MHSRS 2019 – Poster Session 1
Tuesday, August 20

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
Jonathan D. Monti, DSc, PA-C1, LTC Michael Perreault, MD2
1Henry M. Jackson Foundation for the Advancement of Military Medicine, Tacoma, WA; 2Madigan Army Medical Center, Joint Base Lewis-McChord, WA

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
Darren S. Baldwin, BS1, Jason F. Naylor, PA-C2, Michael D. April, MD2, DPhil, MSc2, Cord W. Cunningham, MD, MPH2,4,5, Joseph K. Maddry, MD1,2, Kaori Tanaka, DO, MSPH3, Denise M. Beaumont, CRNA4, Tyson E. Becker, MD5, Robert A. De Lorenzo, MD3, Steven G. Schauer, DO, MS1,2,5
1U.S. Air Force En Route Care Research Center, JBSA Fort Sam Houston, TX; 2San Antonio Military Medical Center, JBSA Fort Sam Houston, TX; 3Univ of Texas Health Science Center at San Antonio, TX; 4U.S. Army Medical Department Center and School, JBSA Fort Sam Houston, TX; 5U.S. Army Institute of Surgical Research, JBSA Fort Sam Houston, TX

MHSRS-19-00411 - Session 1 - #003
Low-fidelity ECMO Simulation versus Animal Model: Does Individual Experience Affect its Efficacy?
Presentation Author: LTC Thornton Mu
Thornton S. Mu, MD1, Tricia L. Garcia-Choudary, MPH, BSN,RN2, Amanda M. Staudt, PhD2, Nicholas R. Carr, DO1, Matthew A. Borgman, MD1, Annabelle Martinez, RN1, Cheryl Collicott, BSN, RN1, Heather M. Delaney, MD1
1Brooke Army Medical Center, Houston, TX; 2U.S. Army Institute of Surgical Research, Fort Sam Houston, TX

MHSRS-19-00461 - Session 1 - #004
Are Self-assessment and Cognitive Scores Associated with ECMO Training Performance Outcomes?
Presentation Author: Mrs. Tricia Garcia-Choudary
Tricia Garcia-Choudary, MPH, BSN, RN1, Amanda Staudt, PhD1, Thornton S. Mu, MD2, Heather Delaney, MD2, Maj Nicholas Carr, DO3, Matthew Borgman, MD2, Cheryl Collicott, BSN, RNC-NIC2, Anabelle Martinez, BSN, RN2, Krystal Valdez-Delgado, BSN, RN1, Nicole Caldwell, RN1, Elizabeth Mann-Salinas, PhD, RN1
1U.S. Army Institute of Surgical Research, Fort Sam Houston, TX; 2San Antonio Military Medical Center, Fort Sam Houston, TX

MHSRS-19-00470 - Session 1 - #005
Effects of an Advanced Airway “Boot Camp” For Military Family Medicine Physician Trainees
Presentation Author: LCDR Art Ambrosio
Multi Tissue Additive Manufactured Training Models for Point of Injury Medical Care
Presentation Author: Dr. Jonathon Barton

Operation Fidoe: Pre-deployment Training for Life Saving Surgical Management of Military Working Dogs
Presentation Author: CAPT William Sweeney

From Novice to Expert in Cricothyroidotomy: How Long Does it Take?
Presentation Author: Ms. Rachael Dampman

A Portable and Self-contained Approach for Surgical Telementoring: Towards Remote, Point of Injury Care
Presentation Author: Dr. Juan Wachs

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
A Survey of Combat Medic Airway Training and Experiences: A Preliminary Analysis
Presentation Author: Ms. Nguvan Uhaa
Nguvan Uhaa, LPN1, Michael D April, MD, DPhil, MSc2, Jason F Naylor, PA-C3, Joshua J Oliver, MD2, Kaori Tanaka, MD4, Robert A Delorenzo, MD, MSM, MSCI1, Steven G Schauer, DO, MS1
1U.S. Army Institute of Surgical Research, Joint Base San Antonio Fort Sam Houston, TX; 2Brooke Army Medical Center, Joint Base San Antonio Fort Sam Houston, TX; 3Madigan Army Medical Center, Joint Base Lewis McChord, WA; 4University of Texas Health Science Center, San Antonio, TX

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
Avishai Michael Tsur MD1, Yaara Binyamin RN1, Lena Koren MD1, Sharon Ohayon MD1, Patrick Thompson2, Elon Glassberg MD1
1The Israel Defense Forces Medical Corps, Tel Hashomer, Ramat Gan, Israel; 2Advanced Tactical and Emergency Medicine, Hereford, United Kingdom

Association of Experience and Self-efficacy in Performing Life-saving Interventions among Israel Defense Forces Advanced Life Support Providers
Presentation Author: CPT Avishai Tsur
Nadav Haddad BA, Avishai Michael Tsur MD, Roy Nadler MD, Avi Benov MD, Elon Glassberg MD, Jacob Chen MD
Surgeon General's Headquarters, Israel Defense Forces, Ramat Gan, Israel

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
Avishai M. Tsur MD, Roy Nadler MD, Nadav Haddad BA, Avi Benov MD, Elon Glassberg MD, Jacob Chen MD
Surgeon General's Headquarters, Israel Defense Forces, Ramat Gan, Israel

Professional Confidence Builds Leadership - New Concepts in Combat Medicine Training during the Apex (Tzameret) Military MD Program
Presentation Author: CPT Avishai Tsur
Major Aviv Gelber MD, Avishai Michael Tsur, MD, Roy Nadler, MD, Avi Benov, Jacob Chen, MD
Surgeon General's Headquarters, Israel Defense Forces, Ramat Gan, Israel

Preparing for Deployment: Characteristics that Help Military Interprofessional Healthcare Teams Succeed Across Care Contexts
Presentation Author: Dr. Lara Varpio
Lara Varpio, PhD1, Karlen Bader, BSc2, Anthony Artino, PhD1, Danette Cruthirds, PhD1, Holly Meyer, PhD2, Steven Durning, PhD1, Meghan Hamwey, PhD2
1The Uniformed Services University of the Health Sciences, Bethesda, MD; 2The Henry M Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD
Military Interprofessional Education: How the U.S. Military Prepares its Care Teams for the Deployed Environment

Presentation Author: Dr. Lara Varpio
Lara Varpio, PhD1, Karlen Bader, BSc2, Meghan Hamwey, PhD3, Kevin Semelrath, MD4, Elise Paradis, PhD5
1The Uniformed Services University of the Health Sciences, Bethesda, MD; 2The Henry M Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; 3The University of Toronto, Canada

Using 3D Printing (Additive Manufacturing) to Manufacture Low Cost Simulation Models for Dental and Oral and Maxillofacial Surgical Procedures

Presentation Author: Dr. Peter Liacouras
Peter C. Liacouras, Ph.D.1; Peter D. Cervenka, LCDR, MD1; Andrea D. Lisell, CDR, DDS2; Peter Barndt, CDR, DDS3
1Walter Reed National Military Medical Center and Uniformed Services University of the Health Sciences, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD; 3Naval Branch Health Clinic, Groton, CT

Combining Computational Physiology with Virtual Reality for an Immersive and Effective Trauma Simulator

Presentation Author: Dr. Rachel Clipp
Rachel B. Clipp, PhD1, Aaron Bray1, Jeffrey B. Webb, Janis Kondrats2, CPT Kyle Couperus, MD3
1Kitware, Inc, Carrboro, NC; 2Exonicus, Inc, Seattle, WA; 3Madigan Army Medical Center, Joint Base Lewis-McChord, WA

Vital Sign Monitoring and Demographic Comparisons of Paramedics in Warm Zone Active Shooter Drills

Presentation Author: Dr. Rebecca Ryznar
Rebecca Ryznar, PhD1; Joshua Calvano, OMS II1; Ryan Henschell, OMS II1; William Suddarth, OMS I1; Alex Knippenberg, OMS I1; Renato Rapada, DO1; Andrew Glen, PhD1; Ryan Shelton, NREMT-B2; Anthony LaPorta, MD, FACS1
1Rocky Vista University College of Osteopathic Medicine, Parker, CO; 2South Metro Fire Rescue, Parker, CO

Knowledge, Skills, and Attitudes of Medical Students Participating in a Military Medical Field Training Exercise on Prolonged Field Care

Presentation Author: 2LT David Ediger
2d Lt Connor Kelly, MSIII, 2LT David Ediger, MSIII, MAJ Grigory Charny, MD, MS, FAAEM
Uniformed Services University, Bethesda, MD

A Preliminary Evaluation of Ambulatory Physiological Monitoring and Performance Enhancement Techniques in a MARSOC Multi-purpose Canine Unit

Presentation Author: Dr. Deane Aikins
Deane Aikins, PhD1,2; John Nowell3, Jay Johnson3, Rich Thompson3
1Veterans Affairs Detroit Healthcare System, Detroit, MI; 2Wayne State University, Detroit, MI; 3Human Venture Group, Alexandria, VA
Operation Gunpowder: Unique and Essential Training in Prolonged Field Care for Third Year Military Medical Students
Presentation Author: 2ndLt Ryan Sumpter
2d Lt Ryan Sumpter, MSIII, ENS, Jared Ingersoll, MSIII, MAJ (Dr.) Grigory Charny
Uniformed Services University, Bethesda MD

