

## MHSRS 2019 – Poster Session 1

Tuesday, 20 August

### WARFIGHTER MEDICAL READINESS

#### TRAINING EFFECTIVENESS FOR POINT OF INJURY MEDICAL CARE

**MHSRS-19-00184 - SESSION 1 - #001**

**Impact of a 4-hr Introductory EFAST Training Intervention among Ultrasound-naive Military Medics**

Presentation Author: Dr. Jonathan Monti

**MHSRS-19-00287 - SESSION 1 - #002**

**An Expert Review Panel of Army Lessons Learned for Prehospital, Airway Management during the Recent Conflicts**

Presentation Author: MAJ Steven Schauer

**MHSRS-19-00411 - SESSION 1 - #003**

**Low-fidelity ECMO Simulation versus Animal Model: Does Individual Experience Affect its Efficacy?**

Presentation Author: LTC Thornton Mu

**MHSRS-19-00461 - SESSION 1 - #004**

**Are Self-assessment and Cognitive Scores Associated with ECMO Training Performance Outcomes?**

Presentation Author: Mrs. Tricia Garcia-Choudary

**MHSRS-19-00470 - SESSION 1 - #005**

**Effects of an Advanced Airway “Boot Camp” For Military Family Medicine Physician Trainees**

Presentation Author: LCDR Art Ambrosio

**MHSRS-19-00472 - SESSION 1 - #006**

**Multi Tissue Additive Manufactured Training Models for Point of Injury Medical Care**

Presentation Author: Dr. Jonathon Barton

**MHSRS-19-00600 - SESSION 1 - #007**

**Operation Fido: Pre-deployment Training for Life Saving Surgical Management of Military Working Dogs**

Presentation Author: CAPT William Sweeney

**MHSRS-19-00959 - SESSION 1 - #008**

**From Novice to Expert in Cricothyroidotomy: How Long Does it Take?**

Presentation Author: Ms. Rachael Dampman

**MHSRS-19-01385 - SESSION 1 - #009**

**A Portable and Self-contained Approach for Surgical Telementoring: Towards Remote, Point of Injury Care**

Presentation Author: Dr. Juan Wachs

**MHSRS-19-01388 - SESSION 1 - #010**

**High Efficiency EMS Training: A Novel, Effective Strategy for on-the-job Trauma Retraining in a Low-resource International Setting**

Presentation Author: Dr. Nee-Kofi Mould-Millman

**MHSRS-19-01429 - SESSION 1 - #011****A Survey of Combat Medic Airway Training and Experiences: A Preliminary Analysis**

Presentation Author: Ms. Nguvan Uhaa

**MHSRS-19-00097 - SESSION 1 - #012****High Tourniquet Failure Rates among Soldiers Do Not Improve with Tourniquet Training Including Combat Stress Inoculation: A Randomized Controlled Trial**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01535 - SESSION 1 - #013****Association of Experience and Self-efficacy in Performing Life-saving Interventions among Israel Defense Forces Advanced Life Support Providers**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01543 - SESSION 1 - #014****The Next Great Generation: Adapting Continuing Combat Casualty Care Education to Millennials and Gen Z'ers Advanced Life Support Providers**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01568 - SESSION 1 - #015****Professional Confidence Builds Leadership - New Concepts in Combat Medicine Training during the Apex (Tzameret) Military MD Program**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01648 - SESSION 1 - #016****Preparing for Deployment: Characteristics that Help Military Interprofessional Healthcare Teams Succeed Across Care Contexts**

Presentation Author: Dr. Lara Varpio

**MHSRS-19-01659 - SESSION 1 - #017****Military Interprofessional Education: How the U.S. Military Prepares its Care Teams for the Deployed Environment**

Presentation Author: Dr. Lara Varpio

**MHSRS-19-01660 - SESSION 1 - #018****Using 3D Printing (Additive Manufacturing) to Manufacture Low Cost Simulation Models for Dental and Oral and Maxillofacial Surgical Procedures**

Presentation Author: Dr. Peter Liacouras

**MHSRS-19-01762 - SESSION 1 - #019****Combining Computational Physiology with Virtual Reality for an Immersive and Effective Trauma Simulator**

Presentation Author: Dr. Rachel Clipp

**MHSRS-19-01823 - SESSION 1 - #020****Vital Sign Monitoring and Demographic Comparisons of Paramedics in Warm Zone Active Shooter Drills**

Presentation Author: Dr. Rebecca Ryznar

**MHSRS-19-01943 - SESSION 1 - #021****Knowledge, Skills, and Attitudes of Medical Students Participating in a Military Medical Field Training Exercise on Prolonged Field Care**

Presentation Author: 2LT David Ediger

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**MHSRS-19-02358 - SESSION 1 - #022****A Preliminary Evaluation of Ambulatory Physiological Monitoring and Performance Enhancement Techniques in a MARSOC Multi-purpose Canine Unit**

Presentation Author: Dr. Deane Aikins

**MHSRS-19-02428 - SESSION 1 - #023****Operation Gunpowder: Unique and Essential Training in Prolonged Field Care for Third Year Military Medical Students**

Presentation Author: 2nd Lt Ryan Sumpter

**MHSRS-19-02443 - SESSION 1 - #024****Addressing Reserve Joint-service Medical Training Gaps through Multi-faceted Expeditionary Simulation**

Presentation Author: Lt Col Luis Berrios

**MHSRS-19-02605 - SESSION 1 - #025****The Army Medical Department Military-Civilian Trauma Team Training Experience**

Presentation Author: CPT Simon Sarkisian

**MHSRS-19-02614 - SESSION 1 - #026****Development of a Clinical Experience Log at the Navy Trauma Training Center**

Presentation Author: CDR Virginia Blackman

**MHSRS-19-02625 - SESSION 1 - #027****Trauma Simulator: Autonomous Immersive Virtual Reality Medical Simulation**

Presentation Author: CPT Kyle Couperus

**MHSRS-19-02266 - POSTER SESSION 2 - #028****Assessment of Telemedicine Needs of the Special Operations Medic**

Presentation Author: ENS Dustin Lowery

**INNOVATIVE COUNTERMEASURES AND DIAGNOSTICS TO EMERGING INFECTIOUS DISEASES****MHSRS-19-00045 - SESSION 1 - #029****Disease Outbreak Risk Assessment Tool**

Presentation Author: Ms. Louise Sumner

**MHSRS-19-00145 - SESSION 1 - #030****Can We Expand the Diagnostic Capabilities of the FDA-Cleared CI Detect™ Rapid Test from Old World to New World Cutaneous Leishmaniasis?**

Presentation Author: LCDR Christie Joya

**MHSRS-19-00211 - SESSION 1 - #031****Utilizing Crowdsourcing to Accelerate the Advancement of Bioinformatics Workflows for Identifying Infectious Disease Microorganisms**

Presentation Author: Dr. Ezekiel Maier

**MHSRS-19-00394 - SESSION 1 - #032****Utility of a Plasmodium 18S qRT-RNA PCR Assay for Diagnosis in Controlled Human Malaria Infection Studies**

Presentation Author: CPT Jangwoo Lee

**MHSRS-19-00429 - SESSION 1 - #033****Bioprospecting Host Defense for New Antiviral Agents**

Presentation Author: Dr. Barney Bishop

**MHSRS-19-00433 - SESSION 1 - #034****Molecular Biomarker Diagnostic Assays as a Potential Tool to Mitigate Force Health Protection Risk against Aedes Aegypti Insecticide Resistance**

Presentation Author: LCDR Jeff Hertz

**MHSRS-19-00439 - SESSION 1 - #035****8228th Mobile Army Surgical Hospital, Epidemic Hemorrhagic Fever Center**

Presentation Author: Mr. Alan Hawk

**MHSRS-19-00503 - SESSION 1 - #036****Identification of Respiratory Pathogens in Viral Culture Isolates using Whole Genome Sequencing and the Edge Bioinformatics Suite**

Presentation Author: Mr. Roger Pan

**MHSRS-19-00514 - SESSION 1 - #037****Molecular Alterations Induced by Yersinia Pestis, Dengue Virus and Staphylococcal Enterotoxin B under Severe Stress**

Presentation Author: Mr. Ross Campbell

**MHSRS-19-00569 - SESSION 1 - #038****Isothermal Amplification Assays for Rapid Pathogen Identification Directly from Clinical Sputum, Urine and Stool Samples**

Presentation Author: Dr. Brett Etchebarne

**MHSRS-19-00614 - SESSION 1 - #039****Infectious Disease Diagnostic via a Novel Plasmonic Halo**

Presentation Author: Dr. Michael Naughton

**MHSRS-19-00645 - SESSION 1 - #040****Adversomics of HPV Immunization and Factors Related to Adherence in Pre-adolescents**

Presentation Author: Dr. Gregory Gorman

**MHSRS-19-00714 - SESSION 1 - #041****The Case for Passive Surveillance: Tick Testing and Military Populations**

Presentation Author: Dr. Robyn Nadolny

**MHSRS-19-00716 - SESSION 1 - #042****Manipulation of Flavivirus 3' Untranslated Region Structural Interactions as a Novel Vaccine Attenuation Strategy**

Presentation Author: Ms. Hadrian Sparks

**MHSRS-19-00783 - SESSION 1 - #043****Dual Use Diagnostic Devices to Optimize Treatment & Reduce the Threat Posed by Antimicrobial Resistant Pathogens**

Presentation Author: Lt Col Jerome Vinluan

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**MHSRS-19-00786 - SESSION 1 - #044****Effect of Probe DNA Density of Label-free Impedimetric Nucleic Acid Biosensing Chip on the Detection of Extracted RNA of Dengue Virus**

Presentation Author: Dr. Hua-Wei Chen

**MHSRS-19-00805 - SESSION 1 - #045****Single Domain Antibody-SpyTag Constructs for Enhancing Detection of Dengue Non-structural Protein 1 in Clinical Samples**

Presentation Author: Dr. Victor Sugiharto

**MHSRS-19-00841 - SESSION 1 - #046****Targeting Host-Cell Metabolism as a Broadly-Effective Medical-Counter-Measure against Emerging Infectious Diseases**

Presentation Author: Dr. Lillian Chiang

**MHSRS-19-00993 - SESSION 1 - #047****Mobile Manufacturing Platform for Rapid Response**

Presentation Author: Ms. Evelyn Van der Hart

**MHSRS-19-01095 - SESSION 1 - #048****Single-Cycle Adenoviruses as Platforms to Combat Emerging and Persistent Pathogens**

Presentation Author: Dr. Michael Barry

**MHSRS-19-01119 - SESSION 1 - #049****Role of Antimicrobial Lipid Coating on Endotracheal Tubes in Preventing Endotracheal Biofilm**

Presentation Author: Dr. Mackenzie Morris

**MHSRS-19-01151 - SESSION 1 - #050****Tick-borne Encephalitis Virus Immunization among DoD Personnel, 2001-Current**

Presentation Author: Dr. Paul Scott

**MHSRS-19-01204 - SESSION 1 - #051****Clinical Effectiveness of a Biofilm Disrupting Surgical Lavage in Reducing Bacterial Plate Counts in Total Knee Arthroplasty Revision Surgery in Known Cases of Prosthetic Joint Infection**

Presentation Author: Dr. Matthew Myntti

**MHSRS-19-01274 - SESSION 1 - #052****Zoonotic and Infectious Disease Pathogen Surveillance in Multiple Canine Populations from Varying Regions of South America Enhancing Warfighter Lethality, Force Health Protection, and Public Health by Applying the One Health Concept**

Presentation Author: LTC Michael McCown

**MHSRS-19-01291 - SESSION 1 - #053****Real-time Detection of Cellular Respiratory Bio-markers of Early-stage Infections using Terahertz Sensing**

Presentation Author: Mr. Ivan Medvedev

**MHSRS-19-01299 - SESSION 1 - #054****Rickettsia species identified in Ticks along the Mongolia-China border**

Presentation Author: Dr. Michael von Fricken

**MHSRS-19-01369 - SESSION 1 - #055****Carbon Nanotubes as Novel HIV-1 Vaccine Antigen Vectors for Mucosal Immunity Stimulation**

Presentation Author: Dr. Yang Xu

**MHSRS-19-01424 - SESSION 1 - #056****Toward Universal Flaviviridae Surveillance**

Presentation Author: Mr. James Mann

**MHSRS-19-01453 - SESSION 1 - #057****Global Lipidomics Identifies a Host Sphingolipid Pathway Essential for Zika Virus Replication**

Presentation Author: Dr. Jennifer Kyle

**MHSRS-19-01528 - SESSION 1 - #058****Anaphylaxis to Multiple Vaccines: A Case Series and Recommended Approach to Optimize Immunization Readiness in the Warfighter**

Presentation Author: Dr. Bruce McClenathan

**MHSRS-19-01620 - SESSION 1 - #059****Potential Impact of Deployed Modular Manufacturing in an Outbreak Situation**

Presentation Author: Ms. Laura Saward

**MHSRS-19-01650 - SESSION 1 - #060****Systematic Review of Marburg Virus Vaccine Clinical Trials**

Presentation Author: 2LT Nicholas Dulin

**MHSRS-19-01859 - SESSION 1 - #061****ATI-1701, a Live Attenuated Francisella Tularensis Vaccine for the Prevention of Pneumonic Tularemia in the Warfighter**

Presentation Author: Dr. Carl Gelhaus

**MHSRS-19-01919 - SESSION 1 - #062****Paper Based Microfluidic Devices: Low Cost Platforms for Rapid Biochemical Detection**

Presentation Author: Dr. Baris Unal

**MHSRS-19-01946 - SESSION 1 - #063****Machine Learning to Identify Military Treatment Facilities at Risk for Vancomycin Resistant Enterococcus Infections**

Presentation Author: LTC Cade Nylund

**MHSRS-19-01994 - SESSION 1 - #064****Understanding How Alphaviruses Cause Musculoskeletal Disease**

Presentation Author: Dr. Suresh Mahalingam

**MHSRS-19-01997 - SESSION 1 - #065****Structure-based Arenavirus Vaccine Design**

Presentation Author: Dr. Michael Joyce

**MHSRS-19-02015 - SESSION 1 - #066****Spatiotemporal Profiling of Bacterial Communities and Interpersonal Interactions to Capture Transmission Events**

Presentation Author: Dr. Briana Vecchio-Pagan

**MHSRS-19-02061 - SESSION 1 - #067****Cataloging Host Response Infectious Disease Signatures to Accelerate the Development of Countermeasures and Diagnostics for Emerging Infectious Diseases**

Presentation Author: Dr. Katrina Waters

**MHSRS-19-02092 - SESSION 1 - #068****Potent Zika and Dengue Cross-Neutralizing Antibodies Induced by Zika Vaccination in a Dengue-Exposed Donor**

Presentation Author: Dr. Shelly Krebs

**MHSRS-19-02142 - SESSION 1 - #069****Zika Virus Infection and the Blood Brain Barrier: Insights from the 3D-bioprinted BBB Model**

Presentation Author: Mr. William Valiant

**MHSRS-19-02164 - SESSION 1 - #070****Validation of a Plasmodium 18S rRNA qRT-PCR Assay in a CAP-Accredited Laboratory for Diagnosis in Controlled Human Malaria Infection Trials**

Presentation Author: Dr. Linda Jagodzinski

**MHSRS-19-02233 - SESSION 1 - #071****Performance of One-Minute, Accurate, Portable Point-of-Need Diagnostic Test to Detect Malaria Parasites**

Presentation Author: Dr. Priyaleela Thota

**MHSRS-19-02257 - SESSION 1 - #072****Establishing a Preclinical Chronic Periprosthetic Infection Model in Rats**

Presentation Author: Dr. Yingfang Fan

**MHSRS-19-02264 - SESSION 1 - #073****Fix it with New Fixatives**

Presentation Author: Dr. Anne Davis

**MHSRS-19-02290 - SESSION 1 - #074****A Novel Inactivated-Chikungunya Virus Vaccine**

Presentation Author: Dr. Anuj Sharma

**MHSRS-19-02327 - SESSION 1 - #075****Development of Nanobody-lampole Diagnostic Tests for Dengue and Zika**

Presentation Author: Dr. Dennis Grab

**MHSRS-19-02445 - SESSION 1 - #076****Modeling the Potential Impact of Norovirus Vaccination among DoD Forces**

Presentation Author: Ms. Colleen Burgess

**MHSRS-19-02454 - SESSION 1 - #077****Scalable Response to High-consequence Emerging Infectious Disease Epidemics**

Presentation Author: Dr. Erwin Berthier

**MHSRS-19-02486 - SESSION 1 - #078****Modeling Zika Vaccination Combined with Vector Interventions for Outbreak Response in DoD Populations**

Presentation Author: Ms. Colleen Burgess

**MHSRS-19-02488 - SESSION 1 - #079****Applications of Antimicrobial 3D Printing Materials for On Orbit Missions**

Presentation Author: Mr. Michael Thompson

**MHSRS-19-02532 - SESSION 1 - #080****Real-time Pathogen Genomic Characterization of Human Clinical Isolates using the Oxford Minion Handheld Sequencer**

Presentation Author: Mr. Thomas Mehoke

**MHSRS-19-02618 - SESSION 1 - #081****Assessing Biofilm Biomass in a High Throughput Testing Format**

Presentation Author: Dr. Mina Izadjoo

**NON-VACCINE APPROACHES TO PREVENT OR TREAT MILITARILY RELATED INFECTIONS****MHSRS-19-00257 - SESSION 1 - #082****Adenovirus Typing to Determine Trends in Military Recruit and Community Populations**

Presentation Author: Ms. Brieanne Koster

**MHSRS-19-00323 - SESSION 1 - #083****Capability Gaps and Target Product Profile for Next Generation Malaria Drugs in the Context of Tafenoquine Approval and Fielding**

Presentation Author: LTC Mara Kreishman-Deitrick

**MHSRS-19-00370 - SESSION 1 - #084****Development of GC-072 Antimicrobial for Treatment of Acute Melioidosis**

Presentation Author: Ms. Michelle Saylor

**MHSRS-19-00448 - SESSION 1 - #085****Do *S. Boulardii* CNCM I-745 Probiotics affect the Pharmacokinetics of Amoxicillin in ICR Mice?**

Presentation Author: CPT Daniel Selig

**MHSRS-19-00466 - SESSION 1 - #086****Identification of Pathogenic *Escherichia Coli* and Antibiotic Susceptibility Testing from Stool Samples Obtained from Ongoing Acute Gastroenteritis Surveillance Studies**

Presentation Author: Ms. Katherine Whitelock

**MHSRS-19-00486 - SESSION 1 - #087****Acute Gastroenteritis Surveillance at U.S. Military Recruit Training Facilities Implicates Emergent Recombinant Norovirus Strains as Primary Etiology of Age Outbreaks**

Presentation Author: Mr. Reza Zeighami

**MHSRS-19-00508 - SESSION 1 - #088****A Randomized, Double-blind, Placebo-controlled Trial Evaluating the Efficacy of Non-antibiotic OTC Products in Travelers Diarrhea Prevention: Methods**

Presentation Author: Dr. Tahaniyat Lalani



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**MHSRS-19-00546 - SESSION 1 - #089****The Engineered Cationic Amphipathic Peptide WLBU2 Eliminates Staphylococcus Aureus Biofilms**

Presentation Author: Dr. Kenneth Urish

**MHSRS-19-00548 - SESSION 1 - #090****Elevated Cap-D3 Levels in Intestinal Epithelial Cells Cause Global Chromatin Disorganization and May Have Implications for Crohn's Disease**

Presentation Author: Dr. Michelle Longworth

**MHSRS-19-00640 - SESSION 1 - #091****Comparative Biocompatibility and Osteogenic Potential of Two Bioceramic Sealers**

Presentation Author: Dr. Rodney Phoenix

**MHSRS-19-00853 - SESSION 1 - #092****Boosting Innate Immunity through P53 to Counter Viral Infection**

Presentation Author: Dr. Robert Shalwitz

**MHSRS-19-00890 - SESSION 1 - #093****Addressing Unmet Needs in HIV Research via Project-driven, Cohort Specific Human Biospecimen Collection**

Presentation Author: Dr. Thomas Bell

**MHSRS-19-00895 - SESSION 1 - #094****Detection and Classification of Shigella Toxin Producing Escherichia Coli by Surface Enhanced Raman Scattering Spectroscopy**

Presentation Author: Dr. Luis Martinez

**MHSRS-19-01069 - SESSION 1 - #095****Use of a Porcine Wound Model for Evaluation of Escape Pathogens Bacterial Burden**

Presentation Author: Dr. Francoise Arnaud

**MHSRS-19-01072 - SESSION 1 - #096****Synergistic Inactivation of Pseudomonas Aeruginosa by Oregano Oil and Blue Light**

Presentation Author: Mr. Min Lu

**MHSRS-19-01093 - SESSION 1 - #097****Passive Immunotherapeutic of Hyperimmune Bovine Colostrum to Prevent Shigellosis in a Non-human Primate Model**

Presentation Author: Ms. Nattaya Ruamsap

**MHSRS-19-01094 - SESSION 1 - #098****Novel Prophylactic and Therapeutic Approach against Dengue Infection through Viral Protease Inhibition**

Presentation Author: Dr. Bernd Van Buuren

**MHSRS-19-01280 - SESSION 1 - #099****Identification and Validation of the Plasmodium Cell-cycle in Blood-stage by Flow Cytometry in Comparison to Optical Microscopy**

Presentation Author: Dr. Qigui Li

**MHSRS-19-01326 - SESSION 1 - #100****Prevention of Tick Transmitted Lyme Spirochete Infection in Nonhuman Primates by Anti-OspA Human Monoclonal Antibody**

Presentation Author: Dr. Yang Wang

**MHSRS-19-01347 - SESSION 1 - #101****Oral Administration of an Anti-CFA/I Secretory IgA Antibody Protects against Enterotoxigenic Escherichia Coli Diarrheal Disease in a Non-human Primate Model**

Presentation Author: Dr. Yang Wang

**MHSRS-19-01395 - SESSION 1 - #102****Analysis of Lyme Disease in Class Cohort (2013-17) of U.S. Military Academy Cadets and Tips on Exposure Prevention**

Presentation Author: LTC Vanessa Melanson

**MHSRS-19-01426 - SESSION 1 - #103****Pharmacokinetics and Tolerability of Primaquine Enantiomers in Human Volunteers**

Presentation Author: Dr. Larry Walker

**MHSRS-19-01428 - SESSION 1 - #104****Antifungal Activity of Scorpion Venom-derived Peptide Analogues against Candida Albicans**

Presentation Author: Dr. Nancy Millenbaugh

**MHSRS-19-01592 - SESSION 1 - #105****ATI-1503, A Novel Negamycin Analogue for the Treatment of Multi Drug Resistant Gram-negative Infection**

Presentation Author: MAJ Armand Balboni

**MHSRS-19-01598 - SESSION 1 - #106****Nitric Oxide Releasing Coatings for Heparin Free Extracorporeal Life Support with Antimicrobial, Antithrombogenic and Antifouling Properties**

Presentation Author: Dr. Hitesh Handa

**MHSRS-19-01624 - SESSION 1 - #107****Initial Perceptions of Efficacy of a Spatial Repellent against Arbovirus Infections: Recent Evidence from an Ongoing Clinical Trial in Peru**

Presentation Author: Lt Eugenio Abente

**MHSRS-19-01626 - SESSION 1 - #108****Nitric Oxide-releasing Polymers with Antimicrobial Properties via Solvent Impregnation of Plasticized Polyvinyl Chloride**

Presentation Author: Dr. Elizabeth Brisbois

**MHSRS-19-01667 - SESSION 1 - #109****Alligators and the Discovery of Novel Peptides with Broad Antibacterial Efficacy**

Presentation Author: Dr. Barney Bishop

**MHSRS-19-01720 - SESSION 1 - #110****Treatment of Drug Resistant Malaria with Light: Exploiting the Parasite's Manipulation of Vestigial Erythrocytic Pathways**

Presentation Author: Dr. Akilan Palanisami

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**MHSRS-19-01801 - SESSION 1 - #111****Burden of Diarrhoeal Disease on Overseas Exercises in the Post-Afghanistan Era**

Presentation Author: MAJ Daniel Burns

**MHSRS-19-01825 - SESSION 1 - #112****Trends and Antibiotic Resistance Rates of Group A Streptococcus across Military Recruit Training Sites**

Presentation Author: Ms. Julianne Mesa

**MHSRS-19-01827 - SESSION 1 - #113****Enhancing Resistance to Nosocomial Infections with Synthetic Toll-like Receptor Agonists**

Presentation Author: Dr. Antonio Hernandez

**MHSRS-19-01831 - SESSION 1 - #114****Developing New Immunotherapeutic Strategies against Human Disseminated Candidiasis by Medically Important Candida Species**

Presentation Author: Dr. Hong Xin

**MHSRS-19-01886 - SESSION 1 - #115****Point-of-use Generation of Nitric Oxide to Prevent and Remediate Infected Wounds**

Presentation Author: Dr. Jacob Adams

**MHSRS-19-01913 - SESSION 1 - #116****Trial of New Combination Therapies to Protect Malarone and Examine Treatment Options for Militaries affected by Malaria in Southeast Asia**

Presentation Author: MAJ Mariusz Wojnarski

**MHSRS-19-01987 - SESSION 1 - #117****Standard Issue Antimicrobial Field Dressings Based on a One Shot Method for Sterilization and Coating using Supercritical Carbon Dioxide**

Presentation Author: Dr. Aaron Strickland

**MHSRS-19-01996 - SESSION 1 - #118****In Vitro Eryptosis Assays: An Evaluation of Apoptotic Activities by Antimalarial Compounds**

Presentation Author: Dr. Xiannu Jin

**MHSRS-19-02026 - SESSION 1 - #119****Pursuing a Cure: Monoclonal Antibodies for Treatment of HIV-1**

Presentation Author: Dr. Trevor Crowell

**MHSRS-19-02041 - SESSION 1 - #120****A New and Improved Collaborative System to Efficiently Evaluate Natural Product Extracts for any Therapeutic Area: Proof-of-concept in Malaria, Multi-drug Resistant Bacteria, and Leishmaniasis**

Presentation Author: Ms. Patricia Lee

**MHSRS-19-02062 - SESSION 1 - #121****Innovative Implant Nanocoatings with Controlled Dual Drug Release for Infection Prevention**

Presentation Author: Dr. Bingyun Li

**MHSRS-19-02140 - SESSION 1 - #122****Inertial-based Fluidic Platform for Rapid Capture of Blood-borne Pathogens**

Presentation Author: Mr. Todd Giorgio

**MHSRS-19-02447 - SESSION 1 - #123****In Situ Topical Treatment with ASP-105 Microbicide Effectively Sterilizes Drug Resistant Staphylococcus Aureus In An Experimental Murine Wound Infection Model**

Presentation Author: Mr. Joseph Hoffmann

**MHSRS-19-01658 - POSTER SESSION 1 - #124****Sanaria® PfSPZ Vaccine: Progress towards Licensure of a 3-dose 28-day Regimen for Protection against Infection with Plasmodium Falciparum Presentation**

Presentation Author: CAPT Judith Epstein

**INFLUENZA PREVENTION: OPTIMAL STRATEGIES TO ENHANCE READINESS****MHSRS-19-00348 - SESSION 1 - #125****Shoulder Injury Related to Vaccine Administration: The DoD Experience**

Presentation Author: Ms. Laurie House

**MHSRS-19-00610 - SESSION 1 - #126****Burden of Respiratory Infections in Trainees Higher than Healthcare Records Indicate: Results from an Anonymous Survey**

Presentation Author: Dr. Stephanie Richard

**MHSRS-19-00931 - SESSION 1 - #127****Effect of Influenza a Viral Infection on Blood Coagulation Factor VIII Levels in the Lungs**

Presentation Author: Mr. Teodor Brumeanu

**MHSRS-19-01056 - SESSION 1 - #128****Active Surveillance for Respiratory Pathogens among DoD Beneficiaries**

Presentation Author: Mr. Cyril England

**MHSRS-19-01170 - SESSION 1 - #129****Active Surveillance for Respiratory Pathogens among High Risk U.S. Military Personnel in the Recruit Training Environment**

Presentation Author: Mr. Evan Stiner

**MHSRS-19-01370 - SESSION 1 - #130****Automation of Influenza EHR Documentation Tasks to Reduce Clinical Workflow Burdens, Enhance Clinical Coding Accuracy, Increase Access to Care, and Improve Patient Care across the Army and Navy during the 2018-2019 Flu Season**

Presentation Author: Mr. Ronald Yeaw

**MHSRS-19-01510 - SESSION 1 - #131****Cutaneous Mastocytosis Presenting as Anaphylaxis to Multiple Immunizations: A Case Report**

Presentation Author: Capt Benjamin St. Clair

**MHSRS-19-02046 - SESSION 1 - #132****Pragmatic Assessment of Influenza Vaccine Effectiveness in the DoD: Immunogenicity Sub-Study**

Presentation Author: Dr. Rhonda E. Colombo

**MHSRS-19-02076 - SESSION 1 - #133****Pragmatic Assessment of Influenza Vaccine Effectiveness in the DoD: Influenza-like-illness Rates in Year 1**

Presentation Author: CAPT Timothy Burgess

**MHSRS-19-02165 - SESSION 1 - #134****“Pragmatic Assessment of Influenza Vaccine Effectiveness in the DoD,” Influenza-like-illnesses Sub-Study at the Marine Corps Recruit Depot - San Diego, CA during the 2018-2019 Influenza Season**

Presentation Author: CAPT Ryan Maves

**MHSRS-19-02191 - SESSION 1 - #135****Disparities in Healthcare Seeking Behaviors in the Pragmatic Assessment of Influenza Vaccine Effectiveness in the DoD Study**

Presentation Author: Dr. Christina Schofield

**MHSRS-19-02317 - SESSION 1 - #136****Translating Surveillance Data into Policy and Practice: A Data-driven Tool for Local Influenza Response at Naval Medical Center Portsmouth**

Presentation Author: Dr. Kathleen Creppage

**MHSRS-19-02487 - SESSION 1 - #137****Local Respiratory Viral Surveillance Can Focus Public Health Interventions to Decrease Influenza Disease Burden**

Presentation Author: 2ndLt Elena Crouch

**MHSRS-19-02623 - SESSION 1 - #138****Urticaria Temporally Associated with Influenza Vaccination: A Case Series**

Presentation Author: Ms. Jennifer Ritschl

**OCCUPATIONAL AND ENVIRONMENTAL EXPOSURE: BASIC AND APPLIED RESEARCH****MHSRS-19-00159 - SESSION 1 - #139****Using Drugpath: A New Database for Mapping Polypharmacology to Assess Multi-drug Treatments for Gulf War Illness**

Presentation Author: Mr. Rajeev Jaundoo

**MHSRS-19-00346 - SESSION 1 - #140****Expeditionary Field Decontamination of Military Working Dogs in a CBRN Environment**

Presentation Author: Dr. Kristina McElroy

**MHSRS-19-00415 - SESSION 1 - #141****Mitigation of Radiation-induced Morbidity and Mortality of Mice by a Thrombopoietin Mimetic (JNJ-26366821) Administered alone and in Combination with Filgrastim**

Presentation Author: Dr. Gregory Holmes-Hampton

**MHSRS-19-00477 - SESSION 1 - #142****Protection from Targeted Radiation Injury to Lungs by Gamma Tocotrienol Treatment**

Presentation Author: Dr. Vidya Kumar

**MHSRS-19-00516 - SESSION 1 - #143****Senolytic Drugs Can Mitigate Radiation Induced Astrocyte Senescence that Promotes Glioblastoma Growth**

Presentation Author: Capt Eliot Fletcher

**MHSRS-19-00554 - SESSION 1 - #144****Incorporation of Thermal Stress Effects into Physiologically Based Pharmacokinetic Models Leading to Enhanced Exposure Profiling of Department of Defense Personnel**

Presentation Author: Mr. Evan Pitts

**MHSRS-19-00574 - SESSION 1 - #145****Improving Envenomation Outcomes with Spreading Factor Inhibitors**

Presentation Author: Dr. Angela Jockheck-Clark

**MHSRS-19-00661 - SESSION 1 - #146****Mechanism Prediction through Dose-responsive Phase-specific Effects on the Zebrafish Photomotor Response Assay**

Presentation Author: Mr. Chance Carbaugh

**MHSRS-19-00721 - SESSION 1 - #147****PF-clean: Detection and Degradation of Perfluorinated Compounds in Water Supplies**

Presentation Author: Dr. J. Jordan Steel

**MHSRS-19-00811 - SESSION 1 - #148****Comparison of Operational Jet Fuel and Noise Exposures: Noise Dosimetry Results**

Presentation Author: SSgt Kerrine LeGuin

**MHSRS-19-00826 - SESSION 1 - #149****In Vitro Methods to Study Human Microbiome Systems**

Presentation Author: Dr. Andrea Timm

**MHSRS-19-00861 - SESSION 1 - #150****Insuline-IGF1 Axis at the Core of Resistance to Lethal Radiation: A Deep Sequencing Analysis of Multi-tissue Cross Talk among Multi Minipig Strain Model**

Presentation Author: Mr. Nabarun Chakraborty

**MHSRS-19-00974 - SESSION 1 - #151****Competency-based Simulator Training in TRUS Side-fire Templated Prostate Biopsy**

Presentation Author: Dr. Samsun Lampotang

**MHSRS-19-01023 - SESSION 1 - #152****Enhancing Functional Relevance of in vitro CNS Models by Recapitulating Native Cellular Composition, Extracellular Matrix, and Architecture**

Presentation Author: Dr. Nicholas Fischer

**MHSRS-19-01042 - SESSION 1 - #153****Recapitulating Complex Neuronal-Glia Networks in an in Vitro System for Toxicant Characterization**

Presentation Author: Dr. Heather Enright

**MHSRS-19-01101 - SESSION 1 - #154****Neurobehavioral and Respiratory Effects of Acute Trimethylsilanol Inhalation in Rats**

Presentation Author: Dr. Frank Golich

**MHSRS-19-01158 - SESSION 1 - #155****Safety of Tetanus, Diphtheria, and Acellular Pertussis Vaccination in a Cohort of Pregnant Active Duty U.S. Military Women**

Presentation Author: Dr. Clinton Hall

**MHSRS-19-01162 - SESSION 1 - #156****Curcumin Preserves Mitochondrial Integrity, Alleviates Oxidative Stress and Minimizes Heat-induced Skeletal Muscle Injury in Mice**

Presentation Author: Mr. Jacob Dohl

**MHSRS-19-01223 - SESSION 1 - #157****Effects of Military-relevant Environmental Contaminant, Benzo[a]pyrene, on the Blood-Brain Barrier and Behavior**

Presentation Author: Dr. Dao Ho

**MHSRS-19-01241 - SESSION 1 - #158****Developing IL-18 Binding Protein as a Novel Radiation Countermeasure after Radiation Exposure**

Presentation Author: Dr. Mang Xiao

**MHSRS-19-01310 - SESSION 1 - #159****Thromboelastography Detects Coagulopathy Faster than Standard Coagulation Studies in Simulated Pit Viper Envenomation Using Human Blood**

Presentation Author: Lt Andrew McGowan

**MHSRS-19-01319 - SESSION 1 - #160****Assessment of Oncogene Mutations by Digital PCR in Thyroid Cancer Samples from Young Adults Exposed to Radiation after the Chernobyl Accident**

Presentation Author: Lt Col Kirk Jensen

**MHSRS-19-01330 - SESSION 1 - #161****An ABCC9 Ala1513Thr Variant Associated with Dilated Cardiomyopathy in a Patient with Recurrent Exertional Rhabdomyolysis**

Presentation Author: Dr. Mungunsukh Ognoon

**MHSRS-19-01335 - SESSION 1 - #162****Development of New Nerve Agent Antidotes by Rational Drug Design**

Presentation Author: MAJ Sebastian Rappenglueck

**MHSRS-19-01398 - SESSION 1 - #163****Inflammatory Consequences during the Post-lethal Radiation Linked to Circulatory miRNAs and Metabolites**

Presentation Author: Mrs. Raina Kum

**MHSRS-19-01407 - SESSION 1 - #164****Thermosensitive Mutation in the Calcium Binding Pocket of TRPM4 Confers Susceptibility to Malignant Hyperthermia and Recurrent Exertional Heat Illness**

Presentation Author: Dr. Nyamkhashig Sambuughin

**MHSRS-19-01522 - SESSION 1 - #165****X-ray Irradiation Induces Subtle Changes in the Genome-wide Distribution of DNA Hydroxymethylation with Opposing Trends in Genic and Intergenic Regions**

Presentation Author: LCDR Hanns Leonhard Kaatsch

**MHSRS-19-01532 - SESSION 1 - #166****Treatment of A549 Cells with Industrial Surfactants Causes a MicroRNA Regulated Epithelial to Mesenchymal Transition**

Presentation Author: Mr. Craig McPherson

**MHSRS-19-01547 - SESSION 1 - #167****Generation of a Biofabricated Human Colonic Model System to Investigate the Pathogenesis of Shiga Toxin-producing and Enteroaggregative Escherichia Coli**

Presentation Author: Dr. Theodore Picou

**MHSRS-19-01554 - SESSION 1 - #168****Refractive Surgery: A Review of Enhancing the Warfighter and Optimizing Performance**

Presentation Author: COL Bruce Rivers

**MHSRS-19-01574 - SESSION 1 - #169****Augmenting the Warfighter through Smart Probiotics that Sense and Modulate Stress Levels of Cortisol**

Presentation Author: Mr. Vaughn Litteral

**MHSRS-19-01642 - SESSION 1 - #170****Extrusion Bioprinting and 3D Printing of Collagen-based Skin Barrier Tissue Models**

Presentation Author: Dr. Jordan Betz

**MHSRS-19-01899 - SESSION 1 - #171****Comprehensive Chemical Identification: Evaluation of in Silico Libraries to Identify Small Molecules in Environmental and Exposure-related Samples**

Presentation Author: Dr. Ryan Renslow

**MHSRS-19-02082 - SESSION 1 - #172****Signatures of Chemical and Radiation Exposures in the Skin Microbiome**

Presentation Author: Dr. Kristin Loomis

**MHSRS-19-02098 - SESSION 1 - #173****Reverse Docking to Identify Toxin Targets**

Presentation Author: Dr. Michael McCarthy

**MHSRS-19-02108 - SESSION 1 - #174****Point of Care Diagnostic Device for Toxic Organ Injury from Saliva Samples**

Presentation Author: Dr. Richard Baldwin

**MHSRS-19-02278 - SESSION 1 - #175****Desert Dust Exposure Induces Epidermal Differentiation of Both Human Airway Epithelial Stem Cells and the Mucociliary Airway Epithelium**

Presentation Author: Dr. Jamie Everman

**MHSRS-19-02299 - SESSION 1 - #176****Development of a Rat Sulfur Mustard Model of Hematological Toxicity for Countermeasure Efficacy Testing**

Presentation Author: Dr. Phillip Beske

**MHSRS-19-02300 - SESSION 1 - #177****Sampling and Toxicological Assessment of Chemical Contaminants in Aircraft Pilot Breathing Air**

Presentation Author: Dr. Jeffery Gearhart



**MHSRS-19-02321 - SESSION 1 - #178****Mitochondrial Targeted Biofuels as Countermeasures against Chemical Threats**

Presentation Author: Dr. Sarah Piel

**OPEN - SESSION 1 - #179****MHSRS-19-02406 - SESSION 1 - #180****Afghanistan Particulate Matter Increases Mouse Airway Hyperresponsiveness, Partially through IL-33 Signaling**

Presentation Author: Ms. Reena Berman

**MHSRS-19-02457 - SESSION 1 - #181****Noise-induced Otolith Organ Injury and Altered Motor Performance in Rats**

Presentation Author: Dr. Courtney Stewart

**MHSRS-19-02466 - SESSION 1 - #182****Neuroimmunological Responses to Environmental Exposures: Lessons Learned from Gulf War Illness**

Presentation Author: Dr. Mulugu Brahmajothi

**MHSRS-19-02560 - SESSION 1 - #183****Lethal Box Jellyfish Envenomation Syndromes: Murine- and Porcine- in vitro and Human Blood Based Model Approaches**

Presentation Author: Dr. Angel Yanagihara

**MHSRS-19-02585 - SESSION 1 - #184****Microdermal Implants Show No Effect on Surrounding Tissue during Surgery with Electrocautery**

Presentation Author: CPT Rowan Sheldon

**MHSRS-19-02598 - SESSION 1 - #185****Intranasal Insulin: A Novel Treatment of Gulf War Multisymptom Illness**

Presentation Author: Ms. Ivonne Cruz

**MHSRS-19-02599 - SESSION 1 - #186****Activity-based Protein Profiling Reveals Exposure Impacts in the Liver, Lung, and Gut Microbiome**

Presentation Author: Dr. Aaron Wright

**MHSRS-19-02662 - SESSION 1 - #187****Near-infrared Brain Imaging System for Continuous Monitoring of Cerebral Blood Flow and Oxygenation**

Presentation Author: Dr. Megan Blackwell

**MHSRS-19-02665 - SESSION 1 - #188****Computational Fluid Dynamics Simulation of Ventilation in an Enclosed Air Force Small Arms Firing Range**

Presentation Author: Ms. Jennifer Melendez

**MHSRS-19-02669 - SESSION 1 - #189****Assessments of Gulf War Chemical Toxicity in Rats**

Presentation Author: Dr. Joyce Rohan

## EARLY RESEARCH IN TOTAL EXPOSURE HEALTH

### **MHSRS-19-00560 - SESSION 1 - #190**

#### **UV-induced SOCE Suppression in Melanoma Metastatic Progression**

Presentation Author: Dr. Jonathan Soboloff

### **MHSRS-19-00787 - SESSION 1 - #191**

#### **Intelligent Textile Systems for Monitoring Individual Exposure Health**

Presentation Author: Dr. Gloria See

### **MHSRS-19-01539 - SESSION 1 - #192**

#### **Blood mRNA Integrity is a Direct and Simple Reporter of Radiation Exposure**

Presentation Author: Dr. Abdulnaser Alkhalil

### **MHSRS-19-01541 - SESSION 1 - #193**

#### **A Translational Medicine Approach to Gulf War Illness: From Cells to Therapy**

Presentation Author: Dr. Kristina Aenlle

### **MHSRS-19-01753 - SESSION 1 - #194**

#### **BMI and Diagnosis of Obesity in the Military and Civilian Population**

Presentation Author: CPT Jason Estes

### **MHSRS-19-01973 - SESSION 1 - #195**

#### **Circulating Biomarkers of Acute Nerve Agent Exposure**

Presentation Author: Mr. Kevin McGarry Jr.

