressive disease                     |
| 3              | 1922          | Exertional Heat Stroke: What'S New In Prevention, Management And Return To Duty   | Nyamkhishig Sambuughin | Genomic Study Reveals Role of Cardiomyopathy Gene Variants in Exertional Heat Illness  |
| 3              | 2010          | Global Health Engagement Research In Combatant Commands   | Jessica Jackson        | Development of a Patient Encounter and KSA Checklist for Emergency Medicine Military Physicians in Austere Environments  |
| 3              | 2014          | Human Performance Optimization In Polar Environments  | Francis Lantry         | The Global Health Engagement Research Initiative (GHERI): An Intra- and Extra-mural Approach to Funding Global Health Engagement (GHE) Research in Support of the Unified Combatant Commands |
| 3              | 2019          | Global Health Engagement Research In Combatant Commands   | Ajay Parikh            | Global Health Engagement and Capacity Building via the African Cohort Study (AFRICOS): HIV-1 Sequencing and Drug Resistance Testing in sub-Saharan Africa                                    |

# MHSRS 2024 HJF Poster Presentations

| Poster Session | Poster Number | Breakout Name   | Full Name    | Abstract Title  |
|----------------|---------------|---|--------------|---|
| 3              | 2022          | Global Health Engagement Research In Combatant Commands | Ramey Wilson | Preparing for War: Global Health Research Interoperability Program Highlighting Approaches Needed for Defense Support (GHRIP-HANDS) |