Addressing Reserve Joint-service Medical Training Gaps through Multi-faceted Expeditionary Simulation
Presentation Author: Lt Col Luis Berrios
Luis Berrios, DNP, Lt Col, USAF, Jeffrey Correa, SMSgt, USAF
433d Medical Group, JBSA San Antonio, TX

The Army Medical Department Military-Civilian Trauma Team Training Experience
Presentation Author: CPT Simon Sarkisian
Simon A Sarkisian, DO\(^1\), Misha Ownbey, MD\(^2\), Jason Seery, MD\(^3\)
\(^1\)Cooper University Hospital, Camden, NJ; \(^2\)Oregon Health & Science University Hospital, Portland, OR

Development of a Clinical Experience Log at the Navy Trauma Training Center
Presentation Author: CDR Virginia Blackman
Tony Torres, MSN, RN, CDR, NC, USN\(^1\), Jami Stakley, MSN, RN, CDR, NC, USN\(^2\), Elizabeth Garcia, MHA\(^3\), Nancy A. Stotts, EdD, RN\(^4\), Virginia Blackman, PhD, RN, CDR, NC, USN\(^1\)
\(^1\)Uniformed Services University of Health Sciences, Bethesda, MD; \(^2\)Naval Medical Center San Diego, San Diego, CA; \(^3\)Geneva Foundation; \(^4\)University of California, San Francisco, CA

Trauma Simulator: Autonomous Immersive Virtual Reality Medical Simulation
Presentation Author: CPT Kyle Couperus

Assessment of Telemedicine Needs of the Special Operations Medic
Presentation Author: ENS Dustin Lowery
ENS Dustin Lowery, ENS, Duncan Carlton, ENS, Catherine Woodard, MS, MAJ Grigory Charny, MD, MS, FAAEM
Uniformed Services University of the Health Sciences, Bethesda, MD

INNOVATIVE COUNTERMEASURES AND DIAGNOSTICS TO EMERGING INFECTIOUS DISEASES

Disease Outbreak Risk Assessment Tool
Presentation Author: Ms. Louise Sumner
Mikaela Finnegan, Jennifer Corbin, PhD
Gryphon Scientific, Takoma Park, MD
Can We Expand the Diagnostic Capabilities of the FDA-Cleared Cl Detect™ Rapid Test from Old World to New World Cutaneous Leishmaniasis?
Presentation Author: LCDR Christie Joya
Christie A. Joya, DO, MTM&H1, Alejandro Llanos-Cuestas, MD, PhD2, Ana Ramos, MD2, Luis Angel Rosales, BS1, Maria Julia Saenz, RN1, Max Grogl, PhD1
1Naval Medical Research Unit No. 6, Peru; 2Universidad Peruana Cayetano Heredia, District of San Martin de Porres, Lima

Utilizing Crowdsourcing to Accelerate the Advancement of Bioinformatics Workflows for Identifying Infectious Disease Microorganisms
Presentation Author: Dr. Ezekiel Maier
Yi Yan, PhD1, Chris Stefan, PhD2, Heike Sichtig, PhD1, Timothy Minogue, PhD2, Ezekiel Maier, PhD3, John Didion, PhD4, Ruth Bandler, MS5, Elaine Johanson, BS5
1FDA Center for Devices and Radiological Health, Silver Spring, MD; 2U.S. Army Medical Research Institute of Infectious Diseases, Frederick, MD; 3Booz Allen Hamilton, McLean, VA; 4DNAnexus, Rockville, MD; 5FDA Office of Health Informatics, Silver Spring, MD

Utility of a Plasmodium 18S qRT-RNA PCR Assay for Diagnosis in Controlled Human Malaria Infection Studies
Presentation Author: CPT Jangwoo Lee
Jangwoo Lee1, Linda L. Jagodzinski1, Holly Hack2, J. Kathleen Moch1, Alexander V. Pichugin1, Ashley L. St. Pierre1, Reanna G. Simmons1, Jack N. Hutter1, Elizabeth H. Duncan1, James E. Moon1, Sean C. Murphy3, Jennifer A. Malia1, Sheila A. Peel1, Viseth Ngyau1
1Walter Reed Army Institute of Research, Silver Spring, MD; 2Henry M. Jackson Foundation, Silver Spring, MD; 3University of Washington, Seattle, WA

Bioprospecting Host Defense for New Antiviral Agents
Presentation Author: Dr. Barney Bishop
Barney Bishop, PhD, Kylene Kehn-Hall, PhD
George Mason University, Manassas, Virginia

Molecular Biomarker Diagnostic Assays as a Potential Tool to Mitigate Force Health Protection Risk against Aedes Aegypti Insecticide Resistance
Presentation Author: LCDR Jeff Hertz
Jeffrey C. Hertz1, Sébastien Marcombe2, Julien Cattel3, Somsanith Chonephetsarah2, Phoutmany Thammavong2, Nothasin Phommavan2, Jean-Philippe David3, Paul T. Brey2
1U.S. Navy Medical Research Unit Two, Singapore; 2Medical Entomology and Vector-Borne Disease Laboratory Institut Pasteur du Laos, Vientiane, Laos; 3Université Grenoble-Alpes, Grenoble, France

8228th Mobile Army Surgical Hospital, Epidemic Hemorrhagic Fever Center
Presentation Author: Mr. Alan Hawk
Alan Hawk
National Museum of Health and Medicine and J-9 Defense Health Agency
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
Roger W. Pan1,2, Christopher A. Myers, PhD2, LCDR Paul C.F. Graf, PhD2
1The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD; 2Naval Health Research Center, San Diego, CA

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
Seid Muhie1,2,3, Ross Campbell2,4, Aarti Gautam2, Rasha Hammamieh2, Cristiano Cummins5, Marti Jett2
1Johns Hopkins University, Baltimore, MD; 2U.S. Army Center for Environmental Health Research, Fort Detrick, MD; 3The Geneva Foundation, Frederick, MD; 4Frederick National Laboratory for Cancer Research, Frederick, MD; 5College Park, MD

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
Brett Etchebarne, MD, PhD1, Zenggang Li, PhD1, Walid Khalife, PhD2, Mary Hughes, DO1
1Michigan State University, East Lansing, MI; 2Sparrow Health System, Lansing, MI

MHSRS-19-00614 - Session 1 - #039
Infectious Disease Diagnostic via a Novel Plasmonic Halo
Presentation Author: Dr. Michael Naughton
Michael J. Naughton, PhD, Luke D’Imperio, Megi Maci, Juan R. Merlo, PhD, Timothy Connolly, PhD, Thomas C. Chiles, PhD, Michael J. Burns, PhD
Boston College, Chestnut Hill, MA

MHSRS-19-00645 - Session 1 - #040
Adversomics of HPV Immunization and Factors Related to Adherence in Pre-adolescents
Presentation Author Dr. Gregory Gorman
Jeremy McMurray1, Apryl Susi1, Gregory Gorman1,2, Elizabeth Hisle-Gorman1
1Uniformed Services University of Health Sciences, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD

MHSRS-19-00714 - Session 1 - #041
The Case for Passive Surveillance: Tick Testing and Military Populations
Presentation Author: Dr. Robyn Nadolny
Robyn Nadolny, PhD
Army Public Health Center Tick-Borne Disease Laboratory, Aberdeen Proving Ground, MD

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 Schoske, Richard, PhD¹, Koob, Caitlin, MS²
¹Defense Threat Reduction Agency, Fort Belvoir, VA; ²SAIC, Lorton, VA

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
H.Y. Yen MS¹, L.T. Lai, MS¹, C.R. Lee, PhD², H.W. Chen, PhD², S.J. Wu, PhD², C.C. Wu, PhD¹
¹National Chung Hsing University, Taichung, Taiwan; ²Naval Medical Research Center, Silver Spring, MD

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
Victor A Sugiharto, PhD¹, Hua-Wei Chen, PhD¹, Cheng-Rei Lee, PhD¹, Gabriel N Defang, PhD¹, Shuenn-Jue L Wu, PhD¹, George P Anderson, PhD², Lisa C Shriver-Lake, MS², Jinny L Liu, PhD², Dan Zabetakis, PhD², Ellen R Goldman PhD²
¹Naval Medical Research Center, Silver Spring, MD; ²U.S. Naval Research Laboratory, Washington, DC

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
Lillian Chiang, PhD¹, Stacy Remiszewski, PhD¹, Sheli Radoshitzky, PhD², Eain Murphy, PhD¹, Christopher Kane, PhD², Youngwok Kim, MS¹, Kathryn Roche, BA¹
¹FORGE Life Science, LLC, Doylestown, PA; ²U.S. Army Medical Research Institute of Infectious Diseases, Frederick, MD

MHSRS-19-00993 - Session 1 - #047
Mobile Manufacturing Platform for Rapid Response
Presentation Author: Ms. Evelyn Van der Hart
Evelyn Van der Hart, Neil Stephenson, BSc Eng, MSc E ng, P.Eng, Aynslie Wall, Russell Pronyk, Shelly Buhay, MSc, Patrick Wiebe
Emergent BioSolutions Canada Inc, Winnipeg, Manitoba

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
Paul T. Scott, MD, MPH1,2, Jenny Lay, MPH1, Inger-Marie Vilcins, MIPH, PhD2,3, Miher Amare, MBA2,3, Casey Storme, BS2,3, Richard Jarman, PhD1, Andrew D. Haddow, PhD3, Nelson L Michael, MD, PhD1, Angelia Cost, PhD, ScM4, Gerhard Dobler, MD, PhD5, Sheila Peel, MSPH, PhD1, Kayvon Modjarrad, MD, PhD1,2
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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
Matthew Myntti, PhD1, Christopher Hunter, PhD2
1Next Science Limited, Jacksonville, FL; 2Zimmer Biomet, Dover, OH