### **MHSRS-19-02138 - SESSION 1 - #196**

#### **Characterization of Cholinesterases from Multiple Large Animal Species for Medical Countermeasure Development against Chemical Warfare Nerve Agents**

Presentation Author: Mr. Kevin McGarry Jr.

### **MHSRS-19-01975 - SESSION 1 - #197**

#### **Detection and Quantification of Immunomodulatory Bacterial Species Important To Health and Performance**

Presentation Author: Capt David Leonard

### **MHSRS-19-02329 - SESSION 1 - #198**

#### **In vitro Validation of Genetic Elements Conferring Neuronal Hypoxia Tolerance using CRISPR/Cas9 System and Microelectrode Arrays**

Presentation Author: Dr. Oksana Pavlyuk

### **MHSRS-19-02389 - SESSION 1 - #199**

#### **Identifying Epigenetic Signatures of Organophosphate Exposure**

Presentation Author: Dr. Julie Gleason

### **MHSRS-19-02570 - SESSION 1 - #200**

#### **Epigenetic Regulation in Response to Exposure: Epigenetic Regulator Targetid**

Presentation Author: Dr. Rachel Spurbeck

# Poster Session 1 IMPROVED OCCUPATIONAL AND ENVIRONMENTAL EXPOSURE MONITORING

## MHSRS-19-00313 - SESSION 1 - #201

**Blood Proteomic Biomarker Discovery using an in vivo Inhalation Model**

Presentation Author: Dr. Camilla Mauzy

## MHSRS-19-01308 - SESSION 1 - #202

**Particle Analysis by Scanning Electron Microscopy with Energy Dispersive X-Ray Analysis in Pulmonary Pathology Specimens from U.S. Military Service Members Deployed during the Global War on Terror 2002-2015**

Presentation Author: Ms. Stacy Strausborger

## MHSRS-19-01488 - SESSION 1 - #203

**A Point-of-care Salivary Diagnostic Tool for Detection of Multi Organ Injury in the Battlefield**

Presentation Author: Dr. Anamika Ray

## MHSRS-19-01701 - SESSION 1 - #204

**A Mouse Model of Gulf War Illness Allows for Mechanistic Studies and the Search for Antidotes**

Presentation Author: Mrs. Nadezhda Sabeva

## MHSRS-19-02260 - SESSION 1 - #205

**Simulating Field Storage Conditions for Evaluating Medical and Dental Materials**

Presentation Author: Dr. David Lemon

## MHSRS-19-02334 - SESSION 1 - #206

**Development of a Versatile, Translational, Porcine (Sus Domesticus) Model for Lethal Snake Envenomation and Rescue: Experience with 70 Animals**

Presentation Author: Dr. Lyndi Gilliam

## ENHANCING HUMAN PERFORMANCE AND SURVIVABILITY IN EXTREME ENVIRONMENTS

## MHSRS-19-00071 - SESSION 1 - #207

**Eustachian Tube Dilation for Baro-challenge Induced Dysfunction in Military Divers and Aviators**

Presentation Author: LCDR Edward Utz

## MHSRS-19-00117 - SESSION 1 - #208

**The Trifecta of Tele-Critical Care: Intra-hospital, Operational and Mass Casualty Applications**

Presentation Author: Mrs. Kristina Ieronimakis

## MHSRS-19-00253 - SESSION 1 - #209

**Diabetes by Air, Land, and Sea: Effects of Military Deployment on A1C and BMI**

Presentation Author: Lt Col Irene Folaron

## MHSRS-19-01018 - SESSION 1 - #210

**Heat Strain Assessment: Use of Meteorological Data as a Cost-effective Means to Estimate Wet Bulb-Globe Temperature**

Presentation Author: Ms. Ericka Crosley

**MHSRS-19-01041 - SESSION 1 - #211****Establishing a Physiological Strain Index Criterion during the Final Sixty Minutes of Heat Tolerance Testing**

Presentation Author: Mr. Douglas Jones

**MHSRS-19-01137 - SESSION 1 - #212****40% Body Surface Area Burned is an Inappropriate Cutoff for the U.S. Army's Standards of Medical Fitness for Burn Injuries: Effects of Work Intensity**

Presentation Author: Dr. Craig Crandall

**MHSRS-19-01138 - SESSION 1 - #213****Warfighter with Sickle Cell Trait and Exertional Rhabdomyolysis with Extreme Pain: Does Variant in GDAP1 Linked to Peripheral Neuropathy Play a Role?**

Presentation Author: Dr. Nyamkhishig Sambuughin

**MHSRS-19-01187 - SESSION 1 - #214****Palatability of Commercially Available Rehydration Solutions: Preferences of Active Duty Service Members**

Presentation Author: SPC Joshua Little

**MHSRS-19-01396 - SESSION 1 - #215****Comparison of Physiological Strain Index and Core Temperature Rise for Classifying Heat Tolerance among Warfighters**

Presentation Author: Mr. Jay Heaney

**MHSRS-19-01420 - SESSION 1 - #216****Magnitude and Persistence of Clinical Laboratory Markers Following Exertional Heat Stroke**

Presentation Author: CPT Matthew Ward

**MHSRS-19-01433 - SESSION 1 - #217****Spatial Audio Cues Help Helicopter Pilots Fly When They Can't See**

Presentation Author: Ms. Lana Milam

**MHSRS-19-01768 - SESSION 1 - #218****Realtime Monitoring of Physiological Parameters in Training Operations**

Presentation Author: Dr. Alessio Medda

**MHSRS-19-01949 - SESSION 1 - #219****Performance and Safety Monitoring in Aquatic Environments**

Presentation Author: Dr. Regina Shia

**MHSRS-19-01958 - SESSION 1 - #220****The Effects of 5-hydroxymethyl-2-furfural (5-HMF) on Reactive Oxygen Species and Regulators of Mitochondrial Dynamics in Skeletal Muscle of Rats Exposed to Hypobaric Hypoxia**

Presentation Author: Lt Geoffrey Ciarlone

**MHSRS-19-02037 - SESSION 1 - #221****Real-time Hydration Monitoring**

Presentation Author: Ms. Victoria Razin

**MHSRS-19-02081 - SESSION 1 - #222****Development of a Rodent Model for High Altitude Induced Working Memory Impairment**

Presentation Author: Dr. Brian Williams

**MHSRS-19-02139 - SESSION 1 - #223****A Meta-analysis of Assessment of Doxycycline as an Adjunctive Therapy to Prevent Decompression Sickness in Swine**

Presentation Author: Mrs. Hanbing Zhou

**MHSRS-19-02343 - SESSION 1 - #224****Ehealth Garment for Physiological Monitoring**

Presentation Author: Ms. Trang Young

**MHSRS-19-02666 - SESSION 1 - #225****Impact of MOPP-4 on Emergency Response Equipment Usage in Operational Environmental Conditions**

Presentation Author: Mr. Ryan McNeilly

**DIRECTED ENERGY HEALTH EFFECTS****OPEN - SESSION 1 - #226****MHSRS-19-00231 - SESSION 1 - #227****Magnetic Resonance Imaging and Biomarker Model for Directed Energy Exposure Medical Evaluation in Swine (Sus Scrofa Domestica)**

Presentation Author: Dr. Paul Sherman

**MHSRS-19-00314 - SESSION 1 - #228****Neural Cellular Response to Cavitation-inducing Directed Energy Hazards**

Presentation Author: Dr. Christian Franck

**MHSRS-19-00371 - SESSION 1 - #229****In vitro Laser MicroRNA Analysis: Human Primary Epithelium MicroRNA Response to 532-nm Pulsed Laser**

Presentation Author: Dr. Joshua Cohen

**MHSRS-19-01057 - SESSION 1 - #230****Comparing Skin Damage from Directed Energy to Thermal Contact Burns in Swine**

Presentation Author: Dr. Christine Kowalczewski

**MHSRS-19-01368 - SESSION 1 - #231****Neural Networks Models for Retinal Laser Lesion Detection and Classification**

Presentation Author: Mr. Eddie Gil

**MHSRS-19-01441 - SESSION 1 - #232****Distinctive Convergence Eye Movements in an Acquired Neurosensory Dysfunction from Havana**

Presentation Author: Dr. Carey Balaban

**MHSRS-19-02183 - SESSION 1 - #233****Model to Predict Probability of Significant Skin Burn Injury from Radiant Heat Source**

Presentation Author: Dr. Anthony Iyoho

**MHSRS-19-02306 - SESSION 1 - #234****Using Human Performance Metrics to Support LEP Acquisition Decisions**

Presentation Author: LCDR Micah Kinney

**MHSRS-19-02356 - SESSION 1 - #235****Total Force Fitness Based Predictive Analytics to Build a Ready and Resilient U.S. Military**

Presentation Author: Dr. Charles Baschnagel

**MILITARY FAMILY FRAMEWORKS FOR READINESS AND RESILIENCE****MHSRS-19-00152 - SESSION 1 - #236****Military Teen Mobile App Promotes Psychological Resilience: Preliminary Usage and Engagement**

Presentation Author: Dr. Kathy Puskar

**MHSRS-19-00213 - SESSION 1 - #237****Interpersonal Mindfulness Based Therapy Fosters Resilience amongst those Suffering from Systemic Lupus Erythematosus and their Families**

Presentation Author: Ms. Dallas Ducar

**MHSRS-19-00612 - SESSION 1 - #238****Religion and Spirituality in Veteran Couple Relationships**

Presentation Author: MAJ Timothy Usset

**MHSRS-19-01190 - SESSION 1 - #239****Prediction Model Development of Daily Asthma Control using Fitness Tracker Sleep Patterns**

Presentation Author: Dr. Jessica Castner

**MHSRS-19-01232 - SESSION 1 - #240****Racial Disparity in Home Environment Triggers for Asthma**

Presentation Author: Dr. Jessica Castner

**MHSRS-19-01494 - SESSION 1 - #241****Home Environment Allergen Exposure Scale: Comparing Dimension Reduction, Theory-driven, and Biomarker-based Methods**

Presentation Author: Dr. Jessica Castner

**MHSRS-19-01196 - SESSION 1 - #242****Transitioning Home Following Traumatic Brain Injury: Examination of the Long-term Service Needs and Barriers to Care among Caregivers of Service Members and Veterans Following Mild Traumatic Brain Injury**

Presentation Author: Dr. Tracey Brickell

**MHSRS-19-01298 - SESSION 1 - #243****Trajectory of Service Needs Across the Care Continuum and Barriers to Care among Caregivers of Service Members and Veterans Following Traumatic Brain Injury**

Presentation Author: Dr. Tracey Brickell

**MHSRS-19-01305 - SESSION 1 - #244****Caring for a Service Member or Veteran Following Traumatic Brain Injury Influences Caregiver Mental Health**

Presentation Author: Dr. Tracey Brickell

## Poster Session 1

**MHSRS-19-01312 - SESSION 1 - #245****Service Member and Veteran Traumatic Brain Injury Severity Influences Caregiver Health-related Quality of Life**

Presentation Author: Dr. Tracey Brickell

**MHSRS-19-01261 - SESSION 1 - #246****Supportive Supervisor Behaviors and Family and Health Outcomes**

Presentation Author: Dr. Leslie Hammer

**MHSRS-19-01302 - SESSION 1 - #247****Loss of Control Eating, Adiposity, and Metabolic Health in Adolescent Military Dependents with Overweight and Obesity**

Presentation Author: Ms. Lisa Shank

**MHSRS-19-01340 - SESSION 1 - #248****Demographic Variation in Military Life Stress and Perceived Support among Military Spouses**

Presentation Author: Dr. Nida Corry

**MHSRS-19-01599 - SESSION 1 - #249****Challenges within Drill Sergeant Families: Deployment vs. the Trail**

Presentation Author: Ms. Molly Schwalb

**MHSRS-19-01734 - SESSION 1 - #250****Personal Growth in Spouses of Deployed Service Members: Risk and Protective Factors**

Presentation Author: Dr. Sybil Mallonee

**MHSRS-19-01747 - SESSION 1 - #251****Collaborative Relationships for Meaningful Health Outcomes**

Presentation Author: Ms. Heather Michael

**MHSRS-19-01786 - SESSION 1 - #252****Through the Eyes of a Child**

Presentation Author: Dr. Kimberly Peacock

**MHSRS-19-02004 - SESSION 1 - #253****Well-being and Coping Strategies of Military Veterans Readjusting into Academia**

Presentation Author: MAJ Brian Gregg

**MHSRS-19-02029 - SESSION 1 - #254****PAACC: A Mindfulness Based Multicomponent Program for Family Caregivers of Persons with Dementia**

Presentation Author: Dr. Mamta Sapra

**MHSRS-19-02157 - SESSION 1 - #255****Addressing the Need for Military Spouse Resiliency Skills using an Agile and Scientific Methodology**

Presentation Author: Ms. Joanne Barnieu

**MHSRS-19-02167 - SESSION 1 - #256****The Impact of Parental Injury and Illness on Children's Mental Health Diagnoses and Prescriptions**

Presentation Author: Dr. Elizabeth Hisle-Gorman

**MHSRS-19-02250 - SESSION 1 - #257****What Do Families, Social Support, and Military Convoys Have in Common?**

Presentation Author: Dr. Penny Pierce

**MHSRS-19-02521 - SESSION 1 - #258****Reasons for Weight Loss Program Participation Differ Between Adult Family Members of Active Duty Military Personnel and the Civilian Population**

Presentation Author: MAJ Joetta Khan

**MHSRS-19-02566 - SESSION 1 - #259****“Band of Brothers” or “Broken Family?” - The Role of Social Support in the U.S. Military’s Depression Crisis**

Presentation Author: SSgt Aaron San Miguel

**MHSRS-19-02632 - SESSION 1 - #260****Interprofessional Student Hotspotting: Addressing the Socio-cultural needs of High Medical Resource Utilizers in the DoD**

Presentation Author: MAJ Elizabeth Belleau

**MHSRS-19-02648 - SESSION 1 - #261****Integrative Review of Racial and Ethnic Disparities in Perinatal Outcomes among Beneficiaries of Military Healthcare System and Tricare**

Presentation Author: Dr. Stacey Iobst

**APPROACHES TO PREVENTION AND TREATMENT OF HIGH RISK BEHAVIORS****MHSRS-19-00397 - SESSION 1 - #262****Suicide Attempts and other Risky Behaviors in Service Members – Data from 2017 DoDSER**

Presentation Author: Dr. Jennifer Tucker

**MHSRS-19-00418 - SESSION 1 - #263****Sexually Transmitted Infection Acquisition Risk in Port among Ship-Assigned U.S. Navy Personnel**

Presentation Author: Mr. Daniel Triplett

**MHSRS-19-00471 - SESSION 1 - #264****Web-delivered Financial Readiness Education Increases Knowledge of Predatory Lending**

Presentation Author: Dr. Tim Hoyt

**MHSRS-19-00782 - SESSION 1 - #265****Impact of Tobacco Smoking on Cognition after Traumatic Brain Injury: VA TBI Model Systems Study**

Presentation Author: Dr. Marc Silva

**MHSRS-19-00879 - SESSION 1 - #266****Prevention of the Opioid Crisis**

Presentation Author: Dr. John Hsu

**MHSRS-19-00884 - SESSION 1 - #267****A Safer Abuse Deterrent Method to Prevent Opioid Abuse and Addiction**

Presentation Author: Dr. John Hsu



**MHSRS-19-00900 - SESSION 1 - #268****The Need to Study the Effects of Electronic Cigarette Use on Physical Readiness among U.S. Military Personnel**

Presentation Author: Lt Thuyvi Amy Truong

**MHSRS-19-00950 - SESSION 1 - #269****Dual Tobacco Use and Related Factors among Active Duty Service Members in the U.S. Military**

Presentation Author: Dr. Jie Lin

**MHSRS-19-00955 - SESSION 1 - #270****Emotional Eating Behavior Mediates the Association between Perceived Stress and Body Weight Status**

Presentation Author: MAJ Julianna Jayne

**MHSRS-19-01020 - SESSION 1 - #271****Heavy Drinking before Sex and Attitudes towards Sexual Violence in a U.S. Military Population**

Presentation Author: Ms. Elizabeth Metzger

**MHSRS-19-01112 - SESSION 1 - #272****Autism Symptoms and Suicide Risk among Active Duty U.S. Military Service Members**

Presentation Author: Mr. Ian Stanley

**MHSRS-19-01182 - SESSION 1 - #273****All the Way Home: Suicide Prevention through Moral Injury Repair in our Nation's Combat Veterans**

Presentation Author: Ms. Eva Usadi

**MHSRS-19-01372 - SESSION 1 - #274****Alcohol use Disorders: Implementing Medication-assisted Treatment in Primary Care Settings**

Presentation Author: MAJ Marlene Arias-Reynoso

**MHSRS-19-01618 - SESSION 1 - #275****Opioid Prescribing to U.S. Army Iraq and Afghanistan Veterans Declines after Implementation of Policies on High Risk Polypharmacy and Overdose Prevention**

Presentation Author: Dr. Nikki Wooten

**MHSRS-19-01914 - SESSION 1 - #276****Longitudinal Analysis of Factors Predicting Opioid use Disorder Treatment for Deployed Army Service Members assigned to Warrior Transition Units, FY2008-2015**

Presentation Author: Dr. Nikki Wooten

**MHSRS-19-01651 - SESSION 1 - #277****What Drugs Did You Take? The Psychoactive Surveillance Consortium and Analysis Network Year in Review**

Presentation Author: Dr. Andrew Monte

**MHSRS-19-01652 - SESSION 1 - #278****A Functional Cellular Based Assay for Synthetic Cannabinoids**

Presentation Author: Dr. Andrew Monte

**MHSRS-19-02054 - SESSION 1 - #279****Long Term Evaluation of the Impact of a Universally Delivered, Brief Alcohol Intervention for Military Personnel in Technical Training**

Presentation Author: Dr. Gerald Talcott

**MHSRS-19-02148 - SESSION 1 - #280****The Relationship between Alcohol Use, Suicidal Ideation, and Sleep Problems among Veterans Actively Engaged in Substance Abuse Treatment Programming**

Presentation Author: Mr. Nicholas Shaughnessy

**MHSRS-19-02174 - SESSION 1 - #281****The Relationship between Combat and Non-combat Trauma and Risk-taking Propensity in Individuals with PTSD**

Presentation Author: Ms. Meltem Ozcan

**MHSRS-19-02234 - SESSION 1 - #282****Towards a System-wide Program for Understanding Destructive Behaviors**

Presentation Author: LCDR Peter Walker

**MHSRS-19-02346 - SESSION 1 - #283****Association between Trauma-related Externalizing Behaviors and Criminal Activity in OEF/OIF/OND Veterans**

Presentation Author: Dr. Michelle Bovin

**MHSRS-19-02404 - SESSION 1 - #284****Exploration of Emotional Intelligence and Self-perceived Invincibility**

Presentation Author: Mr. Simon Esbit

**MHSRS-19-02412 - SESSION 1 - #285****Self-perceived Invincibility is Associated with Greater Cognitive Flexibility**

Presentation Author: Mr. Kyle LaFollette

**MHSRS-19-02421 - SESSION 1 - #286****Big Five Personality Traits and How They Relate to Self-perceived Invincibility**

Presentation Author: Mr. Michael Strong

**MHSRS-19-02541 - SESSION 1 - #287****Evaluation of AMIOP at Fort Bliss**

Presentation Author: MAJ Marlene Arias-Reynoso

**MHSRS-19-02590 - SESSION 1 - #288****Examining the Influence of Autism Symptoms and Unit Cohesion on Suicide Risk among Military Personnel**

Presentation Author: Mr. Austin Gallyer

**HITTING THE TARGET—ENSURING OPTIMAL HUMAN PERFORMANCE,  
PSYCHOLOGICAL HEALTH AND READINESS THROUGHOUT MILITARY SERVICE****MHSRS-19-00191 - SESSION 1 - #289****Effects of Pre-deployment Mental Health on Aeromedical Evacuation Mental Health Status during Operation Enduring Freedom/Operation Iraqi Freedom**

Presentation Author: Lt Amber Hekler

**MHSRS-19-00246 - SESSION 1 - #290****Asymptotic Performance and Learning Curves for Simulated Rifle and Pistol Marksmanship and Visual Search Tasks**

Presentation Author: Mr. Andrew Johnson

## Poster Session 1

**MHSRS-19-00337 - SESSION 1 - #291****Evolution of the Combat and Operational Stress Control Program within the Department of Defense: Historical Origins, Current Model of Services and Activities, and Future Directions**

Presentation Author: Dr. Denise Cooper

**MHSRS-19-00369 - SESSION 1 - #292****Behavioral Correlates of Self-Reported Health Status in U.S. Active Duty Military**

Presentation Author: Dr. Tracey Smith

**MHSRS-19-00377 - SESSION 1 - #293****Why Have a Total Force Fitness Spiritual Fitness Metric? Pros and Cons**

Presentation Author: Dr. Kathleen Charters

**MHSRS-19-00388 - SESSION 1 - #294****Stress Response Optimization in Live Training Exercises**

Presentation Author: Mr. Mitchell Ruble

**MHSRS-19-00642 - SESSION 1 - #295****The Effects of Therapy Dog Intervention on Anxiety in Adult Patients Undergoing Dental Procedures: A Pilot Study**

Presentation Author: Dr. Rod Phoenix

**MHSRS-19-00807 - SESSION 1 - #296****Validity of the Walter Reed Functional Impairment Scale in a Military Population**

Presentation Author: Dr. Farifteh Duffy

**MHSRS-19-00813 - SESSION 1 - #297****Stress Augmentation with Immersive Virtual Reality and Augmented Reality Technologies: Stress and Neurocognitive Outcomes Pilot Data**

Presentation Author: Dr. Amanda Glueck

**MHSRS-19-00818 - SESSION 1 - #298****If You Say So: Health-promoting Leader Behaviors Correlate with Military Medical Staff Well-Being**

Presentation Author: Dr. Coleen Crouch

**MHSRS-19-00906 - SESSION 1 - #299****Stressful Life Changes affect Nutrition-related Health Outcomes among U.S. Army Soldiers**

Presentation Author: MAJ Julianna Jayne

**MHSRS-19-00942 - SESSION 1 - #300****Using the Healthy Eating Score-5 as a Measure of Diet Quality in an Active Duty Military Population**

Presentation Author: 1LT Rachel Dyal

**MHSRS-19-00978 - SESSION 1 - #301****The Association Between Military Weight Status and Body Image in a Sample of Active Duty Soldiers**

Presentation Author: 1LT Maria Stukenborg

**MHSRS-19-01032 - SESSION 1 - #302****Military Health Screening During Accession into the U.S. Armed Forces**

Presentation Author: COL Brigilda Teneza

**MHSRS-19-01179 - SESSION 1 - #303****U.S. Navy Physical Readiness Test Modality Pilot Study**

Presentation Author: Lt Melissa Laird

**MHSRS-19-01216 - SESSION 1 - #304****Extending Peer Support across the Military Health System to Promote Physician Resilience**

Presentation Author: MAJ Erin Keyser

**MHSRS-19-01225 - SESSION 1 - #305****Stressing the Heart Results in Molecular, Functional and Structural Changes that Remodel the Heart: The Search for Mechanisms to Prevent Heart Failure from PTSD**

Presentation Author: Dr. Nisha Plavelil

**MHSRS-19-01295 - SESSION 1 - #306****The Benefit of 'Bouncing Back': Resilience Moderates the impact of Adverse Childhood Experiences on Post-traumatic and Depressive Symptoms among Soldiers**

Presentation Author: Ms. Joy Hocut

**MHSRS-19-01459 - SESSION 1 - #307****Medical Nutrition Therapy to Optimize Readiness and Performance: We Can Do Better**

Presentation Author: Capt Philip Clerc

**MHSRS-19-01492 - SESSION 1 - #308****Calculating the Cardiac Impact of Exercise in the Military**

Presentation Author: 2ndLt Elena Segre

**MHSRS-19-01557 - SESSION 1 - #309****Challenges for Research into Military Disciplinary Investigations**

Presentation Author: Dr. Antje Buehler

**MHSRS-19-01607 - SESSION 1 - #310****Social Stress Potentiates Negative Outcomes for Male Prairie Voles (*Microtus Ochrogaster*) in Polytraumatic Injury**

Presentation Author: Dr. Vanessa Chaplin

**MHSRS-19-01830 - SESSION 1 - #311****The Relationships Between Core Self-evaluations, MOS-related Affective Commitment, and Performance During Combat Medic Training**

Presentation Author: Dr. Valerie Rice

**MHSRS-19-01912 - SESSION 1 - #312****Brief Meditation to Improve Wellness in Deployed Healthcare Providers**

Presentation Author: Lt James D'Andrea

**MHSRS-19-01940 - SESSION 1 - #313****Risk of Dental Disease among Israel Defense Forces Combat Soldiers**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-02077 - SESSION 1 - #314****Sick & Tired: Burnout and Functioning of Military Healthcare Staff**

Presentation Author: Ms. Yvonne Allard

## Poster Session 1

**MHSRS-19-02111 - SESSION 1 - #315****Improving the Accuracy of Psychological Health Screening in the Submarine Service**

Presentation Author: Lt Chad Peltier

**MHSRS-19-02134 - SESSION 1 - #316****Effects of Medical Accession Waivers on Attrition and Operational Readiness among Sailors and Marines, 2012-2017**

Presentation Author: Ms. Angie (Shing Lai) Cheng

**MHSRS-19-02135 - SESSION 1 - #317****Use of Wearable Physiologic Sensors to Monitor Wellbeing and Health**

Presentation Author: Dr. Elizabeth Brokaw

**MHSRS-19-02193 - SESSION 1 - #318****Skin Sympathetic Nerve Activity – A Novel Non-invasive Marker of Altered Autonomic Tone and a Biomarker for Estimating Fitness Level in Military Personnel**

Presentation Author: Dr. Thomas Everett

**MHSRS-19-02214 - SESSION 1 - #319****Deployment Cycle Resilience Training: Quality Improvement Program Evaluation**

Presentation Author: Ms. Laurel Booth

**MHSRS-19-02226 - SESSION 1 - #320****Applying Item Response Theory to Subscreen to Understand Behavioral Health Response Patterns of Prospective Submariners**

Presentation Author: Dr. Andrea Bizarro

**MHSRS-19-02293 - SESSION 1 - #321****Revising the Master Resilience Trainer Course: From a Front-end Analysis to a Curriculum Map**

Presentation Author: Dr. Susannah Knust

**MHSRS-19-02314 - SESSION 1 - #322****Leader Development: Connecting Resilience Training To Army Doctrine**

Presentation Author: Ms. Pam Kumparatana

**MHSRS-19-02554 - SESSION 1 - #323****Does Military or First Responder Service Impact Emotional Intelligence?**

Presentation Author: Ms. Ashley Holland

**MHSRS-19-02642 - SESSION 1 - #324****Marine Recruits with Behavioral Health Complaints: A Process Improvement Initiative**

Presentation Author: Lt Samuel Walther

**AUDITORY INJURY PREVENTION****MHSRS-19-00321 - SESSION 1 - #325****Considerations for a Military Health System Auditory Blast Injury Prevention Standard**

Presentation Author: Dr. Elizabeth Brokaw

**MHSRS-19-00434 - SESSION 1 - #326****Prediction and Prevention of Blast-induced Auditory Injury using 3D-printed Chinchilla “Helmet” and Hearing Protection Devices**

Presentation Author: Dr. Rong Gan

**MHSRS-19-00664 - SESSION 1 - #327****Hearing Protection of the Communication Earplug with a Custom Earplug Tip and the HGU-56/P Flight Helmet**

Presentation Author: Mr. JR Stefanson

**MHSRS-19-00801 - SESSION 1 - #328****Constructing the Ototoxic and Therapeutic Compounds Database**

Presentation Author: Dr. Kathryn Marshall

**MHSRS-19-01414 - SESSION 1 - #329****Advanced Hearing Conservation Surveillance Metrics: International Standards for Hearing Thresholds by Age and Gender, and Estimation of Noise-induced Hearing Loss in Air Force Audiometric Data**

Presentation Author: Dr. Elizabeth McKenna

**MHSRS-19-01479 - SESSION 1 - #330****Nonlinear Passive Acoustic Device for Preventing Blast Injury of the Ear**

Presentation Author: Mr. Soroush Shabahang

**MHSRS-19-01501 - SESSION 1 - #331****Targeted Drug Discovery for Noise-induced Hearing Loss: Intersection of Noise Exposure and Genetics**

Presentation Author: Dr. Allison Coffin

**MHSRS-19-01567 - SESSION 1 - #332****The Military Hearing in Noise Test: Test Design and Norming Study Results**

Presentation Author: Dr. Odile Clavier

**MHSRS-19-01630 - SESSION 1 - #333****Integrating User Voice in Hearing Care with Focus on Young Adult Warfighter**

Presentation Author: Mr. Shayan Gupta

**MHSRS-19-01778 - SESSION 1 - #334****Noise-induced Hearing Loss in Police Officers**

Presentation Author: Dr. Kristine Sonstrom Malowski

**MHSRS-19-02019 - SESSION 1 - #335****Characterization of Acute Hearing Changes in U.S. Military Populations**

Presentation Author: Dr. Quintin Hecht

## RETURN-TO-DUTY

**WHAT'S NEW IN ANTIMICROBIAL DEVELOPMENT TO COUNTER MULTIDRUG-RESISTANT BACTERIAL INFECTIONS IN MILITARY PERSONNEL****MHSRS-19-00083 - SESSION 1 - #336****Photo-inactivation of *Neisseria Gonorrhoeae*: A Paradigm Changing Approach for Combating Antibiotic-resistant Gonorrhea**

Presentation Author: Dr. Tianhong Dai

**MHSRS-19-00271 - SESSION 1 - #337****Screening Traditional Chinese Medicine for Bactericidal Activity against *Acinetobacter Baumannii***

Presentation Author: MAJ Lucas Poon

**MHSRS-19-00373 - SESSION 1 - #338****EBX-205 - A Broad Spectrum Antibiotic to Orally Treat Biodefense and Public Health Threats**

Presentation Author: Ms. Michelle Saylor

**MHSRS-19-00623 - SESSION 1 - #339****The Topical Metalloprotease SN514 Enhances Antimicrobial Activity Against Bacterial Biofilms**

Presentation Author: Mr. Paul Renick

**MHSRS-19-00655 - SESSION 1 - #340*****Lactobacillus* Membrane Vesicles for Delivery of Novel Antimicrobial Peptides**

Presentation Author: Mr. Scott Dean

**MHSRS-19-00692 - SESSION 1 - #341****A Volatolomic Approach: A Step Forward in the Characterization of Wound Pathogens**

Presentation Author: Ms. Shawna Gallegos

**MHSRS-19-00694 - SESSION 1 - #342****Broad Spectrum Host-oriented Therapy for Wound Infection: (1) Using Mimetic Peptides as Antagonists**

Presentation Author: Dr. Raymond Kaempfer

**MHSRS-19-01035 - SESSION 1 - #343****Broad Spectrum Host-oriented Therapy for Wound Infection: (2) Evaluating in Vivo Efficacy of Antagonists**

Presentation Author: Dr. Alan Cross

**MHSRS-19-00715 - SESSION 1 - #344****Development of Precision Based Phage Therapy Model: The Benefits and Science Considerations**

Presentation Author: Dr. Biswajit Biswas

**MHSRS-19-00730 - SESSION 1 - #345****Investigating the Role of Benzalkonium Chloride, a Common Biocidal used in Hand Sanitizer, and Antimicrobial Resistance in *Pseudomonas Aeruginosa***

Presentation Author: Dr. Christine Nadeau

**MHSRS-19-00933 - SESSION 1 - #346****Development of Mouse Models of Water-borne Infections Caused by *Vibrio Vulnificus* and *Aeromonas Hydrophila* to Characterize Wound Infections in Maritime Environments**

Presentation Author: Lt Jae Dugan

**MHSRS-19-01007 - SESSION 1 - #347****The Multidrug-resistant and Other Virulent Organisms Trauma Infections Initiative: 2019 Update**

Presentation Author: Dr. Katrin Mende

**MHSRS-19-01096 - SESSION 1 - #348****Gene-based Vaccines against Antibiotic Resistant *Staphylococcus Aureus***

Presentation Author: Dr. Michael Barry

**MHSRS-19-01114 - SESSION 1 - #349****Novel Small-molecule Inhibitors of Methicillin-resistant *Staphylococcus Aureus***

Presentation Author: Dr. Schroeder Noble

**MHSRS-19-01155 - SESSION 1 - #350****Antimicrobial Resistance and Utilization: A Diagnostic Approach to Antimicrobial Stewardship in a Large Military Treatment Facility**

Presentation Author: Mrs. Jessica Spencer

**MHSRS-19-01252 - SESSION 1 - #351****Afghanistan: A Haven For Carbapenemase-producing Organisms**

Presentation Author: Dr. Patrick Mc Gann

**MHSRS-19-01304 - SESSION 1 - #352****Impact of Route on Therapeutic Efficacy of Bacteriophage in an *A. Baumannii* Mouse Wound Infection Model**

Presentation Author: Dr. Michael Rouse

**MHSRS-19-01416 - SESSION 1 - #353****Potential of Clofazimine as a Highly Promising Therapeutic Agent for Treatment of NAP1/B1/027 and Other Antibiotic Resistant Strains of *Clostridium Difficile***

Presentation Author: Dr. Sharanjit VedBhat

**MHSRS-19-01556 - SESSION 1 - #354****Intraoperative use of Amicidin-alpha Surgical Gel to Decrease Risk of Infection**

Presentation Author: Dr. Michael Bevilacqua

**MHSRS-19-01576 - SESSION 1 - #355****Rapid Diagnosis of Bacterial Pneumonia using Volatile Organic Compounds**

Presentation Author: Dr. Allyson Dailey

**MHSRS-19-01657 - SESSION 1 - #356****DNA Gyrase Inhibition by Binding Small Molecules to both Gyrase A and B**

Presentation Author: Dr. Mary MacDonald

**MHSRS-19-01715 - SESSION 1 - #357****Determining the Safety of Glycoside Hydrolases as a Treatment Option for Dispersing Poly-microbial Biofilms**

Presentation Author: Ms. Whitney Redman



**MHSRS-19-01736 - SESSION 1 - #358****Point-of-injury Thermostable Antimicrobial Wound Matrices for Combat Wounds**

Presentation Author: Mr. RaviKiran Mekala

**MHSRS-19-01746 - SESSION 1 - #359****Tackling Disease-causing Biofilms using Light Activated Nanomaterials**

Presentation Author: Dr. Peng Zhang

**MHSRS-19-01792 - SESSION 1 - #360****Novel Antimicrobial Wound Dressing for Treating Chronic Wound Infections**

Presentation Author: Dr. Haluk Beyenal

**MHSRS-19-01833 - SESSION 1 - #361****Composition, Function, and Relevance of the Microbial Microenvironment in Wounds from Combat Injuries**

Presentation Author: Dr. Nicholas Be

**MHSRS-19-01876 - SESSION 1 - #362****In Vitro and in Vivo Characterization of a Pseudomonas Aeruginosa Therapeutic Phage Cocktail**

Presentation Author: Dr. Anna Jacobs

**MHSRS-19-01887 - SESSION 1 - #363****Investigation of the Effects of Blast Overpressure Exposure on Wound Infection Susceptibility**

Presentation Author: Dr. Vlado Antonic

**MHSRS-19-02025 - SESSION 1 - #364****Discovery of Novel, Small Molecule Modulators of Metabolic Pathways as Potential Antibiotics for the Treatment of Gram-negative, Multi-drug Resistant Pathogens**

Presentation Author: Dr. Malik Raynor

**MHSRS-19-02033 - SESSION 1 - #365****Targeted Drug Combination Approach for Identification of New Therapeutics against Multi-drug Resistant Bacteria**

Presentation Author: Dr. Malik Raynor

**MHSRS-19-02110 - SESSION 1 - #366****Development of Durable Fixed Phage Cocktails as Therapeutics against Multidrug Resistant Gram-negative Wound Infections**

Presentation Author: Dr. Mikeljon Nikolich

**MHSRS-19-02117 - SESSION 1 - #367****Antimicrobial Efficacy of Peptide-based Wound Dressings – from Ex Vivo to in Vivo Models**

Presentation Author: Dr. Nina Bionda

**MHSRS-19-02122 - SESSION 1 - #368****Evaluation of Cyclic Lipopeptide Formulations on the Proliferation of Methicillin Resistant Staphylococcus Aureus USA300 and Pseudomonas Aeruginosa PA09-010 in a Porcine Full Thickness Wound Model**

Presentation Author: Mr. Joel Gil

**MHSRS-19-02130 - SESSION 1 - #369****Clinical Characteristics of Recurrent Skin and Soft Tissue Infection among U.S. Army Infantry Trainees at Fort Benning, GA**

Presentation Author: Dr. Eugene Millar

**MHSRS-19-02190 - SESSION 1 - #370****Antimicrobial and Antibiofilm Effect of Chitosan Solutions against Methicillin Resistant Staphylococcus Aureus**

Presentation Author: Dr. Keunseok Seo

**MHSRS-19-02330 - SESSION 1 - #371****Dual-wavelength (460+405 nm) Photoinactivation of Methicillin Resistant Staphylococcus Aureus**

Presentation Author: Dr. Leon Lease

**MHSRS-19-02318 - SESSION 1 - #372****Quinine Enhances Fungicidal Effects of Antimicrobial Blue Light: Implications for Treating Candidemia Resulting from Blast and Combat Related Injury**

Presentation Author: Dr. Leon Lease

**MHSRS-19-02337 - SESSION 1 - #373****Elimination of Methicillin Resistant Staphylococcus Aureus through Photo-induced Chemical Bleaching of Staphyloxanthin by Antimicrobial Blue Light and Pyocyanin**

Presentation Author: Dr. Leon Lease

**MHSRS-19-02345 - SESSION 1 - #374****Antimicrobial Blue Light Enhances the Effects of Antibiotics in Bacteria: Implications for the Treatment of Combat Related Multidrug Resistant Infections**

Presentation Author: Dr. Leon Lease

**MHSRS-19-02362 - SESSION 1 - #375****Clinical Candidate, SPR741, in Combination with Minocycline Eradicates XDR-Acinetobacter Baumannii and Klebsiella Pneumoniae in a Pulmonary and Wound Models of Infection**

Presentation Author: Dr. Daniel Zurawski

**MHSRS-19-02324 - SESSION 1 - #376****The Human Monoclonal Antibody Platform: A Programmatic Effort Targeting the Gram-negative Bacteria Responsible for Wound and Osteomyelitis Infections**

Presentation Author: Dr. Daniel Zurawski

**MHSRS-19-02398 - SESSION 1 - #377****Wireless Electroceutical Wound Dressing Inhibits Yeast to Hyphae Transition and Biofilm Formation in Ketoconazole Resistant Candida Albicans**

Presentation Author: Dr. Chandan Sen

**MHSRS-19-02422 - SESSION 1 - #378****Antagonism of Escape Pathogens by Enterococcus and Coagulase-negative Staphylococcus Isolates from the Multidrug-resistant and Other Virulent Organisms Trauma Infections Initiative**

Presentation Author: LCDR Mark Simons

**MHSRS-19-02441 - SESSION 1 - #379****Decacationic Chlorin-Vancomycin Conjugate Mediated Antimicrobial Photodynamic Inactivation of Methicillin-resistant Staphylococcus Aureus**

Presentation Author: Dr. Xiaojing Liu

**MHSRS-19-02567 - SESSION 1 - #380****Biodegradable Gel with Novel Antimicrobial Peptide: Safety, Efficacy and Potential Synergy with other Antimicrobials**

Presentation Author: Dr. Jennifer Neff

**OPEN - SESSION 1 - #381****ASSESSMENT AND TREATMENT OF BATTLEFIELD AUDITORY SYSTEM INJURIES****MHSRS-19-00580 - SESSION 1 - #382****Early Signs of Noise Exposure-related Auditory Injury in Service Members and Veterans**

Presentation Author: Dr. Sarah Theodoroff

**MHSRS-19-00970 - SESSION 1 - #383****Specialized Pro-resolving Lipid Mediator, Neuroprotectin D1, Reduces Reactive Microglial Cells Induced by Blast Wave Exposure in Cochlear Tissues**

Presentation Author: Dr. Jose David Rios

**MHSRS-19-01004 - SESSION 1 - #384****Objective and Subjective Auditory Effects in a Longitudinal Study of Service Members with Traumatic Brain Injury and Blast Exposure**

Presentation Author: Dr. Douglas Brungart

**MHSRS-19-01128 - SESSION 1 - #385****Transfer Learning in Deep Neural Networks in a Brain-computer Interface for Two-talker Attention Decoding**

Presentation Author: Dr. Gregory Ciccarelli

**MHSRS-19-01129 - SESSION 1 - #386****Investigating the Neurobiology of Tinnitus**

Presentation Author: Dr. Jay Piccirillo

**MHSRS-19-01279 - SESSION 1 - #387****Biosignatures of Accumulated Blast Exposure and Associated Symptoms of Tinnitus and Hearing Loss in Exposure to Explosive Breaching**

Presentation Author: Dr. Walter Carr

**MHSRS-19-01355 - SESSION 1 - #388****Population Description of Women from the Blast-related Auditory Injury Database**

Presentation Author: Dr. Mary Clouser

**MHSRS-19-01814 - SESSION 1 - #389****Auditory Processing Disorder in Relation to Blast Exposure: A Future in fMRI Analysis**

Presentation Author: Dr. Brandi Murphy

**MHSRS-19-02519 - SESSION 1 - #390****Associations between Tinnitus Severity and Mental Health Symptoms among Veterans with and without Traumatic Brain Injury: A National Survey**

Presentation Author: Dr. Kathleen Carlson

**MHSRS-19-02660 - SESSION 1 - #391****Noise Outcomes in Servicemembers Epidemiology (Noise) Study: Findings to Date**

Presentation Author: Dr. James Henry

**HOW TO PRESERVE AND RESTORE EYESIGHT AFTER COMBAT TRAUMA****MHSRS-19-00047 - SESSION 1 - #392****Reawakening the Regenerative Potential of Mammalian Müller Glial Cells to Restore Sight**

Presentation Author: Dr. Ross Poche

**MHSRS-19-00070 - SESSION 1 - #393****Development of a Micro-coil-based Cortical Visual Prosthesis**

Presentation Author: Mr. Shelley Fried

**MHSRS-19-00140 - SESSION 1 - #394****Matrix Bound Nanovesicles Protect and Repair Injured Retina and Optic Nerve after Traumatic Ocular Injury**

Presentation Author: Dr. Stephen Badylak

**MHSRS-19-00146 - SESSION 1 - #395****Self-reflow Corneal Prosthetic Device for Temporarily Stabilizing Traumatic Corneal Perforation: Experimental Rabbit Eye Model**

Presentation Author: Dr. Espoir Kyubwa

**MHSRS-19-00255 - SESSION 1 - #396****Inactive Cas9 Blocks TGF- $\beta$ 2-induced Expression of MDM2 and Epithelial to Mesenchymal Transition in Retinal Pigmental Epithelial Cells**

Presentation Author: Dr. Hetian Lei

**MHSRS-19-00331 - SESSION 1 - #397****Development of a Corneal Puncture Model for Assessing Biomaterial Therapeutics**

Presentation Author: Dr. Eric Snider

**MHSRS-19-00446 - SESSION 1 - #398****Safety and Efficacy of Locally Delivered Allogeneic Mesenchymal Stem Cells for Promoting Corneal Repair (Phase I Study): Study Design Implications**

Presentation Author: Dr. Charlotte Joslin

**MHSRS-19-00512 - SESSION 1 - #399****Bedside Ocular Ultrasound for Retinal Detachment in the Emergency Department**

Presentation Author: CAPT Kristine Jeffers

**MHSRS-19-00521 - SESSION 1 - #400****Brain-derived Neurotrophic Factor as Targeting Platform to Deliver Small Molecules to the Optic Nerve**

Presentation Author: Dr. Stephen Kahl

# Poster Session 1

**MHSRS-19-00590 - SESSION 1 - #401****Topical Inhibition of RUNX1 Limits Cell Growth and Proliferation in a New Rabbit Model of Proliferative Vitreoretinopathy using Patient-derived Cells**

Presentation Author: Dr. Leo Kim

**MHSRS-19-00648 - SESSION 1 - #402****A Porcine Model of Traumatic Optic Neuropathy**

Presentation Author: CPT Andrew Holt

**MHSRS-19-00816 - SESSION 1 - #403****Rates and Outcomes for Pars Plana Vitrectomy Following Traumatic Ocular Injury and Initial Globe Repair, a Retrospective Analysis at a Level One Trauma Center**

Presentation Author: Capt Donovan Reed

**MHSRS-19-01071 - SESSION 1 - #404****Nanowafer Therapeutic for the Rapid and Effective Treatment of Eye Injuries**

Presentation Author: Dr. Ghanashyam Acharya

**MHSRS-19-01132 - SESSION 1 - #405****Ocular Trauma in Operation Iraqi Freedom and Operation Enduring Freedom: 2001-2011**

Presentation Author: CPT Grant Justin

**MHSRS-19-01272 - SESSION 1 - #406****A Portable, Smartphone Based Slit Lamp/ophthalmoscope for use in Austere Environments**

Presentation Author: Dr. Michael Browne

**MHSRS-19-01377 - SESSION 1 - #407****Photophobia Associated with Traumatic Brain Injury: A Meta-analysis**

Presentation Author: Ms. Natalya Merezhinskaya

**MHSRS-19-01444 - SESSION 1 - #408****Terminally Sterilized Amniotic Membrane Allografts: A Comparison of Supercritical CO2 and Gamma Irradiation Methods**

Presentation Author: Dr. Jennifer Wehmeyer

**MHSRS-19-01571 - SESSION 1 - #409****PCL Nanoparticles for Retinal Drug Delivery of a Small Molecule Inhibitor of RUNX1**

Presentation Author: Dr. Joseph Arboleda-Velasquez

**MHSRS-19-01631 - SESSION 1 - #410****Bioengineered Corneal Tissue for the Surgical Repair of Sulfur Mustard-induced Ocular Injury - Quantitative Analysis of Proliferative Capacity for Component Cell Types**

Presentation Author: Dr. Timothy Varney

**MHSRS-19-01641 - SESSION 1 - #411****Direct-Write Electrospun Collagen Nanofibers with Integrated Sensors for Corneal Surgical Training**

Presentation Author: Dr. Frank Alexander

**MHSRS-19-01760 - SESSION 1 - #412****Topical Delivery of MG53 to Repair Corneal Injury and Prevent Scarring**

Presentation Author: Dr. Tao Tan

**MHSRS-19-02009 - SESSION 1 - #413****3D-printed Craniofacial Bone Grafts with Autologous Cells for Bone Regeneration**

Presentation Author: Dr. Ethan Nyberg

**MHSRS-19-02248 - SESSION 1 - #414****Monocular Reduced Vision in Pilot Performance**

Presentation Author: LCDR Micah Kinney

**MHSRS-19-02312 - SESSION 1 - #415****Performance Assessment of the New Military Vision Standard**

Presentation Author: LCDR Hong Gao

**MHSRS-19-02380 - SESSION 1 - #416****When Technology Hurts us: A Devastating Projectile Globe Injury in a Young Active Duty Soldier**

Presentation Author: CPT Maxine Harvey

**MHSRS-19-02506 - SESSION 1 - #417****Recent Trends in Surgical Management of the Orbital Floor Fracture at Brooke Army Medical Center**

Presentation Author: CPT John Lally

**MHSRS-19-02607 - SESSION 1 - #418****Drug Loading of SCC02 Sterilized Human Amniotic Membrane**

Presentation Author: Dr. David Zamora

**WARFIGHTER READINESS: IMPACT OF TRAUMA****MHSRS-19-00196 - SESSION 1 - #419****Incidence of Post-traumatic Stress Disorder by Marital Status: Differential Effects in Males and Females and Implications for Military Readiness**

Presentation Author: Dr. Jeffrey Cook

**MHSRS-19-00635 - SESSION 1 - #420****Mindfulness Based Stress Reduction Increases Quality of Life and Occupational Readiness among Emergent Providers**

Presentation Author: Ms. Dallas Ducar

**MHSRS-19-00893 - SESSION 1 - #421****Longitudinal Relationship of Combat Exposure with Psychological Health Diagnoses in the Military Health System**

Presentation Author: Dr. Marjorie Campbell

**MHSRS-19-01106 - SESSION 1 - #422****Higher Percentage of Active Duty/Veteran Subjects in PTSD Drug Trials Predicts Lower Treatment and Placebo Response: A Meta-analysis**

Presentation Author: Dr. Elyse Katz

## Poster Session 1

**MHSRS-19-01256 - SESSION 1 - #423****Effects of TBI and PTSD Symptoms on the Mayo-Portland Adaptability Subscales among U.S. Active Duty Service Members**

Presentation Author: Mrs. Larissa Tate

**MHSRS-19-01297 - SESSION 1 - #424****Assessing Primary Care Physicians' Knowledge and Confidence Related to Posttraumatic Stress Disorder among Military Populations**

Presentation Author: Dr. Nida Corry

**MHSRS-19-01405 - SESSION 1 - #425****Secret Stories – The Impact of Miscarriage and Abortion on Soldiers Warfighter Readiness**

Presentation Author: Dr. Rita Quasten

**MHSRS-19-01531 - SESSION 1 - #426****Theodicy and Spiritual Distress among Veterans Managing Posttraumatic Stress**

Presentation Author: MAJ Timothy Usset

**MHSRS-19-01591 - SESSION 1 - #427****Nociceptin/Orphanin FQ Receptor Antagonists Support Extinction Learning in a Rodent Model Fear Conditioning**

Presentation Author: Dr. Emily Lowery-Gionta

**MHSRS-19-01735 - SESSION 1 - #428****Post-traumatic Stress Disorder and Military Occupation: Identifying at-risk Occupations and Implications for Military Readiness**

Presentation Author: Dr. Jeffrey Cook

**MHSRS-19-01989 - SESSION 1 - #429****The Association Between Weekly Changes in Trauma-related Catastrophizing and Weekly Changes in PTSD Symptoms Among Active Duty Military Personnel Receiving Cognitive Processing Therapy**

Presentation Author: CPT Brian Moore

**MHSRS-19-02093 - SESSION 1 - #430****Cognitive Reappraisal Mitigates Mental Health Consequences of Combat Exposure**

Presentation Author: Mr. Hunter Yates

**MHSRS-19-02172 - SESSION 1 - #431****U.S. Army Medical Unit Assemblage Management in the Field**

Presentation Author: Mr. Dave Wirtz

**MHSRS-19-02180 - SESSION 1 - #432****Size and Weight Matter in the Field: Develop to Replace Not to Add**

Presentation Author: Mrs. Mark Edgington

**MHSRS-19-02182 - SESSION 1 - #433****Blue Light Therapy Differences in Sleep Quality Improvement in Military and Civilian Populations**

Presentation Author: Ms. Kristin Shepard

## FAR FORWARD MILITARY BEHAVIORAL HEALTH INNOVATIONS

### **MHSRS-19-00032 - SESSION 1 - #434**

**Changing the Tide: Psychological Outcomes among Active Duty Service Members following a Surf Therapy Program**

Presentation Author: Dr. Kristen Walter

### **MHSRS-19-00066 - SESSION 1 - #435**

**Quality of Life for the U.S. Military Lesbian, Gay, Bisexual Service Member in Open Service**

Presentation Author: CPT Karolina Przegiend

### **MHSRS-19-00225 - SESSION 1 - #436**

**Telehealth 2.0: Preserving Continuity of Behavioral Health Clinical Care to Patients using Mobile Devices**

Presentation Author: Mrs. Amanda Schmeltz

### **MHSRS-19-00283 - SESSION 1 - #437**

**Development and Implementation of a 30-day Outpatient Program for Subthreshold PTSD**

Presentation Author: Mrs. Larissa Tate

### **MHSRS-19-00312 - SESSION 1 - #438**

**Examining the Incremental Clinical Benefit of a Trial of Transcranial Magnetic Stimulation for Depression in Service Members Undergoing Residential Treatment for Dual Diagnosis**

Presentation Author: Dr. Scott Mooney

### **MHSRS-19-00387 - SESSION 1 - #439**

**Enabling Enlisted Providers while Increasing Access and Convenience through Connected Corpsmen in the Community**

Presentation Author: CAPT Valerie Riege

### **MHSRS-19-00495 - SESSION 1 - #440**

**Evaluating the Effectiveness of Reboot Combat Recovery: A Faith-based Combat Trauma Resiliency Program**

Presentation Author: Dr. Jenny Owens

### **MHSRS-19-00511 - SESSION 1 - #441**

**Closed-loop Vagus Nerve Stimulation to Treat PTSD**

Presentation Author: Dr. Seth Hays

### **MHSRS-19-00850 - SESSION 1 - #442**

**In-office, In-home, and Telebehavioral-health Cognitive Processing Therapy for Combat-related PTSD: Preliminary Results of a Randomized Clinical Trial**

Presentation Author: Dr. Alan Peterson

### **MHSRS-19-00904 - SESSION 1 - #443**

**Assessment of Far Forward Behavioral Health Needs of Soldiers, Medics, and Leaders**

Presentation Author: Dr. Joshua Wilk

### **MHSRS-19-00928 - SESSION 1 - #444**

**Acupuncture Helps Complex Medical Illness: Dissemination of Results**

Presentation Author: Dr. Lisa Conboy



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## **MHSRS-19-01207 - SESSION 1 - #445**

### **Mental Health, Stress, and Resilience Correlates of Heart Rate Variability among Military Reservists and First Responders**

Presentation Author: Dr. Laurel Hourani

## **MHSRS-19-01208 - SESSION 1 - #446**

### **Can Mindfulness Help to Predict Veterans' Mental Health Service Utilization? Introduction**

Presentation Author: Dr. Nicholas Barr

## **MHSRS-19-01413 - SESSION 1 - #447**

### **Effectiveness of the Drop Study: An Army Behavioral Health Provider Training Targeting Therapeutic Alliance and Premature Therapy Dropout**

Presentation Author: Dr. Katie Nugent

## **MHSRS-19-01559 - SESSION 1 - #448**

### **Means Safety for Suicide Prevention in Military Communities - Development of the "Lock To Live" Decision Aid**

Presentation Author: Dr. Marian Betz

## **MHSRS-19-01643 - SESSION 1 - #449**

### **Measurement Invariance and Item Response Theory Modeling of the Suicide Cognitions Scale**

Presentation Author: Dr. Justin Baker

## **MHSRS-19-01853 - SESSION 1 - #450**

### **Strategic Manning for Embedded Mental Health in Operational Settings: A Data-driven Approach**

Presentation Author: CDR Jeffrey Millegan

## **MHSRS-19-01974 - SESSION 1 - #451**

### **Effectiveness of A Mindfulness-based Group Therapy Integrative Restoration for Active Duty Personnel with Mild Traumatic Brain Injury in an Outpatient Clinic**

Presentation Author: Ms. Brianna Biel

## **MHSRS-19-01977 - SESSION 1 - #452**

### **Identifying Error Rates in Suppressed Emotions during Training**

Presentation Author: 2LT Raul Betancourt-Perez

## **MHSRS-19-02036 - SESSION 1 - #453**

### **Use of Mobile Technology Paired with Heart Rate Monitor to Remotely Quantify Behavioral Health Markers among Military Reservists and First Responders**

Presentation Author: Dr. Maria Davila

## **MHSRS-19-02080 - SESSION 1 - #454**

### **A Pilot Study to Examine Psychological and Neuropsychological Outcomes and a Novel Detoxification Program for Gulf War Illness**

Presentation Author: Dr. Donald Graves

## **MHSRS-19-02284 - SESSION 1 - #455**

### **Healthcare Utilization in Soldiers with Concussion and Other Deployment-related Injuries**

Presentation Author: Ms. Kristina Clarke-Walper

**MHSRS-19-02304 - SESSION 1 - #456****The Impact of Personality Disorders On CPT Treatment Outcome in Active Duty Military**

Presentation Author: Dr. Sahli Cavallaro

**MHSRS-19-02518 - SESSION 1 - #457****Approaches to Prevention and Treatment of High-risk Behaviors using Neuromodulation**

Presentation Author: Mr. Richard Hanbury

**INNOVATIONS IN PTSD PROPHYLAXIS/PREVENTION AND BIOMARKER RESEARCH IN MILITARY POPULATIONS****MHSRS-19-00412 - SESSION 1 - #458****Characterization of Pro-inflammatory and Anti-inflammatory Microglial Phenotypes in a Rat Model of PTSD**

Presentation Author: CPT Thomas Cotrone

**MHSRS-19-00753 - SESSION 1 - #459****Fear Memory Extinction is Blocked in Rats Following Acute Glial Cell Inhibition: Implications for Targeting Neuroinflammation in Traumatic Stress Exposure**

Presentation Author: Dr. Rachel Taylor

**MHSRS-19-00851 - SESSION 1 - #460****Outcomes of Intensive Outpatient Prolonged Exposure Psychotherapy for Combat-related Posttraumatic Stress Disorder: A Randomized Clinical Trial**

Presentation Author: Dr. Alan Peterson

**MHSRS-19-01046 - SESSION 1 - #461****Delta Opioid Receptor Biased Agonists as a New Treatment Paradigm for PTSD**

Presentation Author: Dr. Mark Peterson

**MHSRS-19-01254 - SESSION 1 - #462****A Novel Orally Active Triple Reuptake Inhibitor for the Treatment of Post-traumatic Stress Disorder: D-578 Attenuates Abnormal Fear Behavior in a Rodent Model of Traumatic Stress**

Presentation Author: Mr. Frank Bymaster

**MHSRS-19-01306 - SESSION 1 - #463****Using a Brain Biomarker Discovery to Rapidly Diagnose and Precisely Treat Post-traumatic Stress Disorder**

Presentation Author: Dr. Jennifer Perusini

**MHSRS-19-01538 - SESSION 1 - #464****Intravenous Ketamine Infusion Does Not Alter Long-term Fear Memory in Male Rats**

Presentation Author: CDR Kennett Radford

**MHSRS-19-01604 - SESSION 1 - #465****Predicting Mental Illness by Whole Genome Risk Analytics in the Vietnam Era Twin Cohort**

Presentation Author: Dr. Daniel Hupalo

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**MHSRS-19-02023 - SESSION 1 - #466****A Multivariate Prediction Model of Neuroendocrine Dysregulation in Canadian Combat Veterans with Recent versus Chronic Posttraumatic Stress Disorder**

Presentation Author: Dr. Shawn Rhind

**MHSRS-19-02286 - SESSION 1 - #467****Blockade of mGlu7 Receptor as a Novel Therapeutic Approach for Post-traumatic Stress Disorder: Preclinical Evidences**

Presentation Author: Dr. Guillaume Duvey

**MHSRS-19-02326 - SESSION 1 - #468****Altered Suppression of Beta Band Oscillations during Memory Encoding is Predictive of Lower Subsequent Recognition Performance in Mild Traumatic Brain Injury with Significant Post-traumatic Stress Disorder Symptoms**

Presentation Author: Dr. Thomas DeGraba

**MHSRS-19-02375 - SESSION 1 - #469****Salivary Hormone Analysis: A Useful Tool to Detect Detrimental Stress Responses during Military Deployments?**

Presentation Author: MAJ Jeffrey Colburn

**MHSRS-19-02432 - SESSION 1 - #470****Sex-related Differences in the Effects of Intravenous Ketamine on Dissociative Behaviors, Antinociception, and Hormone Levels in Sprague-dawley Rats**

Presentation Author: Dr. Kwang Choi

**COGNITIVE READINESS: BRIDGING THE GAP BETWEEN NEUROPSYCHOLOGICAL TESTS AND WARFIGHTER READINESS****MHSRS-19-00087 - SESSION 1 - #471****The Fusion-VR Study: Development of a Military-relevant Virtual Reality Approach for Return-to-Duty Decision Making after Traumatic Brain Injury**

Presentation Author: Dr. Mark Ettenhofer

**MHSRS-19-00125 - SESSION 1 - #472****Attentional Improvements Following Neurofeedback Therapy for Traumatic Brain Injury in Service Members: A Single-group Pilot Study**

Presentation Author: Dr. Jamie Hershaw

**MHSRS-19-00311 - SESSION 1 - #473****Service Member Experience and Patient Satisfaction Following Utilization of Military Teleneuropsychology Service**

Presentation Author: Dr. Scott Mooney

**MHSRS-19-00473 - SESSION 1 - #474****Attention-deficit/hyperactivity Disorder is Linked to Reduced Cognitive Resiliency to Subconcussive Head Impact: A Case-control Intervention Study**

Presentation Author: Dr. Keisuke Kawata

**MHSRS-19-00689 - SESSION 1 - #475****Heart Rate Variability Changes Following Live Z Score Neurofeedback Therapy**

Presentation Author: Ms. Megan Loftin

**MHSRS-19-00999 - SESSION 1 - #476****Post-traumatic Stress Symptoms are Associated with Worse Neuropsychological Functioning, but not Diffusion Tensor Imaging Findings, in Military Service Members following Mild Traumatic Brain Injury**

Presentation Author: Dr. Rael Lange

**MHSRS-19-01012 - SESSION 1 - #477****Resilience Influences Neurocognitive Performance and Neurobehavioral Symptom Reporting following Uncomplicated Mild Traumatic Brain Injury in U.S. Military Service Members**

Presentation Author: Dr. Rael Lange

**MHSRS-19-01103 - SESSION 1 - #478****A Review of Research into Training as a Cognitive Performance Enhancement Technique**

Presentation Author: Ms. Amanda Hayes

**MHSRS-19-01122 - SESSION 1 - #479****Profile of Brief Symptom Inventory-18 Scores in Civilian and Military Collegiate Athletes**

Presentation Author: Dr. Thomas McAllister

**MHSRS-19-01150 - SESSION 1 - #480****Normative Reference Values for National Guard Soldiers on the Automated Neuropsychological Assessment Metrics (Version 4) Battery**

Presentation Author: Ms. Caitlin Haven

**MHSRS-19-01915 - SESSION 1 - #481****Assessing Neurocognitive Performance using Handheld Software Defined Radios**

Presentation Author: Mr. Matthew Yanagi

**MHSRS-19-01950 - SESSION 1 - #482****Changes in Affordance Perception Behaviors during Exposure to Acute Military Operational Stress**

Presentation Author: Ms. Alice LaGoy

**MHSRS-19-02031 - SESSION 1 - #483****Cognitive Rehabilitation for the Warfighter: Application of Smart**

Presentation Author: Dr. Ida Babakhanyan

**MHSRS-19-02177 - SESSION 1 - #484****Using the Virtual Multiple Errands Task to Assess Executive Functioning in Traumatic Brain Injury**

Presentation Author: Ms. Marielle Nagele

**MHSRS-19-02425 - SESSION 1 - #485****Repetitive Transcranial Magnetic Stimulation as a Protective Measure against Early-Onset Alzheimer's Disease: A Case Report**

Presentation Author: Mr. Jared Garland

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**MHSRS-19-02474 - SESSION 1 - #486****Mindfulness: An Emerging Strategy for Enhancing Health and Readiness in the Military**

Presentation Author: CPT Thomas Nassif

**MHSRS-19-02597 - SESSION 1 - #487****Paradoxical Effect of Stimulus Density on PVT Time-on-task Effect during Sleep Deprivation**

Presentation Author: Dr. Kimberly Honn

**LONG-TERM IMPAIRMENT FOLLOWING CONCUSSION: UNDERSTANDING DISCREPANCIES IN REPORTED OUTCOMES AND IMPLICATIONS FOR RETURN-TO-DUTY****MHSRS-19-00096 - SESSION 1 - #488****Does Method of Receiving A Traumatic Brain Injury Influence Care Seeking?**

Presentation Author: Ms. Bianca Chavez

**MHSRS-19-00116 - SESSION 1 - #489****Telerehabilitation for Combat Wounded with Traumatic Brain Injury and Post Traumatic Stress Disorders**

Presentation Author: Dr. Kris Siddharthan

**MHSRS-19-00342 - SESSION 1 - #490****Non-medical Predictors of Long-term TBI Outcomes**

Presentation Author: Ms. Catherine Butt

**MHSRS-19-00601 - SESSION 1 - #491****Task Practice Intensity Estimation in Individuals with Traumatic Brain Injury**

Presentation Author: Dr. Sandeep Subramanian

**MHSRS-19-00685 - SESSION 1 - #492****Medical Comorbidities Predict Psychological Health After Traumatic Brain Injury: A VA TBI Model Systems Study**

Presentation Author: Ms. Emily Noyes

**MHSRS-19-00761 - SESSION 1 - #493****Comorbidity Burden Contributes To Community Reintegration and Employment After TBI: A VA TBI Model Systems Study**

Presentation Author: Ms. Deveney Ching

**MHSRS-19-00814 - SESSION 1 - #494****Impact of Medical Comorbidities on Rehabilitation Outcomes Following TBI: A VA TBI Model Systems Study**

Presentation Author: Dr. Risa Nakase-Richardson

**MHSRS-19-00833 - SESSION 1 - #495****Demographic and Mental Health Predictors of Arrests 1-10 Years Post-TBI: A VA TBIMS Study**

Presentation Author: Dr. Shannon Miles

**MHSRS-19-00834 - SESSION 1 - #496****Obstructive Sleep Apnea and PTSD Symptoms in Veterans with TBI**

Presentation Author: Dr. Leilia Abuelhiga

**MHSRS-19-00837 - SESSION 1 - #497****Arrest Rates in Veterans and Military Personnel after TBI: A VA TBI Model Systems Study**

Presentation Author: Dr. Elizabeth Gavin

**MHSRS-19-00936 - SESSION 1 - #498****Time Interval to Follow Commands in Severe Traumatic Brain Injury Survivors with Favorable Outcomes at 2 Years**

Presentation Author: Dr. Tiffany Wilkins

**MHSRS-19-01125 - SESSION 1 - #499****Specific Sleep Disorder Targeted Intervention Therapy Impact on Sleep Quality and Satisfaction with Life Scale: A Team-TBI Study**

Presentation Author: Dr. Matthew Mesley

**MHSRS-19-01221 - SESSION 1 - #500****Prevalence of Sleep Apnea Differs by Severity of Traumatic Brain Injury in Veterans and Service Member: A VA TBI Model System Study**

Presentation Author: Ms. Amanda Royer

**MHSRS-19-01325 - SESSION 1 - #501****Identifying Risk Factors for Pain Related Disability in Veterans and Service Members Exposed to Mild Traumatic Brain Injury**

Presentation Author: Dr. Michelle Hoot

**MHSRS-19-01334 - SESSION 1 - #502****Pupillary Evidence for Impaired Neural Gain Modulation in Chronic Mild Traumatic Brain Injury**

Presentation Author: Dr. Jamie Hershaw

**MHSRS-19-01373 - SESSION 1 - #503****Outcome Following Concussion: Prospective Investigation into the Effects of Prior Brain Injury on Recovery in Military Personnel**

Presentation Author: Dr. Jason Bailie

**MHSRS-19-01436 - SESSION 1 - #504****Validation of NIH Toolbox Emotion Battery for Traumatic Brain Injury**

Presentation Author: Dr. Ida Babakhanyan

**MHSRS-19-01477 - SESSION 1 - #505****Functional Status Examination versus Glasgow Outcome Scale Extended as Outcome Measures in Traumatic Brain Injuries: How Do They Compare?**

Presentation Author: Dr. Nancy Temkin

**MHSRS-19-01565 - SESSION 1 - #506****Efficacy of Vision Therapy to Ameliorate Long Term Impairment in a MTBI Patient Population**

Presentation Author: Dr. Tina Aldana

**MHSRS-19-01582 - SESSION 1 - #507****Quantitative Evaluation of Visual and Auditory Dysfunction in TBI Patients: Description of Study and Characteristics of Early Participants**

Presentation Author: Ms. Catherine Diethelm

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**MHSRS-19-01584 - SESSION 1 - #508**

**Cognitive Impairment, Psychological Health and Functional Status after Traumatic Brain Injury:  
A Team-TBI Study**

Presentation Author: Ms. Allison Borrasso

**MHSRS-19-01586 - SESSION 1 - #509**

**Lifetime Experience of mTBI Blocks Facilitated Acquisition of Eyeblink Conditioning In Anxiety-prone Veterans**

Presentation Author: HM1 Richard Servatius

**MHSRS-19-01677 - SESSION 1 - #510**

**Self-reported Sleep Quality in Persons with Chronic TBI: Can Exercise Help?**

Presentation Author: Mr. Kevin Balibay

**MHSRS-19-01685 - SESSION 1 - #511**

**Telephone-assessed Neuropsychological Performance Predicts Disability Severity Level after Traumatic Brain Injury: VA TBI Model Systems Study**

Presentation Author: Ms. Erin Brennan

**MHSRS-19-01742 - SESSION 1 - #512**

**Unmet Rehabilitation Needs Five Years Post Traumatic Brain Injury: A VA TBI Model Systems Study**

Presentation Author: Dr. Elaine Mahoney

**MHSRS-19-01857 - SESSION 1 - #513**

**Long-term Health Outcomes of Active Duty Service Members with Combat versus Non-combat Concussion**

Presentation Author: CDR Lalon Kasuske

**MHSRS-19-01861 - SESSION 1 - #514**

**Burden of Behavioral Health Comorbidities on Active Duty Service Members with a First MTBI**

Presentation Author: CDR Lalon Kasuske

**MHSRS-19-01903 - SESSION 1 - #515**

**The Effects of Fatigue and Sleep on Reported Concussion-related Symptoms**

Presentation Author: Dr. Daniel Leeds

**MHSRS-19-01909 - SESSION 1 - #516**

**MTBI and PTSD are Dissociable using Novel Virtual Reality Postural Assessments**

Presentation Author: Dr. W. Geoffrey Wright

**MHSRS-19-01952 - SESSION 1 - #517**

**Do Males and Females in the Military Differ in Terms of MTBI Reporting and Seeking Care?**

Presentation Author: Dr. Sandra Escolas

**MHSRS-19-02106 - SESSION 1 - #518**

**Comparing Acute Phase and Persistent Symptoms Following a First Mild Traumatic Brain Injury**

Presentation Author: Mr. Peter Hoover

**MHSRS-19-02256 - SESSION 1 - #519**

**Psychosis Secondary to Repetitive MTBI**

Presentation Author: Lt Devon Johnston

**MHSRS-19-02259 - SESSION 1 - #520****Reviewing Clinical Practice Guidelines on Patient-reported Outcome Measures Use for Individuals Diagnosed with TBI: On an Evaluative Literature Review**

Presentation Author: Ms. Lauren Earyes

**MHSRS-19-02353 - SESSION 1 - #521****Neck Pain and Sleep Quantity in the Etiology of Headaches in Service Members with and without Mild Traumatic Brain Injury: A Comparison**

Presentation Author: Dr. Matthew Reid

**FUNCTIONAL RETURN TO DUTY DECISION MAKING POST MTBI AND MUSCULOSKELETAL INJURY****MHSRS-19-00235 - SESSION 1 - #522****Gender Differences in Symptom Presentation and Functional Outcomes in a Matched Sample of Veterans with Mild TBI**

Presentation Author: Dr. Maheen Adamson

**MHSRS-19-00538 - SESSION 1 - #523****Vestaid: A Tablet-based Technology for Objective Exercise Monitoring in Vestibular Rehabilitation**

Presentation Author: Dr. Pedram Hovareshti

**MHSRS-19-01133 - SESSION 1 - #524****Adding an Objective Biomechanical Assessment into the Management of Knee Osteoarthritis for Civilian Patients Improves Pain, Function and Treatment Satisfaction: A Pragmatic Cluster Randomized Controlled Trial**

Presentation Author: Dr. Alexandre Fuentes

**MHSRS-19-01331 - SESSION 1 - #525****Disparity of Self-reported Injuries with Abbreviated Injury Scale Scores in Service Members Following Traumatic Brain Injury and Polytrauma**

Presentation Author: Dr. Tracey Brickell

**MHSRS-19-01437 - SESSION 1 - #526****The Relationship Between Vision Loss, Head Trauma, Traumatic Brain Injuries and Ocular Injuries in American Service Members from 2001 to 2015**

Presentation Author: Dr. Tom Velez

**MHSRS-19-01490 - SESSION 1 - #527****Visual Exploration and Gait in People with Mild Traumatic Brain Injury**

Presentation Author: Dr. Samuel Stuart

**MHSRS-19-01507 - SESSION 1 - #528****Recovery of Long Term Potentiation in Rat Organotypic Hippocampal Slice Cultures to Inform Return-to-duty Criteria in Soldiers Following Blast-induced Traumatic Brain Injury**

Presentation Author: Mr. Nevin Varghese

**MHSRS-19-01580 - SESSION 1 - #529****Traditional vs. Dynamic Reaction Time Assessments: Are We Really Evaluating Reaction Time after Concussion?**

Presentation Author: Dr. Robert Lynall



**MHSRS-19-01593 - SESSION 1 - #530****Subdural Infusion of Anti-inflammatory Proteins Targeting Coagulation and Chemokine Pathways Provides Early Neuroprotection after Spinal Cord Injury**

Presentation Author: Dr. Jacek Kwiecien

**MHSRS-19-01885 - SESSION 1 - #531****Effect of Impaired Balance by Fatigue, Reduced Plantar Sensation and Mild Traumatic Brain Injury**

Presentation Author: Dr. Zachary Domire

**MHSRS-19-01928 - SESSION 1 - #532****Evaluating the Effect of Varying Muscle Activation on Head Kinematics During Non-injurious Head Impacts in Human Volunteers**

Presentation Author: Ms. Kristen Reynier

**MHSRS-19-01939 - SESSION 1 - #533****Most- A Multi-site Observational Study Comparing Combined Intensive Concussion and Pain Management Interdisciplinary Outpatient Programs to Usual Care**

Presentation Author: Ms. Dawn Collins

**MHSRS-19-01992 - SESSION 1 - #534****Comparison of Subjects with MTBI and Healthy Control Group in the Development of the Powar-total: A Test of Return-to-duty Readiness Following MTBI**

Presentation Author: Ms. Larysa Petrenko

**MHSRS-19-02131 - SESSION 1 - #535****Development and Validation of a Mobile Application to Detect Visual Dysfunction Following Mild Traumatic Brain Injury**

Presentation Author: Dr. Susan Linder

**MHSRS-19-02160 - SESSION 1 - #536****The Assessment of Dual-task Function Conducive for use in Military Mild Traumatic Brain Injury**

Presentation Author: Dr. Susan Linder

**MHSRS-19-02273 - SESSION 1 - #537****Characterization of Healthy Control Group in the Development of the POWER-TOTAL- A Test of Return to Duty Readiness Following Concussion**

Presentation Author: Ms. Kellie Adams

**MHSRS-19-02297 - SESSION 1 - #538****Characteristics of Active Duty Service Members Post-concussion Referred to Physical Therapy**

Presentation Author: Dr. Karen L McCulloch

**MHSRS-19-02553 - SESSION 1 - #539****Using an Immersive 3D Scenario-based Rehabilitation Program to Enhance Daily Functioning in Veterans Surviving Traumatic Brain Injury**

Presentation Author: Ms. Zhengsi Chang

**MHSRS-19-02649 - SESSION 1 - #540****Exploring the Role of Combined Cognitive and Motor Dual-task Assessment and Rehabilitation for Individuals with Residual Symptoms after Mild Traumatic Brain Injury**

Presentation Author: Dr. Margaret Weightman

## MANAGEMENT AND TREATMENT OF WARFIGHTER NEUROMUSCULOSKELETAL INJURIES

### **MHSRS-19-00010 - SESSION 1 - #541**

**Assessment of Biomechanical Properties and Biocompatibility of 3D Printed Collagen Nerve Conduits: The Effects of Ruthenium versus Riboflavin Photocrosslinking**

Presentation Author: Dr. Shailly Jariwala

### **MHSRS-19-00024 - SESSION 1 - #542**

**Volumetric Changes in Edentulous Alveolar Ridge Sites Utilizing Guided Bone Regeneration and a Custom Titanium Ridge Augmentation Matrix**

Presentation Author: Dr. Rodney Phoenix

### **MHSRS-19-00777 - SESSION 1 - #543**

**Evaluation of Mesenchymal Stromal Cell Differentiation for Healing of Large Tissue Defects**

Presentation Author: Dr. Rodney Phoenix

### **MHSRS-19-00030 - SESSION 1 - #544**

**Buccal Bone Thickness Adjacent to Virtual Dental Implants Following Guided Bone Regeneration**

Presentation Author: CPT Daniel J. Phillips

### **MHSRS-19-00092 - SESSION 1 - #545**

**Tunnel Access for Guided Bone Regeneration**

Presentation Author: CPT Ryan T. McGary

### **MHSRS-19-00095 - SESSION 1 - #546**

**Rational Prophylactic Antibiotic Selection for Sinus Elevation Surgery**

Presentation Author: MAJ Joshua A. Akers

### **MHSRS-19-00138 - SESSION 1 - #547**

**Engineering of Volumetric Skeletal Muscle Tissue for Accelerated Restoration of Pelvic Floor Muscle Function**

Presentation Author: Dr. Jihyun Kim

### **MHSRS-19-00142 - SESSION 1 - #548**

**Accelerated Innervation of 3D Bioprinted Muscle Construct with Pre-fabricated Neuromuscular Junctions and Neurotrophic Factor Release System**

Presentation Author: Dr. Jihyun Kim

### **MHSRS-19-00192 - SESSION 1 - #549**

**Implementation of Direct Access Physical Therapy at Joint Base Lewis McChord: Leading the Way in Musculoskeletal Readiness**

Presentation Author: CPT Casey Shutt-Hoblet

### **MHSRS-19-00263 - SESSION 1 - #550**

**A Novel BMP-2 Delivery Device Induces Superior Bone Formation in a Rabbit Posterolateral Fusion Model**

Presentation Author: Dr. Yi Arnold

## Poster Session 1

**MHSRS-19-00293 - SESSION 1 - #551****Defining the Immune Response to Post-traumatic Osteoarthritis and Therapeutic Targeting of Inflammatory-induced Senescence Pathways to Promote Repair**

Presentation Author: Ms. Hong Zhang

**MHSRS-19-00332 - SESSION 1 - #552****Novel Calibrated Real-time Pressure Sensor Reveals Wide Variations in Current Nerve Crush Injury Models**

Presentation Author: Dr. John Elfar

**MHSRS-19-01262 - SESSION 1 - #553****Peripheral Nerve Laceration Injury in Mice: Standardized Methods Result in Reproducible Functional, Morphological, Cellular, and Molecular Characteristics in Nerve and Muscle**

Presentation Author: Dr. John Elfar

**MHSRS-19-01268 - SESSION 1 - #554****Purposeful Misalignment of Transected Sciatic Nerve Stumps Results in Aggravated Functional Deficit, with Unexpected Prevention of Muscle Atrophy**

Presentation Author: Dr. John Elfar

**MHSRS-19-01633 - SESSION 1 - #555****Transdermal Delivery of 4-aminopyridine, A Potassium Channel Blocker, Promotes Peripheral Nerve Injury Recovery with Decreased Axonal Degeneration, Improved Myelination, Faster Nerve Conduction, and Enhanced Global Motor Function**

Presentation Author: Dr. John Elfar

**MHSRS-19-01656 - SESSION 1 - #556****Treatment of Denervation Atrophy with 4-aminopyridine: Improved Limb Function and Intrinsic Muscle Force with Suppression of the Expression of Muscle Atrophy Genes**

Presentation Author: Dr. John Elfar

**MHSRS-19-00353 - SESSION 1 - #557****Dexamethasone Improves Neuromuscular Junction Recovery from Ischemia-reperfusion Injury Induced by Tourniquet Application in Mouse Hindlimb**

Presentation Author: Dr. Huiyin Tu

**MHSRS-19-00393 - SESSION 1 - #558****A Novel, Promising Strategy for Repairing Peripheral Nerve Defect: Nerve Graft Prefabrication**

Presentation Author: Dr. Huseyin Karagoz

**MHSRS-19-00639 - SESSION 1 - #559****Lower Abdominal-penoscrotal Vascularized Composite Allotransplantation**

Presentation Author: Dr. Richard Redett

**MHSRS-19-00677 - SESSION 1 - #560****A Human Joint Model System to Study the Pathogenesis and Treatment of Post-traumatic Osteoarthritis**

Presentation Author: Dr. Melissa VonDran

**MHSRS-19-00817 - SESSION 1 - #561****Desensitization using Costimulatory Blockade and Bortezomib Does Not Prevent DSA Formation and Rejection in Reconstructive Transplantation**

Presentation Author: Dr. Franka Messner

**MHSRS-19-00839 - SESSION 1 - #562****WISP1 Regulates Chondrogenic Differentiation in Tendon Associated Heterotopic Bone**

Presentation Author: Dr. Aaron James

**MHSRS-19-00860 - SESSION 1 - #563****Bone Surgery Followed by Prolonged Musculoskeletal Disuse Aggravates Atrophy: Apoptosis Concomitant with Immune Deficiency**

Presentation Author: Mr. Nabarun Chakraborty

**MHSRS-19-00896 - SESSION 1 - #564****Nuclear Sequestration of NFκB Delays the Inflammatory Switch in Raw 264.7 Macrophages**

Presentation Author: CPT Alexander Kolb

**MHSRS-19-00899 - SESSION 1 - #565****The Adapter Proteins MyD88 and TRIF are Primary Regulators of Inflammation in Bone Marrow Derived Macrophages**

Presentation Author: Ms. Marinaliz Reynoso

**MHSRS-19-00917 - SESSION 1 - #566****Nerve Graft Prefabrication via Lateral Axonal Sprouting into Allogeneic Epineural Sheath Conduit Induced by Adipose-derived Mesenchymal Stem Cells or Fat Graft**

Presentation Author: Dr. Huseyin Karagoz

**MHSRS-19-01019 - SESSION 1 - #567****A Porous Collagen-GAG Scaffold Promotes Muscle Regeneration Following Volumetric Muscle Loss Injury**

Presentation Author: Dr. Adriana Panayi

**MHSRS-19-01029 - SESSION 1 - #568****An Entirely New Approach to Flexor Tendon Repair**

Presentation Author: Dr. Aaron Dingle

**MHSRS-19-01083 - SESSION 1 - #569****The Mesh Suture Research Program: Using a Trans-discipline Research Model to Drive a Surgical Paradigm Shift**

Presentation Author: LCDR Jason Souza

**MHSRS-19-01084 - SESSION 1 - #570****Suturable Mesh Laparotomy Closure Outperforms Conventional Suture Closure in a Ball Burst Repetitive Stress Model**

Presentation Author: LCDR Jason Souza

**MHSRS-19-01185 - SESSION 1 - #571****Stem Cell and Novel Neurotrophic Factor Therapies to Improve Outcomes in Neuromusculoskeletal Injuries**

Presentation Author: Dr. Shashikumar Salgar

**MHSRS-19-01240 - SESSION 1 - #572****Innovative Approach to Nerve Repair**

Presentation Author: Dr. Yoojeong Kim

**MHSRS-19-01290 - SESSION 1 - #573****Innovative Catheter Design to Enable Safe Urinary Management of Warfighters with Neurogenic Bladder**

Presentation Author: Mr. Derek Herrera

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**MHSRS-19-01363 - SESSION 1 - #574****Development of Biological Approaches to Improve Functional Recovery after Compartment Syndrome Injury**

Presentation Author: Dr. Tracy Criswell

**MHSRS-19-01440 - SESSION 1 - #575****Effects of Visual Biofeedback on Loading Symmetry in Recovery from a Multi-ligamentous Knee Injury and Dislocation**

Presentation Author: Dr. Julianne Stewart

**MHSRS-19-01451 - SESSION 1 - #576****Conversion of Foot Strike Pattern To Treat Service Members With Running-related Knee Pain**