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
Michael E. McCown, DVM, MPH, DACVPM1, Yezid Alexander Ardila Gómez, DVM2, Benjamin T. Grzeszak3
1U.S. Army MRD-G, WRAIR, Tbilisi, Georgia; 2Universidad Industrial de Santander, Colombia; 3U.S. Army Special Operations Forces, Eglin AFB, FL

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
Ivan Medvedev1, PhD, Katherine Excoffon1, PhD, Jennifer Martin2, PhD, Daniel Tyree1, Priyanka Sharma1, James Readler1
1Wright State University, Dayton, OH; 2USAF Research Laboratory Wright Patterson Air Force Base, Dayton, OH

MHSRS-19-01299 - Session 1 - #054
Rickettsia species identified in Ticks along the Mongolia-China border
Presentation Author: Dr. Michael von Fricken
Michael E. von Fricken1, Matthew A. Voorhees2, Brandon Lam3, Jeffrey W. Koehler,2 Susan L. Padilla2, Barbara Qurolo4, Carmen Asbun1, Dulamjav Jamsransuren5, Dolgorkhand Adiyadorj5, Uyanga Baasandagwa5, Battsetseg Jigjav5, Randal J. Schoepp2
1George Mason University, Fairfax, VA; 2U.S. Army Medical Research Institute of Infectious Diseases, Frederick, MD; 3Johns Hopkins School of Medicine, Baltimore, MD; 4North Carolina State University, Raleigh, NC; 5National Center for Zoonotic Diseases, Ulaanbaatar, Mongolia
Carbon Nanotubes as Novel HIV-1 Vaccine Antigen Vectors for Mucosal Immunity Stimulation
Presentation Author: Dr. Yang Xu
Yang Xu, PhD\(^1\), Ziyou Zhou, PhD\(^1\), Brad Brooks, BS\(^1\), Tammy Ferguson, PhD\(^1\), Xiangpeng Kong, PhD\(^2\), Christopher Tison, PhD\(^1\)
\(^{1}\)Luna Innovations Incorporated, Danville, VA; \(^{2}\)New York University School of Medicine, New York, NY

Toward Universal Flaviviridae Surveillance
Presentation Author: Mr. James Mann
James Mann, BSc, Jason Pitts, PhD
Baylor University, Waco, TX

Global Lipidomics Identifies a Host Sphingolipid Pathway Essential for Zika Virus Replication
Presentation Author: Dr. Jennifer Kyle
Jennifer E. Kyle\(^1\), Hans C. Leier\(^2\), Jules B. Weinstein\(^2\), Douglas Kemptthorne\(^3\), Kelly G. Stratton\(^4\), Joon-Yong Lee\(^1\), Aaron R. Navratil\(^5\), Endala G. Tafesse\(^6\), William B. Messer\(^2,7\), Edward A. Dennis\(^5\), Thomas O. Metz\(^1\), Eric Barklis\(^2\), Fikadu G. Tafesse\(^1\)
\(^{1}\)Pacific Northwest National Laboratory, Richland, WA; \(^{2}\)Oregon Health & Science University, Portland, OR; 
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\(^{7}\)Division of Infectious Diseases, Portland, OR

Anaphylaxis to Multiple Vaccines: A Case Series and Recommended Approach to Optimize Immunization Readiness in the Warfighter
Presentation Author: Dr. Bruce McClenathan
Bruce McClenathan, MD, Gervon Collins, BS
DHA-Immunization Healthcare Branch, Fort Bragg, NC

Potential Impact of Deployed Modular Manufacturing in an Outbreak Situation
Presentation Author: Ms. Laura Saward
Laura Saward, PhD\(^1\), Derek Toth\(^1\), Heather Williamson\(^1\), Ben Grant, PhD\(^3\), Bernhard Weigl, PhD\(^3\), Kenton Gregory, MD\(^3\), Hao Hu, PhD\(^2\)
\(^{1}\)Emergent BioSolutions Canada Inc, Winnipeg, Manitoba; \(^{2}\)Institute for Disease Modeling, Bellevue WA; 
\(^{3}\)Intellectual Ventures, Bellevue, WA

Systematic Review of Marburg Virus Vaccine Clinical Trials
Presentation Author: 2LT Nicholas Dulin
Nicholas Dulin, BS\(^1\), Adam Spanier BS\(^1\), Christine Lee MD\(^2\), Paige E. Waterman, MD\(^1,2\), Melinda J. Hamer MD, MPH\(^1,2,3\)
\(^{1}\)Uniformed Services University of the Health Sciences, Bethesda, MD; \(^{2}\)Walter Reed Army Institute of Research, Silver Spring, MD; \(^{3}\)George Washington University School of Medicine and Health Sciences, Washington, DC

ATI-1701, a Live Attenuated Francisella Tularensis Vaccine for the Prevention of Pneumonic Tularemia in
the Warfighter
Presentation Author: Dr. Carl Gelhaus
Armand Balboni, PhD1,2, Wayne Conlan, PhD1, Ron Cobb, PhD4, Shelby L. Steele, PhD1, Kevin Sullivan, MBA1, Carl Gelhaus, PhD5
1Appili Therapeutics Inc., Halifax, NS; 2U.S. Military Academy at West Point, West Point, NY; 3National Research Council Canada, Ottawa, ON; 4Ology Bioservices, Alachua, FL; 5MRI Global, Kansas City, MO

MHSRS-19-01919 - Session 1 - #062
Paper Based Microfluidic Devices: Low Cost Platforms for Rapid Biochemical Detection
Presentation Author: Dr. Baris Unal
Baris Unal, Justin Abell, and Ken Mahmud
Triton Systems Inc, Chelmsford, MA

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
Cade M. Nylund, MD1, Apryl Susi, MS1, Daniel Adams, MD2
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Naval Medical Center Portsmouth, Portsmouth, VA

MHSRS-19-01994 - Session 1 - #064
Understanding How Alphaviruses Cause Musculoskeletal Disease
Presentation Author: Dr. Suresh Mahalingam
Suresh Mahalingam, PhD
Griffith University, Queensland, Australia

MHSRS-19-01997 - Session 1 - #065
Structure-based Arenavirus Vaccine Design
Presentation Author: Dr. Michael Joyce
M. Gordon Joyce1,2, Wei-Hung Chen1,2, Hongjun Bai1,2, Yaroslav Tsybovsky1,2, Misook Choe1,2, Tyler Stephens1,2, Vincent Dussupt1,2, Leigh-Anne Eller1,2, Inger-Marie Vilcins1,2, Casey Storme1,2, Shelly J. Krebs1,2, Morgane Rolland1,2, Julie Ake1, Nelson L. Michael1, Kayvon Modjarrad1
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MHSRS-19-02015 - Session 1 - #066
Spatiotemporal Profiling of Bacterial Communities and Interpersonal Interactions to Capture Transmission Events
Presentation Author: Dr. Briana Vecchio-Pagan
Briana Vecchio-Pagan1, Matthew J. Pellicore1, Dana M. Lindquist1, R. Joshua Steele1, Bryan R. Brensinger1, Meaghan T. Hart1, Craig W. Howser1, Noah Lechtzin2
1The Johns Hopkins University Applied Physics Laboratory, Laurel, MD; 2The Johns Hopkins University School of Medicine, Baltimore, MD

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
Walter Reed Army Institute of Research, Silver Spring, MD; Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; Beth Israel Deaconess Medical Center, Boston, MA; Ragon Institute of MGH, MIT, and Harvard, Cambridge, MA; Integral Molecular, Philadelphia, PA; U.S. Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD

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
William G. Valiant, Joel Gatson, Vincent Ho, Russell K Pirlo, Joseph J Mattapallil
Uniformed Services University of the Health Sciences, Bethesda, MD; The Geneva Foundation, Tacoma, WA; U.S. Naval Research Lab, Washington, DC

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
Linda L. Jagodzinski, Holly R. Hack, Jangwoo Lee, Jason Ouellette, J. Kathleen Moch, Alexander V. Pichugin, Li Diao, Rani Ismael, Ying Liu, Steven Padillo, Ashley L. St. Pierre, Ming Chang, Sean C. Murphy, Jennifer A. Malia, Viseth Ngauy, Sheila A. Peel
Walter Reed Army Institute of Research, Silver Spring, MD; Military Henry M. Jackson Foundation, Silver Spring, MD; University of Washington, Seattle, WA

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
Hugo Valdivia, Priyaleela Thota, MD, MS, Tyler Witte, BS, Carola Salas, PhD, Anne Rocheleau, PhD, Greys Braga, BSc, Danett K. Bishop, PhD
U.S. Naval Medical Research Unit No. 6, Peru; Hemex Health, Portland, OR

MHSRS-19-02257 - Session 1 - #072
Establishing a Preclinical Chronic Periprosthetic Infection Model in Rats
Presentation Author: Dr. Yingfang Fan
Yingfang Fan, Yinbo Xiao, Charlotte P. Leape, Wali A. Sabuhi, Orhun K. Muratoglu, Jamie E. Collins, Mark Randolph, Ebru Oral
MHSRS-19-02264 - Session 1 - #073
Fix it with New Fixatives
Presentation Author: Dr. Anne Davis
Anne Sally Davis, DVM, PhD1, Stephen Hewitt, MD, PhD2
1Kansas State University, Manhattan, KS; 2National Institutes of Health, Bethesda, MD

MHSRS-19-02290 - Session 1 - #074
A Novel Inactivated-Chikungunya Virus Vaccine
Presentation Author: Dr. Anuj Sharma
Anuj Sharma1, Yanru Feng1, Amy L Austin1, Scott C Weaver2, Barbara Knollmann-Ritschel1
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2University of Texas Medical Branch, Galveston, TX

MHSRS-19-02327 - Session 1 - #075
Development of Nanobody-lampole Diagnostic Tests for Dengue and Zika
Presentation Author: Dr. Dennis Grab
Dennis J. Grab1,2, Anuj Sharma1, Ian Burbulis3,4, Axel Lehrer5, Vivek Nerurkar5, Stefan Magez6,7
1Uniformed Services University, Bethesda, MD; 2Johns Hopkins University, Baltimore, MD; 3University of Virginia, Charlottesville, VA; 4Universidad San Sebastian, Puerto Montt, Chile; 5University of Hawaii at Manoa, Honolulu, HI; 6Ghent University Global Campus, Incheon, South Korea; 7Vrije Universiteit Brussel, Brussels, Belgium

MHSRS-19-02445 - Session 1 - #076
Modeling the Potential Impact of Norovirus Vaccination among DoD Forces
Presentation Author: Ms. Colleen Burgess
Colleen Burgess1,2, Lis Nelis3, Lauren Masse4, Cassie Huang4
1Ramboll U.S. Corporation, Amherst, MA; 2MathEcology LLC, Phoenix, AZ; 3Ramboll U.S. Corporation, Seattle, WA; 4Ramboll US Corporation, Boston, MA

MHSRS-19-02454 - Session 1 - #077
Scalable Response to High-consequence Emerging Infectious Disease Epidemics
Presentation Author: Dr. Erwin Berthier
Emily Welch, PhD1, Ben Lepene, PhD2, Monique Van Hoek, PhD3, Kylene Kehn-Hall, PhD3, Erwin Berthier, PhD1
1Tasso, Inc, Seattle, WA; 2Ceres Nanosciences, Manassas, VA; 3George Mason University, Manassas, VA

MHSRS-19-02486 - Session 1 - #078
Modeling Zika Vaccination Combined with Vector Interventions for Outbreak Response in DoD Populations
Presentation Author: Ms. Colleen Burgess
Colleen Burgess1,2, Lis Nelis3, Lauren Masse4, Cassie Huang4
1Ramboll U.S. Corporation, Amherst, MA; 2MathEcology LLC, Phoenix, AZ; 3Ramboll U.S. Corporation, Seattle, WA; 4Ramboll US Corporation, Boston, MA

MHSRS-19-02488 - Session 1 - #079
Applications of Antimicrobial 3D Printing Materials for On Orbit Missions
Presentation Author: Mr. Michael Thompson
Michael Thompson1, Jorge Zuniga, PhD1,2
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
Thomas Mehoke, MS, Kianna Blount, Joshua Wolfe, PhD
Johns Hopkins University Applied Physics Laboratory, Laurel, MD

MHSRS-19-02618 - Session 1 - #081
Assessing Biofilm Biomass in a High Throughput Testing Format
Presentation Author: Dr. Mina Izadjoo
Hosan Kim, PhD, Matthew Aquino, Mina Izadjoo, PhD
Integrated Pharma Services, Frederick, MD

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
Brieanne L. Koster¹, Christopher Myers, PhD², LCDR Paul C.F. Graf, PhD²
¹The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD; ²Naval Health Research Center, San Diego, CA

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
Mara Kreishman-Deitrick, PhD¹, Kendra Lawrence, PhD², Brandon Pybus, PhD¹, William McCalmont, PhD¹, Chad Black, DVM, PhD¹, Gregory Reichard, PhD¹, Victor Zottig, PhD², Mariusz Wojnarksi, MD³, Nathanial Copeland, MD⁴
¹Walter Reed Army Institute of Research, Silver Spring, MD; ²U.S. Army Medical Materiel Development Activity, Fort Detrick, MD; ³Armed Forces Research Institute of Medical Sciences, Bangkok, Thailand; ⁴U.S. Army Medical Research Directorate-Africa, Nairobi, Kenya

MHSRS-19-00370 - Session 1 - #084
Development of GC-072 Antimicrobial for Treatment of Acute Melioidosis
Presentation Author: Ms. Michelle Saylor
Michelle Saylor, MS, Daniel Hill, PhD, Anthony Treston, PhD, Ravi Anantha, PhD, Jeffry Shearer, MS, Kelly Warfield, PhD
Emergent BioSolutions, Inc, Gaithersburg, MD

MHSRS-19-00448 - Session 1 - #085
Do S. Boulardii CNCM 1-745 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
Katherine. S Whitelock, Julianne E. Mesa, Cailin S. La-Claire, Scott Vo, Melinda S. Balansay-Ames, LCDR Paul C. F. Graf, Christopher A. Myers
1The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD; 2Naval Health Research Center, San Diego, CA

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
Reza Zeighami, Scott Vo, Cailin S. La Claire, Melissa Anderson, Melinda S. Balansay, Paul C. Graf, Christopher A. Myers
1The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD; 2Naval Health Research Center, San Diego, CA

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
Authors: Tahaniyat Lalani, Patrick Connor, Tom Troth, Bradley A. Connor, Jamie Fraser, David Tribble
Affiliations: 1Infectious Disease Clinical Research Program, Department of Preventive Medicine and Biostatistics, Uniformed Services University of the Health Sciences, Bethesda, MD; 2The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc., Bethesda, MD; 3Academic Department of Military Medicine, Royal Centre for Defence Medicine, Birmingham, UK; 4Weill Cornell Medical College and the New York Center for Travel and Tropical Medicine, New York, NY

MHSRS-19-00546 - Session 1 - #089
The Engineered Cationic Amphipathic Peptide WLBU2 Eliminates Staphylococcus Aureus Biofilms
Presentation Author: Dr. Kenneth Urish
Kenneth L. Urish, MD, PhD, Jonathan B. Mandell, MS, Berthony Desloches, PhD, Ronald Montelaro, PhD, Robert M.Q. Shanks, PhD, Yohei Doi, MD, PhD
University of Pittsburgh, Pittsburgh, PA

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
Greeshma Ray, PhD, Gail West, Andras Ponti, Yeojung Kim, PhD, Keyonna Smith, Jean-Paul Achkar, MD, Carol de la Motte, PhD, Christine McDonald, PhD, Claudio Fiocchi, MD, Michelle S. Longworth, PhD
Cleveland Clinic Lerner Research Institute, Cleveland, OH
Comparative Biocompatibility and Osteogenic Potential of Two Bioceramic Sealers
Presentation Author: Dr. Rodney Phoenix
Michelle Giacomino, DDS, MS \(^1\)\(^2\), James Wealleans, DDS \(^1\)\(^2\), Natalia Kuhn, MPH \(^3\), Anibal Diogenes, DDS, PhD \(^3\), Rodney Phoenix, DDS, MS \(^2\) (presenter)
\(^1\)Air Force Postgraduate Dental School, JBSA-Lackland, TX; \(^2\)Uniformed Services University of the Health Sciences, Bethesda, MD; \(^3\)University of Texas Health Science Center at San Antonio, San Antonio, TX

Boosting Innate Immunity through P53 to Counter Viral Infection
Presentation Author: Dr. Robert Shalwitz
Isaiah Shalwitz, MS
Invirsa Inc, Columbus, OH

Addressing Unmet Needs in HIV Research via Project-driven, Cohort Specific Human Biospecimen Collection
Presentation Author: Dr. Thomas Bell
Thomas J. Bell, MS, PhD, Melissa VonDran, PhD, Saboor Shad, Gene Kopen, PhD
National Disease Research Interchange, Philadelphia, PA

Detection and Classification of Shigella Toxin Producing Escherichia Coli by Surface Enhanced Raman Scattering Spectroscopy
Presentation Author: Dr. Luis Martinez
Luis A. Martinez, PhD \(^1\), Thomas E. Bird, BS \(^1\), Joseph L. Spano, MS \(^1\), CAPT Jonathan M. Stahl, DDS, MPH, PhD \(^2\), John W. Simecek, DDS, MPH \(^1\)
\(^1\)Naval Medical Research Unit San Antonio, San Antonio, TX; \(^2\)Naval Medical Research Unit-TWO, Singapore

Use of a Porcine Wound Model for Evaluation of Eskape Pathogens Bacterial Burden
Presentation Author: Dr. Francoise Arnaud
Michelle Lipinski, Josh Stanbro, LT Jae Dugan, LCDR Mark Simons

Synergistic Inactivation of Pseudomonas Aeruginosa by Oregano Oil and Blue Light
Presentation Author: Mr. Min Lu
Min Lu, Tianhong Dai, Mei X. Wu
Massachusetts General Hospital, Harvard Medical School, Boston, MA