Presentation Author: Dr. Brittney Mazzone

**MHSRS-19-01485 - SESSION 1 - #577****Point-of-Care Tomosynthesis Imaging of the Wrist**

Presentation Author: Dr. Yueh Lee

**MHSRS-19-01551 - SESSION 1 - #578****Articulated Joint Distraction 12-weeks after an Intra-articular Fracture Induces Cartilage and Intra-articular Soft Tissue Formation in a Minipig Model**

Presentation Author: Dr. Jessica Goetz

**MHSRS-19-01575 - SESSION 1 - #579****Opioid Paradoxically Exacerbates Postfracture Pain despite Evidence of Bone Union**

Presentation Author: Dr. Fletcher White

**MHSRS-19-01691 - SESSION 1 - #580****The Vascular Architecture in Microvascular Free Flaps: Analysis of Vessel Morphology and -Morphometry in a Murine Free Flap Model**

Presentation Author: MAJ Andreas Pabst

**MHSRS-19-01826 - SESSION 1 - #581****Side-to-Side Supercharging Allograft**

Presentation Author: Dr. Satya Mallu

**MHSRS-19-01904 - SESSION 1 - #582****Vascularized Composite Allotransplantation in Swine (*Sus Scrofa*) Using a Graft Implanted Immunosuppressive Protocol**

Presentation Author: Dr. Jaclyn Yracheta

**MHSRS-19-01963 - SESSION 1 - #583****Examining Medical Separation Rates in Infantry and Combat Support U.S. Enlisted Service Members Following Anterior Cruciate Ligament Reconstruction, a Case-control Study**

Presentation Author: Ms. Veronika Pav

**MHSRS-19-01966 - SESSION 1 - #584****Modulating Macrophage Phenotype to Decrease Muscle Fibrosis in Ischemia Reperfusion Injury**

Presentation Author: Mr. Chase Pagani

**MHSRS-19-02006 - SESSION 1 - #585****Large Gap Peripheral Nerve Repair with Photochemical Tissue Bonding and Acellular Nerve Allograft in a Non-human Primate Model**

Presentation Author: Dr. Marek Hansdorfer

**MHSRS-19-02027 - SESSION 1 - #586****Center for Disruptive Musculoskeletal Innovations as a Model for Rapid Advancement of Prevention, Management and Treatment Strategies**

Presentation Author: LCDR Dustin Huber

**MHSRS-19-02048 - SESSION 1 - #587****Blast Injury Prevention Standards Recommendation Process: Skull Fracture Blast Injury Type**

Presentation Author: Dr. Matthew Downs

**MHSRS-19-02073 - SESSION 1 - #588****Soft Tissue Manipulation Attenuates Inflammation, Modulates Pain and Improves Gait in Conscious Rodents with Induced Low Back Pain**

Presentation Author: Dr. Mary Loghmani

**MHSRS-19-02074 - SESSION 1 - #589****The Effect of Gelatin MW on Lubricating Ability of an HA-Gelatin Compound in a Tendon Injury Model**

Presentation Author: Dr. Peter Amadio

**MHSRS-19-02170 - SESSION 1 - #590****Viral Vector Delivery of Follistatin Enhances Recovery of Reinnervated Muscle**

Presentation Author: Dr. Satya Mallu

**MHSRS-19-02179 - SESSION 1 - #591****Time to Anterior Cruciate Ligament Reconstruction in the U.S. Military: Does Delay to Surgery Increase Medical Separation Risk?**

Presentation Author: Ms. Veronika Pav

**MHSRS-19-02210 - SESSION 1 - #592****Perceptions and Measurement of Acute Pain in U.S. Service Members with Upper Extremity Disability using the Patient Reported Outcomes Measurement Information System: A Mixed Methods Evaluation**

Presentation Author: LTG Enrique Smith-Forbes

**MHSRS-19-02213 - SESSION 1 - #593****Psychosocial Predictors of Outcomes in Upper Extremity Vascularized Composite Allotransplantation with Mock Patient Vignettes**

Presentation Author: Dr. Simon Talbot

**MHSRS-19-02217 - SESSION 1 - #594****Critical Perfusion Threshold for Segmental Tissue at Risk after Cervical Spinal Cord Injury**

Presentation Author: Dr. Zin Khaing

**MHSRS-19-02243 - SESSION 1 - #595****The First Preclinical Porcine Model to Study Facial Scar Contractures and their Mechanisms**

Presentation Author: Dr. Sashwati Roy

**MHSRS-19-02244 - SESSION 1 - #596****A Combinatorial Approach to Cartilage Repair using Fractional Laser Treatment with Dynamic Self-regenerating Cartilage**

Presentation Author: Dr. Yingfang Fan

**MHSRS-19-02295 - SESSION 1 - #597****A Novel Nurse-managed Stress Fracture Rehabilitation Program: A Pilot Study**

Presentation Author: LTC William Brown

**MHSRS-19-02298 - SESSION 1 - #598****Defining Value for Navy Medicine through Musculoskeletal Integrated Practice Units**

Presentation Author: CDR Leslie Hair

**MHSRS-19-02361 - SESSION 1 - #599****Weightbearing CT Scan after Pilon Fracture Fixation Demonstrates Significant Early Joint Space Narrowing**

Presentation Author: Dr. Michael Willey

**MHSRS-19-02363 - SESSION 1 - #600****A Novel Ceramic-binding Variant TBMP-2 Delivered on a Ceramic Fiber Carrier Exhibits Dose-dependent Superiority in Union Rate over Standard of Care in a Five-centimeter Chronic Caprine Tibial Defect Model**

Presentation Author: Dr. Yi Arnold

**MHSRS-19-02413 - SESSION 1 - #601****Toward the Development of Patient-reported Outcome Measures for Vascularized Composite Allotransplantation of the Hand**

Presentation Author: CDR Scott Tintle

**MHSRS-19-02420 - SESSION 1 - #602****Cervical Spine Motion Characteristics as Objective Indicators of Neck Health**

Presentation Author: Mr. Jonathan Dufour

**MHSRS-19-02482 - SESSION 1 - #603****Engineering a Hybrid Thymus to Unravel the Tolerogenic Properties of Vascularized Composite Allotransplants**

Presentation Author: Ms. Jialu Wang

**MHSRS-19-02498 - SESSION 1 - #604****Qualitative Evaluation of Psychosocial Predictors of Outcomes in Upper Extremity Vascularized Composite Allotransplantation**

Presentation Author: Dr. Simon Talbot

**MHSRS-19-02527 - SESSION 1 - #605****A Porous Collagen-glycosaminoglycan Scaffold for the Treatment of Service Members affected by Volumetric Muscle Loss Injury**

Presentation Author: Dr. Kristo Nuutila

**MHSRS-19-02540 - SESSION 1 - #606****Tissue Protective Immunologic Response Following Early Definitive Fixation of Femur Fractures In Polytrauma Patients**

Presentation Author: Dr. Todd McKinley

**MHSRS-19-02548 - SESSION 1 - #607**

**Transcutaneous Contrast-enhanced Ultrasound Imaging of The Post-traumatic Spinal Cord Following Laminectomy**

Presentation Author: Mr. Matthew Bruce

**MHSRS-19-02555 - SESSION 1 - #608**

**Tissue Engineering and Regenerative Medicine Technology for Restoration of Bone in Cases of Significant Bone Loss**

Presentation Author: Dr. Jing Lim

**MHSRS-19-02593 - SESSION 1 - #609**

**Validating the Mechanical Robustness of a Passive Implantable Mechanism in the Chicken Extensor Tendon Model**

Presentation Author: Mr. Justin Casebier

**MHSRS-19-02601 - SESSION 1 - #610**

**In Situ Skeletal Muscle and Bone Tissue Handheld Printers**

Presentation Author: Mr. Jacob Quint

**MHSRS-19-02622 - SESSION 1 - #611**

**A Novel Protective Role of GPNMB/Osteoactivin in Post-traumatic Osteoarthritis**

Presentation Author: Dr. Fayez Safadi

**MHSRS-19-02643 - SESSION 1 - #612**

**A Retrospective Analysis to Determine Outcomes for Active Duty Service Members Status Post Hallux Valgus Surgical Correction Performed at Brooke Army Medical Center**

Presentation Author: MAJ Tyson Baynes

**MHSRS-19-02657 - SESSION 1 - #613**

**Combination Bone Replacement Graft With Dense Polytetrafluoroethylene Barrier Membrane for Treatment of an Infrabony Periodontal Defect**

Presentation Author: MAJ Joseph F. Capetillo



**REHABILITATION FOLLOWING LIMB TRAUMA AND AMPUTATION****MHSRS-19-00015 - SESSION 1 - #614****Classification and Description of Outpatient Medications Prescribed Following Serious Combat Injury: A Retrospective Study**

Presentation Author: Dr. Ted Melcer

**MHSRS-19-00031 - SESSION 1 - #615****Correlates of Outpatient Prescription Medication Activity Following Serious Combat Injury: A Retrospective Analysis**

Presentation Author: Dr. Ted Melcer

**MHSRS-19-00038 - SESSION 1 - #616****IDEO Work Reliance Increases after Functional Training**

Presentation Author: Mr. John Collins

**MHSRS-19-00085 - SESSION 1 - #617****Motor Vehicle-related Injuries in U.S. Combat Operations: Characteristics, Trends, and Risks for Limb Amputations among Deployed U.S. Service Members**

Presentation Author: Dr. Marc Schweizer

**MHSRS-19-00186 - SESSION 1 - #618****Loading Effect of Prosthetic Feet's Anthropomorphicity on Transtibial Osseointegrated Implant**

Presentation Author: Dr. Mark Pitkin

**MHSRS-19-00206 - SESSION 1 - #619****Prosthetic Feet Options and Balance Performance in Persons with Transtibial Amputation**

Presentation Author: Dr. Amy Silder

**MHSRS-19-00250 - SESSION 1 - #620****Kinesiophobia and its Associations with Self-reported Pain and Function in Individuals with Lower Limb Amputations**

Presentation Author: Dr. Brittney Mazzone

**MHSRS-19-00279 - SESSION 1 - #621****Development of a Balance Measure for Amputees**

Presentation Author: Ms. Jennifer Johansson

**MHSRS-19-00280 - SESSION 1 - #622****Tissue-engineered Electronic Nerve Interfaces: A Next-generation Technology for Amputees**

Presentation Author: Dr. Jack Judy

**MHSRS-19-00304 - SESSION 1 - #623****Beyond Limb Salvage: Institutional Trends in Limb Restoration Efforts Following Complex Combat-related Extremity Injuries**

Presentation Author: 2LT Colin Harrington

**MHSRS-19-00320 - SESSION 1 - #624****Early Clinical Evaluation of Active Cooling System for Improving Residual Limb Care**

Presentation Author: Dr. Ryan Myers

**MHSRS-19-00435 - SESSION 1 - #625****Developing a Combat-relevant Translatable Large Animal Model of Heterotopic Ossification**

Presentation Author: Dr. Dustin Williams

**MHSRS-19-00505 - SESSION 1 - #626****Mechanics of Abnormal Trunk Motion during Walking in Service Members with a Transtibial Amputation: A Whole-body Perspective**

Presentation Author: Mr. Adam Yoder

**MHSRS-19-00587 - SESSION 1 - #627****A Multi Domain Approach to Decision Making in O&P**

Presentation Author: Dr. Sarah Chang

**MHSRS-19-00799 - SESSION 1 - #628****Enabling Technology for Prosthetic Telerehabilitation and Performance Optimization**

Presentation Author: Dr. David Boone

**MHSRS-19-00882 - SESSION 1 - #629****In-vivo Kinetic System to Sustain Residuum Health of Service Members with Lower Limb Loss: From Proof-of-concept to Digital Twin**

Presentation Author: Dr. Laurent Frossard

**MHSRS-19-00939 - SESSION 1 - #630****Criteria for Advanced Prosthetic Foot Prescription: A Multi-center Clinical Trial**

Presentation Author: Dr. Jason Maikos

**MHSRS-19-01000 - SESSION 1 - #631****Cuff and Sieve Electrode: Proof of Principal for the Combination of Neural Electrodes for Bo-directional Peripheral Nerve Interfaces**

Presentation Author: Dr. Aaron Dingle

**MHSRS-19-01078 - SESSION 1 - #632****An Overview of Combat-related Extremity Injury in U.S. Service Members**

Presentation Author: Ms. Katheryne Perez

**MHSRS-19-01082 - SESSION 1 - #633****Developing New Items for the Extremity Trauma and Amputation Quality of Life Measurement System: Cognitive Debriefing Interviews**

Presentation Author: Dr. Callie Tyner

**MHSRS-19-01267 - SESSION 1 - #634****Early Outcomes of Patients Who Have Undergone Modified Amputations Incorporating Agonist-antagonist Myoneural Interface Construction**

Presentation Author: Dr. Matthew Carty

**MHSRS-19-01314 - SESSION 1 - #635****Early Outcomes of Skin Penetration Site Management in Osseointegrated Implants in Transhumeral and Transfemoral Amputations**

Presentation Author: 2LT Colin Harrington

## Poster Session 1

**MHSRS-19-01336 - SESSION 1 - #636****Characterization of a Novel Shoe Testing Approach for use in Custom Orthotic Device Evaluation**

Presentation Author: Dr. Jason Wilken

**MHSRS-19-01464 - SESSION 1 - #637****Burn Injuries and Combat-related Amputation in U.S. Service Members**

Presentation Author: Ms. Katheryne Perez

**MHSRS-19-01523 - SESSION 1 - #638****Machine Learning Strategies for Automatically Determining Ground Slope and Walking Speed for Individuals with Amputation using a Robotic Knee/ankle Prosthesis**

Presentation Author: Dr. Aaron Young

**MHSRS-19-01546 - SESSION 1 - #639****A Bio-mimetic Adapter for Real-time Self-alignment of Prosthetic Foot**

Presentation Author: Dr. Md Amanul Haque

**MHSRS-19-01566 - SESSION 1 - #640****Military-specific Virtual Reality Training Improves Physical Function in Service Members with Lower Extremity Injury**

Presentation Author: Ms. AuraLea Fain

**MHSRS-19-01600 - SESSION 1 - #641****Development of an Integrated Platform for Performing Multi-center Extremity Trauma and Rehabilitation Research**

Presentation Author: Dr. Kenton Kaufman

**MHSRS-19-01616 - SESSION 1 - #642****Amputee Preference and Perception of Ankle-foot Stiffness during Walking**

Presentation Author: Dr. Elliott Rouse

**MHSRS-19-01629 - SESSION 1 - #643****Should I Stay or Should I Go? Identifying Systemic and Individual Factors in the Decision to Return to Duty Following Lower Extremity Injury**

Presentation Author: Dr. Jonathan Wilson

**MHSRS-19-01644 - SESSION 1 - #644****Bioenergetic Consequences of Lower Limb Trauma: Comparisons Between Lower Limb Reconstruction and Amputation**

Presentation Author: Dr. Elizabeth Russell Esposito

**MHSRS-19-01649 - SESSION 1 - #645****Enhanced Non-invasive Peripheral Nerve Stimulation for Sensory Restoration and Neuropathic Pain Treatment**

Presentation Author: Mr. Andres Pena

**MHSRS-19-01673 - SESSION 1 - #646****Military Culture as a Therapeutic Factor in Rehabilitation: An Ethnographic Account**

Presentation Author: Dr. Seth Messenger

**MHSRS-19-01696 - SESSION 1 - #647****Kinematic Comparison of Treadmill and Overground Walking In Persons With and Without Transfemoral Amputation**

Presentation Author: Dr. Amy Silder

**MHSRS-19-01703 - SESSION 1 - #648****Prosthesis Satisfaction and Quality of Life in Service Members with Deployment-related Major Traumatic Amputation**

Presentation Author: Dr. Susan Eskridge

**MHSRS-19-01750 - SESSION 1 - #649****Power and Work Comparisons between IDEO Users and Patients with Transtibial Amputation**

Presentation Author: Mr. Trevor Kingsbury

**MHSRS-19-01803 - SESSION 1 - #650****In Vitro Characterization of Osteogenic Differentiation Potential of Porcine Mesenchymal Stem Cells Derived from Multiple Integumentary Tissues for Improved Durability of the Skin/implant Interface**

Presentation Author: Dr. Devaveena Dey

**MHSRS-19-01818 - SESSION 1 - #651****In Vitro Adhesion of Porcine Mesenchymal Stem Cells to Percutaneous Osseointegrated Prostheses for Improved Skin/implant Therapies**

Presentation Author: Dr. Devaveena Dey

**MHSRS-19-01843 - SESSION 1 - #652****The Point Digit: Mechanical Design and Testing of a Ratcheting Prosthetic Finger**

Presentation Author: Dr. Levin Sliker

**MHSRS-19-01922 - SESSION 1 - #653****Proprioceptive Sonomyographic Control: Towards Natural and Intuitive Control of Multi-articulated Upper Extremity Prosthesis**

Presentation Author: Dr. Biswarup Mukherjee

**MHSRS-19-01961 - SESSION 1 - #654****Early Research Toward a Muscle-driven, Implantable Limb Prosthesis**

Presentation Author: Dr. Dustin Crouch

**MHSRS-19-02021 - SESSION 1 - #655****Osseointegration among Service Members with Transfemoral Limb Loss: A Preliminary Look at Functional Outcomes within the First Year**

Presentation Author: Dr. Brad Hendershot

**MHSRS-19-02039 - SESSION 1 - #656****Biomechanical Loading Patterns During Drop Landings among Service Members with Unilateral Transtibial Limb Loss: Toward Informing Prosthesis Prescription and Return to Duty Decisions**

Presentation Author: Dr. Brad Hendershot

**MHSRS-19-02043 - SESSION 1 - #657****Clinical Assessment of Trunk Postural Control within a Fall-prevention Training Program for Service Members with Lower Extremity Trauma and Limb Loss**

Presentation Author: Dr. Brad Hendershot

# Poster Session 1

**MHSRS-19-02153 - SESSION 1 - #658****Prosthetic Care for Combat Casualties at Walter Reed National Military Medical Center**

Presentation Author: Mr. Akshay Thaper

**MHSRS-19-02392 - SESSION 1 - #659****Bi-directional Control and Sensory Restoration Solution for Amputees**

Presentation Author: Dr. Edward Keefer

**MHSRS-19-02395 - SESSION 1 - #660****The Impact of Sensory Feedback on Grasping Performance with Different Prosthetic Types**

Presentation Author: Dr. Deanna Gates

**MHSRS-19-02415 - SESSION 1 - #661****The Extremity Trauma Toolbox Training Program: Standardizing Assessment of Functioning, Community Reintegration and Quality of Life After Major Extremity Trauma**

Presentation Author: Dr. Jerry Slotkin

**MHSRS-19-02427 - SESSION 1 - #662****Influence of Strut Stiffness on the Mechanical Properties of the IDEO during Walking**

Presentation Author: Mr. Trevor Kingsbury

**MHSRS-19-02435 - SESSION 1 - #663****Comparison of Two Different Hydrogel Biomaterial on Tendon Friction in a Turkey Tendon Model**

Presentation Author: Dr. Peter Amadio

**MHSRS-19-02458 - SESSION 1 - #664****The Extremity Trauma and Amputation Quality of Life Assessments: Developing a New Measurement System for Neuromusculoskeletal Trauma**

Presentation Author: Dr. David Tulsky

**MHSRS-19-02462 - SESSION 1 - #665****Clinical Evaluation of the Revolutionizing Prosthetics Modular Prosthetic Limb System for Upper Extremity Amputees: Phase III Take-home**

Presentation Author: Ms. Emilia-Marie Jaskot

**MHSRS-19-02476 - SESSION 1 - #666****Dietary Magnesium Intake and Associated Risk for Type 2 Diabetes Mellitus in a Military Population with Traumatic Lower Limb Loss**

Presentation Author: MAJ Joetta Khan

**MHSRS-19-02500 - SESSION 1 - #667****Excess Body Fatness in a Traumatic Lower Limb Loss Population is associated with Increased Cardiovascular Disease Risk**

Presentation Author: MAJ Joetta Khan

**MHSRS-19-02515 - SESSION 1 - #668****Rehabilitation and Clinic Utilization of Patients with Combat Related Limb Loss in the U.S. Military Health System**

Presentation Author: Mr. William Roddy

## BLAST, BLUNT, ACCELERATIVE EXPOSURE IN TRAINING

### MHSRS-19-00073 - SESSION 1 - #669

#### Identifying miRNA Biomarkers For Repeated Low-level Blast-induced Traumatic Brain Injury

Presentation Author: Dr. Lanier Heyburn

### MHSRS-19-00464 - SESSION 1 - #670

#### Validation Procedures and Experimental Testing to Simulate Behind Armor Blunt Trauma Injuries using a Finite Element Model

Presentation Author: Mrs. Madelyn Eaton

### MHSRS-19-00815 - SESSION 1 - #671

#### Correlation of Pathophysiological Markers in the Brain with Cumulative Effects of Repeated Blast

Presentation Author: Dr. Sujith Sajja

### MHSRS-19-00902 - SESSION 1 - #672

#### Explosive Breaching Career Personnel: Auditory, Ocular Motor, and Vestibular System Assessments

Presentation Author: MAJ Brian Johnson

### MHSRS-19-00908 - SESSION 1 - #673

#### Examining Headache and Postural Control Variability in Serial Blast-related Training Exposure

Presentation Author: Dr. Walter Carr

### MHSRS-19-01123 - SESSION 1 - #674

#### The Neurological Impact of Overpressure Exposure: An Examination of Major Blast Exposure and Chronic, Low-level Overpressure Exposure using Post-deployment Health Assessment Records

Presentation Author: Dr. Jennifer Belding

### MHSRS-19-01455 - SESSION 1 - #675

#### A Prediction Model of Military Combat and Training Exposures on VA Service Connected Disability: A CENC Study

Presentation Author: Dr. Clara Dismuke-Greer

### MHSRS-19-01478 - SESSION 1 - #676

#### Advanced Total Body Model for Impact Injury Analysis

Presentation Author: Dr. Laurel Ng

### MHSRS-19-01609 - SESSION 1 - #677

#### High Energy Head Impacts Measured in Humans Impair Readiness and Performance

Presentation Author: Dr. Adam Bartsch

### MHSRS-19-01738 - SESSION 1 - #678

#### A Computational Study of the Biomechanical Response of the Human Lower Extremity Subjected to High Rate Vertical Accelerative Loading

Presentation Author: Ms. Jazmine Aira

### MHSRS-19-01797 - SESSION 1 - #679

#### Investigating Training Associated Blast Pathology in Service Members Exposed to Repeated Sub-concussive Blast Events: Design and Implementation of the Invicta Study

Presentation Author: CDR Josh Duckworth

## Poster Session 1

**MHSRS-19-01898 - SESSION 1 - #680**

**Association between Concussion Education Sources and Concussion Disclosure Knowledge, Attitudes, Perceived Norms, Intentions, and Behaviors among First-year Service Academy Cadets: Implications for Concussion Education and Training**

Presentation Author: Dr. Johna Register-Mihalik

**MHSRS-19-01925 - SESSION 1 - #681**

**Firsthand Accounts of Potential Concussive Events Experienced by Post-911 Service Members and Veterans: A Chronic Effects of Neurotrauma Consortium Study**

Presentation Author: Mr. Jonathan Yee

**MHSRS-19-02152 - SESSION 1 - #682**

**Superficial Ballistic Trauma and Subjective Pain Experienced During Force-on-Force Training with Simulated Ammunition**

Presentation Author: Lt Adam Biggs

**MHSRS-19-02156 - SESSION 1 - #683**

**Investigation of Cranial Strains and Strain Rates in a 3D Human Head Model during the Helmet Military Specification Test**

Presentation Author: Dr. Chad Hovey

**MHSRS-19-02242 - SESSION 1 - #684**

**Vertebral Level-specific Neck Forces and Moments under G-X Accelerative Loading**

Presentation Author: Mr. John Humm

**MHSRS-19-02280 - SESSION 1 - #685**

**A Qualitative Study of Concussion Reporting at the U.S. Air Force Academy**

Presentation Author: Dr. Christopher D'Lauro

**MHSRS-19-02303 - SESSION 1 - #686**

**Interdisciplinary Efforts to Test and Implement Perceived Cost-based Concussion Interventions at the US Air Force Academy**

Presentation Author: Dr. Christopher D'Lauro

**MHSRS-19-02387 - SESSION 1 - #687**

**Peripheral Markers of Operational Blast Exposure**

Presentation Author: Dr. Fatemeh Haghighi

**MHSRS-19-02402 - SESSION 1 - #688**

**Developing Multiscale Computational Models for Traumatic Brain Injury Prediction**

Presentation Author: Mr. Connor Bradfield

**MHSRS-19-02407 - SESSION 1 - #689**

**Optimization of Structural Imaging on Chinchilla Lanigera as a Pre-clinical Model of Blast TBI.**

Presentation Author: Dr. Vijaya Prakash Krishnan Muthaiah

**MHSRS-19-02468 - SESSION 1 - #690**

**Interview and Biosample Analysis of Blast Overpressure Exposure among Service Members**

Presentation Author: Dr. Michael Egnoto

**MHSRS-19-02472 - SESSION 1 - #691****The Characterization of Flashbangs used by Law Enforcement and Military Personnel**

Presentation Author: Dr. Michael Egnoto

**MHSRS-19-02479 - SESSION 1 - #692****Acoustic Exposure Comparison on Instructors that are Experienced During Heavy Wall Explosive Breaching, Ballistic Breaching, and Grenades Training**

Presentation Author: Dr. Michael Egnoto

**MHSRS-19-02508 - SESSION 1 - #693****Design of Helmet Liner for Mitigating Blast Induced Traumatic Brain Injury**

Presentation Author: Mr. Xiancheng Yu

**ANCILLARY TOPICS****PRECISION MEDICINE FOR ACUTE AND TRAUMA AND CRITICAL CARE****MHSRS-19-00710 - SESSION 1 - #694****A Random Forest Model to Predict Bacteremia in Combat Trauma Patients**

Presentation Author: Dr. Vivek Khatri

**MHSRS-19-00847 - SESSION 1 - #695****Stimulating Mitochondrial Energetics Resuscitates Life-threatening Shock Syndromes**

Presentation Author: Dr. Charles McCall

**MHSRS-19-01066 - SESSION 1 - #696****Infusensor: A “Smart” Catheter and Platform for Dynamic, “Closed-loop” Sedation and Anesthesia**

Presentation Author: Dr. Edward Chaum

**MHSRS-19-01104 - SESSION 1 - #697****Continuing Towards Early Prediction of Vasospasm and Mortality Following Severe Traumatic Brain Injury**

Presentation Author: Dr. Vivek Khatri

**MHSRS-19-01131 - SESSION 1 - #698****Predicting Severe Sepsis in Surgical ICU Patients**

Presentation Author: Dr. Seth Schobel

**MHSRS-19-01287 - SESSION 1 - #699****Predicting Acute Respiratory Distress Syndrome in Surgical ICU Patients**

Presentation Author: Dr. Seth Schobel

**MHSRS-19-01294 - SESSION 1 - #700****Trauma Patients Wound Infection and the Relations with Injury and Clinical Progress**

Presentation Author: Dr. Mingqing Song

**MHSRS-19-01353 - SESSION 1 - #701****Joint Trauma System Developing a Robust Performance Improvement Model to Optimize Trauma Outcomes**

Presentation Author: Dr. Kimberly Smith



## Poster Session 1

**MHSRS-19-01412 - SESSION 1 - #702****Serum Metabolites Linked to Mitochondrial Dysfunction and Mortality in a Combat-relevant Polytrauma Porcine Model**

Presentation Author: Dr. Manjula Darshi

**MHSRS-19-01503 - SESSION 1 - #703****3D Bioprinted Bone Tissue Construct for Craniomaxillofacial Reconstruction**

Presentation Author: Dr. Sang Jin Lee

**MHSRS-19-01504 - SESSION 1 - #704****Tissue-engineered Small Diameter Blood Vessels for Limb Reconstruction**

Presentation Author: Dr. Sang Jin Lee

**MHSRS-19-01506 - SESSION 1 - #705****3D Bioprinted Human Skeletal Muscle Tissue Constructs for Restoration of Muscle Function**

Presentation Author: Dr. Sang Jin Lee

**MHSRS-19-01521 - SESSION 1 - #706****Estimating the Development of Heterotopic Ossification in Combat-related Extremity Trauma**

Presentation Author: Dr. Felipe Lisboa

**MHSRS-19-01614 - SESSION 1 - #707****A Novel Therapy to Improve Cognitive Recovery Following Moderate/Severe Traumatic Brain Injury**

Presentation Author: Mr. Paco Herson

**MHSRS-19-01615 - SESSION 1 - #708****Surgical Critical Care Initiative: Consensus-driven Harmonization and Standardization of Biorepository Terminology**

Presentation Author: Ms. Mary-Beth Joshi

**MHSRS-19-01669 - SESSION 1 - #709****Surgical Critical Care Initiative: Maintenance of Good Clinical Laboratory Practices through Proficiency Testing of Peripheral Blood Mononuclear Cells**

Presentation Author: Ms. Robyn Osborne

**MHSRS-19-01698 - SESSION 1 - #710****Woundx-SC2i Program for Tissue and Data Acquisition: Supporting Advances in Precision Medicine for Wound Closure in the Military and Civilian Sectors**

Presentation Author: Dr. Neal Iwakoshi

**MHSRS-19-01754 - SESSION 1 - #711****Development of a Universal, Chemically Defined, and Xeno-free Human Primary Cell Growth and Maintenance Culture Medium for Regenerative Medicine Technologies**

Presentation Author: Dr. Ronald Nelson

**MHSRS-19-01883 - SESSION 1 - #712****Patient-specific Immunotypes Correspond to Trauma Tolerance and Trauma Sensitivity in Multiple Injured Patients**

Presentation Author: Dr. Todd McKinley

**MHSRS-19-01947 - SESSION 1 - #713****Precision Medicine Research to Meet Military Trauma Care Requirements**

Presentation Author: Dr. Debra Niemeyer

**MHSRS-19-02045 - SESSION 1 - #714****Rapid, Non-invasive, Accurate Assessment of Cardiovascular Function for Screening, Acute and Chronic Care: Application of Avicena's Vivio to Military Medicine**

Presentation Author: Dr. Marie Csete

**MHSRS-19-02078 - SESSION 1 - #715****Light-activated Sealing to Improve Outcomes Following Penetrating Bowel Trauma**

Presentation Author: Dr. Robert Redmond

**MHSRS-19-02216 - SESSION 1 - #716****Identification of Novel Agents which Inhibit Collagen Secretion using High-throughput Drug Screening against Keloid Fibroblast**

Presentation Author: Dr. Yuanyuan Kang

**MHSRS-19-02221 - SESSION 1 - #717****Combat Medic Testing of a Novel Monitoring Capability for Early Detection of Hemorrhage**

Presentation Author: Ms. Natalie Koons

**MHSRS-19-02271 - SESSION 1 - #718****Inhibition of DPP4 Suppresses Collagen Synthesis in Keloids**

Presentation Author: Dr. Yuanyuan Kang

**MHSRS-19-02308 - SESSION 1 - #719****Delayed Custom Synthetic Implant Cranioplasty for Host National Patients: Retrospective Case Series**

Presentation Author: Dr. Peter Liacouras

**MHSRS-19-02338 - SESSION 1 - #720****CMX-2043 Suppresses Mitochondrial Stress Signaling and Improves Outcomes after Focal Traumatic Brain Injury in a Large Animal Preclinical Trial**

Presentation Author: Dr. Meagan McManus

**MHSRS-19-02347 - SESSION 1 - #721****Understanding Disease Heterogeneity through Machine Learning Applications: High-resolution Spatial Metabolomics and Integrated Multi-omic Analysis**

Presentation Author: Dr. Daniel Montemayor

**MHSRS-19-02430 - SESSION 1 - #722****Apollo Lung Cancer Moonshot: Comprehensive Proteogenomic Analytics for Classification and Predicting Patient Outcome**

Presentation Author: Dr. Anthony Soltis

**MHSRS-19-02450 - SESSION 1 - #723****TLR4/MYD88 Signaling Pathway Mediates Peripheral Tissue Injury Induced Ileus and Systemic Inflammation**

Presentation Author: Dr. Anthony Bauer

## Poster Session 1

**WHAT'S NEW IN GLOBAL HEALTH ENGAGEMENT RESEARCH****MHSRS-19-00084 - SESSION 1 - #724**

**Description of Trauma among French Service Members in the Department of Defense Trauma Registry: Understanding the Nature of Trauma and the Care Provided**

Presentation Author: Dr. Marc Schweizer

**MHSRS-19-00220 - SESSION 1 - #725**

**Previous Medical Exposure in the Israeli Air Force as a Motivator for a Medical Career**

Presentation Author: Dr. Uri Manor

**MHSRS-19-00345 - SESSION 1 - #726**

**Measuring the Strategic Impact of Tactical Programs: A Quantitative Evaluation of DHAPP in Sub-Saharan Africa**

Presentation Author: Dr. Solomon Major

**MHSRS-19-00416 - SESSION 1 - #727**

**Value and Purpose in Global Health Engagement Research: Research Futures and the USU School of Medicine's New Division of Global Public Health**

Presentation Author: LTC Eric Garges

**MHSRS-19-00469 - SESSION 1 - #728**

**Carcinoma Ex-pleomorphic Adenoma Diagnosis during Global Health Engagement Operations – A Case Report and Review of the Literature**

Presentation Author: LCDR Art Ambrosio

**MHSRS-19-00491 - SESSION 1 - #729**

**Use of the Generic Global Humanitarian Operation Metric and Post-mission Surveys to Evaluate a U.S. Military Humanitarian Mission**

Presentation Author: CAPT Lisa Braun

**MHSRS-19-00492 - SESSION 1 - #730**

**Analysis of an Electronic Medical Record Platform for Military Humanitarian Assistance and Disaster Response Operations**

Presentation Author: CAPT Gregory Gorman

**MHSRS-19-00684 - SESSION 1 - #731**

**The African Cohort Study: A MIL-MIL and MIL-CIV Collaboration Evaluating HIV Outcomes in Resource Limited Settings**

Presentation Author: LTC Julie Ake

**MHSRS-19-00728 - SESSION 1 - #732**

**Alcohol Use and its Association with Sexual Risk Behaviors in the Armed Forces of the Republic of the Congo**

Presentation Author: Dr. Bonnie Tran

**MHSRS-19-00748 - SESSION 1 - #733**

**Shaping the Future of the Department of Defense Infectious Disease Surveillance Enterprise in Support of the U.S. Combatant Commands**

Presentation Author: LTC Sueann Ramsey

**MHSRS-19-00755 - SESSION 1 - #734****Developing and Deploying Ideal Teams for Optimal Global Health Engagement Outcomes**

Presentation Author: Col Edwin Burkett

**MHSRS-19-01037 - SESSION 1 - #735****Big Data Framework for Predicting Impact of Disasters on Human Health**

Presentation Author: Dr. Kajal Claypool

**MHSRS-19-01074 - SESSION 1 - #736****Leptospirosis and Rickettsial Diseases Sero-conversion Surveillance among U.S. Military Personnel in Honduras**

Presentation Author: Dr. Chien-Chung Chao

**MHSRS-19-01226 - SESSION 1 - #737****An Update on the Development of Novel Anthelmintic Medications**

Presentation Author: Dr. Belinda Jackson-Thompson

**MHSRS-19-01265 - SESSION 1 - #738****Expanded Fever Surveillance among Provincial Hospitals in the Lao People's Democratic Republic**

Presentation Author: Lt Jose Garcia

**MHSRS-19-01282 - SESSION 1 - #739****Bundeswehr Medical Service Research Program - Overview**

Presentation Author: COL Sabine Sauer

**MHSRS-19-01311 - SESSION 1 - #740****Patterns of Pediatric Dental Care during a U.S. Navy Humanitarian Aid Provided to Populations Stressed by Venezuelan and Central American Migration**

Presentation Author: Lt Courtney Clark

**MHSRS-19-01321 - SESSION 1 - #741****Pediatric Outpatient Care during U.S. Humanitarian Assistance Operations in Response to Venezuelan and Central American Migration**

Presentation Author: CAPT Greg Gorman

**MHSRS-19-01635 - SESSION 1 - #742****Surveillance for Antibiotic Resistance in Escape Pathogens from Latin America**

Presentation Author: Mr. Paul Rios

**MHSRS-19-01674 - SESSION 1 - #743****Assessing Incidence of Tropical Diseases in Deploying Peruvian Military Personnel**

Presentation Author: Mr. Crystyan Siles

**MHSRS-19-01788 - SESSION 1 - #744****Building Disease Surveillance Capacity in the Peruvian Navy with Mobile Data Collection and Enhanced Analytics**

Presentation Author: Ms. Shraddha Patel

**MHSRS-19-01838 - SESSION 1 - #745****Optimization of Medical Site Performance during USNS Comfort's Operation Enduring Promise 2018**

Presentation Author: LCDR Paul Roszko

**Poster Session 1****MHSRS-19-01995 - SESSION 1 - #746****Improving Infectious Disease Modeling and Prediction through Global Health Engagement**

Presentation Author: CPT Suzanne Mate

**MHSRS-19-02103 - SESSION 1 - #747****Development of DoD Laboratory Capability in Next Generation Sequencing and Bioinformatics for Infectious Disease Research and Public Health**

Presentation Author: Dr. Irina Maljkovic Berry

**MHSRS-19-02205 - SESSION 1 - #748****Detergent-enhanced Lamp for Detecting African Trypanosomes in Clinical CSF Samples**

Presentation Author: Dr. Dennis Grab

**MHSRS-19-02357 - SESSION 1 - #749****Leveraging Whole Genome Sequencing for Global Surveillance of Transferable Carbapenem Resistance**

Presentation Author: Dr. Patrick McGann

**MHSRS-19-02503 - SESSION 1 - #750****Teaching Pocus in Austere Environments – A Tool for Immediate Impact in Patient Care and Capacity Building**

Presentation Author: Lt John Sullivan

**MHSRS-19-02531 - SESSION 1 - #751****Battlefield Trauma Data Tool Development, Collection and Analysis for the Afghanistan National Army**

Presentation Author: LTC Russell Giese

**MHSRS-19-02544 - SESSION 1 - #752****Battlefield Trauma Data Development, Collection and Analysis for the Afghanistan National Army, 203rd Corps**

Presentation Author: LTC Russell Giese

## TOPICS IN RESEARCH SUPPORT, COMPLIANCE, AND ETHICS

### **MHSRS-19-00351 - SESSION 1 - #753**

#### **Eliminating Threats to Scientific Validity: Identifying Careless and Insufficient Effort Responders from Self-report Databases**

Presentation Author: Mr. Michael Andrews

### **MHSRS-19-00894 - SESSION 1 - #754**

#### **Role-out of the DoD-mandated eIRB Platform**

Presentation Author: Dr. Christine Carter

### **MHSRS-19-01048 - SESSION 1 - #755**

#### **Fostering Readiness Investigation in Graduate Medical Education**

Presentation Author: Ms. Jessica Cromheecke

### **MHSRS-19-01687 - SESSION 1 - #756**

#### **Motivations for Participation in Clinical Research: A Survey**

Presentation Author: 2LT Nicholas Dulin

### **MHSRS-19-02049 - SESSION 1 - #757**

#### **Human Research Protection Program Compliance Trends in the Department of the Navy**

Presentation Author: Mrs. Chidima Ioanou

### **MHSRS-19-02235 - SESSION 1 - #758**

#### **Department of Defense Small Molecule Antibiotic Development Effort Coordination – The Integrated Product Team Approach**

Presentation Author: Dr. Jason Rohde

### **MHSRS-19-02282 - SESSION 1 - #759**

#### **Exploring the 99MDG Regional Clinical Investigation Program**

Presentation Author: Ms. Jill Clark

# Poster Session 1

# 2



## Poster Session 2



## MHSRS 2019 – Poster Session 2

WEDNESDAY, 21 AUGUST

### EXPEDITIONARY MEDICINE

#### INNOVATIVE APPROACHES TO PREVENT, DIAGNOSE AND TREAT SEPSIS DURING PROLONGED FIELD CARE

**MHSRS-19-00165 - SESSION 2 - #001**

**Saving Lives by Sensing Sepsis: Tissue-integrating Lactate/oxygen Sensor for Continuous Wireless Monitoring of Sepsis Onset, Recovery, and Reoccurrence**

Presentation Author: Dr. Elizabeth Gadsby

**MHSRS-19-00643 - SESSION 2 - #002**

**An Analysis of the Effectiveness of High Level Disinfection for Surgical Instruments Used By DoD Austere Surgical Teams**

Presentation Author: Col Mark Ervin

**MHSRS-19-00654 - SESSION 2 - #003**

**Hemoperfusion to Protect the Endothelium during Sepsis: Removal of Sepsis Mediators and Pathogens**

Presentation Author: Dr. Keith McCrea

**MHSRS-19-00859 - SESSION 2 - #004**

**Metabolite Panel to Diagnose Sepsis Days before the Standard Clinical Diagnosis: A Longitudinal Study in Burn Patients**

Presentation Author: Mr. Nabarun Chakraborty

**MHSRS-19-01348 - SESSION 2 - #005**

**Metabolite Panel to Diagnose Sepsis Days before the Standard Clinical Diagnosis: A Longitudinal Study in Burn Patients**

Presentation Author: Mr. Ross Campbell

**MHSRS-19-00873 - SESSION 2 - #006**

**Monoclonal Antibody-mediated Inhibition of Activated FXII Reduces Inflammation, Coagulopathy and Death in Primates Challenged with Staphylococcus Aureus**

Presentation Author: Dr. Sven Olson

**MHSRS-19-01931 - SESSION 2 - #007**

**Portable, Handheld Device for Rapid Sepsis and Infection Diagnosis in the Field**

Presentation Author: Dr. Alan Fine

**MHSRS-19-01938 - SESSION 2 - #008**

**Evaluation of Sepsis Using Compensatory Reserve Measurement**

Presentation Author: CPT Avishai Tsur



**MHSRS-19-02201 - SESSION 2 - #009****Improving Soldier Performance, Readiness and Care through Application of Mass Spectrometry Technologies**