Passive Immunotherapeutic of Hyperimmune Bovine Colostrum to Prevent Shigellosis in a Non-human Primate Model
Presentation Author: Ms. Nattaya Ruamsap
Nattaya Ruamsap \(^1\), Dilara Islam \(^1\), Rawiwan Imerbsin \(^1\), Jerry Kanellos \(^2\), John M. Crawford \(^1\), Brett E. Swierczewski \(^3\), Robert W. Kaminski \(^3\)
\(^1\)Armed Forces Research Institute of Medical Sciences, Bangkok, Thailand; \(^2\)Immunon, Blackburn North, Australia; \(^3\)Walter Reed Army Institute of Research, Silver Spring, MD
MHSRS-19-01094 - Session 1 - #098
Novel Prophylactic and Therapeutic Approach against Dengue Infection through Viral Protease Inhibition
Presentation Author: Dr. Bernd Van Buuren
Bernd van Buuren, PhD1, Martin Feiters, PhD2, Cindy Dieteren, PhD3, Bob Scholte, PhD3, Mark Damen2, Christian Klein, PhD4, Byron Martina, PhD5, Albert Osterhaus, PhD6, Daniel Girones, PhD1
1Protiinhi Therapeutics, Nijmegen, Netherlands; 2Radboud University, Nijmegen, Netherlands; 3Erasmus Medical Centre, Rotterdam, Netherlands; 4University of Heidelberg, Heidelberg, Germany; 5Artemis One Health Foundation, Delft, Netherlands; 6Research Center for Emerging Infections and Zoonoses, Hannover, Germany

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
Lisa Xie, PhD, Jing Zhang, MS

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
Yang Wang, MD PhD1, Zachary Schiller, MS1, Havard Lambert, MS2, Katherine Sullivan, BS3, Monir Ejemel, MS1, Jacqueline Toomey, BS1, Monica Embers, PhD2, Mark Klempner, MD1
1Univ of Massachusetts Medical School, Boston, MA; 2Tulane University School of Medicine, New Orleans, LA

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
Yang Wang1, Matteo Stoppato1, Carlos Gaspar2, James Regeimbâl2, Rosa Nunez2, Serena Giuntini1, Melissa A. Gawron,1, Jessica R. Pondish1, Joseph C. Martin III1, Matthew Schneider1, Lisa A. Cavacini1, Mark S. Klempner1,1MassBiologics of the University of Massachusetts Medical School, Boston, MA; 2Naval Medical Research Unit No. 6, Lima, Peru

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
Vanessa R. Melanson, PhD, M(ASCP)1,2, James L. Reilly1,2, Kalei Herring1, Suzanne DelRio1, Sara L. Schubert2, Jason Barnhill, PhD, M(ASCP)1
1U.S. Military Academy, West Point, NY; 2Keller Army Community Hospital, West Point, NY

MHSRS-19-01426 - Session 1 - #103
Pharmacokinetics and Tolerability of Primaquine Enantiomers in Human Volunteers
Presentation Author: Dr. Larry Walker
Larry A Walker1,2, Yan-Hong Wang1, Narayan D Chaurasiya1, N.P. Dhammika Nanayakkara1, HMT Bandara Herath1, Washim Khan1, Pius Fasinu1, Kerri A. Harrison1, Waseem Gul2, Mahmoud A ElSohly1,2, Ikhlas A Khan1, James D. McChesney3, Babu L Tekwani1
1The Univ of Mississippi, University, MS; 2ElSohly Laboratories, Inc, Oxford, MS; 3Arbor Therapeutics, LLC, Etta, MS
MHSRS-19-01428 - Session 1 - #104
Antifungal Activity of Scorpion Venom-derived Peptide Analogues against Candida Albicans
Presentation Author: Dr. Nancy Millenbaugh
Sabrina Snyder, PhD, Jeremy W. Gleaton, PhD, Dickson Kirui, PhD, Wen Chen, PhD, Nancy J. Millenbaugh, PhD
Naval Medical Research Unit San Antonio, JBSA-Fort Sam Houston, TX

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
Armand Balboni, PhD1, 2, Jetsuda Areephong, PhD3, Tarek Mohamed, PhD1, Ziaullah Ziaullah, PhD1, Scott Banfield, PhD1, Shelby L. Steele, PhD1, Albert Berghuis, PhD3, Martin Schmeing, PhD3, Juliana Munoz Escobar, PhD3, Kevin Sullivan, MBA1
1Appili Therapeutics Inc, Halifax, NS Canada; 2U.S. Military Academy, West Point, NY; 3McGill University, Montreal, PQ Canada

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
Hitesh Handa, PhD1, Marcus Goudie, PhD1, Teryn Roberts, PhD2,3, Andriy Batchinsky, MD2,3, Elizabeth Brisbois, PhD4
1The University of Georgia; 2The Geneva Foundation, Tacoma, WA; 3U.S. Army Institute of Surgical Research, JBSA Ft Sam Houston, TX; 4The University of Central Florida, Orlando, FL

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
Eugenio Abente1, Amy C. Morrison1,2, William Elson2, Ania Kaweiki2, Helvio Astete1, Isabel Bazan1, Crystyan Siles1, Robert Reiner3, Alex Perkins3, Thomas W. Scott3, Nicole L. Achee4
1U.S. Naval Medical Research Unit No. 6, Lima, Peru; 2Department of Entomology, University of California, Davis, CA; 3University of Washington, Seattle, WA; 4Notre Dame University, Notre Dame, IN

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
Elizabeth J. Brisbois, Corbin Feit, Manjyot K. Chug
University of Central Florida, Orlando, FL

MHSRS-19-01667 - Session 1 - #109
Alligators and the Discovery of Novel Peptides with Broad Antibacterial Efficacy
Presentation Author: Dr. Barney Bishop
Barney Bishop, PhD, Stephanie Barksdale, MS, Melanie Juba, PhD, Paul Russo, PhD, Shaylyn Scott, Evelyn Hrifko, Monique van Hoek, PhD
George Mason University, Manassas, VA
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
Shoaib Ashraf, PhD1, Akilan Palanisami, PhD1, Jerrin Kuriakose, PhD1, Yanfang Feng, PhD1, Tayyaba Hasan PhD1,2
1Massachusetts General Hospital and Harvard Medical School, Boston, MA; 2Harvard University and Massachusetts Institute of Technology, Cambridge, MA

MHSRS-19-01801 - Session 1 - #111
Burden of Diarrhoeal Disease on Overseas Exercises in the Post-Afghanistan Era
Presentation Author: MAJ Daniel Burns
Daniel Burns, BM, BCh1, Chad Porter, PhD, MPH2, Patrick Wilson, RN3, Siobhan Davis, RN3, Ramiro Gutierrez MD, MPH2, Patrick Connor MB, ChB1
1Royal Centre for Defence Medicine, Birmingham, UK; 2Naval Medical Research Centre, Silver Springs, MD; 322 Field Hospital, Surrey, UK

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
Julianne E. Mesa1,2, Katherine S. Whitelock1,2, Jomelynne Lim1,2, Melinda S.Balansay-Ames1,2, LCDR Paul C. F. Graf2, Christopher A. Myers, PhD2
1The Henry M. Jackson Foundation for the Advancement of Military Medicine, INC, Bethesda, MD; 2Naval Health Research Center, San Diego, CA

MHSRS-19-01827 - Session 1 - #113
Enhancing Resistance to Nosocomial Infections with Synthetic Toll-like Receptor Agonists
Presentation Author: Dr. Antonio Hernandez
Antonio Hernandez, MD, Liming Luan, PhD, Benjamin A. Fensterheim, PhD, Jessica B. Fults, BS, Naeem K. Patil, MD, PhD, Edward R. Sherwood, MD, PhD, Julia K. Bohannon, PhD
Vanderbilt University Medical Center, Nashville, TN

MHSRS-19-01831 - Session 1 - #114
Developing New Immunotherapeutic Strategies against Human Disseminated Candidiasis by Medically Important Candida Species
Presentation Author: Dr. Hong Xin
Abby Adams, Karen Eberle

MHSRS-19-01886 - Session 1 - #115
Point-of-use Generation of Nitric Oxide to Prevent and RemEDIATE Infected Wounds
Presentation Author: Dr. Jacob Adams
Jacob Adams, PhD, Alan Willey, PhD, Stevan Samuel, PhD
Noxsano, Inc, Columbus, OH

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
Mariusz Wojnarski1, Chanthap Lon1, Darapiseth Sea1, Somethy Sok2, Krisada Jongsakul1, Kimberly Edge1, Nillawan Buathong1, Panita Gosi1, Nonlawat Boonyalai1, Piyaporn Saingam1, Chaiyaporn Chaisatit1, Kirakarn
Kirativanich1, Pattaraporn Vanachayangkul1, Worachet Kuntawunginn1, Dennis Faix3, Nicholas Martin1, Prom Satharath2, John Brooks2, Huy Rekol4, Lek Dysoley4, David Saunders1, Mark Fukuda1, Philip Smith1, Michele Spring1, Norman Waters1
1U.S. Armed Forces Research Institute of Medical Sciences, Bangkok, Thailand; 2Ministry of National Defense, Department of Health, Phnom Penh, Cambodia; 3Naval Medical Research Unit 2, Phnom Penh, Cambodia; 4National Center for Parasitology, Entomology and Malaria Control, Phnom Penh, Cambodia; 5U.S. Army Medical Materiel Development Activity, Fort Detrick, MD

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
Elizabeth Bevels1, Ellen Lantz, PhD2, David Dednarski2, Nina Bionda, PhD1, Julien Fey, PhD2
1iFiber, Ithaca, NY; 2NovaSterilis, Lansing, NY

MHSRS-19-01996 - Session 1 - #118
In Vitro Eryptosis Assays: An Evaluation of Apoptotic Activities by Antimalarial Compounds
Presentation Author: Dr. Xiannu Jin
Xiannu Jin, Corttney Marquez, Cameron Blount, Visal Min, Justin Park, Shaylyn Scott, Alexandra Urman, William McCalmont, Jason Sousa, Gregory Reichard, Brandon S. Pybus
Walter Reed Army Institute of Research, Silver Spring, MD

MHSRS-19-02026 - Session 1 - #119
Pursuing a Cure: Monoclonal Antibodies for Treatment of HIV-1
Presentation Author: Dr. Trevor Crowell
Trevor A. Crowell1,2, Donn J. Colby3, Jintanat Ananworanich1,2,3, Merlin L. Robb1,2, LTC Julie A. Ake1
1Walter Reed Army Institute of Research, Silver Spring, MD; 2Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; 3The Thai Red Cross AIDS Research Center, Bangkok, Thailand

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
Susan Leed, MS1, Brandon Pybus, PhD1, Chad Black, PhD1, Barry O’Keefe, PhD2, Tanja Grkovic, PhD3; Diana Caridha, PhD1, Qigui Li, PhD1, Robert Campbell, PhD1, Jason Rohde, PhD1, Mozna Khraiwesh, PhD1, Erica Penn, MS1, Alison Roth, PhD1, Norma Roncal, MS1, John Goulart, BS1, Tesfaye Teshome, MA1, Gustave Bonkoungou, MS1, Lisa Xie, PhD1, Qiang Zeng, MS1, Hsiu-ling Lin, BS1, Jing Zhang, BS1, Ping Zhang, BS1, Malik Raynor, PhD1, Thomas Langowski, BS1, Benjamin Sullivan, AS1, Samantha Aaylor, MS1, Mara Kreishman-Deitrick, PhD1, William McCalmon, PhD1, Patricia Lee, MS1
1Walter Reed Army Institute of Research, Silver Spring, MD; 2National Institutes of Health, Frederick, MD; 3Leidos Biomedical Research, Inc, Frederick, MD

MHSRS-19-02062 - Session 1 - #121
Innovative Implant Nanocoatings with Controlled Dual Drug Release for Infection Prevention
Presentation Author: Dr. Bingyun Li
Bingyun Li, PhD, Shichao Zhang, PhD
West Virginia University, Morgantown, WV
Inertial-based Fluidic Platform for Rapid Capture of Blood-borne Pathogens
Presentation Author: Mr. Todd Giorgio
Todd Giorgio, PhD¹, Sinead Miller, PhD¹, Timothy Cover, MD², Mark McClain, PhD², Christina Marasco, PhD¹, Charleson Bell, PhD¹
¹Vanderbilt University, Nashville, TN; ²Vanderbilt University Medical Center, Nashville, TN

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
Joseph Hoffmann, BS, Jessica Friedman, MD, Mimi Sammarco, PhD, Lisa A. Morici, PhD, Chad J. Roy, PhD, MSPH Tulane University School of Medicine, New Orleans, LA

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
Judith Epstein
Naval Medical Research Center, Silver Spring, MD

INFLUENZA PREVENTION: OPTIMAL STRATEGIES TO ENHANCE READINESS

Shoulder Injury Related to Vaccine Administration: The DoD Experience
Presentation Author: Ms. Laurie Housel
Bruce McClennath, MD, FACP, FAAAAI
Defense Health Agency, Immunization Healthcare Branch, Fort Bragg, NC

Burden of Respiratory Infections in Trainees Higher than Healthcare Records Indicate: Results from an Anonymous Survey
Presentation Author: Dr. Stephanie Richard
Stephanie A Richard, PhD, MHS¹,², Patrick J Danaher, MD³, LTC Brian White, MD⁴, Katrin Mende, PhD¹,⁴, CAPT Timothy H. Burgess, MD, MPH¹, Christian L Coles, PhD¹,²
¹Uniformed Services University of the Health Sciences, Bethesda, MD; ²The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc., Bethesda, MD; ³South Texas Veterans Health Care System, San Antonio, TX; ⁴Brooke Army Medical Center, San Antonio, TX

Effect of Influenza a Viral Infection on Blood Coagulation Factor VIII Levels in the Lungs
Presentation Author: Mr. Teodor Brumeanu
Sofia Casares, PhD¹, Katherine Pratt, PhD², Teodor D Brumeanu, MD²
¹Naval Medical Research Center, Silver Spring, MD; ²Uniformed Services University of the Health Sciences, Bethesda, MD
MHSRS-19-01056 - Session 1 - #128
Active Surveillance for Respiratory Pathogens among DoD Beneficiaries
Presentation Author: Mr. Cyril England
Cyril J. England¹, Christopher A. Myers², Erin A. Hansen¹, Melinda S. Balansay¹, Christian J. Hansen¹, LCDR Paul C. Graf²
¹The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD; ²Naval Health Research Center, San Diego, CA

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
Christopher A. Myers, LCDR Paul C.F. Graf, Melinda S. Balansay-Ames, Christian J. Hansen, Erin A. Hansen, Michelle N. Ricketts
Henry M, Jackson Foundation, Bethesda, MD; Naval Health Research Center, San Diego, CA

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
Terry Newton, M.D., F.A.A.F.P.¹, Ron Yeaw, BS², CherylAnn Kraft, RN³, Mark Justus⁴, Tara Reavey, RN, BSN³
¹U.S. Army Medical Command Headquarters, Ft Benning, GA; ²Telemedicine and Advanced Technology Research Center, Fort Gordon, GA; ³Defense Health Agency, Falls Church, VA; ⁴Blanchfield Army Community Hospital, Fort Campbell, KY

MHSRS-19-01510 - Session 1 - #131
Cutaneous Mastocytosis Presenting as Anaphylaxis to Multiple Immunizations: A Case Report
Presentation Author: Capt Benjamin St. Clair
Benjamin St. Clair, DO¹, Karla Davis, MD¹, Bruce McClanathan, MD²
¹Tripler Army Medical Center, Honolulu, Hi; ²DHA Immunization Healthcare Branch, Fort Bragg, NC

MHSRS-19-02046 - Session 1 - #132
Pragmatic Assessment of Influenza Vaccine Effectiveness in the DoD: Immunogenicity Sub-Study
Presentation Author: Dr. Rhonda E Colombo
Rhonda E Colombo, MD, MHS¹², Stephanie A Richard, PhD, MHS²³, Christina Schofield, MD¹, Limone Collins, MD⁴, Anuradha Ganesan, MD⁵, COL Casey Geaney, MD⁵, Tahaniyat Lalani, MBBS, MHS²³⁶, LTC Ana E Markelz, MD⁶, CAPT Ryan Maves, MD³⁸, Katrin Mende, PhD³⁷, Srijadi Seshadri, MBBS, MPH⁴, Christina Spooner, MS², CAPT Gregory Utz, MD²⁸, CDR Tyler Warkentien, MD, MPH⁶, Christian Coles, PhD²³, CAPT Timothy Burgess, MD, MPH³
¹Madigan Army Medical Center, Tacoma, WA; ²The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD; ³Uniformed Services University of the Health Sciences, Bethesda, MD; ⁴DHA Immunization Health Branch, Bethesda, MD, Falls Church, VA and San Diego, CA; ⁵Walter Reed National Military Medical Center, Bethesda, MD; ⁶Naval Medical Center Portsmouth, Portsmouth, VA; ⁷Brooke Army Medical Center, San Antonio, TX; ⁸Naval Medical Center San Diego, San Diego, CA

MHSRS-19-02076 - Session 1 - #133
Pragmatic Assessment of Influenza Vaccine Effectiveness in the DoD: Influenza-like-illness Rates in Year
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
CAPT Ryan Maves, MD,1,2, CAPT Gregory Utz, MD,1,2,3, Stephanie A Richard, PhD, MHS2,3, Limone Collins, MD4, Rhonda E Colombo, MD, MHS2,4, Anuradha Ganesan, MD5, COL Casey Geaney, MD5, Tahaniyat Lalani, MBBS, MHS1,2,6, LTC Ana E Markelz, MD6, CAPT Ryan Maves, MD1,7, Katrin Mende, PhD1,8, Christina Schofield, MD4, Srihari Seshadri, MBBS, MPH3, Christina Spooner, MS3, CAPT Gregory Utz, MD2,7, CDR Tyler Warkentien, MD, MPH6, Christian L Coles, PhD1,2
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD; 3DHA Immunization Health Branch, Bethesda, MD, Falls Church, VA and San Diego, CA; 4Madigan Army Medical Center, Tacoma, WA; 5Walter Reed National Military Medical Center, Bethesda, MD; 6Naval Medical Center Portsmouth, Portsmouth VA; 7Naval Medical Center San Diego, San Diego, CA; 8Brooke Army Medical Center, San Antonio, TX

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
Christina Schofield, MD1, Stephanie A Richard, PhD, MHS2,3, Rhonda E Colombo, MD, MHS1,3, Limone Collins, MD4, Anuradha Ganesan, MD5, COL Casey Geaney, MD5, Tahaniyat Lalani, MBBS, MHS2,3,6, LTC Ana E Markelz, MD6, CAPT Ryan Maves, MD2,8, Katrin Mende, PhD2,3,7, Srihari Seshadri, MBBS, MPH4, Christina Spooner, MS4, CAPT Gregory Utz, MD2,3,8, CDR Tyler Warkentien, MD, MPH6, Christian L Coles, PhD2,3, CAPT Timothy H. Burgess, MD, MPH2
1Madigan Army Medical Center, Tacoma, WA; 2Uniformed Services University of the Health Sciences, Bethesda, MD; 3The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD; 4Immunization Health Branch, Defense Health Agency Bethesda, MD, Falls Church, VA, San Diego, CA; 5Walter Reed National Military Medical Center, Bethesda, MD; 6Naval Medical Center Portsmouth, Portsmouth VA; 7Brooke Army Medical Center, San Antonio, TX; 8Naval Medical Center San Diego, San Diego, CA