Presentation Author: Dr. Jon Jacobs

**MHSRS-19-02311 - SESSION 2 - #010****Sepsis in Austere Environments: Derivation of Clinically Relevant Patient Subgroups From Locally Available Data**

Presentation Author: Dr. Deborah Striegel

**MHSRS-19-02351 - SESSION 2 - #011****Identifying Protein Expression Phenotypes in Sepsis Patients from Austere Settings Using Topological Data Analysis**

Presentation Author: Dr. Joost Brandsma

**MHSRS-19-02496 - SESSION 2 - #012****Diagnosis of Sepsis Using the FcMBL ELISA**

Presentation Author: Dr. Michael Super

**ACUTE LIFESAVING TRAUMA INTERVENTIONS****MHSRS-19-00224 - POSTER SESSION 2 - #013****Seeing is Believing—Evaluation of Life Saving Surgical Procedures under Black Out Conditions**

Presentation Author: CPT Daniel Lammers

**MHSRS-19-00372 - POSTER SESSION 2 - #014****Outcomes of Casualties without Airway Trauma Undergoing Prehospital Airway Interventions: A Department of Defense Trauma Registry Study**

Presentation Author: MAJ Steven Schauer

**MHSRS-19-00420 - POSTER SESSION 2 - #015****A Consensus-based Recommendation for Oxygenation Targets in Critically Injured Patients**

Presentation Author: MAJ Steven Schauer

**MHSRS-19-00421 - POSTER SESSION 2 - #016****An Analysis of the Pediatric Casualties Undergoing Massive Transfusion in Iraq and Afghanistan**

Presentation Author: MAJ Steven Schauer

**MHSRS-19-00422 - POSTER SESSION 2 - #017****Incidence of Hyperoxia in Combat Wounded in Iraq and Afghanistan: A Potential Opportunity for Oxygen Conservation**

Presentation Author: MAJ Steven Schauer

**MHSRS-19-00898 - POSTER SESSION 2 - #018****Optimal Initial Positioning of Chest Tubes to Prevent Retained Hemothorax Using a Novel Steerable Chest Tube with Extendable Infusion Canula**

Presentation Author: Dr. John Fortune

**MHSRS-19-00972 - POSTER SESSION 2 - #019****Improving the Military–Civilian Taxonomy and Process to Determine Prehospital Injury Survivability**

Presentation Author: COL Brian Eastridge

**MHSRS-19-01014 - POSTER SESSION 2 - #020****Hemodynamic Effects of Acute Over-ventilation in a Swine Hemorrhage Model**

Presentation Author: Dr. Megan Blackburn

**MHSRS-19-01090 - POSTER SESSION 2 - #021****Stimulating Mitochondrial Energetics Reverses Shock Syndromes**

Presentation Author: Dr. Charles McCall

**MHSRS-19-01159 - POSTER SESSION 2 - #022****Emergency Department Intubation Success with Succinylcholine versus Rocuronium: A National Emergency Airway Registry Study**

Presentation Author: Lt Col Joseph Maddry

**MHSRS-19-01166 - POSTER SESSION 2 - #023****The Arai Auto-injector Platform – Setting a New Standard of Care at the Point Of Need and in Prolonged Field Care**

Presentation Author: Mr. Amir Genosar

**MHSRS-19-01174 - POSTER SESSION 2 - #024****Compact Infusion Pump for the Delivery of Drugs, Fluids and Blood at the Point-of-Injury, and During En-route Care, Prolonged Field Care and Forward Surgical Care**

Presentation Author: Dr. Stephane Bibian

**MHSRS-19-01198 - POSTER SESSION 2 - #025****Wound Trauma Aggravates Radiation-induced Brain Hemorrhage that is Mitigated by Ghrelin Therapy with Pegylated G-CSF**

Presentation Author: Dr. Juliann Kiang

**MHSRS-19-01201 - POSTER SESSION 2 - #026****Creating Intravenous Oxygen**

Presentation Author: Dr. Brian Polizzotti

**MHSRS-19-01218 - POSTER SESSION 2 - #027****Ounces Make Pounds, Pounds Make Pain—An Assessment of the Medic Aid Bag**

Presentation Author: Ms. Nguvan Uhaa

**MHSRS-19-01249 - POSTER SESSION 2 - #028****Training Simulator for Mechanical Circulatory Support for Extra Corporeal Membrane Oxygenation in Adult Patients**

Presentation Author: Dr. Pramod Chembrammel

**MHSRS-19-01288 - POSTER SESSION 2 - #029****Successful Transplants of Whole Functioning Mouse Hearts After 24-hour Subzero Storage Using Biomimetic Ice-interactive Polymers**

Presentation Author: Dr. Xiaoxi Wei

**MHSRS-19-01470 - POSTER SESSION 2 - #030****Chest Decompression for Chest Injuries: What Can Be Learned from Fluctuating Trends in the Past Decade?**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01474 - POSTER SESSION 2 - #031****Time Trends in Rate and Quality of Prehospital Documentation in the Israel Defense Forces Trauma Registry, 2010-2018**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01483 - POSTER SESSION 2 - #032****The Use of Different Types of Supraglottic Airway Devices by Medics on a Manikin Under Tactical Conditions: A Proof of Concept Trial**

Presentation Author: CDR Christoph Jaenig

**MHSRS-19-01590 - POSTER SESSION 2 - #033****A Descriptive Study of U.S. Special Operations Command Fatalities, 2001-2018**

Presentation Author: Dr. Russ Kotwal

**MHSRS-19-01597 - POSTER SESSION 2 - #034****Injury Severity Validation with Bronchoalveolar Lavage Cell Analysis: Expression of HMGB1 and TLR4 after Smoke Inhalation Injury and Burns Treated with Extra Corporeal Life Support**

Presentation Author: Dr. Andriy Batchinsky

**MHSRS-19-01605 - POSTER SESSION 2 - #035****Local Expression of HMGB1, TLR4, AQP5 and TGF $\beta$ 1 in ARDS Due to Smoke Inhalation and Burns in Swine Treated with Minimally Invasive Extracorporeal Life Support**

Presentation Author: Dr. Andriy Batchinsky

**MHSRS-19-01606 - POSTER SESSION 2 - #036****Systemic Expression of Damage Associate Molecule Pattern in ARDS Due to Smoke Inhalation and Burns in Swine Treated with Extracorporeal Life Support**

Presentation Author: Dr. Andriy Batchinsky

**MHSRS-19-01612 - POSTER SESSION 2 - #037****Effects of Humerus Intraosseous Administration of Epinephrine in a Normovolemic and Hypovolemic Cardiac Arrest Model**

Presentation Author: Col Arthur Johnson

**MHSRS-19-01625 - POSTER SESSION 2 - #038****Investigation of Intraosseous, Endotracheal, and Intravenous Administration of Epinephrine in a Hypovolemic, Cardiac Arrest Swine Model**

Presentation Author: Prof. Voicu Popescu

**MHSRS-19-01661 - POSTER SESSION 2 - #039****Predicting Need for Trauma Center Admission Emergency Intubation: Comparison of Field Glasgow Coma Scale with In-flight Patient Vital Signs**

Presentation Author: Dr. Peter Hu

**MHSRS-19-01693 - POSTER SESSION 2 - #040****Prehospital Continuous Vital Signs Data Analysis Outperforms Lactate for the Prediction of Lifesaving Interventions in Patients with Traumatic Shock**

Presentation Author: Dr. Peter Hu

**MHSRS-19-01879 - POSTER SESSION 2 - #041****Introducing Tattoos to Advanced Trauma Life Support: A Process Improvement Initiative**

Presentation Author: Dr. Luis Llerena

**MHSRS-19-02169 - POSTER SESSION 2 - #042****See-What-I-Do: Increasing Mentor and Trainee Sense of Co-presence in Trauma Surgeries with the Star Platform**

Presentation Author: CDR Thomas Douglas

**MHSRS-19-02403 - POSTER SESSION 2 - #043****A Porcine Model of Combined Burn and Traumatic Brain Injury**

Presentation Author: Capt Marguerite Spruce

**MHSRS-19-02626 - POSTER SESSION 2 - #044****Novel Endotracheal Tube Design Utilizing Novel Architected Materials and Feedback Sensors**

Presentation Author: Mr. David Berard

**ACUTE LUNG INJURY IN TRAUMA AND CRITICAL ILLNESS****MHSRS-19-00115 - POSTER SESSION 2 - #045****Ventilator-induced Lung Injury: A Unifying Hypothesis**

Presentation Author: Mr. Gary Nieman

**MHSRS-19-00278 - POSTER SESSION 2 - #046****Understanding the Time Controlled Adaptive Ventilation Protocol for Acute Lung Injury**

Presentation Author: Mr. Gary Nieman

**MHSRS-19-00803 - POSTER SESSION 2 - #047****Metabolic and Bioenergetic Maladaptation in Non-resolving Lung Fibrosis**

Presentation Author: Dr. Jaroslaw Zmijewski

**MHSRS-19-00923 - POSTER SESSION 2 - #048****Addressing Post Intensive Care Syndrome**

Presentation Author: Dr. Samuel Brown

**MHSRS-19-00973 - POSTER SESSION 2 - #049****Effects of Acinar Interdependence in a Computational Model of the Acutely Injured Lung**

Presentation Author: Dr. David Kaczka

**MHSRS-19-01043 - POSTER SESSION 2 - #050****Lung Sealing and Hemostasis without Compression: Evaluation of Visco-liquid Polyhedral Oligomeric Silsesquioxane in a Swine Model**

Presentation Author: Dr. Drew Hildebrandt

**MHSRS-19-01236 - POSTER SESSION 2 - #051****Heparin-free ECLS: Developing New Material Solutions for Next Generation Extracorporeal Life Support**

Presentation Author: Dr. Teryn Roberts

**MHSRS-19-01251 - POSTER SESSION 2 - #052****Inhalation of a RNA Biodrug Targeting Extracellular Histones Protects from Acute Lung Injury**

Presentation Author: Dr. Francis Miller

**MHSRS-19-01264 - POSTER SESSION 2 - #053****Tissue Resident Alveolar Macrophages Have a Distinct Metabolism Compared to Recruited Monocyte Derived Macrophages and Do Not Undergo Glycolytic Reprogramming During Activation**

Presentation Author: Dr. Gokhan Mutlu

**MHSRS-19-01293 - POSTER SESSION 2 - #054****An in-vitro Model of the Alveolar-capillary Barrier for Screening Potential Therapeutics for Acute Respiratory Distress Syndrome**

Presentation Author: Ms. Lucero Alvarado

**MHSRS-19-01390 - POSTER SESSION 2 - #055****Developing MG53 as a Novel Protein Therapeutic for Acute Lung Injury**

Presentation Author: Dr. Jianjie Ma

**MHSRS-19-01779 - POSTER SESSION 2 - #056****Mysterious Presentation of Pediatric Respiratory Failure and Multilobar Atelectasis**

Presentation Author: 2LT Gerrit Davis

**MHSRS-19-01837 - POSTER SESSION 2 - #057****Nanoparticle-facilitated Inhalational Delivery of Antisense Erythropoietin Receptor cDNA Mitigates Murine Acute Lung Injury**

Presentation Author: Dr. Connie Hsia

**MHSRS-19-01847 - POSTER SESSION 2 - #058****Reflectance and Specraflim Imaging in the Upper Airways**

Presentation Author: Dr. Gianluca Turcatel

**MHSRS-19-01895 - POSTER SESSION 2 - #059****4MDM is a Potential Small Molecule Therapeutic Agent for Acute Lung Injury that Modulates the Enzyme Kinetic Mechanism of Pro-gly-pro Hydrolysis by the Leukotriene A4 Hydrolase Enzyme**

Presentation Author: Dr. Mikell Paige

**MHSRS-19-01926 - POSTER SESSION 2 - #060****Handheld Ultrasound Training and Use for Sepsis in an Austere Environment**

Presentation Author: CAPT Dennis Faix

**MHSRS-19-02301 - POSTER SESSION 2 - #061****Injury and Biomarkers from Pigs Following Isolated Open-field Blast Exposure Depend on Ballistic Protection Level**

Presentation Author: Lt Col Nicolas Prat

**MHSRS-19-02504 - POSTER SESSION 2 - #062****Heme Released After Trauma Increases Susceptibility to Bacterial Pneumonia**

Presentation Author: Ms. Ghee Rye Lee

**MHSRS-19-02612 - POSTER SESSION 2 - #063****Damp-mediated Innate Immune Failure and Pneumonia after Trauma: The Harvard-Longwood Campus Area Consortium**

Presentation Author: Ms. Julia Larson

**ADVANCES IN BURN WOUND MANAGEMENT DURING PROLONGED CARE****MHSRS-19-00067 - POSTER SESSION 2 - #064****Mitigating Burn Injury Severity and Infection by Using a Novel Dressing that Targets Oxidative Stress Pathways**

Presentation Author: Dr. Jahnabi Roy

**MHSRS-19-00131 - POSTER SESSION 2 - #065****A Plasma-alginate Composite Gel Provides Improved Mechanical Support for Stem Cell Growth and Delivery**

Presentation Author: Dr. Nicholas Clay

**MHSRS-19-00317 - POSTER SESSION 2 - #066****Non-contact Tissue Viability Assessment**

Presentation Author: Mr. Michele Pierro

**MHSRS-19-00455 - POSTER SESSION 2 - #067****Myeloid-derived Suppressor Cells and the Immunoinflammatory Response to Burn Injury**

Presentation Author: Dr. Martin Schwacha

**MHSRS-19-00493 - POSTER SESSION 2 - #068****Hypercoagulation and Hypermetabolism in Severely Burned Adults**

Presentation Author: Dr. Wenjun Martini

**MHSRS-19-00670 - POSTER SESSION 2 - #069****Cerium Nitrate Stabilizes Burn Eschars and Reduces Circulating Damage-associated Molecular Pattern Molecules in a Rat Scald Burn Model**

Presentation Author: Dr. Liwu Qian

**MHSRS-19-00819 - POSTER SESSION 2 - #070****Improved Blood Flow Assessment in Evaluating Burn Wounds Using Multimodal Wide-field Optical Imaging**

Presentation Author: Dr. Ben Lertsakdadet

**MHSRS-19-00971 - POSTER SESSION 2 - #071****Fluorescence Biomodulation for the Management of Burn Injuries: Acting at a Cellular Level to Control Inflammation and Improve Healing**

Presentation Author: Dr. Lise Hebert

**MHSRS-19-01034 - POSTER SESSION 2 - #072****Breed Differences in a Porcine Burn Progression Model**

Presentation Author: Dr. Christine Kowalczewski

**MHSRS-19-01144 - POSTER SESSION 2 - #073****Assessing Polarization-sensitive Optical Coherence Tomography as a Tool to Volumetrically Map Collagen Structure in Partial Thickness Burns**

Presentation Author: Dr. Nestor Uribe-Patarroyo

**MHSRS-19-01278 - POSTER SESSION 2 - #074****Fibronectin-derived Peptides cP12 and cNP8 Enhance PDGF-BB-stimulated Human Dermal Fibroblast Migration in-vitro and Granulation Tissue Formation in-vivo**

Presentation Author: Dr. Richard Clark

**MHSRS-19-01285 - POSTER SESSION 2 - #075****Metabolomic Profiling of Burn Wounds Following Treatment with Different Skin Substitutes**

Presentation Author: Dr. Hilmar Kjartansson

**MHSRS-19-01555 - POSTER SESSION 2 - #076****In Situ Skin Regeneration Through Induction of Skin Allograft Chimerism by Mobilizing Host Endogenous Stem Cells**

Presentation Author: Mr. Ali Ahmadi

**MHSRS-19-01646 - POSTER SESSION 2 - #077****Using Pyoverdine for Rapid and Early Detection of Pseudomonas Aeruginosa in Burn Wounds**

Presentation Author: Dr. Gregory Fernandes

**MHSRS-19-01980 - POSTER SESSION 2 - #078****The Regulatory Environment for Tissue-engineered Products for the Treatment of Burns in the U.S.**

Presentation Author: Ms. Kimberly Belsky

**MHSRS-19-02051 - POSTER SESSION 2 - #079****Burncare: Virtual Tablet Training to Enhance Burn Injury Care and Treatment**

Presentation Author: Dr. Austin Baird

**MHSRS-19-02137 - POSTER SESSION 2 - #080****SP16 Drug, Phase II Ready for Treatment of Sepsis or Burn Wounds**

Presentation Author: Dr. Cohava Gelber

**MHSRS-19-02231 - POSTER SESSION 2 - #081****Ultra-wide Band RF Quantitative Diagnostics and Imaging of Burn Injuries**

Presentation Author: Dr. Vladimir Makarenko

**MHSRS-19-02253 - POSTER SESSION 2 - #082****Skin Function is Compromised with Biofilm Ceramidases**

Presentation Author: Dr. Mithun Sinha

**MHSRS-19-02255 - POSTER SESSION 2 - #083****Spatial Frequency Domain Imaging for Assessment of Burn Wound Debridement in a Porcine Model**

Presentation Author: Dr. Gordon Kennedy

**MHSRS-19-02319 - POSTER SESSION 2 - #084****Treatment of Full-thickness Wounds with Microfragmented Adipose Tissue and Plasma-based Hydrogels**

Presentation Author: Dr. Shanmugasundaram Natesan

**MHSRS-19-02348 - POSTER SESSION 2 - #085****Development of Nitric Oxide Releasing Bio-active Wound Dressing for Combat Burn Wound Infection Treatment**

Presentation Author: Dr. Shanmugasundaram Natesan

**MHSRS-19-02350 - POSTER SESSION 2 - #086****Reduction in Donor Skin Requirements for Full Thickness Burns After Fish Skin Treatment**

Presentation Author: Dr. Randolph Stone

**MHSRS-19-02573 - POSTER SESSION 2 - #087****Single-cell Sequencing Analysis of Interaction between Pathogen and CD8-positive T Cells in Burn Patients with Sepsis**

Presentation Author: Ms. Chengxiao Chen

**MHSRS-19-02595 - POSTER SESSION 2 - #088****Antimicrobial Efficacy Testing of a Novel Composite Dressing**

Presentation Author: Dr. Mina Izadjoo

**MHSRS-19-02603 - POSTER SESSION 2 - #089****A Robust Next Generation Technology for Full Thickness Skin Grafts**

Presentation Author: Dr. Mina Izadjoo

**MHSRS-19-02617 - POSTER SESSION 2 - #090****Microneedle Arrays for Burn Wound Healing**

Presentation Author: Mr. Jacob Quint

**ADVANCES IN PROLONGED CARE****MHSRS-19-00060 - POSTER SESSION 2 - #091****How to Properly Carry Your Cross: Combat Resuscitation Organ Support System**

Presentation Author: Dr. Andriy Batchinsky

**MHSRS-19-00222 - POSTER SESSION 2 - #092****Large Animal Models of Combined Traumatic Brain Injury and Hemorrhagic Shock: A Systematic Review and New Directions**

Presentation Author: Dr. Andrew Mayer

**MHSRS-19-00289 - POSTER SESSION 2 - #093****Enhancing the Damage Control Skills of Far Forward Providers Using Augmented Reality: A Technical Integration and Demonstration Study**

Presentation Author: COL Tyler Harris



**MHSRS-19-00403 - POSTER SESSION 2 - #094****Antimicrobial and Hemostatic Activities of Cotton-based Dressings Designed to Address Prolonged Field Care Applications**

Presentation Author: Dr. Judson Edwards

**MHSRS-19-00427 - POSTER SESSION 2 - #095****An Objective Model to Facilitate Designation of Military-Civilian Partnership Hospitals for Sustainment of Military Trauma Readiness**

Presentation Author: MAJ Andrew Hall

**MHSRS-19-00578 - POSTER SESSION 2 - #096****Synchronous Activation of Pro-inflammatory and Anti-inflammatory Responses in Civilian Trauma Patients**

Presentation Author: Dr. Zhangsheng Yang

**MHSRS-19-00854 - POSTER SESSION 2 - #097****Plasma Lactate and its Clearance Relates to the Mortality Following Severity of Blast Exposure and Hemorrhagic Shock in Rats**

Presentation Author: Dr. Pushpa Sharma

**MHSRS-19-00913 - POSTER SESSION 2 - #098****Evaluation of the Utility of a Point-of-Care Hematology Device to Triage Radiation Casualties Following Exposure to Mixed Field (5.5 Neutron to Gamma Ray) and Gamma Only Radiation Exposure**

Presentation Author: Dr. William Blakely

**MHSRS-19-00989 - POSTER SESSION 2 - #099****Preliminary Analysis of Military Working Dog Injuries in Theater Between 2001 and 2018**

Presentation Author: Dr. Laura Scott

**MHSRS-19-01001 - POSTER SESSION 2 - #100****Adipocyte Lipolysis is Necessary for Acute Stress-induced Insulin Resistance**

Presentation Author: Dr. Thurl Harris

**MHSRS-19-01332 - POSTER SESSION 2 - #101****Modeling Mass Casualty Patients after a Nuclear Detonation: Opportunities to Prepare for Logistic Challenge Beyond Initial Surge**

Presentation Author: Col William Skinner

**MHSRS-19-01345 - POSTER SESSION 2 - #102****Efficacy of Four Hemostatic Strategies for Prolonged Field Care in a Swine (Sus Scrofa) Model of Hemorrhagic Injury**

Presentation Author: LCDR Grace Landers

**MHSRS-19-01514 - POSTER SESSION 2 - #103****Development of an Advanced Respiratory Rate Algorithm and Deployment in a Field Medic Utilized Fingertip Oximeter**

Presentation Author: Dr. Marcus Kramer

**MHSRS-19-01594 - POSTER SESSION 2 - #104****In-situ Acoustic-radiation-force 3D Printer for Non-invasive Internal Bleeding Control**

Presentation Author: Dr. Li Li

**MHSRS-19-01852 - POSTER SESSION 2 - #105****Wound Healing Prediction in Critical Limb Ischemia via Continuous Tissue Oxygen Measurements**

Presentation Author: Ms. Natalie Wisniewski

**MHSRS-19-02071 - POSTER SESSION 2 - #106****Early Initiation of Thromboprophylaxis in Operative Spine Trauma Does Not Increase the Risk of Bleeding Complications**

Presentation Author: Dr. Christopher Gonzales

**MHSRS-19-02128 - POSTER SESSION 2 - #107****Evaluating an Ultra-portable Operating Room Paradigm to Improve Surgical Safety in the Field**

Presentation Author: Dr. Debbie Teodorescu

**MHSRS-19-02215 - POSTER SESSION 2 - #108****Intraoperative Optical Coherence Tomography Imaging of Trauma – Technology Development and Demonstration of Peripheral Nerve Imaging in Non-human Primates**

Presentation Author: Dr. Mohsen Erfanzadeh

**MHSRS-19-02265 - POSTER SESSION 2 - #109****Powering Expeditionary Surgical Equipment from Mine-resistant Ambush-protected All-terrain Vehicles**

Presentation Author: CPT Erick Thronson

**MHSRS-19-02423 - POSTER SESSION 2 - #110****Review of Evidence-based Nutrition Related Strategies and Research Gaps to Address While Treating Patients with Spinal Cord Injuries**

Presentation Author: MAJ Joetta Khan

**MHSRS-19-02579 - POSTER SESSION 2 - #111****Integrated Pressure Sensing/optical Coherence Tomography Probe for Localized Dynamic Airway Compliance Measurement**

Presentation Author: Mr. Yusi Miao

**MHSRS-19-02619 - POSTER SESSION 2 - #112****Anticipating Death: The Utilization of the Revised Trauma Score to Predict Mortality in the Combat Zone**

Presentation Author: CPT Daniel Lammers

## CARING FOR TRAUMATIC SOFT TISSUE AND ORTHOPEDIC INJURY IN AUSTERE ENVIRONMENTS

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#### **Placement of Antibiotic Powder In Wounds in the Emergency Room**

Presentation Author: Ms. Abigail Wheeler

### **MHSRS-19-00827 - POSTER SESSION 2 - #114**

#### **A Strategy to Identify Putative Prognostic Biomarkers of Pathological Scarring in Traumatic Skin Wounds**

Presentation Author: Dr. Sridevi Nagaraja

### **MHSRS-19-00885 - POSTER SESSION 2 - #115**

#### **Comparison of Devices for Acute Compartment Syndrome under Real World Conditions**

Presentation Author: Dr. Ed Harvey

### **MHSRS-19-01025 - POSTER SESSION 2 - #116**

#### **Optical Clearing Techniques for Imaging Composite Tissues**

Presentation Author: Dr. Huseyin Karagoz

### **MHSRS-19-01152 - POSTER SESSION 2 - #117**

#### **Synthetic Bioresorbable Wound Matrix Promotes Healthy Neotissue Formation and Wound Closure**

Presentation Author: Dr. Jed Johnson

### **MHSRS-19-01153 - POSTER SESSION 2 - #118**

#### **Wound Healing for the Modern-day Warfighter Using Novel Autologous Therapy for Complete Regeneration of Functional Skin and Bone in Multicomponent Traumatic Injuries**

Presentation Author: Dr. Ivy Estabrooke

### **MHSRS-19-01193 - POSTER SESSION 2 - #119**

#### **Blinded, Prospective, Randomized Clinical Trial on 170 Acute Wounds Shows Significantly Faster Healing Rate with Intact Fish Skin Compared to Human Amniotic Membrane**

Presentation Author: Dr. Hilmar Kjartansson

### **MHSRS-19-01275 - POSTER SESSION 2 - #120**

#### **Biodegradable Tissue Adhesives with Antibacterial Properties for Addressing Soft Tissue and Maxillofacial Trauma**

Presentation Author: Dr. Abraham Joy

### **MHSRS-19-01409 - POSTER SESSION 2 - #121**

#### **Capillary Suction Device—A Novel Approach to Provide the Benefits of Negative Pressure Wound Therapy to Veterans at a Fractional Cost**

Presentation Author: Dr. Ranjit Chatterjee

**MHSRS-19-01513 - POSTER SESSION 2 - #122****Quality of Life after Open Abdominal Treatment: Long-term Results of Vacuum-assisted Wound Closure and Mesh-mediated Fascial Traction**

Presentation Author: Dr. Sebastian Schaaf

**MHSRS-19-01731 - POSTER SESSION 2 - #123****Extended Tourniquet Use is Associated with Increased Traumatic Heterotopic Ossification Formation in a Combat Applicable Model of Blast Associated Lower Limb Trauma**

Presentation Author: LCDR Philip Spreadborough

**MHSRS-19-01849 - POSTER SESSION 2 - #124****A Novel Off-the-shelf Therapy for Full-thickness Skin Regeneration in an Ischemic Rabbit Ear Model**

Presentation Author: Dr. Jialun Li

**MHSRS-19-01891 - POSTER SESSION 2 - #125****Ex Vivo Normothermic Perfusion Preserves the Viability of Amputated Limbs for up to Fifty Hours**

Presentation Author: Dr. Carlos Ordenana

**MHSRS-19-01955 - POSTER SESSION 2 - #126****Dermisphere™: An Advanced Dermal Regeneration Scaffold to Heal Full and Partial Thickness Skin Loss Wounds**

Presentation Author: Dr. Yulia Sapir-Lekhovitser

**MHSRS-19-02005 - POSTER SESSION 2 - #127****Novel Delivery System of TGF-1 Utilizing Fabricated Scaffold for Bone Regeneration of Compromised Wounds in a Swine Model (*Sus Scrofa*)**

Presentation Author: Dr. Jaclyn Yracheta

**MHSRS-19-02018 - POSTER SESSION 2 - #128****Resorption Kinetics of 3D Printed, Resorbable, Poly (Propylene Fumarate) Bone Tissue Engineered Implants**

Presentation Author: Dr. David Dean

**MHSRS-19-02202 - POSTER SESSION 2 - #129****Fabrication of Stiffness Matched, 3D Printed, and Regenerative Nitinol Skeletal Fixation Plates**

Presentation Author: Dr. David Dean

**MHSRS-19-02203 - POSTER SESSION 2 - #130****Hydrogel Scaffolds for the Targeted, Controlled Regeneration of Osteochondral Injuries**

Presentation Author: Dr. Lindsay Woodard

**MHSRS-19-02209 - POSTER SESSION 2 - #131****Non-invasive Diagnostic Device for Compartment Syndrome Detection**

Presentation Author: Mr. Steven Hansen

**MHSRS-19-02360 - POSTER SESSION 2 - #132****Loading a First-in-class Antibiofilm Compound Into Polyurethane Foam for Negative Pressure Wound Therapy**

Presentation Author: Dr. Dustin Williams

**MHSRS-19-02659 - POSTER SESSION 2 - #133****Evaluating the Impact of Perfusate Composition on Viability of Abdominal Wall Allografts Following Ex Vivo Preservation**

Presentation Author: Ms. Sara Salehi

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Presentation Author: CPT Jacquelyn Messenger

**MHSRS-19-00155 - POSTER SESSION 2 - #135****V25 Emergency Whole Blood Transfusion Program: A Proof of Concept for the Marine Infantry**

Presentation Author: LCDR Russell Wier

**MHSRS-19-00187 - POSTER SESSION 2 - #136****Valkyrie Emergency Fresh Whole Blood Transfusion Training for Fleet Marine Force Corpsmen in the Ground Combat Element**

Presentation Author: LCDR Russell Wier

**MHSRS-19-00201 - POSTER SESSION 2 - #137****Nanotrap® Particles for Improved Biomarker Discovery via Mass Spectrometry: A Case Study on Novel Antimicrobial Peptide Discovery**

Presentation Author: Dr. Megan Devine

**MHSRS-19-00242 - POSTER SESSION 2 - #138****Novel Manufacturing Method for Producing Apohemoglobin and its Biophysical Properties**

Presentation Author: Mr. Ivan Pires

**MHSRS-19-00252 - POSTER SESSION 2 - #139****Mixtures of Tense and Relaxed State Polymerized Human Hemoglobin Regulate Oxygen Affinity and Tissue Construct Oxygenation**

Presentation Author: Mr. Donlad Belcher

**MHSRS-19-00297 - POSTER SESSION 2 - #140****The Quaternary State of Polymerized Human Hemoglobin Regulates Oxygenation of Breast Cancer Solid Tumors: A Theoretical and Experimental Study**

Presentation Author: Mr. Donald Belcher

**MHSRS-19-00316 - POSTER SESSION 2 - #141****Bench-scale Production of Glutaraldehyde Polymerized Bovine Hemoglobin as a Red Blood Cell Substitute**

Presentation Author: Dr. Crystal Bolden-Rush

**MHSRS-19-00327 - POSTER SESSION 2 - #142****In-vitro Compatibility of Canine and Human Blood – A Pilot Study**

Presentation Author: LTC Thomas Edwards

**MHSRS-19-00352 - POSTER SESSION 2 - #143****Apohegoglobin Quantification via Dicyanohemin Incorporation**

Presentation Author: Mr. Ivan Pires

**MHSRS-19-00408 - POSTER SESSION 2 - #144****Donor Age Alters Onset of the Red Blood Cell Storage Lesion**

Presentation Author: Dr. Kasiemobi Pulliam

**MHSRS-19-00457 - POSTER SESSION 2 - #145****A Modified Storage Solution Decreases Red Blood Cell Storage Lesion Formation and Inflammatory Response to Resuscitation Following Hemorrhagic Shock**

Presentation Author: Dr. Kasiemobi Pulliam

**MHSRS-19-00532 - POSTER SESSION 2 - #146****Adenosine Regulation of CAMP in Platelets**

Presentation Author: Dr. Daniel Darlington

**MHSRS-19-00541 - POSTER SESSION 2 - #147****The Fall in Platelet Energy Stores is Linked to Platelet Dysfunction after Severe Trauma**

Presentation Author: Mr. Jeffrey Keese

**MHSRS-19-00543 - POSTER SESSION 2 - #148****Bradykinin Receptor Antagonist Mitigates Vascular Permeability in Rats with Polytrauma and Hemorrhagic Shock**

Presentation Author: Dr. Xiaowu Wu

**MHSRS-19-00553 - POSTER SESSION 2 - #149****Evaluation of Mitochondrial Function of the Liver in Rats with Polytrauma and Hemorrhagic Shock**

Presentation Author: Dr. Xiaowu Wu

**MHSRS-19-00557 - POSTER SESSION 2 - #150****Glycolysis is Critical for Normal Platelet Function**

Presentation Author: Dr. Daniel Darlington

**MHSRS-19-00562 - POSTER SESSION 2 - #151****Severe Trauma in Rats Leads to Platelet Dysfunction and an Elevation in Guanylate Cyclase Activity**

Presentation Author: Dr. Daniel Darlington

**MHSRS-19-00593 - POSTER SESSION 2 - #152****Field-expedient Thawing of Fresh Frozen Plasma**

Presentation Author: Dr. Michael Meledeo

**MHSRS-19-00658 - POSTER SESSION 2 - #153****Cold-stored Platelets have Better Preserved Contractile Function in Comparison to Room Temperature-stored Platelets over 21 Days**

Presentation Author: Ms. Prajeeda Nair

**MHSRS-19-00663 - POSTER SESSION 2 - #154****Give the Surgeon a Chance: Increased Length of Survival and Rate of Transfer to the Operating Room after Resuscitation with Whole Blood**

Presentation Author: LCDR Douglas Pokorny

**MHSRS-19-00820 - POSTER SESSION 2 - #155****Systolic Blood Pressure Outweighs Heart Rate in the Utilization of Shock Index as a Triage Tool and Potential Need for Life Saving Interventions**

Presentation Author: LCDR Douglas Pokorny

**MHSRS-19-01075 - POSTER SESSION 2 - #156****Antimicrobial Blue Light for Safe Storage of Platelets**

Presentation Author: Mr. Min Lu

**MHSRS-19-01080 - POSTER SESSION 2 - #157****Therapeutic Potential of H12-ADP-liposomes, as a Synthetic Platelet Substitute, for Post Cardiopulmonary Bypass Coagulopathy**

Presentation Author: Mr. Osamu Ishida

**MHSRS-19-01117 - POSTER SESSION 2 - #158****Effects of Whole Blood Leukoreduction on Platelet Function and Hemostatic Parameters**

Presentation Author: Dr. Mackenzie Morris

**MHSRS-19-01126 - POSTER SESSION 2 - #159****Effects of Platelet Concentration on Cold Storage Parameters**

Presentation Author: Mr. Umang Sharma

**MHSRS-19-01211 - POSTER SESSION 2 - #160****Physical and Procoagulant Properties of Stableplate RX® Canine**

Presentation Author: Mr. Braden Ishler

**MHSRS-19-01217 - POSTER SESSION 2 - #161****Clinical Significance of Direct Antiglobulin Test-positive Pathogen Reduction Technology-treated Red Blood Cells**

Presentation Author: Dr. Susan Yonemura

**MHSRS-19-01234 - POSTER SESSION 2 - #162****GCPlus – A Xeno-free Supplement for Cell Expansion**

Presentation Author: Dr. Anand Srinivasan

**MHSRS-19-01350 - POSTER SESSION 2 - #163****Hemoclear, The Game Changer in Transfusion and Bleeding Management by a Novel Gravity Driven Low-cost Easy-to-operate Red Blood Cells Recuperation Device**

Presentation Author: Dr. Arno Nierich

**MHSRS-19-01449 - POSTER SESSION 2 - #164****Engineered Specific T Cells: A Platform to Modulate Adverse Immune Responses**

Presentation Author: Dr. David Scott

**MHSRS-19-01463 - POSTER SESSION 2 - #165****Cognitive and Physical Performance is Well Preserved Following a Blood Donation, a Randomized Clinical Trial**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01466 - POSTER SESSION 2 - #166****Freeze Dried Plasma for the Resuscitation of Traumatized Pediatric Patients**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01467 - POSTER SESSION 2 - #167****Back to the Future: Whole Blood is Here to Stay**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01481 - POSTER SESSION 2 - #168****A Methodology for Estimating Combat Theater Blood Products**

Presentation Author: Mr. James Zouris

**MHSRS-19-01515 - POSTER SESSION 2 - #169****Performance of Concurrent Blood Drives with Walking Blood Bank Prescreening: The Army Blood Program Approach to Whole Blood at the Point of Injury**

Presentation Author: Lt Col Melanie Sloan

**MHSRS-19-01548 - POSTER SESSION 2 - #170****72-hour Survival in a Rat Hemorrhagic Shock Model with VIR-HBOC versus Crystalloid**

Presentation Author: Dr. William Light

**MHSRS-19-01589 - POSTER SESSION 2 - #171****Bacterial Redox Activity Contributes to Sepsis Induced Coagulopathy**

Presentation Author: Dr. Patrick Ketter

**MHSRS-19-01622 - POSTER SESSION 2 - #172****Update and Final Report of Phase 1 Safety Study on a New Generation Freeze-dried Plasma Product**

Presentation Author: Dr. Jose Cancelas

**MHSRS-19-01692 - POSTER SESSION 2 - #173****Messenger RNA Delivery to Blood Products for Musculoskeletal Regenerative Medicine**

Presentation Author: Mr. William Murphy

**MHSRS-19-01712 - POSTER SESSION 2 - #174****Similar Hemostatic Responses to Hypovolemia in Hemorrhage and LBNP Reveals a Hyperfibrinolytic Subset of Baboons**

Presentation Author: Ms. Maryanne Herzig



**MHSRS-19-01727 - POSTER SESSION 2 - #175****Cold-stored Platelets are not Pro-inflammatory in an in-vitro Mixed Lymphocyte Reaction**

Presentation Author: Ms. Maryanne Herzig

**MHSRS-19-01784 - POSTER SESSION 2 - #176****Portable Iron Screening System for Point-of-Care Iron Status Determination**

Presentation Author: Dr. Mary Arugula

**MHSRS-19-01873 - POSTER SESSION 2 - #177****Plasmon-enhanced Pathogen Inactivation in Blood Products: Selectivity Without Targeting**

Presentation Author: Mr. Bjoern Reinhard

**MHSRS-19-01916 - POSTER SESSION 2 - #178****Rapid and Low-cost Whole Blood Coagulation Sensing Using a Smartphone**

Presentation Author: Mr. Masaki Hosoda

**MHSRS-19-02020 - POSTER SESSION 2 - #179****Validation of 10-day Cold Stored Platelets Collected in PAS Solution as an Available Blood Product for Trauma**

Presentation Author: MAJ William Ceballos

**MHSRS-19-02022 - POSTER SESSION 2 - #180****A Field-deployable Dielectric Coagulometer for Rapid Hemostatic Assessment in Remote Damage Control Resuscitation**

Presentation Author: Dr. Michael Suster

**MHSRS-19-02065 - POSTER SESSION 2 - #181****Preclinical Comparison of Current Resuscitation Fluids**

Presentation Author: Dr. Bjorn Song

**MHSRS-19-02313 - POSTER SESSION 2 - #182****Storage Age of Packed Red Blood Cells Alters Coagulability**

Presentation Author: Dr. Kasiemobi Pulliam

**MHSRS-19-02331 - POSTER SESSION 2 - #183****Safety Evolution of High Molecular Weight Polymerized Hemoglobin**

Presentation Author: Dr. Cynthia Muller

**MHSRS-19-02382 - POSTER SESSION 2 - #184****Production of Universal Plasma: Removal of Anti-A/anti-B Antibodies from Donor Plasma**

Presentation Author: Mr. Wilbur Malloy

**MHSRS-19-02439 - POSTER SESSION 2 - #185****Histopathological Assessment of Extended Criteria Donor Kidneys Preserved in Perfluorocarbon Oxygen Therapeutic Solutions**

Presentation Author: Dr. Travis Parsons

**MHSRS-19-02494 - POSTER SESSION 2 - #186****Coagulation Factor Replacement does not Explain Benefits of Plasma-based Resuscitation after Injury**

Presentation Author: Dr. Joshua Sumislawski

**MHSRS-19-02529 - POSTER SESSION 2 - #187****Blood Purification by Systemic Hemoadsorption Preferentially Augments Early Adaptive Reparative Responses in Muscle and Bone Wounds in an Open Fracture Model with Muscle Injury**

Presentation Author: Dr. Todd McKinley

**MHSRS-19-02575 - POSTER SESSION 2 - #188****Assessing Blood Coagulation by Real-time Measurement of Viscosity Using Optical Coherence Elastography**

Presentation Author: Mr. Jason Chen

**MHSRS-19-02620 - POSTER SESSION 2 - #189****Increased Oxygenation during Chronic Anemia with Pegylated Earthworm Hemoglobin**

Presentation Author: Mr. Carlos Munoz

**HEMORRHAGE CONTROL AND RESUSCITATION****MHSRS-19-00018 - SESSION 2 - #190****Fresh Frozen Plasma Attenuates Lung Injury in a Novel Model of Prolonged Hypotensive Resuscitation**

Presentation Author: Dr. Amanda Chipman

**MHSRS-19-00044 - SESSION 2 - #191****Activation of the Complement Complex 5b-9 in Response to Physiologic Decompensation in a Pure Hemorrhage Model of Shock in Non-human Primates**

Presentation Author: Dr. Madelaine Paredes

**MHSRS-19-00076 - SESSION 2 - #192****Comparison of Partial to Complete Aortic Balloon Occlusion on Survival and Indices of Shock in a Swine Model of Uncontrolled Splenic Hemorrhage with Delayed Resuscitation**

Presentation Author: Dr. Michael Dubick

**MHSRS-19-00114 - SESSION 2 - #193****Localization of Arterial Bleeds Using Wave Intensity Analysis**

Presentation Author: Dr. Prem Venugopal

**MHSRS-19-00133 - SESSION 2 - #194****Ethinyl Estradiol-3-sulfate Administration Following Severe Blood Loss Even in the Absence of Fluid Resuscitation Produces Salutary Effects on Cardiac Function: Restoration of Cell Survival Signaling, Downregulation of Apoptosis and Autophagy**

Presentation Author: Dr. Irshad Chaudry

**MHSRS-19-00194 - SESSION 2 - #195****The Effects of Partial and Full Aortic Occlusion on Hemodynamic Stability in a Porcine Model of Hemorrhagic Shock**

Presentation Author: Mr. William Baker

**MHSRS-19-00199 - SESSION 2 - #196**

**Hypocalcemia in Military Casualties from Point-Of-Injury to Role 2 Surgical Teams in Afghanistan**

Presentation Author: LTC Linda Benavides

**MHSRS-19-00228 - SESSION 2 - #197****Applying Knowledge Translation Best Practices to Model and Optimize the Joint Trauma System Research Translation Life Cycle Process**

Presentation Author: Ms. Lynn Hallard

**MHSRS-19-00296 - SESSION 2 - #198****Synthesis of Polymerized Human Hemoglobin as a Red Blood Cell Substitute**

Presentation Author: Ms. Savannah Moses

**MHSRS-19-00361 - SESSION 2 - #199****Efficacy Assessment of Topical Non-absorbable and Absorbable Hemostatic Devices on Swine Extremity Wounds with Arterial and Venous Injuries**

Presentation Author: Ms. Irasema Terrazas

**MHSRS-19-00380 - SESSION 2 - #200****Real-time Oxygenation and Force Sensing Toolkit for Optimal Tourniquet Application: Development of a “Smart” Emergency Tourniquet**

Presentation Author: Dr. John Quan Nguyen

**MHSRS-19-00381 - SESSION 2 - #201****A Single Analgesic Dose of a NSAID Causes Organ Failure on Rabbits Following Hemorrhagic Shock and Hypotensive Resuscitation**

Presentation Author: Mr. Rodolfo De Guzman

**MHSRS-19-00437 - SESSION 2 - #202****Self-propelling Fibrinogen Particles for Hemorrhage Control on the Battlefield**

Presentation Author: Dr. Henry Peng

**MHSRS-19-00459 - SESSION 2 - #203****Effect of Perfluorocarbon Emulsion Infusion on Coagulator Factors in Normal and Hemorrhagic Shock Sheep**

Presentation Author: Dr. Jiepei Zhu

**MHSRS-19-00476 - SESSION 2 - #204****Management of Hemorrhage from Craniomaxillofacial Injuries and Penetrating Neck Injury in TCCC With The iTClamp Mechanical Wound Closure Device**

Presentation Author: CDR Dana Onifer

**MHSRS-19-00490 - SESSION 2 - #205****Rapid Intramuscular Administration of TXA Results in Equivalent Total Drug Exposure and Reversal of Hyperfibrinolysis in a Swine Controlled Hemorrhage Model**

Presentation Author: Capt Marguerite Spruce

**MHSRS-19-00501 - SESSION 2 - #206**

**Resuscitation of Fibrinogen Concentrate and FFP on Coagulation in Pigs with Traumatic Hemorrhage**

Presentation Author: Dr. Wenjun Martini

**MHSRS-19-00517 - SESSION 2 - #207****Tissue Properties during Tourniquet Application: Mechanical Assessment Informing Design of Trainers**

Presentation Author: Mr. Alexander Hooke

**MHSRS-19-00638 - SESSION 2 - #208****Efficacy of Minimally Invasive Alternatives to Open Preperitoneal Packing in a Swine Model of Lethal Pelvic Fracture-associated Hemorrhage in the Forward Surgical Setting**

Presentation Author: CPT Woo Do

**MHSRS-19-00666 - SESSION 2 - #209****Life Threatening Hemorrhage Whole Blood Volume Replacement Utilizing the W. A. T. C. H. E. R. Method**

Presentation Author: LCDR Douglas Pokorny

**MHSRS-19-00702 - SESSION 2 - #210****Tracking D02 with Compensatory Reserve during Whole Blood Resuscitation in Baboons**

Presentation Author: Dr. Victor Convertino

**MHSRS-19-00713 - SESSION 2 - #211****Resuscitative Endovascular Balloon Occlusion of the Aorta—Can Nurses and Corpsmen Perform This Skill for Life-saving En Route Care? A Pilot Study**

Presentation Author: Dr. Carmen Spalding

**MHSRS-19-00737 - SESSION 2 - #212****Resuscitative Endovascular Balloon Occlusion of the Aorta Induced Myocardial Injury is Mitigated by Endovascular Variable Aortic Control**

Presentation Author: Capt Carl Beyer

**MHSRS-19-00770 - SESSION 2 - #213****Polyethylene Glycol-conjugated Earthworm Hemoglobin as a Novel Red Blood Cell Substitute**

Presentation Author: Mr. Christopher Gilbert

**MHSRS-19-00831 - SESSION 2 - #214****Muscle Blood Flow and Oxygen Tension Relationships in Normovolemic and Hemorrhaged Rats**

Presentation Author: Dr. Ivo Torres Filho

**MHSRS-19-00835 - SESSION 2 - #215****Semi-automated Evaluation of Microvascular Permeability in Normovolemic and Hemorrhaged Rats**

Presentation Author: Dr. Ivo Torres Filho

**MHSRS-19-00842 - SESSION 2 - #216****Tissue Hemodynamics Monitored by Noninvasive Diffuse Optical Spectroscopy in Swine during Hemorrhage, Blood Transfusion, and REBOA**

Presentation Author: Mr. Jesse Lam

**MHSRS-19-00903 - SESSION 2 - #217**

**Tissue Inflammatory Markers and Oxidative Stress in Swine Subjected to a 40% TBSA Burn Injury**

Presentation Author: Mr. Theo Thomas

**MHSRS-19-00918 - SESSION 2 - #218****Complement-coagulation Partnership in Trauma Patients**

Presentation Author: Dr. Yansong Li

**MHSRS-19-00944 - SESSION 2 - #219****Recombinant Factor XIIIa and ACTH (1-24) As Adjuncts during Prolonged Hypotensive Resuscitation in Swine (*Sus Scrofa Domestica*): Optimizing Outcomes for the Prolonged Field Care Environment**

Presentation Author: Dr. Vanessa Chaplin

**MHSRS-19-00996 - SESSION 2 - #220****Evaluation of Prolonged Permissive Hypotension: Results from a Six Hour Hemorrhage Protocol in Swine**

Presentation Author: MAJ Emily Hathaway

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Presentation Author: Ms. Piyush Modak

**MHSRS-19-01118 - SESSION 2 - #223****A Fresh Perspective on Non-compressible Arterial Junctional Hemorrhage: Evaluation of Visco-liquid Hemostats in a Swine Model**

Presentation Author: Dr. Joseph Lichtenhan

**MHSRS-19-01173 - SESSION 2 - #224****Comparison of Standard Left Anterolateral Thoracotomy vs. Modified Bilateral "Clamshell" Thoracotomy by Emergency Physicians**

Presentation Author: CAPT Ryan Newberry

**MHSRS-19-01263 - SESSION 2 - #225****A Novel Use of the NOD SCID Mouse to Evaluate the Hemostatic Efficacy Thrombosomes**

Presentation Author: Dr. Anne Hale

**MHSRS-19-01376 - SESSION 2 - #226****Efficacy of An FDA-approved C1 Complement Inhibitor in a Pre/early Hospital Model of Traumatic Hemorrhage in Swine**

Presentation Author: Dr. Alexander Penn

**MHSRS-19-01434 - SESSION 2 - #227****Effects of Splenectomy in a Pre/early Hospital Model of Traumatic Hemorrhage In Swine**

Presentation Author: Dr. Alexander Penn

**MHSRS-19-01465 - SESSION 2 - #228**

**The Future is Here: Implementation of Novel Remote Damage Control Resuscitation Techniques**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01471 - SESSION 2 - #229****Tourniquet Application Rates and Outcomes Following a Military-wide Intervention**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01475 - Session 2 - #230****Prehospital Pediatric Use of Tranexamic Acid**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01486 - SESSION 2 - #231****Noninvasive Detection of Early Blood Loss Utilizing a Pocketsize, Near-infrared Spectroscopy Device**

Presentation Author: Mr. George Philipopoulos

**MHSRS-19-01493 - SESSION 2 - #232****Wearable Real-time Pre-hospital Coagulopathy Meter for use in Combat Casualty Care and Prolonged Field Care**

Presentation Author: Dr. Scott Ferguson

**MHSRS-19-01529 - SESSION 2 - #233****Gastroesophageal Resuscitative Occlusion of the Aorta**

Presentation Author: Mr. Brendan McCracken

**MHSRS-19-01588 - SESSION 2 - #234****Mitigating Ischemia Reperfusion Injury Using a New Generation PH-Reboa: Controlled Hypotension to Lower Body**

Presentation Author: Dr. Corina Necsoiu

**MHSRS-19-01596 - SESSION 2 - #235****Effect of Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) on Coagulation Function in a Severe Swine Hepatic Hemorrhage Model**

Presentation Author: CPL Amber Voelker

**MHSRS-19-01664 - SESSION 2 - #236****Self-compressible Hemostatic Wound Dressing**

Presentation Author: Dr. Kris Rangan

**MHSRS-19-01725 - SESSION 2 - #237****Stability of Coagulation Factors in Freeze-dried Plasma**

Presentation Author: Mrs. Elissa Flaumenhaft

**MHSRS-19-01820 - SESSION 2 - #238****Development of Chitosan Hemostatic Device to Control and Prevent Post-operative Hemorrhage in Transurethral Prostatic Procedures**

Presentation Author: Dr. Hua Xie

**MHSRS-19-01998 - SESSION 2 - #239****Female Platelets Have Increased Functional Activity Compared to Male Platelets: Implications in Transfusion Practice and Treatment of Trauma-induced Coagulopathy in Combat**

Presentation Author: Dr. Julia Coleman

**MHSRS-19-02008 - SESSION 2 - #240****PT/INR is a Strong Biomarker of Injury Severity but does not Indicate Critical Coagulation Factor Deficiency**

Presentation Author: Dr. Julia Coleman

**MHSRS-19-02011 - SESSION 2 - #241****Comparison of Fresh-made vs Lyophilized Synthoplate as a Field-deployable Platelet Surrogate Technology for Hemorrhage Control**

Presentation Author: Dr. Michael Bruckman

**MHSRS-19-02030 - SESSION 2 - #242****Stability of Freeze-dried Plasma after 1 Year of Storage**

Presentation Author: Mrs. Elissa Flaumenhaft

**MHSRS-19-02035 - SESSION 2 - #243****Trauma-associated Glycocalyx Damage and Angiotensin Dysregulation: Is There a Link?**

Presentation Author: Dr. Rindi Uhlich

**MHSRS-19-02063 - SESSION 2 - #244****Effects of Quikclot Combat Gauze and Celox Rapid in Hemorrhage Control**

Presentation Author: Col Arthur Johnson

**MHSRS-19-02097 - SESSION 2 - #245****Evaluation of Crystalloid, Whole Blood, and Pegylated Carboxyhemoglobin-based Oxygen Carrier in a Rat Model of Severe Hemorrhagic Shock**

Presentation Author: Dr. Bjorn Song

**MHSRS-19-02192 - SESSION 2 - #246****Pressurized Metered Dose Inhalers as First Responder-tools During Mass Casualty Scenarios**

Presentation Author: Dr. Thies Schroeder

**MHSRS-19-02208 - SESSION 2 - #247****Microvascular Compensatory Response to Hypovolemic Shock: Peripheral Versus Critical Organ Oxygenation**

Presentation Author: Dr. William Nugent

**MHSRS-19-02288 - SESSION 2 - #248****Fluoroscopy-free Reboa Zone 1 Aortic Cannulation in Perfused Human Cadavers: How Often Do We Miss?**

Presentation Author: Ms. Kathryn Jespersen

**MHSRS-19-02484 - SESSION 2 - #249****Therapeutic Cardiac Arrest as an Adjunct to REBOA in an Animal Model of Hemorrhage**

Presentation Author: Ms. Viviana Moreno

**MHSRS-19-02501 - SESSION 2 - #250**

**Polyhb Maintains Cardiac Function after Extreme Anemia**

Presentation Author: Mr. Alexander Williams

**MHSRS-19-02535 - SESSION 2 - #251****It's Okay to Move Your Lips When You Read: A Randomized Trial of Low-bandwidth Mentoring Versus Reading the Manufacturer Instructions Regarding Tourniquet Application**

Presentation Author: Ms. Jessica Mckee

**MHSRS-19-02552 - SESSION 2 - #252****Creating a Physical Tele-mentored Ultrasound Supported Medical Interventions "Box"**

Presentation Author: MAJ Andrew Kirkpatrick

**MHSRS-19-02564 - SESSION 2 - #253****Development of Chitosan Endoscopic Hemostatic Device to Control Severe Upper Gastrointestinal Bleeding**

Presentation Author: Dr. Simon McCarthy

**MHSRS-19-02568 - SESSION 2 - #254****Intelligent Point-of-Care Ultrasound for Auto-cannulation and to Enable REBOA Use**

Presentation Author: Mr. Jan Berkow

**MHSRS-19-02587 - SESSION 2 - #255****Self-dispersing Bioabsorbable Hemostatic Powder Non-invasively Addresses Truncal Hemorrhage in Swine**

Presentation Author: Dr. Christian Kastrup

**MHSRS-19-02600 - SESSION 2 - #256****Training Simulator for Resuscitative Endovascular Balloon Occlusion of the Aorta**

Presentation Author: Dr. Gianluca De Novi

**MHSRS-19-02645 - SESSION 2 - #257****Low Volume Resuscitation with Polyethylene Glycol-20k for Uncontrolled Severe Hemorrhagic Shock**

Presentation Author: Dr. Jad Khoraki

**MHSRS-19-02562 - SESSION 2 - #258****Polyethylene Glycol-20k is Superior to Hextend for Low Volume Resuscitation of Hemorrhagic Shock and Soft Tissue Injury: 24-hour Survival with Normal Neurological Assessment**

Presentation Author: Dr. Jad Khoraki

**CELLULAR THERAPEUTICS FOR TREATMENT OF TRAUMA-RELATED INJURIES****MHSRS-19-00008 - POSTER SESSION 2 - #259****Complement Deposition on the Surface of RBC after Trauma Serves a Biomarker of Trauma Severity: A Prospective Study**

Presentation Author: LTC Jurandir Dalle Lucca

**MHSRS-19-00023 - POSTER SESSION 2 - #260**



**Cellular Therapy to Covert Stump Skin to Palmo-plantar Skin and Enhance Prosthetic Use**

Presentation Author: Dr. Luis Garza

**OPEN - POSTER SESSION 2 - #261****MHSRS-19-00276 - POSTER SESSION 2 - #262****PDGFRA Marks Distinct Osteoprogenitor Populations within Adipose Tissue**

Presentation Author: Dr. Aaron James

**MHSRS-19-00325 - POSTER SESSION 2 - #263****In-vitro Production of Platelets for Far-forward Military Settings and Countermeasure Transfusion Needs**

Presentation Author: Dr. Jonathan Thon

**MHSRS-19-00405 - POSTER SESSION 2 - #264****Neural Stem Cell Therapy for Severe Traumatic Brain Injury**

Presentation Author: Dr. Karl Johe

**MHSRS-19-00487 - POSTER SESSION 2 - #265****Assay Development to Assess the Influence of Cell Therapy Agents on Blood Brain Barrier Endothelial Cell Function**

Presentation Author: Dr. Barbara Christy

**MHSRS-19-00504 - POSTER SESSION 2 - #266****Stem Cell and Shockwave Therapies to Promote Sexual Health Recovery in Pelvic Trauma Model**

Presentation Author: Dr. Shashikumar Salgar

**MHSRS-19-00522 - POSTER SESSION 2 - #267****Combinatorial Omics Analysis for Evaluating Adhesion and Osteogenic Differentiation Mechanisms of Human Fat-derived Mesenchymal Stem Cells on a Novel Nanocomposite Platform Technology**

Presentation Author: Mr. Austin Bow

**MHSRS-19-00529 - POSTER SESSION 2 - #268****Effects of TGF-beta Targeted-therapies in an in-vitro Model of Post-traumatic Heterotopic Ossification**

Presentation Author: Dr. Marvin Dingle

**MHSRS-19-00540 - POSTER SESSION 2 - #269****Tumorigenicity Study of Food and Drug Administration-approve for Clinical Trial Human Fetal Neural Stem Cells, Neuralstem Inc-566, in a Preclinical Model of Severe Penetrating Traumatic Brain Injury**

Presentation Author: Dr. Shyam Gajavelli

**MHSRS-19-00558 - POSTER SESSION 2 - #270****Heparin Attenuates Procoagulant Toxicity of Systemic Administration of Adipose Derived Mesenchymal Stromal Cells**

Presentation Author: Dr. Xiaowu Wu

**MHSRS-19-00565 - POSTER SESSION 2 - #271****Intraperitoneal Delivery as an Alternative Route for Systemic Administration of Bone Marrow Derived Mesenchymal Stromal Cells**

Presentation Author: Dr. Xiaowu Wu

**MHSRS-19-00732 - POSTER SESSION 2 - #272****Evaluation of Mesenchymal Stromal Cell Differentiation for Healing of Large Bone Tissue Defects**

Presentation Author: Dr. Jessica Stukel

**MHSRS-19-00914 - POSTER SESSION 2 - #273****Closed-system HMSC Working Cell Bank for Use in Scalable Stem Cell Biomanufacturing**

Presentation Author: Mr. John Getz

**MHSRS-19-01024 - POSTER SESSION 2 - #274****Scaling a Xeno-free Fed-batch 3D Microcarrier Suspension Bioreactor System From Development to Production Scale for HMSC Manufacturing**

Presentation Author: Mr. John Getz

**MHSRS-19-00919 - POSTER SESSION 2 - #275****Preconditioning in an Inflammatory Milieu Augments the Immunotherapeutic Function of Mesenchymal Stem Cells**

Presentation Author: Mr. Luis Rodriguez

**MHSRS-19-00966 - POSTER SESSION 2 - #276****Optimization of Stem Cell-derived Exosomes for Therapeutic Application in the Prolonged Field Care Environment**

Presentation Author: Dr. Mark Hamrick

**MHSRS-19-00992 - POSTER SESSION 2 - #277****Characterization of a Corneal Endothelial Injury in an Ex Vivo Rabbit Model as a Platform for Evaluation of Corneal Endothelial Cell Delivery**

Presentation Author: Ms. Lauren Cornell

**MHSRS-19-01013 - POSTER SESSION 2 - #278****Recruiting an "Old Hormonal Friend" for Future Skin Wound Management: Thyroxine Promotes the Re-epithelialization and Angiogenesis of Experimentally Wounded Human Skin Even Under Conditions of Severely Impaired Wound Healing**

Presentation Author: Mr. Ralf Paus

**MHSRS-19-01027 - POSTER SESSION 2 - #279****NGF and the Reinnervation of Wounded Human Skin Ex Vivo**

Presentation Author: Mr. Jeremy Cheret

**MHSRS-19-01089 - POSTER SESSION 2 - #280****Decellularized Muscle Matrix and Muscle-derived Stem Cells for Enhanced Muscle Regeneration in a Volumetric Muscle Loss Model**

Presentation Author: Dr. Seok Hong

**MHSRS-19-01116 - POSTER SESSION 2 - #281****Manufacturing of Engineered Bladder Tissues for Soldiers with Battlefield Injury**

Presentation Author: Dr. John Jackson

**MHSRS-19-01165 - POSTER SESSION 2 - #282**

**Human Placental Stem Cells Enhance Erectile Function Recovery in a Severe Pelvic Neurovascular Injury Rat Model**

Presentation Author: Dr. John Jackson

**MHSRS-19-01183 - POSTER SESSION 2 - #283**

**Clinical Translation of Tissue Engineered Urethra for Battlefield Injury**

Presentation Author: Dr. John Jackson

**MHSRS-19-01186 - POSTER SESSION 2 - #284**

**Clinical Translation of Engineered Penile Tissue for Battlefield Injury**

Presentation Author: Dr. John Jackson

**MHSRS-19-01191 - POSTER SESSION 2 - #285**

**Delivery of Modified mRNA-loaded Aligned Nanofibrillar Scaffolds for Treatment of Traumatic Muscle Injury**

Presentation Author: Dr. Ngan Huang

**MHSRS-19-01214 - POSTER SESSION 2 - #286**

**Tacrolimus-based Immune Suppression Following Penetrating Brain Injury Negatively Affects Cognition**

Presentation Author: Dr. Deborah Shear

**MHSRS-19-01230 - POSTER SESSION 2 - #287**

**Flow Cytometric Characterization of Extracellular Vesicle Surface Markers to Identify Optimal Fractions for Therapeutic Applications**

Presentation Author: Ms. Robin Kamucheka

**MHSRS-19-01292 - POSTER SESSION 2 - #288**

**Identification of the Ideal Mesenchymal Stem Cell Candidate to Treat Infection-induced Acute Respiratory Distress Syndrome in-vitro**

Presentation Author: Ms. Lucero Alvarado

**MHSRS-19-01315 - POSTER SESSION 2 - #289**

**Temporal Evaluation of Mitochondrial Redox Homeostasis Following Penetrating Traumatic Brain Injury**

Presentation Author: Dr. Jignesh Pandya

**MHSRS-19-01328 - POSTER SESSION 2 - #290**

**Injectable Bio-compatible Gel Composed of iPSC Derived NSC for Regeneration of Brain Tissue**

Presentation Author: Dr. Robert Chin

**MHSRS-19-01337 - POSTER SESSION 2 - #291**

**Manufacturing of Cellular and Cell-based Therapies at Scale**

Presentation Author: Mr. Tom Bollenbach

**MHSRS-19-01344 - POSTER SESSION 2 - #292**

**Magnetically-induced Self-assembly of Skin Microcolumns to Produce Full-thickness Skin Constructs**

Presentation Author: Dr. Joshua Tam

**MHSRS-19-01399 - POSTER SESSION 2 - #293**

**Exploiting Extracellular Matrix Dynamics to Preserve and Protect the Warfighter**

Presentation Author: Dr. Adam Mellott

**MHSRS-19-01495 - POSTER SESSION 2 - #294**

**3D Printing Biomimetic Functional Graphenic Scaffolds for Bone Regeneration**

Presentation Author: Dr. Stefanie Sydlik

**MHSRS-19-01619 - POSTER SESSION 2 - #295**

**Use of Bone Marrow Derived-mesenchymal Stem Cells to Allow for Early Split-thickness Skin Graft and Noteworthy Overall Outcome**

Presentation Author: Ms. Divya Aickara

**MHSRS-19-01728 - POSTER SESSION 2 - #296**

**Development and in-vivo Implantation of Lego-like 3D Printed Bone Scaffolds**

Presentation Author: Mr. James Jones

**MHSRS-19-01744 - POSTER SESSION 2 - #297**

**Human Mesenchymal Stromal Cells Have a Therapeutic Window for Immunosuppression in the Mixed Lymphocyte Reaction Assay**

Presentation Author: Ms. Maryanne Herzig

**MHSRS-19-01757 - POSTER SESSION 2 - #298**

**Injectable Nanofiber Powder Mediates Enhanced Adipose Cell Engraftment and Volume Retention**

Presentation Author: Ms. Ludmila Diaz-Starokozheva

**MHSRS-19-01775 - POSTER SESSION 2 - #299**

**CTDSP1 Knockdown in Trauma-induced Mesenchymal Progenitor Cells as a Novel Strategy to Promote Peripheral Nerve Regeneration after Traumatic Injury**

Presentation Author: Dr. Noreen Gervasi

**MHSRS-19-01836 - POSTER SESSION 2 - #300**

**Tunable Biomimetic Scaffolds for Directing Stem Cell Growth and Differentiation for Tissue Regeneration Applications**

Presentation Author: Dr. Mary Caldorera-Moore

**MHSRS-19-01872 - POSTER SESSION 2 - #301**

**Controlled Assembly of 3D Nanofiber Matrices for Regenerative Medicine**

Presentation Author: Dr. Mark Carlson

**MHSRS-19-01882 - POSTER SESSION 2 - #302**

**Metabolic Profiling of Human Skeletal Muscle during Ex-vivo Normothermic Limb Perfusion**

Presentation Author: Ms. Elizabeth Rohde

**MHSRS-19-01968 - POSTER SESSION 2 - #303**

**Role of Mechanosensing and FAK Expression in a Murine Model of Traumatic Heterotopic Ossification**

Presentation Author: Dr. Amanda Huber

**MHSRS-19-02038 - POSTER SESSION 2 - #304**

**Intentional Positioning Of Cells in Decellularized Muscle Tissues**

Presentation Author: Dr. Bradley Berron

**MHSRS-19-02066 - POSTER SESSION 2 - #305****Human Genetic Platform for Improved Cell Therapy and Cell Therapy Manufacturing**

Presentation Author: Dr. Amy Greene

**MHSRS-19-02068 - POSTER SESSION 2 - #306****An Extracellular Matrix Replacement Biomaterials Approach to Skin Regeneration in Full-thickness Skin Injuries**

Presentation Author: Dr. Emily English

**MHSRS-19-02070 - POSTER SESSION 2 - #307** **$\beta$ 2-adrenergic Receptor Activation Prolongs Survival of Vascularized Composite Tissue Allografts in a Murine Model**

Presentation Author: Dr. Minhyung Kim

**MHSRS-19-02146 - POSTER SESSION 2 - #308****LPS Induced Inflammation Pre-ACL Rupture Exacerbates Post-traumatic Osteoarthritis**

Presentation Author: Dr. Gabriela Loots

**MHSRS-19-02200 - POSTER SESSION 2 - #309****Immunodeficient State of Athymic Rats Enhances the Ability of Decellularized Muscle Matrix to Support Regeneration in a Volumetric Muscle Injury**

Presentation Author: Dr. Michael McClure

**MHSRS-19-02287 - POSTER SESSION 2 - #310****Targeting MHCII/self-peptide Presentation as a Method of Treating Established Autoimmunity**

Presentation Author: Dr. Jason Lees

**MHSRS-19-02372 - POSTER SESSION 2 - #311****Interaction of Specific Integrin Heterodimers and Fibronectin Potentially Modulate the Adhesion and Osteogenic Differentiation of Human Mesenchymal Stem Cells on Oxidized Graphene**

Presentation Author: Dr. Madhu Dhar

**MHSRS-19-02399 - POSTER SESSION 2 - #312****Targeting Donor Organ Dendritic Cells to Reduce Immunogenicity in Transplantation**

Presentation Author: Mr. Thiago Borges

**MHSRS-19-02433 - POSTER SESSION 2 - #313****Peripheral Tissue Injury and Acute Pancreatitis Cause a SIRS-induced Intestinal Microvascular Leak Triggering Ileus via a Specific Enteric Leak Factor**

Presentation Author: Dr. Anthony Bauer

**MHSRS-19-02442 - POSTER SESSION 2 - #314****Implantation of Bioengineered Innervated Terminal Gut as a Replacement Therapy for Injured Anus**

Presentation Author: Mr. Khalil Bitar

**MHSRS-19-02489 - POSTER SESSION 2 - #315**

**ST266 Amnion Derived Cytokine Secretome for Polytrauma Treatment**

Presentation Author: Dr. Larry Brown

**MHSRS-19-02528 - POSTER SESSION 2 - #316**

**Pre-clinical Evaluation of the Efficacy and Safety of Bone Marrow Mesenchymal Stem Cells for Corneal Wound Healing**

Presentation Author: Mr. Ilham Putra

**MHSRS-19-02556 - POSTER SESSION 2 - #317**

**The Effect of an Autologous Keratinocyte Spray on Human Skin Wound Healing Transcriptome**

Presentation Author: Dr. Kristo Nuutila

**MHSRS-19-02591 - POSTER SESSION 2 - #318**

**Circulating Plasma Micrnas Trigger Innate Immune Activation in a Mouse Model of Polytraumatic Injury**

Presentation Author: Dr. Andrew Suen

**CLINICAL DECISION SUPPORT, MEDICAL ROBOTICS, AND AUTONOMOUS MEDICAL SYSTEMS FOR PROLONGED CARE AND EVACUATION**

**MHSRS-19-00007 - POSTER SESSION 2 - #319**

**Algorithm Directed Troop Medical Care Digital Version App**

Presentation Author: Mr. James Chrosniak

**MHSRS-19-00028 - POSTER SESSION 2 - #320**

**Where's the Ondansetron? Preventing Nausea and Vomiting Without the Familiar Favorites**

Presentation Author: LCDR Chad Moore

**MHSRS-19-00122 - POSTER SESSION 2 - #321**

**Quantifying the Effects Of Wound Healing Risk and Potential on Clinical Measurements and Outcomes of Severely Burned Patients: A "Big Data" Approach**

Presentation Author: Mr. Nehemiah Liu

**MHSRS-19-00128 - POSTER SESSION 2 - #322**

**Developing an Intelligent Decision Support System to Support Tactical Combat Casualty Care and Prolonged Care**

Presentation Author: Ms. Rebecca Lee

**MHSRS-19-00162 - POSTER SESSION 2 - #323**

**Digitizing Air Force Medical Standards for the Creation of a Readiness Decision-support Tool**

Presentation Author: Capt Colby Uptegraft

**MHSRS-19-00166 - POSTER SESSION 2 - #324**

**Digital Transformation in the Bundeswehr Medical Service**

Presentation Author: Lt Col Frank Balszuweit

**MHSRS-19-00216 - POSTER SESSION 2 - #325****Novel Prehospital Documentation and Communication System Tested at Guardian Response 2018**

Presentation Author: Ms. Alexandra Cholewczynski

**MHSRS-19-00281 - POSTER SESSION 2 - #326****Classifying Burn Wound Severity Using Spatial Frequency Domain Imaging and Supervised Machine Learning**

Presentation Author: Ms. Rebecca Rowland

**MHSRS-19-00308 - POSTER SESSION 2 - #327****Deployed Exercise Using T6 Health Systems Web-based Application Electronic Trauma Resuscitation Documentation and Decision Support**

Presentation Author: Lt Col Valerie Sams

**MHSRS-19-00671 - POSTER SESSION 2 - #328****Protein Retention Levels of Fresh Frozen Plasma and Cryoprecipitate Derived from Pathogen Reduced Fresh Whole Blood**

Presentation Author: Dr. Francisco Rentas

**MHSRS-19-00822 - POSTER SESSION 2 - #329****Visual Perception Research for Medical Robotic and Autonomous Systems Applications**

Presentation Author: Mr. Nathan Fisher

**MHSRS-19-00869 - POSTER SESSION 2 - #330****Improving Prognostication of Death on the Battlefield: Development and Internal Validation of a Dynamic Bayesian Network to Enhance Decision-support and Governance**

Presentation Author: Dr. Somayyeh Mossadegh

**MHSRS-19-00951 - POSTER SESSION 2 - #331****Using the Low Minute Ventilation Parameter from a Non-invasive Respiratory Volume Monitor in Perioperative Management of OSA Patients in an Ambulatory Setting**

Presentation Author: Dr. Vimal Desai

**MHSRS-19-01076 - POSTER SESSION 2 - #332****Improved Human Machine Interface for Combat Medics to Capture and Transfer Clinical Data to an Electronic Health Record System**

Presentation Author: Dr. Lauren Shluzas

**MHSRS-19-01213 - POSTER SESSION 2 - #333****Using EHR Data in the Development of Machine Learning Models for Shock Identification and Differentiation**

Presentation Author: Dr. Adam Amos-Binks

**MHSRS-19-01247 - POSTER SESSION 2 - #334****Tactical Combat Casualty Care Decision Support for Medics, Battalion Aid Station and Field Hospital Clinicians**

Presentation Author: Dr. Christopher Nemeth

**MHSRS-19-01255 - POSTER SESSION 2 - #335**

**Active Breast Biopsy Needle for an Autonomous Needle Insertion System**

Presentation Author: Dr. Bardia Konh

**MHSRS-19-01324 - POSTER SESSION 2 - #336****Benefits of Telesonography in Diagnostic Support on Military Deployments Abroad**

Presentation Author: Lt Col Lorenz Scheit

**MHSRS-19-01352 - POSTER SESSION 2 - #337****U.S. Air Force Project ECHO Diabetes: Our Seven-year Experience**

Presentation Author: MAJ Darrick Beckman

**MHSRS-19-01423 - POSTER SESSION 2 - #338****Wearable Ultrasound Array for Rapid Point-of-Care Assessment**

Presentation Author: Dr. Rahul Singh

**MHSRS-19-01461 - POSTER SESSION 2 - #339****Morphomic Mapping of Airway Location, Dimensions and Orientation in Live Humans**

Presentation Author: Dr. Stewart Wang

**MHSRS-19-01508 - POSTER SESSION 2 - #340****Pulse and Respiration Rate Measurement Through RF Sensing in Search and Rescue and Through-wall 3D Imaging**

Presentation Author: Mr. Hossein Ghaffari Nik

**MHSRS-19-01517 - POSTER SESSION 2 - #341****Development of a Low Power Wireless Pulse Oximeter, Wearable on the Torso, for Tele-medical Monitoring**

Presentation Author: Dr. Marcus Kramer

**MHSRS-19-01561 - POSTER SESSION 2 - #342****Photoacoustic Transesophageal Echocardiography for Improving Early Management of Hemorrhagic Shock: Towards a Field-deployable Prototype**

Presentation Author: Dr. Li Li

**MHSRS-19-01663 - POSTER SESSION 2 - #343****Toward Robotic-assisted Casualty Extraction in Multi-domain Operations**

Presentation Author: Mr. Nathan Fisher

**MHSRS-19-01704 - POSTER SESSION 2 - #344****Developing Automated Clinical Decision Support for Wound Infection Evaluation and Care: A Combined Imaging and Machine Learning Approach**

Presentation Author: Dr. Petra Wilder-Smith

**MHSRS-19-01799 - POSTER SESSION 2 - #345****A Wearable System Which Reduces Motion Sickness and Improves Recovery of Balance**

Presentation Author: Dr. Didier Depireux

**MHSRS-19-01844 - POSTER SESSION 2 - #346**



**Miniaturized Continuous Lactate Monitor with Additional Analyte Monitoring Capability for Real-time Injury Status Assessment**

Presentation Author: Dr. Avid Najdahmadi

**MHSRS-19-01848 - POSTER SESSION 2 - #347****Development of an Application Specific Integrated Circuit Based Field Deployable Near-infrared Spectroscopy System**

Presentation Author: Dr. Timothy Quang

**MHSRS-19-01856 - POSTER SESSION 2 - #348****Detection of Internal Bleeding Through Optical Measurements of Draining Lymph Nodes**

Presentation Author: CAPT Judith Runnels

**MHSRS-19-01875 - POSTER SESSION 2 - #349****Persistent Access to Tactical Casualty Health**

Presentation Author: Dr. Ryan Myers

**MHSRS-19-01948 - POSTER SESSION 2 - #350****Novel Monitoring of Tissue Microvasculature Oxygenation Using Resonance Raman Spectroscopy**

Presentation Author: Mrs. Amanda Pennington

**MHSRS-19-01985 - POSTER SESSION 2 - #351****From the Desk (Dexterous Surgical Skill) to the Battlefield-A Robotics Exploratory Study**

Presentation Author: Dr. Juan Wachs

**MHSRS-19-02120 - POSTER SESSION 2 - #352****Movement and Maneuver Controls for Unmanned Casevac**

Presentation Author: Mr. Mitchell Bauer

**MHSRS-19-02154 - POSTER SESSION 2 - #353****Development and Validation of Low Cost 3D Printed Anatomical Models for Pre-surgical Planning and Clinical Education**

Presentation Author: Mr. David Salazar

**MHSRS-19-02158 - POSTER SESSION 2 - #354****Bioprinting in Austere Military Environments: Results and Design Considerations**

Presentation Author: Dr. Joel Gaston

**MHSRS-19-02162 - POSTER SESSION 2 - #355****A National Survey of Radiation Oncologists and Urologists on Proton Beam Radiotherapy and Robotic Surgery for Localized Prostate Cancer**

Presentation Author: Dr. Luke Bidikov

**MHSRS-19-02184 - POSTER SESSION 2 - #356****Creating an Automated, Enhanced Lund Browder Diagram to Enable More Accurate and Timely Burn Wound**

**Annotations**

Presentation Author: Mr. Gregory Rule

**MHSRS-19-02197 - POSTER SESSION 2 - #357**

**Prehospital Point Of Care Testing for the Prediction of Lifesaving Interventions in Trauma Patients**

Presentation Author: Dr. Shiming Yang

**MHSRS-19-02228 - POSTER SESSION 2 - #358**

**In-flight Vital Signs Predict Emergency and Massive Blood Transfusion after Trauma**

Presentation Author: Dr. Shiming Yang

**MHSRS-19-02270 - POSTER SESSION 2 - #359**

**Modeling Healthcare: Capacity, Access and Resource Allocation**

Presentation Author: COL Mary Lowe Mayhugh, USA Retired

**MHSRS-19-02364 - POSTER SESSION 2 - #360**

**Benefits and Design Consideration of a Platform for an Autonomous Medical System**

Presentation Author: Ms. Tracy Rausch

**MHSRS-19-02377 - POSTER SESSION 2 - #361**

**Integrated Platform for Point-of-Care Testing**

Presentation Author: Mr. Robert Granier

**MHSRS-19-02437 - POSTER SESSION 2 - #362**

**Reliability and Validity of A-mode Ultrasound to Quantify Body Composition**

Presentation Author: Dr. Michael Willey

**MHSRS-19-02492 - POSTER SESSION 2 - #363**

**Convolutional-neural-network Based Machine-learning Interpretation of Lung Ultrasound Images:  
Ultrasound Detection of Lung Complications in Patients with Hematological Malignancies**

Presentation Author: Dr. Meihua Zhu

**MHSRS-19-02537 - POSTER SESSION 2 - #364**

**Building a "Real" Telemedicine Ultrasound Supported Medical Intervention Mousetrap: Creating a Practical  
Multi-modality Telementoring Capacity for Far Forward Resuscitation**

Presentation Author: Ms. Jessica Mckee

**MHSRS-19-02545 - POSTER SESSION 2 - #365**

**Noninvasive Breath Analysis Using NASA E-nose Technology for Health Assessment**

Presentation Author: Dr. Jing Li

**MHSRS-19-02580 - POSTER SESSION 2 - #366**

**Implementation of a Modified Early Warning System Real-time Clinical Decision Support Application to  
Evaluate Interoperable Medical System Capabilities**

Presentation Author: Dr. Julian Goldman

**MHSRS-19-02633 - POSTER SESSION 2 - #367**

**Applicability of the Automotive Levels of Automation to Autonomous Medical Systems**

Presentation Author: Dr. Julian Goldman

**EN ROUTE CARE FUTURE RESEARCH CHALLENGES****MHSRS-19-00259 - POSTER SESSION 2 - #368****Vibration Alone Induces the Inflammatory Response in an Experimental Animal Model**

Presentation Author: CDR Carl Goforth

**MHSRS-19-00513 - POSTER SESSION 2 - #369****Effect of Blood Flow on Platelets, Leukocytes, and Extracellular Vesicles in Thrombosis of Simulated Extracorporeal Circulation**

Presentation Author: Dr. Andrew Meyer

**MHSRS-19-01006 - POSTER SESSION 2 - #370****Development and Evaluation of a Trans-cutaneous Tissue Oxygenation Wearable Device**

Presentation Author: Dr. Juan Cascales

**MHSRS-19-01031 - POSTER SESSION 2 - #371****Validation and Training Requirements Definition for Effective Combat Casualty Care Handoff Operations**

Presentation Author: Dr. Camilla Knott

**MHSRS-19-01341 - POSTER SESSION 2 - #372****Joint Trauma System Medical Enroute Care Registry (MERCURY): A Six Month Glimpse of Data**

Presentation Author: Dr. Kimberly Smith

**MHSRS-19-01610 - POSTER SESSION 2 - #373****A Groundbreaking Method to Safely Transport Medical & Pharma Items**

Presentation Author: Mr. Robert Allan Sailer

**MHSRS-19-01970 - POSTER SESSION 2 - #374****The Effect of Experience on Critical Care Air Transport Team Coordination**

Presentation Author: Dr. Frank Robinson

**MHSRS-19-01991 - POSTER SESSION 2 - #375****A Novel Test of Night Vision Goggle Compatibility of Medical Carry On Equipment**

Presentation Author: Dr. Marcy Conti

**MHSRS-19-02166 - POSTER SESSION 2 - #376****Aeromedical-Relevant Hypobaric Exposure-Induced Oxidative Stress in Rats with Mild Traumatic Brain Injury Facilitates Homocysteine Flux Through the Transsulfuration Pathway: A Compensatory Mechanism to Mitigate the Secondary Injury Process**

Presentation Author: Dr. Flaubert Tchanchou

**MHSRS-19-02379 - POSTER SESSION 2 - #377**

**Space Expeditionary Medicine: Miniature, Low-power, Low-mass, Autonomous Robots for Lunar and Expeditionary Surgery**

Presentation Author: Dr. Dmitry Oleynikov

**MHSRS-19-02426 - POSTER SESSION 2 - #378****Interoperability Challenges in ERC: Exploring Combined Training and Collaborative Research Exchange Opportunities with International Partners**

Presentation Author: Lt Col Sarah Huffman

**INNOVATIONS IN MEDICAL TECHNOLOGIES TO ADVANCE EN ROUTE PATIENT CARE****MHSRS-19-00068 - SESSION 2 - #379****Remote Health Monitoring of Patient with Glaucoma**

Presentation Author: LTC Jennifer Stowe

**MHSRS-19-00163 - SESSION 2 - #380****Smart Threads as Sutures and Bandages for Monitoring and Treatment of Wounds**

Presentation Author: Mr. Sameer Sonkusale

**MHSRS-19-00468 - SESSION 2 - #381****Telemedicine Training for Novice Providers during Underway Naval Operations**

Presentation Author: LCDR Art Ambrosio

**MHSRS-19-00622 - SESSION 2 - #382****Rapid Reconstitution Packages for Storage and Delivery of Emergency Drugs in Combat Theater**

Presentation Author: Dr. Noel Elman

**MHSRS-19-00667 - SESSION 2 - #383****Transcontinental Dialysis at 30,000 Feet**

Presentation Author: Capt Paul Pikman

**MHSRS-19-00678 - SESSION 2 - #384****Real-time, Sensitive, Monitoring of Cholesterol Levels Using a Microfluidic Device**

Presentation Author: Dr. Abhinav Bhushan

**MHSRS-19-00757 - SESSION 2 - #385****A Novel Index from a Wearable Continuous Wave Ultrasound Patch Instantly Detects Fall In Cardiac Output**

Presentation Author: Dr. Jon-Emile Kenny

**MHSRS-19-00784 - SESSION 2 - #386****Baseline Proportions of False Negatives in Simulated 12-Core Templated Transrectal Ultrasound Prostate Biopsy**