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
Tyler Warkentien, MD1, Rebecca Payne, MPH2, Steve Rossi, MPH3, Shamus Adams, DO1, Jessica Hammed, DO1, Desiree Sanders, RN1, Robert Comeau1
1Brooke Army Medical Center, San Antonio, TX; 2Naval Medical Center Portsmouth, Portsmouth VA; 3Naval Medical Center San Diego, San Diego, CA
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
Elena M. Crouch, BA1, Jonathan F. Gonzalez, BS1, Erin M. Jacobs, BS1, Margaret Kehl, BS1, Kurt E. Schaecher, PhD2, Martin G. Ottolini, MD1, Allison M.W. Malloy, MD1
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD

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
Rajeev Jaundoo, BSc, Travis J.A. Craddock, PhD
Nova Southeastern University, Fort Lauderdale, FL

MHSRS-19-00346 - Session 1 - #140
Expeditionary Field Decontamination of Military Working Dogs in a CBRN Environment
Presentation Author: Dr. Kristina McElroy
Emily Venn, DVM1, Jarod Hanson, DVM, PhD1, Cynthia Facciolla, DVM2
1Army Public Health Center, Aberdeen Proving Ground, MD; 21st Special Forces Command, Ft. Bragg, NC

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. Sanchita Ghosh
Sanchita P. Ghosh1, Gregory Holmes-Hampton1, Neel Kamal Sharma1, Sasha Stone1, Shukla Biswas1, Gary Eichenbaum2, Vidya P. Kumar1
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Johnson & Johnson, Office of the Chief Medical Officer, New Brunswick, NJ

MHSRS-19-00477 - Session 1 - #142
Protection from Targeted Radiation Injury to Lungs by Gamma Tocotrienol Treatment
Presentation Author: Dr. Vidya Kumar
Vidya Kumar, Sasha Stone, Shukla Biswas, Neel Sharma and Sanchita Ghosh
Armed Forces Radiobiology Research Institute, Bethesda, MD
**MHSRS-19-00516 - Session 1 - #143**

**Senolytic Drugs Can Mitigate Radiation Induced Astrocyte Senescence that Promotes Glioblastoma Growth**

Presentation Author: Capt Eliot Fletcher

Eliot Fletcher, MPH, PhD, Bipasha Mukherjee, PhD, Vinesh Thidil, PhD, Rahul Kolippara, Kimmo Hatanpaa, MD, PhD, Ralf Kittler, MS, PhD, Sandeep Burma, PhD
University of Texas Southwestern Medical Center, Dallas, TX

**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

E. Pitts¹, T.R. Covington², J.M. Gearhart³, C.M. Duran³, D.P. Yamamoto³, D.K. Ott³, Heather A. Pangburn³
¹UES, Dayton, OH; ²Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Wright-Patterson AFB, OH; ³U.S. Air Force School of Aerospace Medicine, Wright-Patterson AFB, OH

**MHSRS-19-00574 - Session 1 - #145**

**Improving Envenomation Outcomes with Spreading Factor Inhibitors**

Presentation Author: Dr. Angela Jockheck-Clark

Angela R. Jockheck-Clark, PhD, Thomas E. Bird, Luis A. Martinez, PhD
Naval Medical Research Unit San Antonio, Joint Base San Antonio, TX

**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

Chance Carbaugh¹, Mark Widder¹, Christopher Phillips², Jennifer Horsmon², Michael Feasel², Robert Kristovich², Kyle Glover², William H. van der Schalie¹, Valerie DiVito¹
¹U.S. Army Center for Environmental Health Research, Fort Detrick, Frederick, MD; ²U.S. Army Edgewood Chemical Biological Center, APG, MD

**MHSRS-19-00721 - Session 1 - #147**

**Pf-clean: Detection and Degradation of Perfluorinated Compounds in Water Supplies**

Presentation Author: Dr. J. Jordan Steel

Angela M. Buch, Jackson D. Harris, Ryan M. Lambert, Amanda N. Madrid, Michael D. Barnhart, MS, J. Jordan Steel, PhD
U.S. Air Force Academy, Colorado Springs, CO

**MHSRS-19-00811 - Session 1 - #148**

**Comparison of Operational Jet Fuel and Noise Exposures: Noise Dosimetry Results**

Presentation Author: SSgt Kerrine LeGuin

Asao Kobayashi², Daniel Williams¹, Elizabeth A. McKenna¹, David R. Mattie¹
¹711 Human Performance Wing, Wright-Patterson AFB, OH; ²Japanese Air Self Defense Force, Tachikawa, Japan

**MHSRS-19-00826 - Session 1 - #149**

**In Vitro Methods to Study Human Microbiome Systems**

Presentation Author: Dr. Andrea Timm

Andrea Timm, PhD¹, Kristin Loomis, PhD¹, Bryan Brensinger¹, Susan Wu¹, Brooke Luisi, MS¹, Collin Timm, PhD¹, Meaghan Hart¹, David Karig, PhD¹²
MHSRS-19-00861 - Session 1 - #150
Insuine-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
Nabarun Chakraborty, Raina Kumar, Saeed Aghdam, Allison Hoke, Dana Hamad, Bintu Sowe, Aarti Gautam, Rasha Hammamieh, Maria Moroni
1U.S. Army Center for Environmental Health Research, Fort Detrick, MD; 2Leidos Biomed Inc, Fort Detrick, MD; 3Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-19-00974 - Session 1 - #151
Competency-based Simulator Training in TRUS Side-fire Templated Prostate Biopsy
Presentation Author: Dr. Samsun Lampotang
Samsun Lampotang, PhD, Jonathan Wakim, Zhou Zhang, MD, William Travis Johnson, BS, David E. Lizdas, BS, Amy Gunnett, RN, CCRC, Louis Moy, MD, Thomas Stringer, MD, Patrick Shenot, MD, FACS
1University of Florida, Department of Urology, Gainesville, FL; 2Thomas Jefferson University, Department of Urology, Philadelphia, PA

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
Nicholas O. Fischer, Heather A. Enright, Doris Lam, David A. Soscia, Sandra K. G. Peters, Jose Cadena, Ana Paula Sales, Anna M. Belle, Angela Tooker, Joanne J. Osburn, Kristen S. Kulp, Elizabeth K. Wheeler
Lawrence Livermore National Laboratory, Livermore, CA

MHSRS-19-01042 - Session 1 - #153
Recapitulating Complex Neuronal-Glia Networks in an in Vitro System for Toxicant Characterization
Presentation Author: Dr. Heather Enright
Heather A. Enright, Doris Lam, Sandra K. G. Peters, Jose Cadena, Ana Paula Sales, David A. Soscia, Joanne J. Osburn, Kristen S. Kulp, Elizabeth K. Wheeler, Nicholas O. Fischer
Lawrence Livermore National Laboratory, Livermore, CA

MHSRS-19-01101 - Session 1 - #154
Neurobehavioral and Respiratory Effects of Acute Trimethylsilanol Inhalation in Rats
Presentation Author: Dr. Frank Golich
Frank C. Golich, PhD, Andrew J. Keebaugh, PhD, Shawn M. McInturf, David M. Holtzapple, Michelle R. Goodwin, R. Arden James, Karen L. Mummy, PhD
1Naval Medical Research Unit - Dayton, Dayton, OH; 2Oak Ridge Institute for Science and Education, Oak Ridge, TN; 3Henry Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD

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
Clinton Hall, PhD, Lisa M. Abramovitz, MPH, Anna T. Bukowinski, MPH, Zeina G. Khodr, PhD, Gia R. Gumbs, MPH, Natalie Y. Wells, MD, MPH, Ava Marie S. Conlin, DO, MPH
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
Jacob Dohl¹,², Yifan Chen¹, Patricia Deuster¹, Tianzheng Yu¹,²
¹Uniformed Services University of the Health Sciences, Bethesda, MD; ²Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD

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
Dao H. Ho, PhD¹, Warren W. Burggren, PhD², Jeffrey T. Krook³, Trevor Hamilton, PhD³
¹Tripler Army Medical Center, Tripler AMC, HI; ²University of North Texas, Denton, TX; ³MacEwan University, Edmonton, Alberta, Canada

MHSRS-19-01241 - Session 1 - #158
Developing IL-18 Binding Protein as a Novel Radiation Countermeasure after Radiation Exposure
Presentation Author: Dr. Mang Xiao
Mang Xiao, MD, Xianghong Li, MS, Lisa Hull, BS, Wanchang Cui, PhD
Uniformed Services University of the Health Sciences, Bethesda, MD

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
LT Andrew McGowan, MD¹, LT Grady Fortner, MD², CAPT John Devlin, MD³, Mr. Michael Boboc¹, Ramesh Natarajan, PhD¹, Gregory J. Zarow, PhD¹
¹Naval Medical Center Portsmouth, Portsmouth, VA; ²U.S. Naval Hospital Guam, Tutuhan, Guam