Presentation Author: Dr. Samsun Lampotang

**MHSRS-19-00964 - SESSION 2 - #387****Assessing the Feasibility and Accuracy of a Novel Physiological Monitoring Device for Service Members**

**With Traumatic Brain Injury**

Presentation Author: Mr. Dylan Scarton

**MHSRS-19-01147 - SESSION 2 - #388****Developing and Validating an Accelerated Extracorporeal Membrane Oxygenation Course for Military Critical Care Clinicians Using Yorkshire Swine (Sus Scrofa)**

Presentation Author: Lt Col Joseph Maddry

**MHSRS-19-01149 - SESSION 2 - #389****Advancing Combat Casualty Evacuation: Patients Amenable to Aeromedical Evacuation via Unmanned Aerial Vehicles**

Presentation Author: Lt Col Joseph Maddry

**MHSRS-19-01380 - SESSION 2 - #390****Go with the Flow—Comparison of Acellular Solutions for Ultraportable Ex-vivo Perfusion of Amputated Limbs**

Presentation Author: Dr. Valentin Haug

**MHSRS-19-01545 - SESSION 2 - #391****Comparison of the Effects of Motion and Dirt on Hand-held and Fingertip Pulse Oximeters Accuracy**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01627 - SESSION 2 - #392****High-end Diagnostics in the Field and at the Point Of Care**

Presentation Author: Dr. Avishay Bransky

**MHSRS-19-01684 - SESSION 2 - #393****Patient Experience and Perception of Using Telehealth for Post-surgery Wound-healing Follow-ups at the AMEDD Medical Centers: Results From a Proof-of-concept Study**

Presentation Author: Dr. Vahe Heboyan

**MHSRS-19-01721 - SESSION 2 - #394****Micro-oxygen Sensors Measure Tissue Oxygen in a Porcine Radiation Model**

Presentation Author: Mr. Scott Nichols

**MHSRS-19-01824 - SESSION 2 - #395****Noninvasive Sub-organ Ultrasound Stimulation for Targeted Neuromodulation**

Presentation Author: Mr. Jeffrey Ashe

**MHSRS-19-01846 - SESSION 2 - #396****Administration of Purified Exosome Product for Sciatic Nerve Autograft Regeneration**

Presentation Author: Dr. Chunfeng Zhao

**MHSRS-19-02002 - SESSION 2 - #397****Using Modular Principles to Efficiently Design and Build New Simulators and Part Task Trainers for Different**

**Healthcare Procedures**

Presentation Author: Dr. Samsun Lampotang

**MHSRS-19-02034 - SESSION 2 - #398**

**The Wound Healing Effects of a Next-generation Advanced Antimicrobial Silver Hydrofiber Wound Dressing on Deep Partial Thickness Wounds Using a Porcine Model**

Presentation Author: Mr. Joel Gil

**MHSRS-19-02058 - SESSION 2 - #399**

**A Light-weight, Portable CT System for Forward Surgical and En Route Care**

Presentation Author: Dr. Rajiv Gupta

**MHSRS-19-02196 - SESSION 2 - #400**

**Dependability and Adaptability in a Family of Surgical Robots**

Presentation Author: Dr. Dmitry Oleynikov

**MHSRS-19-02212 - SESSION 2 - #401**

**Continuous Blood Pressure Band-aid® Sensor for Real-time Beat-to-beat Monitoring of the Warfighter**

Presentation Author: Dr. Michelle Khine

**MHSRS-19-02269 - SESSION 2 - #402**

**Designing and Building Ruggedized Microfluidic Cards for Point Of Care Applications**

Presentation Author: Mr. Matt Coleman

**MHSRS-19-02354 - SESSION 2 - #403**

**Manufacturing of Flexible Wireless Devices for Human Health and Performance Monitoring**

Presentation Author: Dr. Azar Alizadeh

**MHSRS-19-02366 - SESSION 2 - #404**

**Development of a Point Of Care Technology for Military Medical Applications in Austere Environments**

Presentation Author: Dr. David Loftus

**MHSRS-19-02637 - SESSION 2 - #405**

**24-hour Ex Vivo Perfusion with Acellular Solution Enables Successful Replantation of Porcine Forelimbs**

Presentation Author: Dr. Valentin Haug

**EFFECTS OF CARE ENVIRONMENTS ENROUTE**

**MHSRS-19-00915 - POSTER SESSION 2 - #406****Pre-surgical Environmental Stress Activates the Pituitary to Produce Increased Levels of Prolactin and Luteinizing Hormone in the Porcine Air Transport Stress Model**

Presentation Author: Dr. Suizhao Wang

**MHSRS-19-01016 - POSTER SESSION 2 - #407****Oxygen Supplementation of Injured Swine during Flight**

Presentation Author: Dr. Francoise Arnaud

**MHSRS-19-01115 - POSTER SESSION 2 - #408****Vibration Does Not Affect Short-Term Outcomes Following Traumatic Brain Injury in a Porcine Model**

Presentation Author: Dr. Mackenzie Morris

**MHSRS-19-01558 - POSTER SESSION 2 - #409****The Swine Distress Assessment Score Sheet Identified Pre-surgical Stress in the Porcine Air Transport Stress Model**

Presentation Author: Dr. Richard Kelly

**MHSRS-19-02238 - POSTER SESSION 2 - #410****Optimal Physical Space for En Route Care: Medic Posture and Injury Survey**

Presentation Author: Ms. Laura Kroening

**APPROACHES FOR MONITORING WARFIGHTER BLAST-RELATED EXPOSURES IN TRAINING TO DEVELOP EFFECTIVE SAFETY STANDARDS****MHSRS-19-00284 - POSTER SESSION 2 - #411****A DoD-wide Survey Study to Characterize Service Member Blast Exposure**

Presentation Author: Lt Claire Modica

**MHSRS-19-00533 - POSTER SESSION 2 - #412****Development of Field Deployable Technologies to Detect Persistent TBI**

Presentation Author: Dr. Steven Kornguth

**MHSRS-19-00631 - POSTER SESSION 2 - #413****The Effect of Peak Overpressure and Impulse on the Reflected Pressure: An Experimental Study Using 2D Planar Geometry Model with Implications for Occupational Exposure Measurements**

Presentation Author: Dr. Maciej Skotak

**MHSRS-19-00772 - POSTER SESSION 2 - #414****A New Innovative Sensor and Dosimeter Technology for Blunt Impact and Blast Over-pressure Exposure Measurement and Injury Prediction**

Presentation Author: Mr. Stephen Pruitt

**MHSRS-19-00905 - POSTER SESSION 2 - #415****Effects of Animal Orientation on Brain Responses to Primary Blast**

Presentation Author: Dr. Ginu Unnikrishnan

**MHSRS-19-00929 - POSTER SESSION 2 - #416**

**The Current and Potential Future Roles of Hearing Conservation Programs in Monitoring the Effects of Repetitive Blast Exposure in Military Populations**

Presentation Author: Dr. Douglas Brungart

**MHSRS-19-01050 - POSTER SESSION 2 - #417**

**Measurements of Infrasound Signatures from Grenade Blast During Training**

Presentation Author: Dr. Alessio Medda

**MHSRS-19-01063 - POSTER SESSION 2 - #418**

**How Do You Characterize “Breachers’ Brain?”**

Presentation Author: Dr. Walter Carr

**MHSRS-19-01097 - POSTER SESSION 2 - #419**

**Soldier Self-report in a Combat Zone: Subclinical Outcome Associations with Blast Exposure**

Presentation Author: Dr. Walter Carr

**MHSRS-19-01358 - POSTER SESSION 2 - #420**

**Systematic Review of Low Level Blast Exposure – Clinical Effects on Humans**

Presentation Author: Dr. Heather Belanger

**MHSRS-19-01366 - POSTER SESSION 2 - #421**

**Comparison of In-brain Pressure in Blast for Surrogate Headforms with Gel-fluid Interface and Gel-skull Interfaces**

Presentation Author: Dr. Amit Bagchi

**MHSRS-19-01402 - POSTER SESSION 2 - #422**

**Computational Models of Protein Concentrations Following Repeated Blast Overpressure Exposure**

Presentation Author: Mr. Jonathan Statz

**MHSRS-19-01415 - POSTER SESSION 2 - #423**

**The Role of Acoustic Signatures in Overpressure Symptomatology**

Presentation Author: Dr. Sujith Sajja

**MHSRS-19-01472 - POSTER SESSION 2 - #424**

**Force Preservation through Individual Blast Exposure Surveillance**

Presentation Author: Dr. David Borkholder

**MHSRS-19-01516 - POSTER SESSION 2 - #425**

**Experimental Models of TBI Using Novel Controlled Dynamic Rotation Devices**

Presentation Author: Dr. Daniel Shedd

**MHSRS-19-01601 - POSTER SESSION 2 - #426**

**Biofidelic Human Head Phantoms for Studies of Traumatic Brain Injury**



Presentation Author: Dr. Suhas Vidhate

**MHSRS-19-01767 - POSTER SESSION 2 - #427**

**Optimizing Helmet Pad Placement Using Computational Predicted Injury Pattern to Reduce mTBI**

Presentation Author: Dr. Peter Matic

**MHSRS-19-01800 - POSTER SESSION 2 - #428**

**Characterization of the Performance of Human Torso and Animal Physical Models Exposed to Underwater Impulse Acoustics**

Presentation Author: Dr. Brandon Casper

**MHSRS-19-01806 - POSTER SESSION 2 - #429**

**Formulation and Characterization of Apocynin Loaded Albumin Nanoparticle and its Pharmaco-therapeutic Effects on Animal Model of Repeated Low-level Blast**

Presentation Author: Dr. Namas Chandra

**MHSRS-19-01815 - POSTER SESSION 2 - #430**

**Delineating the Roles of Resident Microglia and Infiltrating Monocytes in Causing Chronic Neuroinflammation and Behavioral Deficits Using a Mouse Model of Blast-induced Traumatic Brain Injury**

Presentation Author: Dr. Namas Chandra

**MHSRS-19-01839 - POSTER SESSION 2 - #431**

**The Combat and Training Queryable Exposure/event Repository Operational Monitoring Program**

Presentation Author: CDR Josh Duckworth

**MHSRS-19-01892 - POSTER SESSION 2 - #432**

**The Effect of Impulse on Brain Pathology in an Animal Blast TBI Model: A Telltale Case Study for Occupational Low-level Blast Human Studies?**

Presentation Author: Dr. Maciej Skotak

**MHSRS-19-01893 - POSTER SESSION 2 - #433**

**Occupational Blast Wave Exposure during Multiday .50 Caliber Rifle Course**

Presentation Author: Dr. Maciej Skotak

**MHSRS-19-02150 - POSTER SESSION 2 - #434**

**Measuring Head Motion for TBI Detection and Prevention**

Presentation Author: Mr. Ron Szalkowski

**MHSRS-19-02171 - POSTER SESSION 2 - #435**

**Dynamic and Static Stability in Experienced Breachers**

Presentation Author: LCDR F. J. Haran

**MHSRS-19-02339 - POSTER SESSION 2 - #436**

**The VHA 4 Question TBI Screening Tool Effectively Identifies Individuals with TBI-related Multi-sensory Effects**

Presentation Author: Dr. Felix Barker

**MHSRS-19-02349 - POSTER SESSION 2 - #437**

**Bioprinted 3D In Vitro Co-cultures of the Blood-brain Barrier for Testing the Effects Of Blast-related Overpressure**

Presentation Author: Dr. Joel Gaston

**MHSRS-19-02397 - POSTER SESSION 2 - #438****Blast Part 1: Deriving Safe Exposure Thresholds from Blast Sensor Data**

Presentation Author: Dr. Tim Walilko

**MHSRS-19-02429 - POSTER SESSION 2 - #439****Blast Part 2: Establishing Safe Exposure Thresholds for Repeated Blast**

Presentation Author: Dr. Tim Walilko

**MHSRS-19-02436 - POSTER SESSION 2 - #440****Blast Part 3: Assessing Safe Exposure Thresholds after Blast Exposure**

Presentation Author: Dr. Tim Walilko

**MHSRS-19-02481 - POSTER SESSION 2 - #441****Exposure to Low-level Blast during Breacher Training–Possible Effects on Brain Health and Performance**

Presentation Author: Mr. Niclas Wisen

**OCULAR INJURIES CAUSED BY EXPOSURE TO BLAST OVERPRESSURE****MHSRS-19-01124 - SESSION 2 - #442****Analysis of Far Forward Ocular Trauma among Combat Casualties in Afghanistan**

Presentation Author: Mrs. Jennifer Trevino

**MHSRS-19-01550 - SESSION 2 - #443****Severe Ocular Injuries during LDF Low Intensity Combat and the use of Protective Eyewear**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01937 - SESSION 2 - #444****Long-term Prognosis of Patients with Ocular Blast Injuries**

Presentation Author: CPT Alexander Stoddard

**MHSRS-19-02222 - SESSION 2 - #445****Preservation of Vision Following Severe Ocular Trauma Through the Application of Nanofiber-reinforced Hydrogel Bandages**

Presentation Author: Dr. Lindsay Woodard

**MHSRS-19-02391 - SESSION 2 - #446****Low-intensity Repeated Blast Exposure Leads to Visual System Damage in Rats**

Presentation Author: Dr. James DeMar

**MHSRS-19-02538 - SESSION 2 - #447****Blast Injury Prevention Standards Recommendation Process: Ocular Blast Injury Type**

Presentation Author: Ms. Jennifer Lombardo

**PAIN MANAGEMENT FOR THE FUTURE FIGHT**

**MHSRS-19-00322 - SESSION 2 - #448****Effects of Opioid Analgesics (Morphine, Fentanyl, and Sufentanil) and Trauma on Survival Time After Severe Conscious Hemorrhage in Rats**

Presentation Author: Ms. Mariam Calderon

**MHSRS-19-00350 - SESSION 2 - #449****Effect of Chronic Stress and Morphine Treatments on Spinal Nerve Growth Factor in a Rat Model**

Presentation Author: Dr. Hans Linsenbardt

**MHSRS-19-00463 - SESSION 2 - #450****Effect of High Omega-6 Diet on Sensory Neuron Excitability and Pain Behavior**

Presentation Author: Dr. Kenneth Hargreaves

**MHSRS-19-00531 - SESSION 2 - #451****Efficacy of Pulpal Anesthesia Using a Needle-less Syringe**

Presentation Author: Dr. Kraig Vandewalle

**MHSRS-19-00674 - SESSION 2 - #452****Reductions in Opioid Consumption with Percutaneous Medial Branch Peripheral Nerve Stimulation for Chronic Low Back Pain**

Presentation Author: Dr. Steven Cohen

**MHSRS-19-00690 - SESSION 2 - #453****Development and Implementation of the Military Treatment Facility Engagement Committee to Support Pragmatic Clinical Trials in the Military Health System**

Presentation Author: Mr. Dylan Scarton

**MHSRS-19-00788 - SESSION 2 - #454****Fentanyl Impairs but Ketamine Preserves the Microcirculatory Response to Hemorrhage—A Novel Approach to Evaluate Hemodynamic Impacts of Analgesics**

Presentation Author: Dr. Lusha Xiang

**MHSRS-19-00858 - SESSION 2 - #455****Metagenomic Marker of Pain Management in Mouse Model of Partial Bone Resection Followed by Prolonged Musculoskeletal Unloading**

Presentation Author: Mr. Nabarun Chakraborty

**MHSRS-19-00874 - SESSION 2 - #456****Sustained Analgesic and Anti-inflammatory Efficacy of a Single Dose COX-2 Inhibiting Nanomedicine in a Mouse CFA-induced Inflammatory Model**

Presentation Author: Dr. Jelena M. Janjic

**MHSRS-19-00887 - SESSION 2 - #457****Determining the Role of Acupuncture, Chiropractic and Yoga in Functional Restoration among Active Duty Service Members with Chronic Pain**

Presentation Author: Dr. Diane Flynn

**MHSRS-19-00888 - SESSION 2 - #458****Determinants of Optimal Dosage and Sequence of Functional Restoration and Integrative Therapies Study in Service Members with Neuromusculoskeletal Injury**

Presentation Author: Dr. Diane Flynn

**MHSRS-19-00889 - SESSION 2 - #459****Improving Primary Care Pain Management through Weekly Didactic and Case-based Telementoring**

Presentation Author: Dr. Diane Flynn

**MHSRS-19-00922 - SESSION 2 - #460****Effect of Midazolam on Morphine-mediated Analgesia, Tolerance, and Respiration in a Rat Model**

Presentation Author: Dr. Bopaiah Cheppudira

**MHSRS-19-00984 - SESSION 2 - #461****Preliminary Findings of a Survey of Military Healthcare Providers Who Supervised Combat Medics Between 2002 and 2017: Battlefield Pain Treatment at Point of Injury in Theater**

Presentation Author: Mr. Thomas Garza

**MHSRS-19-01039 - SESSION 2 - #462****Pain Registry Biobank: A Protocol for a Novel Approach to Studying Pain**

Presentation Author: Mr. Raymond Kroma

**MHSRS-19-01067 - SESSION 2 - #463****Pilot of a Novel Online Survey to Assess Risk-benefit Profile of Pain Treatments**

Presentation Author: Dr. Janetta Iwanicki

**MHSRS-19-01134 - SESSION 2 - #464****Duration of Chronic Pain before Referral for Interdisciplinary Pain Care and its Relationship to Likelihood of Medical Retirement among Service Members: A Retrospective Analysis**

Presentation Author: LTC Justin Stewart

**MHSRS-19-01143 - SESSION 2 - #465****Naloxone Co-prescription Policy Implementation: Pilot Program to Reduce Overdose-related Mortality in Military Beneficiaries**

Presentation Author: Dr. Nicholas A. Giordano

**MHSRS-19-01146 - SESSION 2 - #466****Analgesics in the Pre-hospital Setting: Ketamine Does Not Alter Tolerance to Simulated Hemorrhage in Humans**

Presentation Author: Dr. Craig Crandall

**MHSRS-19-01177 - SESSION 2 - #467****Association of Oral or Parenteral Opioids in the ED Treatment of Back Pain with Future Opioid Aberrant Use**

Presentation Author: Dr. Kennon Heard

**MHSRS-19-01233 - SESSION 2 - #468****Long-lasting, Non-opioid and Drug-free Method of Treating Pain**

Presentation Author: Dr. Lilit Garibyan

**MHSRS-19-01281 - SESSION 2 - #469****Kerecis Fish Skin Healing of Painful Ulcers: A Case Study on Amputation Prevention and Pain Management**

Presentation Author: Dr. Mark Suski

**MHSRS-19-01511 - SESSION 2 - #470****Delivery of Bupivacaine from Ultra-high Molecular Weight Polyethylene and Implications for Post-arthroplasty Pain**

Presentation Author: Dr. Ebru Oral

**MHSRS-19-01628 - SESSION 2 - #471****Antibacterial Properties of Anesthetic-eluting Ultra-high Molecular Weight Polyethylene**

Presentation Author: Dr. Ebru Oral

**MHSRS-19-01579 - SESSION 2 - #472****Opioid Use and Length of Stay Significantly Reduced With Enhanced Recovery after Surgery Program Utilizing Liposomal Bupivacaine for Total Knee Arthroplasty**

Presentation Author: Dr. Garen Collett

**MHSRS-19-01581 - SESSION 2 - #473****Study to Identify the Genetic Variations Associated with Phantom Limb Pain**

Presentation Author: Mrs. Natalie Ivanina

**MHSRS-19-01617 - SESSION 2 - #474****Pain Relieving Antimicrobial Dressing for Burn Wounds**

Presentation Author: Dr. Kris Rangan

**MHSRS-19-01678 - SESSION 2 - #475****Chemokine Receptor Antagonists Increase Opioid Potency in Incisional Pain in Rats**

Presentation Author: Dr. Toby Eisenstein

**MHSRS-19-01690 - SESSION 2 - #476****Nsaid Topical Transdermal Diclofenac Epolamine Spray Film DSF100 for the Management of Acute Musculoskeletal Pain**

Presentation Author: Dr. Lucille Russell

**MHSRS-19-01716 - SESSION 2 - #477****Sustained Non-opioid Pain Management in Prolonged Field Care and Hospital Settings Using LBL100**

Presentation Author: Dr. Lucille Russell

**MHSRS-19-01752 - SESSION 2 - #478****Evaluation of Analgesia and Clotting Time of Novel Acetaminophen Analogs**

Presentation Author: Mr. David Trapolsi

**MHSRS-19-01822 - SESSION 2 - #479****Percutaneous Peripheral Nerve Stimulation Provides Relief of Chronic Pain to Enable Improvements in Function Following Amputation**

Presentation Author: COL Steven Cohen

**MHSRS-19-01865 - SESSION 2 - #480****Pain Management in the Operational Environment Using Noninvasive Neuromodulation Technology**

Presentation Author: Mr. Richard Hanbury

**MHSRS-19-01971 - SESSION 2 - #481****Opioid Prescribing Practices of Dentists in the Military Health System, 2008-2017**

Presentation Author: Dr. Patrick Richard

**MHSRS-19-02010 - SESSION 2 - #482****Arylepoxamides Receptor Targets: Potent Analgesics Lacking Side-effects**

Presentation Author: Dr. Susruta Majumdar

**MHSRS-19-02040 - SESSION 2 - #483****Local Immunomodulation at the Site of Neuronal Injury with Theranostic Analgesic Regenerative Gel-emulsion Technology Controls Pain and Neuroinflammation**

Presentation Author: Dr. Mallory Wampler

**MHSRS-19-02104 - SESSION 2 - #484****A Rat Model for Assessing Post-surgical Pain and Recovery Following Joint Replacement**

Presentation Author: Dr. Yingfang Fan

**MHSRS-19-02119 - SESSION 2 - #485****Low Frequency Pulsed Electromagnetic Field Acts as a Modulator of Inflammatory Signaling Pathways**

Presentation Author: Dr. Tracy Criswell

**MHSRS-19-02173 - SESSION 2 - #486****A Review of Casualties that Underwent Pain Management Before Reaching Role 2 in Afghanistan**

Presentation Author: CPT Ian Hudson

**MHSRS-19-02396 - SESSION 2 - #487****Utilizing Internal Behavioral Health Consultants to Treat Chronic Pain in Primary Care Settings**

Presentation Author: Dr. Don McGeary

**MHSRS-19-02547 - SESSION 2 - #488****Development of a Novel, Non-opioid, Non-NSAID, Non-hepatotoxic Analgesic for Pain Management**

Presentation Author: Dr. Kevin Bunker

**MHSRS-19-02561 - SESSION 2 - #489****Examining Spatial Dimensions of the Prescription Opioid Rate Across the U.S.**

Presentation Author: Dr. Kyle Fluegge

**MHSRS-19-02658 - SESSION 2 - #490****Focus on Epithelialized Palatal Grafts. Part 3-Methods to Enhance Patient Comfort at Palatal Donor Sites**

Presentation Author: CPT Joshua P. Berridge

## FRONTLINE CARE: TBI TREATMENT & MANAGEMENT IN THE PREHOSPITAL ENVIRONMENT

### **MHSRS-19-00364 - SESSION 2 - #491**

#### **Immune Modulating Nutrition Supplements in an Animal Model of Traumatic Brain Injury**

Presentation Author: Dr. Angus Scrimgeour

### **MHSRS-19-00856 - SESSION 2 - #492**

#### **Cerium Oxide Nanoparticles in the Treatment of Traumatic Brain Injury and Parkinson's Disease**

Presentation Author: Dr. Beverly Rzigalinski

### **MHSRS-19-00990 - SESSION 2 - #493**

#### **Effective Inhibitors of Traumatic Brain Injury-induced Systemic Endothelial Dysfunction**

Presentation Author: Dr. Fletcher White

### **MHSRS-19-01351 - SESSION 2 - #494**

#### **Alpha-methyltyrosine Inhibits the Cardiovascular and Behavioral Sequeale of Traumatic Brain Injury**

Presentation Author: Dr. Ryan Woodman

### **MHSRS-19-01430 - SESSION 2 - #495**

#### **Groundbreaking Evaluation for TBI in Deployed Settings**

Presentation Author: MAJ Nicholas Koreerat

### **MHSRS-19-01526 - SESSION 2 - #496**

#### **Novel Monitoring Modality of TBI Patients Using Transocular Brain Impedance**

Presentation Author: Dr. Mohamad Hakam Tiba

### **MHSRS-19-01783 - SESSION 2 - #497**

#### **Protective Role of ADORA3 Agonist AST-004 in Blast and Blunt TBI Models**

Presentation Author: Dr. Eda Bozdemir

### **MHSRS-19-01821 - SESSION 2 - #498**

#### **A Novel Nmda Receptor Modulator, NYX-458, Shows Therapeutic Potential for Cognitive Impairment Associated with TBI**

Presentation Author: Dr. Katherine Leaderbrand

### **MHSRS-19-01930 - SESSION 2 - #499**

#### **Improving Health Outcomes for Acute Concussion Patients**

Presentation Author: Dr. Kendra Jorgensen-Wagers

### **MHSRS-19-01935 - SESSION 2 - #500**

#### **Pre-hospital Whole Blood Resuscitation Reduces Fluid Requirement and Improves Cerebral Physiology Compared to Crystalloid Resuscitation in a Severe Model of TBI**

Presentation Author: Dr. Zachary Bailey

### **MHSRS-19-01942 - SESSION 2 - #501**

**Nicotine Administration Ameliorates Motor & Cognitive Deficits in Rats Following Penetrating Brain Injury**

Presentation Author: Dr. Matthew Rice

**MHSRS-19-02141 - SESSION 2 - #502****Transcriptomic Analysis of Mouse Brain Regions after TBI Indicates Candesartan Treatment Alters Novel Molecular Pathways**

Presentation Author: LTC Peter Attilio

**MHSRS-19-02211 - SESSION 2 - #503****Curcumin Nanoparticle Therapy after TBI Prevents Memory Impairment and Depression with Reduced Tissue Loss and Neuroinflammation, and Increased Hippocampal Neurogenesis**

Presentation Author: Dr. Maheedhar Kodali

**MHSRS-19-02628 - SESSION 2 - #504****Supplementation of Itaconate to Resuscitation Fluid Improves Survival in a Combined Traumatic Brain Injury and Hemorrhagic Shock Mouse Model**

Presentation Author: Mr. Alfredo Lucas

**MHSRS-19-02652 - SESSION 2 - #505****The Effect of Fear Conditioning on Fractional Anisotropy in the Mouse Model of Mild TBI Under Implicit and Explicit Conditions and of Bicycling and Other Implicit Learning Tasks on Service Members Suffering from Mild TBI**

Presentation Author: Dr. Joachim Spiess

**WHAT'S NEW IN BRAIN HEALTH FOR ELITE WARFIGHTERS****MHSRS-19-00064 - SESSION 2 - #506****Revisiting Blast versus Non-blast Traumatic Brain Injury Profiles in an Active Duty Cohort**

Presentation Author: Dr. Lars Hungerford

**MHSRS-19-00530 - SESSION 2 - #507****USSOCOM Comprehensive Strategy and Action Plan for SOF Warfighter Brain Health**

Presentation Author: Mr. F Bowling

**MHSRS-19-00781 - SESSION 2 - #508****Randomized Controlled Trial of Allostatic Neurotechnology to Treat Mild Traumatic Brain Injury**

Presentation Author: Dr. Michael Roy

**MHSRS-19-00871 - SESSION 2 - #509****Multi-site RCT of Targeted Dietary Manipulation as an Adjunct Strategy for Managing Chronic Post-traumatic Headache**

Presentation Author: Dr. Kimbra Kenney

**MHSRS-19-00891 - SESSION 2 - #510****Poor Baseline Eye-tracking is Associated with Postconcussive Symptoms**

Presentation Author: Dr. Angela Lumba-Brown

**MHSRS-19-00958 - SESSION 2 - #511**



**Survival among Glioma Cases in the U.S. Military Health System: A Comparative Study with Cases from the U.S. General Population in the National Surveillance, Epidemiology, and End Results Program**

Presentation Author: Dr. Jie Lin

**MHSRS-19-01210 - SESSION 2 - #512**

**Olfactory Functional MRI (fMRI) Using T2-prepared Bold fMRI at Ultra-high Field (7T)**

Presentation Author: Mr. Adrian Paez

**MHSRS-19-01338 - SESSION 2 - #513**

**A New Concussion Clinical Profiles Screening Tool: Preliminary Evidence**

Presentation Author: Dr. Anthony Kontos

**MHSRS-19-01999 - SESSION 2 - #514**

**Differences in Vestibular Ocular Motor Screening Scores between Military Personnel with Acute mTBI and Healthy Controls: Preliminary Findings**

Presentation Author: Dr. Anthony Kontos

**MHSRS-19-01549 - SESSION 2 - #515**

**Brain Gauge: Measuring Brain Health for Concussion Recovery**

Presentation Author: Dr. Kendra Jorgensen-Wagers

**MHSRS-19-01969 - SESSION 2 - #516**

**Evolution of a Study of Bilateral Prefrontal Transcranial Magnetic Stimulation to Treat the Symptoms of Mild TBI and PTSD: Research Methods, Participant Demographics, and Tolerability**

Presentation Author: Mr. Jared Garland

**MHSRS-19-02059 - SESSION 2 - #517**

**Primary Care Practices and Perceptions in Care for Service Members with Post-traumatic Headache: Does Self-reflection in a Mixed-methods Study Modify Practice?**

Presentation Author: Dr. Seth Kiser

**MHSRS-19-02143 - SESSION 2 - #518**

**Physics-based Neutralization of Threats to Human Tissues and Organs**

Presentation Author: Dr. Stylianos Koumlis

**MHSRS-19-02245 - SESSION 2 - #519**

**Healthcare among Special Operations Forces Diagnosed and Treated for Traumatic Brain Injury**

Presentation Author: Dr. Heather Belanger

**MHSRS-19-02246 - SESSION 2 - #520**

**A Prospective, Double Blind, Randomized, Sham-controlled, Clinical Trial to Evaluate the Safety and Efficacy of Biometrics-guided Magnetic EEG Resonance Therapy Treatment of Persistent Post-concussive Symptoms Following Traumatic Brain Injury**

Presentation Author: Dr. David Keyser

**MHSRS-19-02272 - SESSION 2 - #521**

**Moderate-to-severe Self-reported Insomnia and Frequent Daytime Sleepiness Increase Athletes' Risk for Sustaining**

**a Sports-related Concussion**

Presentation Author: Dr. Adam Raikes

**MHSRS-19-02325 - SESSION 2 - #522****Using Trait Resilience and Heart Rate Variability to Predict Cerebrovascular Reactivity in Special Operations Forces Soldiers**

Presentation Author: Ms. Nikki Barczak

**MHSRS-19-02449 - SESSION 2 - #523****Monosodium Luminol Alleviates Brain Dysfunction in a Model of Chronic Gulf War Illness with Modulation of Oxidative Stress and Inflammation in the Brain and Circulating Blood**

Presentation Author: Mrs. Sahithi Attaluri

**MHSRS-19-02574 - SESSION 2 - #524****Cognitive Functioning Following Concussion and the Role of Sleep**

Presentation Author: Ms. Kristina Clarke-Walper

**TBI BIOMARKERS: DIAGNOSTIC AND PROGNOSTIC INDICATORS****MHSRS-19-00089 - SESSION 2 - #525****Assessment of Far-forward Provider Performance in Using a Hand-held Algorithmic Electroencephalogram Device to Screen Traumatic Brain Injury**

Presentation Author: Dr. Robert DeLorenzo

**MHSRS-19-00230 - SESSION 2 - #526****Towards a Cognitive Stress Test for Concussion: Normobaric Hypoxia Reveals Hidden Deficits in the Saccades of Service Members with Mild Traumatic Brain Injury History**

Presentation Author: Dr. Leonard Temme

**MHSRS-19-00328 - SESSION 2 - #527****Deployable Visually Evoked Potential Monitor for Detecting Traumatic Brain Injury at Forward Clinics (Clinical Update)**

Presentation Author: Mr. Gordon Hirschman

**MHSRS-19-00333 - SESSION 2 - #528****Impact of Shock Wave Physics in Open Air on Blast-induced Traumatic Brain Injury**

Presentation Author: Ms. Barbara Rutter

**MHSRS-19-00458 - SESSION 2 - #529****Gender Difference Of Cortical Thickness and Diffusion Properties for the Patients with Traumatic Brain Injury**

Presentation Author: Dr. Maheen Adamson

**MHSRS-19-00489 - SESSION 2 - #530****Animal Model of Multiple Low-level Blast Injury Displays a Spectrum of Neuropathological and Neurobehavioral Changes**

Presentation Author: Dr. Kakulavarapu RamaRao

**MHSRS-19-00567 - SESSION 2 - #531**

**Widespread Dendritic Pathology is Evident Following Severe Penetrating Brain Injury in Rats**

Presentation Author: Dr. Sindhu Kizhakke Madathil

**MHSRS-19-00605 - SESSION 2 - #532****Neuron- and Glia-derived Exosomes as Novel Blood Biomarkers of Concussion and Subconcussive Conditions**

Presentation Author: Dr. Masato Mitsuhashi

**MHSRS-19-00779 - SESSION 2 - #533****A Novel Portable Venomanometer to Measure Episcleral Venous Pressure: A Biomarker for Intracranial Pressure**

Presentation Author: Dr. Deepta Ghate

**OPEN - SESSION 2 - #534****MHSRS-19-00960 - SESSION 2 - #535****The Utility of Single-photon Emission Computed Tomography/computed Tomography in Mild Traumatic Brain Injury: Case Report**

Presentation Author: Dr. Irma Molina-Vicenty

**MHSRS-19-00985 - SESSION 2 - #536****Combat and Operational Stress Effects on Amygdala Blast Neuropathology and Behavior**

Presentation Author: Dr. Michael Urban

**MHSRS-19-01011 - SESSION 2 - #537****Rapid and Sensitive Detection of Glial Fibrillary Acidic Protein by Utilizing Plasmonic Nanoparticles**

Presentation Author: Dr. Fei Peng

**MHSRS-19-01045 - SESSION 2 - #538****Development of a Novel in-vivo Objective Retina Test to Diagnose Traumatic Brain Injury**

Presentation Author: Dr. Lyndsay Randolph

**MHSRS-19-01092 - SESSION 2 - #539****Mild Traumatic Brain Injury Assessment: Towards the Development of Reliable Diagnostic and Prognostic Biomarkers**

Presentation Author: Dr. George Zouridakis

**MHSRS-19-01102 - SESSION 2 - #540****Normalization of Brain Activity Accompanies Reduced Insomnia in Chronic Post-concussive Syndrome - A Team TBI Study**

Presentation Author: Mr. Donald Krieger

**MHSRS-19-01113 - SESSION 2 - #541****Toward Validation of mTBI Phenotyping with Neurocomputational Models of Static Balance and Dynamic Walking**

Presentation Author: Dr. Gregory Ciccarelli

**MHSRS-19-01121 - SESSION 2 - #542****Automated Optic Nerve Sheath Diameter Measurement**

Presentation Author: Dr. Reza Soroushmehr

**MHSRS-19-01135 - SESSION 2 - #543**

**The Association of in Vivo [F-18]AV-1451 with [C-11]PiB, [F-18]FDG, and Cortical Thickness in Chronic TBI Subjects**

Presentation Author: Dr. Davneet Minhas

**MHSRS-19-01181 - SESSION 2 - #544**

**Fusion Neurocognitive Eye Tracking: Validation of an Optimized Mobile Platform for Assessment of Mild Traumatic Brain Injury in Military Medical Environments**

Presentation Author: Dr. Mark Ettenhofer

**MHSRS-19-01189 - SESSION 2 - #545**

**A Novel Machine Learning Model to Disentangle Patient Heterogeneity for Accurate Prognosis of Individuals with Mild Traumatic Brain Injury**

Presentation Author: Dr. Jing Li

**MHSRS-19-01273 - SESSION 2 - #546**

**Virtual Reality Based Assessment of Visual and Cognitive Performance of the Warfighter**

Presentation Author: Dr. Wolfgang Fink

**MHSRS-19-01307 - SESSION 2 - #547**

**Associations Between White-matter Abnormalities and Clinical Outcomes in Sport-related Concussion: A Longitudinal Study of Diffusion Magnetic Resonance Imaging from the NCAA-DoD Care Consortium**

Presentation Author: Dr. Yu-Chien Wu

**MHSRS-19-01342 - SESSION 2 - #548**

**Blood Biomarkers in Acute Sport-related Concussion: Findings from the NCAA-DoD Care Consortium**

Presentation Author: Dr. Michael McCrea

**MHSRS-19-01354 - SESSION 2 - #549**

**Optimization of the Concussion Assessment Battery**

Presentation Author: Dr. Steven Broglio

**MHSRS-19-01381 - SESSION 2 - #550**

**Longitudinal Changes in Homotopic Region Connectivity in Concussion: A FMRI Study**

Presentation Author: Dr. Catherine Chong

**MHSRS-19-01386 - SESSION 2 - #551**

**Post-traumatic vs Non-traumatic Headaches: Differences in Phenotype, Prognosis, and Medical Consultation**

Presentation Author: Dr. Ann Scher

**OPEN - SESSION 2 - #552**

**MHSRS-19-01425 - SESSION 2 - #553**

**Correlation of Elevated Serum MicroRNA Expression with Neurocognitive Function in Sub-concussive and**

## Poster Session 2

**Concussive Sports Injuries**

Presentation Author: Dr. Manish Bhomia

**MHSRS-19-01462 - SESSION 2 - #554****Cumulative Adversity May Predict the Development of Persistent Symptoms Following Mild Traumatic Brain Injury**

Presentation Author: Dr. Matthew Reid

**MHSRS-19-01509 - SESSION 2 - #555****The UCD-DGMC TBI Precision Medicine Network for Complex Trauma**

Presentation Author: Dr. Ryan Martin

**MHSRS-19-01647 - SESSION 2 - #556****Exploring Genomic Signatures of Neural Regeneration to Assess Long-term Recovery from Blast Brain Injury and Mechanical Neurotrauma**

Presentation Author: Dr. Stan Svetlov

**MHSRS-19-01686 - SESSION 2 - #557****Injury Severity Profile of Repeated Closed-head Concussions on Cognitive Outcome and White Matter Pathology**

Presentation Author: Dr. Adem Can

**MHSRS-19-01710 - SESSION 2 - #558****Alterations in Brain Microrna Expression Following Closed-head Concussive Injury**

Presentation Author: Dr. Bernard Srambical Wilfred

**MHSRS-19-01711 - SESSION 2 - #559****Systolic Target Assessment Tool**

Presentation Author: Mr. Justin Massey

**MHSRS-19-01759 - SESSION 2 - #560****Understanding Headaches Characteristics in the VA Traumatic Brain Injury Population**

Presentation Author: Ms. Nytzia Licon

**MHSRS-19-01785 - SESSION 2 - #561****The Use of the QEEG in the Diagnosis and Rehabilitation of the Brain Injured Patient**

Presentation Author: Dr. Kirtley Thornton

**MHSRS-19-01894 - SESSION 2 - #562****Blood Based Biomarkers of Neurodegeneration Predict Disordered Sleep in Mild Traumatic Brain Injury Warfighters**

Presentation Author: LCDR J. Kent Werner

**MHSRS-19-01896 - SESSION 2 - #563****White Matter Integrity Predictors of Changes in Postconcussive Symptom Reporting – A CENC Study**

Presentation Author: Dr. Nicholas Davenport

**MHSRS-19-01901 - SESSION 2 - #564**

**Comparison of Traumatic Injury Biomarker Profiles Between Burned vs. Non-burned Trauma Patients: Are Burn Patients Different?**

Presentation Author: Dr. Nam Tran

**MHSRS-19-01917 - SESSION 2 - #565****Subacute HDAC Inhibition Reduces the Long-term Neuropathology and Behavior Dysfunction in Mouse CCI Model of Traumatic Brain Injury**

Presentation Author: Dr. Samba Reddy

**MHSRS-19-01965 - SESSION 2 - #566****A Novel Device for Modeling Blast Traumatic Brain Injury Pressures in Laboratory**

Presentation Author: Dr. Ricardo Mejia-Alvarez

**MHSRS-19-02072 - SESSION 2 - #567****In Vitro Quantitative Analysis of Neuronal-structural and Electrophysiological Changes Following Mechanical Loading**

Presentation Author: Dr. Ann Mae DiLeonardi

**MHSRS-19-02105 - SESSION 2 - #568****Biomarker Examination Studies and Translation: A Novel Biomarker Core**

Presentation Author: Dr. Katie Edwards

**MHSRS-19-02132 - SESSION 2 - #569****A Novel Algorithm That Integrates Clinical Data, Electroencephalogram, and Neuroimaging Biomarkers in TBI Diagnosis**

Presentation Author: Mr. Santosh Srinivasaiah

**MHSRS-19-02175 - SESSION 2 - #570****Neurophysiological Bases of Human Neurofunctional Assessments of mTBI**

Presentation Author: Dr. Oleg Favorov

**MHSRS-19-02218 - SESSION 2 - #571****RNA Sequencing Following Multiple Traumatic Brain Injuries in a Closed-head Mouse Model**

Presentation Author: Dr. Kartik Balachandran

**MHSRS-19-02227 - SESSION 2 - #572****Impact of Blue-wavelength Light Therapy on Cortical Volume and Simple Reaction Time Following Mild TBI**

Presentation Author: Dr. Sahil Bajaj

**MHSRS-19-02236 - SESSION 2 - #573****Acute Biomarkers in Military Cadets Sustaining Concussions Outside of Varsity Sports Participation**

Presentation Author: Dr. Christopher Giza

**MHSRS-19-02237 - SESSION 2 - #574****Moderate Traumatic Brain Injury Leads to Acute Changes in Cardiac Function In Rats**

Presentation Author: Mr. Alfredo Lucas

**MHSRS-19-02381 - SESSION 2 - #575**

**In-vitro Experiments of Highly Dynamic Loading of Brain Slices and Cell Cultures**

Presentation Author: Mr. Suhas Vidhate

**MHSRS-19-02390 - SESSION 2 - #576****In Vivo Mapping of Linear Acceleration in Central Vestibular Nuclei**

Presentation Author: Dr. Avril Genene Holt

**MHSRS-19-02400 - SESSION 2 - #577****Ultra-high Performance Head Gradient for Assessment of Brain Microstructure Changes in Mild Traumatic Brain Injury at 3.0 Tesla: Initial Imaging Tests**

Presentation Author: Dr. Thomas Foo

**MHSRS-19-02451 - SESSION 2 - #578****Automated Pupillary Screening and a Portable Headset for Ocular Monitoring**

Presentation Author: Dr. Dogancan Temel

**MHSRS-19-02464 - SESSION 2 - #579****Elevation of Neuronal Olfactory Receptors in Human Serum and Cerebrospinal Fluid after Traumatic Brain Injury**

Presentation Author: Dr. Manish Bhomia

**MHSRS-19-02497 - SESSION 2 - #580****Plasma Levels of Neurotrophic Factors in Mild Traumatic Brain Injury Compared to Gulf War Illness**

Presentation Author: Dr. Brahma Mulugu

**MHSRS-19-02505 - SESSION 2 - #581****Progressive Structural and Functional Neurodegeneration in Veterans with Mild Traumatic Brain Injury**

Presentation Author: Dr. Casey Gilmore

**MHSRS-19-02549 - SESSION 2 - #582****Middle Cerebral Artery Flow Velocity, a Measure of Cerebral Blood Flow, Measured Acutely Following Sports Related Concussion, May Predict Symptom Burden and Cognitive Functioning 30 and 90 Days after Injury**

Presentation Author: Dr. Tonia Sabo

**MHSRS-19-02563 - SESSION 2 - #583****Improving Blast Traumatic Brain Injury Outcomes by Exploring Individual Vulnerabilities**

Presentation Author: Capt Paul Elsbernd

**MHSRS-19-02581 - SESSION 2 - #584****Identifying Individuals who had Suffered from mTBI with the Head and Intraocular Trauma Test**

Presentation Author: Mr. Carlos Torres-Quinones

**MHSRS-19-02588 - SESSION 2 - #585****Providing MRI Calibrated Ground Truth Measurement of Tissue Pathology Across Brain Space, Instruments, and Time for Brain Health Monitoring Enabling Normative Diagnostics of TBI**

Presentation Author: Dr. Walter Schneider

**OPEN - SESSION 2 - #586**

## COMBAT CASUALTY CARE FOR THE NAVY: CHALLENGES AT SEA

### **MHSRS-19-00358 - POSTER SESSION 2 - #587**

#### **Augmented Reality Fasciotomy Anatomy and Surgical Training Tool**

Presentation Author: Dr. Win Liu

### **MHSRS-19-01088 - POSTER SESSION 2 - #588**

#### **Maritime Capabilities to Conduct Damage Control Surgical Interventions**

Presentation Author: Ms. Dominique Selby

### **MHSRS-19-01160 - POSTER SESSION 2 - #589**

#### **Development of a Comprehensive Navy Medicine Trauma Strategy**

Presentation Author: CDR David Barrows

### **MHSRS-19-01689 - POSTER SESSION 2 - #590**

#### **U.S. Navy Search and Rescue Patient Transport and Care Missions at Sea, 2009-2018**

Presentation Author: Ms. Stephanie McWhorter

### **MHSRS-19-02606 - POSTER SESSION 2 - #591**

#### **Trauma Knowledge, Confidence, and Stress Assessments at Navy Trauma Training Center: Preliminary Analyses**

Presentation Author: CDR Tony Torres



## WARFIGHTER PERFORMANCE

## Poster Session 2

**LOWER AND UPPER EXTREMITY MUSCULOSKELETAL INJURY PREVENTION IN THE TRAINING AND OPERATIONAL DISMOUNTED ENVIRONMENT****MHSRS-19-00148 - SESSION 2 - #592****Restricting Lower Limb Flail is Key to Preventing Fatal Pelvic Blast Injury**

Presentation Author: Dr. Iain Rankin

**MHSRS-19-00775 - SESSION 2 - #593****Reinforced Pelvic Protection Mitigates the Effects of Dismounted Pelvic Blast Injury**

Presentation Author: Dr. Iain Rankin

**MHSRS-19-00161 - SESSION 2 - #594****Fitforce Planner: Data-driven Physical Training Programming for Reducing USMC Musculoskeletal Injuries**

Presentation Author: Mr. Timothy Clark

**MHSRS-19-00181 - SESSION 2 - #595****New Training System Based on the Discovery of Subperiosteal Transmission of Pressures between Joint Capsules**

Presentation Author: Dr. Mark Pitkin

**MHSRS-19-00340 - SESSION 2 - #596****U.S. Service Member Fall Injuries, 2001-2018: A Descriptive Study with Implications for Prevention**

Presentation Author: Ms. Jessica Liendo

**MHSRS-19-00363 - SESSION 2 - #597****Exploring Nonbattle Injury Prevention in the Deployed Military Environment Using Existing Databases**

Presentation Author: LTC David Kauvar

**MHSRS-19-00481 - SESSION 2 - #598****Differential Transcriptome Expression Analysis of Osteoarthritis and Rheumatoid Arthritis Synovial Tissues**

Presentation Author: Mr. Manuel Caballero

**MHSRS-19-00832 - SESSION 2 - #599****In-processing Musculoskeletal Screening for a Large Army Base: The Wins, the Losses and Moving Forward**

Presentation Author: CPT John Harless

**MHSRS-19-00946 - SESSION 2 - #600****A Software Platform for Dynamic Simulation of Anatomically Realistic Warfighter Avatars during Military-relevant Tasks**

Presentation Author: Dr. Nathan Pickle

**MHSRS-19-00994 - SESSION 2 - #601****Biomechanical and Physiological Simulations of Individual Warfighters Based on Individualized Avatars with Complete Anatomy**

Presentation Author: Dr. Zhiqing Cheng

**MHSRS-19-01163 - SESSION 2 - #602****Shoulder Proprioception Quantification for Injury Prevention and Return To Duty Decision-making**

Presentation Author: LTC Margaret Nowicki

**MHSRS-19-01176 - SESSION 2 - #603****The Prevalence of Bunion Deformity in the Active Duty Military**

Presentation Author: LTC Deanna Duran

**MHSRS-19-01257 - SESSION 2 - #604****A Non-inferiority Study Comparing a Photobiologic Therapy Kiosk to Oral Vitamin D Supplementation to Optimize Serum 25(OH)D**

Presentation Author: Dr. Mary McCarthy

**MHSRS-19-01454 - SESSION 2 - #605****A Retrospective Study of Foot Biomechanics and Injury History in Elite Athletes at the U.S. Naval Academy**

Presentation Author: Mr. Joshua Jeffries

**MHSRS-19-01813 - SESSION 2 - #606****Associations between an Integrated Musculoskeletal Injury Risk Mitigation Program and Self-reported Pain during U.S. Military Training**

Presentation Author: Ms. Carolyn Dartt

**MHSRS-19-02342 - SESSION 2 - #607****Novel Approaches to Get Ahead of Neuro-musculoskeletal Injuries in Conventional Military Forces through Embedded Multi-disciplinary Teams**

Presentation Author: MAJ Nicholas Koreerat

**MHSRS-19-02653 - SESSION 2 - #608****Loss Of Hypoxia Signaling Limits Skeletal Muscle Response To Aerobic Exercise In Aging**

Presentation Author: Dr. Yori Endo

**MANAGEMENT OF SLEEP AND FATIGUE FOR MAXIMIZATION OF SOLDIER OPERATIONAL READINESS****MHSRS-19-00215 - SESSION 2 - #609****Self-report Insomnia Symptoms Robustly Predicts Posttraumatic Stress across the Deployment Cycle in an Armored Brigade Combat Team**

Presentation Author: CAPT Ashlee McKeon

**MHSRS-19-00251 - SESSION 2 - #610****Adverse Childhood Experiences and Post-deployment Functional Impairment: Evidence for a Mechanistic Role for Sleep Disturbance**

Presentation Author: Dr. Morgan Conway

**MHSRS-19-00341 - SESSION 2 - #611****Getting Ahead of Head Injuries: Sleep Disturbance Predicts Greater Functional Impairment among Soldiers with Self-reported Concussion**

Presentation Author: Ms. Jayne Holzinger

**MHSRS-19-00447 - SESSION 2 - #612****Treatment of Comorbid Sleep Disorders and PTSD: Self-report Findings**

Presentation Author: Dr. Daniel Taylor

**MHSRS-19-00488 - SESSION 2 - #613****Developing and Testing a Web-based Provider Training for Cognitive Behavioral Therapy of Insomnia**

Presentation Author: Dr. Daniel Taylor

**MHSRS-19-00484 - SESSION 2 - #614****Comparison of Alternative Scoring Paradigms of Rest-activity Consolidation to Inform a Biomarker of Circadian Disruption after TBI: A VA TBI Model System Study**

Presentation Author: Dr. Risa Richardson

**MHSRS-19-00506 - SESSION 2 - #615****Exploring the Impact of Sleep Deprivation and Caffeine on Operationally Relevant Complex Cognitive Processes in Medical Professionals**

Presentation Author: Dr. Tracy Jill Doty

**MHSRS-19-00585 - SESSION 2 - #616****In-bed Pose Estimation Using Under Cover Imaging via Thermal Diffusion**

Presentation Author: Dr. Sarah Ostadabbas

**MHSRS-19-00669 - SESSION 2 - #617****Event-based Brainwave and Muscle Signal Analysis during Sleep Related to Soldier Operational Readiness**

Presentation Author: Dr. Eugene Ren

**MHSRS-19-00712 - SESSION 2 - #618****Sleep Extension and Deprivation Alters the Processing of Threat-related Information**

Presentation Author: Dr. Sara Alger

**MHSRS-19-00722 - SESSION 2 - #619****A Comparison of Medical-grade Actigraphy Devices with Polysomnography during Inpatient Rehabilitation for Traumatic Brain Injury**

Presentation Author: Dr. Risa Nakase-Richardson

**MHSRS-19-00723 - SESSION 2 - #620****Optimal Countermeasures to Maximize Warfighter Alertness**

Presentation Author: Dr. Francisco Vital-Lopez

**MHSRS-19-00724 - SESSION 2 - #621****Pap Adherence in Veterans with Moderate to Severe Traumatic Brain Injury**

Presentation Author: Mrs. Leah Drasher-Phillips

**MHSRS-19-00729 - SESSION 2 - #622**

**2B-alert Web 2.0: An Open-access Tool to Optimize Warfighter Alertness**

Presentation Author: Dr. Jaques Reifman

**MHSRS-19-01202 - SESSION 2 - #623**

**Sleep Quality and Sleep Leadership as Predictors of Performance among West Point Cadets**

Presentation Author: MAJ Angela Yarnell

**MHSRS-19-01219 - SESSION 2 - #624**

**Fatigue and Clinicopathological Risk Indexes Across Conus Army Installations: Retrospective Analyses of FY17 OTSG Health of the Force**

Presentation Author: CPT Allison Brager

**MHSRS-19-01447 - SESSION 2 - #625**

**Circadian Misalignment through Night Shift Simulation Disrupts Plasma Lipidome**

Presentation Author: Dr. Jennifer Kyle

**MHSRS-19-01705 - SESSION 2 - #626**

**Sleep Apnea and Duration of Illness Predicts Performance on Telephone-assessed Neuropsychological Test: A VA TBI Model Systems Study**

Presentation Author: Ms. Erin Brennan

**MHSRS-19-01773 - SESSION 2 - #627**

**Sleep Deficit in Drill Sergeants and Increased Risk of Accidents**

Presentation Author: Dr. Toby Elliman

**MHSRS-19-01777 - SESSION 2 - #628**

**Effects of a Live-fire Military Exercise and Group Membership on Subjective Sleepiness, Fatigue, and Mood**

Presentation Author: Ms. Carolyn Mickelson

**MHSRS-19-01798 - SESSION 2 - #629**

**Subjective Sleep Quality Among U.S. Army Tank Crewmen During a Mission Readiness Training Exercise at the National Training Center**

Presentation Author: Ms. Maria St. Pierre

**MHSRS-19-01811 - SESSION 2 - #630**

**Differences in Self-reported Sleep Duration, Sleep Quality, Alertness, Fatigue, and Mood Across a 72-hour Mission Training Exercise**

Presentation Author: Dr. Tina Burke

**MHSRS-19-01881 - SESSION 2 - #631**

**Fatigue Recovery Enhancement in Extreme Conditions Using Noninvasive Neuromodulation Technology**

Presentation Author: Mr. Richard Hanbury

**MHSRS-19-02516 - SESSION 2 - #632**

**Fatigue Recovery Enhancement Using Noninvasive Neuromodulation Technology**

Presentation Author: Mr. Richard Hanbury

## Poster Session 2

### **MHSRS-19-02003 - SESSION 2 - #633**

#### **Evaluation of Sleep Quality in a Military Population: The Military Service Sleep Assessment**

Presentation Author: MAJ Matthew Brock

### **MHSRS-19-02542 - SESSION 2 - #634**

#### **Features of Nightmares during In-lab Video Polysomnography**

Presentation Author: MAJ Matthew Brock

### **MHSRS-19-02013 - SESSION 2 - #635**

#### **Findings from a U.S. Army Aviator Survey on Energy Drink Usage**

Presentation Author: Lt Col Claire Goldie

### **MHSRS-19-02028 - SESSION 2 - #636**

#### **Enhancing Crew Endurance in the U.S. Navy: Progress from the First Year of a 3-year Training Project**

Presentation Author: Dr. Nita Shattuck

### **MHSRS-19-02189 - SESSION 2 - #637**

#### **Integrated Proteomic and Metabolomic Network Analysis of Circadian Misalignment Following Simulated Night Shift Work**

Presentation Author: Dr. Jason McDermott

### **MHSRS-19-02232 - SESSION 2 - #638**

#### **Electrooculogram-based Wearable Eye Tracking for Objective Fatigue Assessment**

Presentation Author: Dr. Paul Calamia

### **MHSRS-19-02268 - SESSION 2 - #639**

#### **Posttraumatic Stress Disorder Severity and Insomnia-related Sleep Disturbances: Longitudinal Associations in a Large, Gender-balanced Cohort of Combat Exposed Veterans**

Presentation Author: Mrs. Ashley Magnavita

### **MHSRS-19-02438 - SESSION 2 - #640**

#### **Using Multiple Stimuli to Promote Rapid Circadian Acclimatization**

Presentation Author: Dr. Shawn Youngstedt

### **MHSRS-19-02448 - SESSION 2 - #641**

#### **Daily Administered Blue Light Therapy Reduces Daytime Sleepiness and Improves Somatic Symptoms Following Mild Traumatic Brain Injury**

Presentation Author: Dr. Adam Raikes

### **MHSRS-19-02452 - SESSION 2 - #642**

#### **Sleep Problems Associated with Posttraumatic Stress Disorder and Depression Following Mild Traumatic Brain Injury in U.S. Military Service Members**

Presentation Author: Dr. Lisa Lu

### **MHSRS-19-02455 - SESSION 2 - #643**

#### **The Relationship Between Sleep Onset Latency and Gratitude**

Presentation Author: Ms. Anna Burns

**MHSRS-19-02463 - SESSION 2 - #644**

**“Early to Bed and Early to Rise Makes a Man Healthy, Wealthy and Wise”: The Impact of Sleep on Health, Income and Education**

Presentation Author: Dr. Cristobal S. Berry-Caban

**MHSRS-19-02511 - SESSION 2 - #645**

**Inadequate Sleep Quality and Duration Predicts Disinhibited Shooting on a “Shoot/no Shoot” Task**

Presentation Author: Mr. Kyle LaFollette

**MHSRS-19-02520 - SESSION 2 - #646**

**Sleep Characteristics in Active Duty Service Members with PTSD: Novel Findings and Implications**

Presentation Author: Capt Brent Jacobus

**MHSRS-19-02534 - SESSION 2 - #647**

**Effects of Cooled Compression Exercise Technology on Health, Sleep, and Quality of Life in Veterans**

Presentation Author: Ms. Chloe Wernecke

**MHSRS-19-02569 - SESSION 2 - #648**

**Use of High Energy Visible Light-emitting Glasses to Improve Sleep and Mood during 24-hour Military Operations**

Presentation Author: Dr. Heather Clifton

**MHSRS-19-02572 - SESSION 2 - #649**

**Stressor Reactivity in Sleep-deprived Normal Sleepers and Sleep-onset Insomniacs**

Presentation Author: Dr. Devon Hansen

**MHSRS-19-02584 - SESSION 2 - #650**

**Patients’ Perception of a Behavioral Intervention for CPAP Treatment Adherence in a Military Treatment Facility**

Presentation Author: Dr. Juliana Ee

**MHSRS-19-01976 - SESSION 2 - #651**

**Descriptive Epidemiology of U.S Air Force Aviators Referred for Evaluation of Obstructive Sleep Apnea**

Presentation Author: Lt Col Dara Regn

## **MANAGING PHYSIOLOGIC EVENTS IN MILITARY AVIATION**

**MHSRS-19-01978 - SESSION 2 - #652**

**Pulmonary Function in U.S. Aviators: Past and Present**

Presentation Author: Lt Col Dara Regn

**MHSRS-19-00156 - SESSION 2 - #653**

**Global Evaluation and Rapid Upward Reporting Application for Pilot Breathing Air Contamination Data Using Open-Source Software**

Presentation Author: Mr. Converse Griffith

**MHSRS-19-00171 - SESSION 2 - #654****Effects of Altitude/barometric Pressure and G-forces on Adult Human Blood Flow and Breathing Rates: Literature Review, Meta Analysis, and Data Gaps**

Presentation Author: Dr. Lisa Sweeney

**MHSRS-19-01053 - SESSION 2 - #655****Development of a New Research Capability and a First-of-its-kind Human Subject Research Study: Manned Testing of Rapid Pressure Fluctuation Physiological Episodes Associated with Naval Aviation Physiological Events**

Presentation Author: Lt Travis Doggett

**MHSRS-19-01164 - SESSION 2 - #656****Effects of Occupational Hypobaric Exposure on White Matter Integrity in a Cohort of U-2 Pilots and Air Force Chamber Technicians**

Presentation Author: Col John Sladky

**MHSRS-19-01791 - SESSION 2 - #657****Facial Neuropraxis and Alternobaric Vertigo: Rare Manifestations of Eustachian Tube Dysfunction**

Presentation Author: MAJ Matthew Wimmer

**MHSRS-19-01819 - SESSION 2 - #658****Cope-fighter Summit: Characterizing and Optimizing the Physiologic Environment in Fighter Aircraft**

Presentation Author: Dr. Ryan Mayes

**MHSRS-19-02099 - SESSION 2 - #659****Impact of Hypoxia on Cognitive Functioning and Efficacy of Hypoxia Training**

Presentation Author: Ms. Sabrina Drollinger

**SECURING WARFIGHTER DOMINANCE IN THE FUTURE AIR BATTLESPACE****MHSRS-19-01110 - SESSION 2 - #660****Human Factors in Maintainer Mishaps**

Presentation Author: Lt Aditya Prasad

**MHSRS-19-02388 - SESSION 2 - #661****Enhanced Capabilities for Navy Aviation Hypoxia Training: System Design and End User Testing to Validate System Capabilities**

Presentation Author: Mr. Matthew Pierce

**MHSRS-19-02582 - SESSION 2 - #662****U.S. Air Force Operational Based Vision Assessment Laboratory Stereoscopic Remote Vision System Aerial Refueling Visual Performance**

Presentation Author: COL Steven Hadley

## **SPINAL MUSCULOSKELETAL INJURY PREVENTION IN FIXED AND ROTARY WING ENVIRONMENTS**

### **MHSRS-19-01387 - SESSION 2 - #663**

**Pilot Questionnaire to Characterize Neck Pain Related to Forward Helmet Center of Gravity (A Pilot Venture Focused on the Air National Guard)**

Presentation Author: Mr. Anthony Turner

### **MHSRS-19-01448 - SESSION 2 - #664**

**A Novel Application of Head Tracking Data in the Analysis and Assessment of Cervical Spine Range of Motion for Army Aviators**

Presentation Author: Mr. Steven Williams

### **MHSRS-19-01544 - SESSION 2 - #665**

**Global-local Finite-element Modeling during Neck Tension**

Presentation Author: Dr. Harsha T. Garimella

### **MHSRS-19-02123 - SESSION 2 - #666**

**Comparative Finite Element Modeling Study of Anterior Cervical Arthrodesis versus Cervical Arthroplasty with Bryan or Prodisc C**

Presentation Author: Dr. Hoon Choi

### **MHSRS-19-02512 - SESSION 2 - #667**

**Osteoactivin and BMP2, Orthobiologics Comparison for Efficacy and Safety in Spinal Fusion**

Presentation Author: Dr. Fayez Safadi

## **ANCILLARY TOPICS**

## **DELIVERING AND APPLYING ARTIFICIAL INTELLIGENCE FOR WARFIGHTER HEALTH & READINESS—A COMBAT MULTIPLIER**

### **MHSRS-19-02107 - POSTER SESSION 2 - #668**

**mTBI Detection using Coordination of Vocal Dynamics in a Deep Learning Context**

Presentation Author: Ms. Sophia Yuditskaya



**EXPEDITIONARY NURSING****MHSRS-19-00072 – POSTER SESSION 2 - #669****Perioperative Deployment Readiness Guide**

Presentation Author: CPT Julia Catanese

**MHSRS-19-00785 – POSTER SESSION 2 - #670****Nonbattle-related Deaths among U.S. Service Members Deployed in Iraq and Afghanistan: Etiology and Trends**

Presentation Author: Dr. Tuan Le

**MHSRS-19-00941 – POSTER SESSION 2 - #671****Evaluation of Clinical Nurse Transition Program at United States Army Hospitals**

Presentation Author: LTC Pedro Oblea

**MHSRS-19-00965 – POSTER SESSION 2 - #672****Military Surgical Team Communication: Implications for Safety**

Presentation Author: LTC Christopher Stucky

**MHSRS-19-01362 – POSTER SESSION 2 - #673****Combat Casualty Care Readiness Achieved Following Level 1 Trauma/burn Clinical Exposure**

Presentation Author: Mrs. Krystal Valdez-Delgado

**MHSRS-19-01832 – POSTER SESSION 2 - #674****A Theory for Expeditionary Nursing Practice – Service Beyond Self**

Presentation Author: Dr. Mona Pearl Treyball

**MHSRS-19-01842 – POSTER SESSION 2 - #675****Practical Obesity Management Course Improves Obesity Treatment Skills in Healthcare Providers**

Presentation Author: Dr. Magdalena Pasarica

**MHSRS-19-02109 – POSTER SESSION 2 - #676****Antibiotics in Active Duty Appendicitis Population Trial**

Presentation Author: LCDR Mary Arbuthnot

**MHSRS-19-02608 – POSTER SESSION 2 - #677****Options for Maintaining Clinical Proficiency during Peacetime**

Presentation Author: Dr. Heather Krull

**MHSRS-19-02646 – POSTER SESSION 2 - #678****Risk Factors for Pressure Injury Development in Non-critical Aeromedical Evacuation Trauma Patients**

Presentation Author: Ms. Darcy Mortimer

## UPDATES ON MILITARY WOMEN'S HEALTH

### **MHSRS-19-00120 - POSTER SESSION 2 - #679**

**The Impact of Safe Passages Training on the Incidence of Perineal Trauma During Childbirth**

Presentation Author: Col Barton Staat

### **MHSRS-19-00236 - POSTER SESSION 2 - #680**

**Long-term Health Consequences of Preeclamptic Pregnancies in the United States Armed Forces:  
A Case-control Study in Progress**

Presentation Author: Dr. Andrea Loewendorf

### **MHSRS-19-00258 - POSTER SESSION 2 - #681**

**Germline Testing in African American Women with Invasive Breast Cancer**

Presentation Author: Dr. Rachel Ellsworth

### **MHSRS-19-00260 - POSTER SESSION 2 - #682**

**Evaluation of Surgical Disparities between African American and European American Women Treated for Breast Cancer within an Equal-access Military Health Care System**

Presentation Author: Dr. Rachel Ellsworth

### **MHSRS-19-00261 - POSTER SESSION 2 - #683**

**Pathology and Survival of Breast Cancer within the Active Duty Servicewoman Population**

Presentation Author: Dr. Rachel Ellsworth

### **MHSRS-19-00266 - POSTER SESSION 2 - #684**

**Pathologic Characteristics of African American Women with Breast Cancer Treated at the DoD's Murtha Cancer Center: Understanding Why Survival Cancer is not Disparate to European American Women When Treated Within the U.S. Military Healthcare System**

Presentation Author: Dr. Rachel Ellsworth

### **MHSRS-19-00385 - POSTER SESSION 2 - #685**

**An Analysis of Concussion Injuries During the First Three Years of Mandatory Boxing for Female Cadets at the U.S. Air Force Academy**

Presentation Author: Dr. Joel Robb

### **MHSRS-19-00442 - POSTER SESSION 2 - #686**

**Relationship of Prenatal Anxiety and Deployment on Maternal Inflammatory Cytokines: Machine Learning Provides Insight to Highly Dimensional Data**

Presentation Author: Dr. Karen Weis

### **MHSRS-19-00452 - POSTER SESSION 2 - #687**

**Differentiating Compensatory Mechanisms Associated to Low Tolerance to Central Hypovolemia in Women**

Presentation Author: Dr. Taylor Schlotman

**MHSRS-19-00591 - POSTER SESSION 2 - #688**

**Peptide-based Nanohydrogels for Urinary Incontinence in Women**

Presentation Author: Dr. Eun Ji Chung

**MHSRS-19-00699 - POSTER SESSION 2 - #689**

**Female Military Officers Report a Desire for Menstrual Suppression During a 6-month Military Training Course**

Presentation Author: Dr. Emily Southmayd

**MHSRS-19-00703 - POSTER SESSION 2 - #690**

**Interrelationship between Sex, Age, Blood Volume and V02max**

Presentation Author: Dr. Mithun Suresh

**MHSRS-19-00704 - POSTER SESSION 2 - #691**

**Capacity to Compensate for Central Hypovolemia and Effects of Menstrual Cycle Phases**

Presentation Author: Dr. Taylor Schlotman

**MHSRS-19-00901 - POSTER SESSION 2 - #692**

**Sex Differences on Postconcussion Symptom Reporting in Military Service Members Following Mild Traumatic Brain Injury are Moderated by Post Traumatic Stress Symptoms**

Presentation Author: Dr. Rael Lange

**MHSRS-19-00935 - POSTER SESSION 2 - #693**

**Time to Surgery and Overall Survival after a Breast Cancer Diagnosis in the Military Health System**

Presentation Author: Dr. Yvonne Eaglehouse

**MHSRS-19-01621 - POSTER SESSION 2 - #694**

**Implementation of Obstetrical Emergency in-situ Team Simulation Drills with Novel Reporting and Analytical System for all United States Military Hospitals**

Presentation Author: Col Barton Staat

**MHSRS-19-01707 - POSTER SESSION 2 - #695**

**Menstrual Practices in Operational Military Women**

Presentation Author: MAJ Angela K. Phillips

**MHSRS-19-01828 - POSTER SESSION 2 - #696**

**Evaluation of Laser Microdissected Primary Breast Tumors for RNA-seq Over Bulk Processing**

Presentation Author: Dr. Praveen-Kumar Raj-Kumar

**MHSRS-19-02075 - POSTER SESSION 2 - #697**

**Survival Outcomes in Epithelial Ovarian Cancer Patients in an Equal Access Health System Compared with the National Surveillance, Epidemiology, and End Results Program**

Presentation Author: MAJ David Anderson

**MHSRS-19-02124 - POSTER SESSION 2 - #698**

**Gender Differences in Gulf War Illness: A Re-analysis of Data from the CDC Air Force Study Using CDC and Kansas**

**Case Definitions**

Presentation Author: Dr. Vahe Heboyan

**MHSRS-19-02187 - POSTER SESSION 2 - #699****Sex Differences in Risk-taking Behavior and Brain Morphometry in Healthy Individuals**

Presentation Author: Dr. Sahil Bajaj

**MHSRS-19-02194 - POSTER SESSION 2 - #700****Frequency of Symptoms among Female Veterans of the 1991 Gulf War Era: Results from the Cooperative Studies Program 585 Gulf War Era Cohort and Biorepository**

Presentation Author: Dr. Stacey Iobst

**MHSRS-19-02408 - POSTER SESSION 2 - #701****Age, Histology and Stage Predict Survival Following Adjuvant Chemotherapy and Radiation versus Radiation Therapy Alone in High-risk Endometrial Cancer: An Observational Study of 20,015 Patients Based on PORTEC-3 Criteria**

Presentation Author: Lt Col Yovanni Casablanca

**MHSRS-19-02475 - POSTER SESSION 2 - #702****Perceptions of Race and Gender Equality in Leadership and Career Advancement among Military Family Physicians**

Presentation Author: MAJ Mariama Massaquoi

**MHSRS-19-02522 - POSTER SESSION 2 - #703****Factors to Explain Racial Disparity in Survival for Women with Uterine Cancer: Further Investigations by Histologic Subtype**

Presentation Author: Dr. Kathleen Darcy

**MHSRS-19-02536 - POSTER SESSION 2 - #704****Histology Matters in Developing a Framework For Explaining Racial Disparity in Cervical Cancer Survival**

Presentation Author: Dr. Kathleen Darcy

**MHSRS-19-02526 - POSTER SESSION 2 - #705****Contraceptive Use and Childbirth Rates by Service Branch During the First 24 Months on Active Duty in the United States Military from 2013 to 2018: A Retrospective Cohort Analysis**

Presentation Author: MAJ Joshua Smalley

**MHSRS-19-02571 - POSTER SESSION 2 - #706****Longitudinal Influence of Military Policy on Contraceptive Use and Childbirth among Female Recruits**

Presentation Author: MAJ Joshua Smalley

## PREDICTIVE ANALYTICS WITHIN THE MILITARY HEALTH SYSTEM

### MHSRS-19-00027 - POSTER SESSION 2 - #707

**Factors Related to Re-excision Following Primary Breast Conserving Surgery for Women with Breast Cancer in the U.S. Military Health System**

Presentation Author: Dr. Yvonne Eaglehouse

### MHSRS-19-00927 - POSTER SESSION 2 - #708

**Racial Comparisons in Receipt of Recommended Colon Cancer Treatment in an Equal-access Health System**

Presentation Author: Dr. Yvonne Eaglehouse

### MHSRS-19-00151 - POSTER SESSION 2 - #709

**Evaluation of a High-utilizer Case Management Pilot Program**

Presentation Author: Ms. Shing Lai Cheng

### MHSRS-19-00176 - POSTER SESSION 2 - #710

**Genetic Testing to Reduce Musculoskeletal Injuries in SOF**

Presentation Author: Dr. Stuart Kim

### MHSRS-19-00453 - POSTER SESSION 2 - #711

**Estimating Repeat Traumatic Brain Injury in the U.S. Military, 2015-2017**

Presentation Author: Dr. Yll Agimi

### MHSRS-19-01796 - POSTER SESSION 2 - #712

**Estimates of Long-term Disability among U.S. Service Members with Traumatic Brain Injuries**

Presentation Author: Dr. Yll Agimi

### MHSRS-19-00509 - POSTER SESSION 2 - #713

**Artificially Genetic: Using Precision Operational Health and Performance Principles to Predict Risk, Outcomes, and Utilization in the Military Health System**

Presentation Author: Dr. Richard Chapleau

### MHSRS-19-00808 - POSTER SESSION 2 - #714

**Proportion of Non-adenomatous Pathology on Colonoscopic Biopsy among Patients Treated in a Military Treatment Facility**

Presentation Author: ENS Samuel Billingslea

### MHSRS-19-00920 - POSTER SESSION 2 - #715

**Prevalence of Sleep Disorders and Medication Use Among Active Duty Army for Fiscal Year 2018: Impact on Deployability**

Presentation Author: Dr. Jaime Devine

### MHSRS-19-00925 - POSTER SESSION 2 - #716

**Determining the Appropriate Follow-up Times for Apollo Studies from TCGA Data**

Presentation Author: Mr. Jianfang Liu

**MHSRS-19-00948 - POSTER SESSION 2 - #717**

**Individualized Avatar with Complete Anatomy: Repositioning and Animating**

Presentation Author: Dr. Zhiqing Cheng

**MHSRS-19-00949 - POSTER SESSION 2 - #718**

**Brain Cancer Incidence: A Comparison of ACTUR and SEER Populations**

Presentation Author: Ms. Julie Bytnar

**MHSRS-19-00991 - POSTER SESSION 2 - #719**

**Comparative Study of Survival, Diagnosis and Treatment among Small Cell Lung Cancer Cases in the U.S. Military Health System and Cases from the U.S. National Surveillance, Epidemiology, and End Results Program**

Presentation Author: Dr. Jie Lin

**MHSRS-19-00995 - POSTER SESSION 2 - #720**

**Comparison of Survival among Colon Cancer Cases in the U.S. Military Health System and Cases from the U.S. General Population in the National Surveillance, Epidemiology, and End Results Program**

Presentation Author: Dr. Jie Lin

**MHSRS-19-01141 - POSTER SESSION 2 - #721**

**The Burden of Skin Disease on Deployed Servicemembers**

Presentation Author: CPT Elizabeth Taylor

**MHSRS-19-01227 - POSTER SESSION 2 - #722**

**Predicting Day Length of Duty Restriction Using Text Mining and Machine Learning Algorithms**

Presentation Author: Mr. Aron Trevino

**MHSRS-19-01283 - POSTER SESSION 2 - #723**

**Predictive Analytics to Identify Patients with Rising Risks of Chronic Conditions for Disease Management**

Presentation Author: Mr. Lemma Regasa

**MHSRS-19-01309 - SESSION 2 - #724**

**Similarity Analysis Using Deep Learning And Latent Semantic Indexing Techniques**

Presentation Author: Dr. Bernardo Buenviaje

**MHSRS-19-01339 - POSTER SESSION 2 - #725**

**Development of a Predictive Healthcare Tool Using Electronic Health Record Bioinformatics to Inform Personalized Evidence-based Pressure Injury Management for Veterans With Spinal Cord Injury**

Presentation Author: Dr. Kath Bogie

**MHSRS-19-01375 - POSTER SESSION 2 - #726**

**External Validation of PATHFx Version 3.0 in Patients Treated Surgically and Non-surgically for Symptomatic Skeletal Metastases**

Presentation Author: Lt Ashley Anderson

**MHSRS-19-01383 - POSTER SESSION 2 - #727****Racial and Service Connected Disability Disparities in Civilian Assault and Firearm TBI Injury and Costs among U.S. Military Veterans: Evidence from a Level One Trauma Center**

Presentation Author: Dr. Clara Dismuke-Greer

**MHSRS-19-01393 - POSTER SESSION 2 - #728****Clarity Bioanalytics: Applications of Machine Learning for Biological Cell Image Analysis**

Presentation Author: Dr. Patrick McLendon

**MHSRS-19-01397 - POSTER SESSION 2 - #729****Pharmacogenomics and Readiness in the Military Health System**

Presentation Author: Ms. Lydia Hellwig

**MHSRS-19-01446 - POSTER SESSION 2 - #730****Five Year Risk of Hypertension after Combat Injury: A Predictive Model**

Presentation Author: Lt Col Ian Stewart

**MHSRS-19-01484 - POSTER SESSION 2 - #731****Identification of Candidate Biomarkers for Head and Neck Cancer Using Targeted Proteomics and Longitudinal Samples from the DoD Serum Repository**

Presentation Author: Dr. Tao Liu

**MHSRS-19-01524 - POSTER SESSION 2 - #732****Predictors of Overdose, Chronic Opioid Use and Suicide Related Behaviors in Veterans: Why We Need DoD Data to Understand the DoD-VA Transition**

Presentation Author: Dr. Mary Jo Pugh

**MHSRS-19-01525 - POSTER SESSION 2 - #733****Medical Utilization as a Measure of Return on Investment for Traumatic Brain Injury Care in Europe**

Presentation Author: Dr. Stephanie Maxfield-Panker

**MHSRS-19-01527 - POSTER SESSION 2 - #734****Clinical Utility of Heart Chest Pain Protocol at NMCP**

Presentation Author: Lt Michael Lloyd

**MHSRS-19-01536 - POSTER SESSION 2 - #735****Predictors of Attrition from Combat Training: The IDF Perspective**

Presentation Author: CPT Avishai Tsur

**MHSRS-19-01542 - POSTER SESSION 2 - #736****Predictive Modeling for Cardiovascular Event Prevention**

Presentation Author: Ms. Patricia Nguyen

**MHSRS-19-01655 - POSTER SESSION 2 - #737****Predictive Modeling for Cardiovascular Event Prevention**

Presentation Author: Mrs. Patricia Nguyen

**MHSRS-19-01668 - POSTER SESSION 2 - #738**

**Developing Models To Predict Performance on Selected HEDIS® Diabetes Quality of Care Measures in the MHS Population**

Presentation Author: Mrs. Brooke Asbury

**MHSRS-19-01680 - POSTER SESSION 2 - #739**

**Developing Models to Predict Performance on Selected HEDIS® Diabetes Quality of Care Measures in the MHS Population**

Presentation Author: Ms. Brooke Asbury

**MHSRS-19-01706 - POSTER SESSION 2 - #740**

**Non-invasive Measurement of Carotid Plaque Composition to Improve Risk Assessment of Stroke**

Presentation Author: Dr. Russell Fedewa

**MHSRS-19-01722 - POSTER SESSION 2 - #741**

**Contribution of Department of Defense Cancer Information to the Oncology Research Information Exchange Network Avatar Research Program**

Presentation Author: Ms. Kimberly Murtha

**MHSRS-19-01874 - POSTER SESSION 2 - #742**

**Predicting the Future Occurrence of Hemorrhage Using a Noninvasive Approach**

Presentation Author: Mr. Navid Rashedi

**MHSRS-19-01954 - POSTER SESSION 2 - #743**

**Homeland Explosive Consequence Assessment Tool Medical Mitigation Model: Assessing the Benefits of the Public Health Response to an Explosive Terrorism Attack**

Presentation Author: Mr. Kevin Wegman

**MHSRS-19-01972 - POSTER SESSION 2 - #744**

**Utilization, Cost and Clinical Outcomes Before and After Implementation of Separate Pediatric Protocols for Care of the Febrile Child Younger than 160 Days**

Presentation Author: LT Megan Halliday

**MHSRS-19-01990 - POSTER SESSION 2 - #745**

**The Establishment and Implementation of Murtha Cancer Center Biobank as a Participating Member of the Oncology Research Information Exchange Network**

Presentation Author: Ms. Nicole Wolf

**MHSRS-19-02052 - POSTER SESSION 2 - #746**

**Discrete Event Simulation for Modeling of Military Medical Center Response to a Mass Casualty Incident**

Presentation Author: CPT Christopher Marengo

**MHSRS-19-02089 - POSTER SESSION 2 - #747**

**Noninvasive Enabling Technology, New Physiological Monitoring, and Big Data**

Presentation Author: Dr. Joseph Chaiken



**MHSRS-19-02206 - POSTER SESSION 2 - #748****An Informatics Infrastructure Task Force for the Applied Proteogenomics Organizational Learning and Outcomes Consortium as Part of the Cancer Moonshot Program**

Presentation Author: Mr. Leonid Kvecher

**MHSRS-19-02240 - POSTER SESSION 2 - #749****Predictors of Psychological Well-Being among Junior Enlisted Sailors in the Navy Nuclear Propulsion Training Pipelines**

Presentation Author: Dr. Justin Handy

**MHSRS-19-02322 - POSTER SESSION 2 - #750****On-Going Development Work in Step-Wise Semi-Guided Fuzzy K-Means Clustering & Auto-Curating Model Regression with Aggregated Maximum Likelihood Estimation for Assessment of Medical Provider Effects & Prediction of Negative Medical Outcome in Seasonal Data**

Presentation Author: Mr. Benjamin Clapp

**MHSRS-19-02323 - POSTER SESSION 2 - #751****Utilization of the Emergency Department in a Universally Covered Population**

Presentation Author: Dr. Tomas Andriotti

**MHSRS-19-02368 - POSTER SESSION 2 - #752****Admissions from the Emergency Department in a Universally Covered Population**

Presentation Author: Dr. Tomas Andriotti

**MHSRS-19-02373 - POSTER SESSION 2 - #753****Identifying Risk Factors for Opioid Abuse and Misuse in Outpatient Active Duty Air Force**

Presentation Author: Dr. Paul Schroeder III

**MHSRS-19-02409 - POSTER SESSION 2 - #754****Developing an Asplenic Patient Registry for Air Force Readiness**

Presentation Author: Dr. Paul Schroeder III

**MHSRS-19-02416 - POSTER SESSION 2 - #755****Predicting Deployability from Modifiable Behaviors in Active Duty Air Force Service Members**

Presentation Author: Dr. Paul Schroeder III

**MHSRS-19-02383 - POSTER SESSION 2 - #756****AMSARA/DSAR: Leveraging Epidemiological Research and Predictive Analytics for Military Stakeholders**

Presentation Author: Mrs. Caitlin Rushin

**MHSRS-19-02384 - POSTER SESSION 2 - #757****Trends in Prediabetes Prevalence in the U.S. Active Duty Military Population**

Presentation Author: Capt Courtney Clutter

**MHSRS-19-02401 - POSTER SESSION 2 - #758**

**Predictive Modeling for Differential Diagnosis and Mortality Risk Assessment**

Presentation Author: Dr. Tony Lindsey

**MHSRS-19-02631 - POSTER SESSION 2 - #759**

**Does Objective, Adjunctive Information from EEG Change Prescribing in Depression?**

Presentation Author: Mr. George Carpenter

**MHSRS-19-02634 - POSTER SESSION 2 - #760**

**Centralization of Pathology Consultations at the Joint Pathology Center Permits the Tracking and Trending of Diagnoses and Quality across the DoD and VA Healthcare Systems**

Presentation Author: COL Joel Moncur

**MHSRS-19-02640 - POSTER SESSION 2 - #761**

**Analysis of Joint Pathology Center Consultations from 2018 Identifies the Most Common Diagnostic Challenges across DoD and VA Healthcare**

Presentation Author: COL Joel Moncur