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
Kirk Jensen, MD¹, Aneeta Patel, MS¹, John Costello, MS¹, Cecilia Mendonca-Torres, MD¹, Victoria Hoperia, MD², Vasyl Vasko, MD/PhD¹
¹Uniformed Services University of the Health Sciences, Bethesda, MD; ²National University of Kyiv, Kyiv, Ukraine

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
Ognoon Mungunsukh¹,², Nyamkhishig Sambuughin¹,², Maria Voelkel², Luke P. Mickelson¹, Sheila M. Muldoon¹, Patricia A. Deuster², Francis G. O’Connor²
¹Uniformed Services University of the Health Sciences, Bethesda, MD; ²Henry M Jackson Foundation for Advancement of Military Medicine, Bethesda, MD
MHSRS-19-01335 - Session 1 - #162
Development of New Nerve Agent Antidotes by Rational Drug Design
Presentation Author: MAJ Sebastian Rappenglueck
Sebastian Rappenglück1, Sonja Sichler1, Thomas Wein2, Georg Höfner3, Thomas Seeger1, Franz. F. Paintner2, Klaus T. Wanner2, Franz Worek1, Horst Thiermann1, Karin V. Niessen1
1Bundeswehr Institute of Pharmacology and Toxicology, Munich, Germany; 2Ludwig-Maximilians-Universität, Munich, Germany

MHSRS-19-01398 - Session 1 - #163
Inflammatory Consequences during the Post-lethal Radiation Linked to Circulatory miRNAs and Metabolites
Presentation Author: Mrs. Raina Kum
Raina Kumar1,2, Nabarun Chakraboraty2, Dana Hamad2, George Dimitrov1,2, Aarti Gautam2, Rasha Hammamieh2, Vidya P. Kumar3, Ayodele O. Olabisi3, Sanchita P. Ghosh3
1Leidos Biomed Inc, Fort Detrick, MD; 2U.S. Army Center for Environmental Health Research, Fort Detrick, MD; 3Uniformed Services University of the Health Sciences, Bethesda, MD

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. Nyamkhishig Sambuughin
Nyamkhishig Sambuughin, PhD1; Michael Klein, PhD2; Mungunsukh Ognoon, PhD2; Ming Qiang Ren, PhD1; Sheila Muldoon, MD2; Mark Haigney, MD, FAHA2; Francis O’Connor MD, MPH2; Marzena Pazgier2; Patricia Deuster, PhD, MPH, FACSM2
1Henry M Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; 2Uniformed Services University, Bethesda, MD

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
Hanns Leonhard Kaatsch, MD1, Benjamin V. Becker, MD2, Richard Obermair1, Gerrit Schrock1, Matthias Port, MD1, Reinhard Ullmann, PhD1
1Bundeswehr Institute for Radiobiology, Munich, Germany; 2German Armed Forces Central Hospital, Koblenz, Germany

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
Craig McPherson1,2, Suraj Sakaram1,2, Heather A. Pangburn2, Roland Saldanha2,3
1UES Inc., Dayton, OH; 2711th Human Performance Wing, Wright-Patterson AFB, OH; 3SSI Inc, San Antonio, TX

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
Theodore J Picou, PhD1,2, Joel Gaston, PhD1,2, Vincent Ho, MD, MBA1, Angela Melton-Celsa, PhD1
MHSRS-19-01554 - Session 1 - #168
Refractive Surgery: A Review of Enhancing the Warfighter and Optimizing Performance
Presentation Author: COL Bruce Rivers
Denise S. Ryan, MS, Rose K. Sia, MD, Lorie A. Logan, OD, Jennifer B. Eaddy, OD, Samantha B. Rodgers, MD
Fort Belvoir Community Hospital, Fort Belvoir, VA

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
Vaughn Litteral\(^1,2\), Heather A. Pangburn\(^2\), Roland Saldanha\(^2,3\)
\(^1\)UES Inc, Dayton, OH; \(^2\)711th Human Performance Wing, Wright-Patterson AFB, OH; \(^3\)SSI Inc, San Antonio, TX

MHSRS-19-01642 - Session 1 - #170
Extrusion Bioprinting and 3D Printing of Collagen-based Skin Barrier Tissue Models
Presentation Author: Dr. Jordan Betz
Jordan Betz\(^1,2\), Shaowei Li\(^1,3\), Thomas Darling\(^1\), Joel Gaston\(^1,2\), Vincent Ho\(^1\)
\(^1\)Uniformed Services University, Bethesda, MD; \(^2\)The Geneva Foundation, Tacoma, WA; \(^3\)Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD

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
Ryan Renslow\(^1,2\), Sean Colby\(^1\), Jamie Nuñez\(^1\), Yasemin Yesiltepe\(^2\), Niranjan Govind\(^1\), Dennis Thomas\(^1\), John Cort\(^1\), Justin Teeguarden\(^1\), Karen Wahl\(^1\), David Wunschel\(^1\), Thomas O. Metz\(^1\)
\(^1\)Pacific Northwest National Laboratory, Richland, WA; \(^2\)Washington State University, Pullman, WA

MHSRS-19-02082 - Session 1 - #172
Signatures of Chemical and Radiation Exposures in the Skin Microbiome
Presentation Author: Dr. Kristin Loomis
Kristin Loomis, PhD\(^1\), Bryan Brensinger\(^1\), Craig Howser\(^1\), David Karig, PhD\(^1,2\)
\(^1\)Johns Hopkins University Applied Physics Lab, Laurel, MD; \(^2\)Clemson University, Clemson, SC

MHSRS-19-02098 - Session 1 - #173
Reverse Docking to Identify Toxin Targets
Presentation Author: Dr. Michael McCarthy
Michael J. McCarthy, Yaroslav. Chushak, Jeffery M. Gearhart
Henry Jackson Foundation, Bethesda MD, U.S. Air Force School of Aerospace Medicine, Wright-Patterson Air Force Base, OH

MHSRS-19-02108 - Session 1 - #174
Point of Care Diagnostic Device for Toxic Organ Injury from Saliva Samples
Presentation Author: Dr. Richard Baldwin
Richard Baldwin, Madison Lear, Andre Alfaro, Derek Wessar
nanoComposix, San Diego, CA
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
Jamie L. Everman, PhD, Benjamin Saef, MS, Katie Li, Cydney Rios, Nathan D. Jackson, PhD, Michael T. Montgomery, Cecile S. Rose, MD, Brian Day, PhD, Hong Wei Chu, MD, Gregory P. Downey, MD, Max A. Seibold, PhD
1National Jewish Health, Denver, CO; 2University of Colorado School of Medicine, Aurora, CO

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
Phillip Beske, PhD, DABT, Jill Harvilchuck, PhD, DABT, Gennady Platoff Jr, PhD, David Yeung, PhD
1Battelle Biomedical Research Center, West Jefferson, OH; 2National Institute of Health, Bethesda, MD

MHSRS-19-02300 - Session 1 - #177
Sampling and Toxicological Assessment of Chemical Contaminants in Aircraft Pilot Breathing Air
Presentation Author: Dr. Jeffery Gearhart
Jeffery M. Gearhart PhD, Christina Davidson MS, Yaroslov Chushak PhD, Michael McCarthy PhD, Jennifer Martin PhD, Rhonda Pitsch MS, Laura Flory MS, Dirk Yamamoto PhD
1HJF, Wright-Patterson Air Force Base, OH; 2UES, Wright-Patterson Air Force Base, OH; 3711th Human Performance Wing, Wright-Patterson Air Force Base, OH; 4U.S. Air Force School of Aerospace Medicine, Wright-Patterson Air Force Base, OH

MHSRS-19-02321 - Session 1 - #178
Mitochondrial Targeted Biofuels as Countermeasures against Chemical Threats
Presentation Author: Dr. Sarah Piel
Sarah Piel, PhD, Joanna Janowska, MD, Johannes Ehinger, MD, PhD, Michael Karlsson, MD, PhD, Todd Kilbaugh, MD
1The Children’s Hospital of Philadelphia, PA; 2Mitochondrial Medicine, Lund University, Lund, Sweden

MHSRS-19-02376 - Session 1 - #179
The Avian Growing Feather as an in Vivo Test Tube to Profile Tissue and Cellular Immunological Responses to Test Materials
Presentation Author: Ms. Angeline Rodriguez
Angeline Rodriguez, Gage Greening, Parker Cole, Haley James, Matthew Leftwich, Gisela Erf
1University of Arkansas, Fayetteville, AR; 2Nanomatronix, LLC, Fayetteville, AR

MHSRS-19-02406 - Session 1 - #180
Afghanistan Particulate Matter Increases Mouse Airway Hyperresponsiveness, Partially through IL-33 Signaling
Presentation Author: Ms. Reena Berman
Reena Berman; Katie Kopf, DVM, MS; Rafeul Alam, MD, PhD; Gregory P. Downey, MD; Brian J. Day, PhD; Hong Wei Chu, MD
National Jewish Health, Denver, CO
MHSRS-19-02457 - Session 1 - #181
Noise-induced Otolith Organ Injury and Altered Motor Performance in Rats
Presentation Author: Dr. Courtney Stewart
David Bauer, BA, Ariane Kanicki, MS, Richard Altschuler, PhD, W. Michael King, PhD
University of Michigan, Ann Arbor, MI

MHSRS-19-02466 - Session 1 - #182
Neuroimmunological Responses to Environmental Exposures: Lessons Learned from Gulf War Illness
Presentation Author: Dr. Mulugu Brahmajothi
Mulugu V. Brahmajothi MS, MHS, PhD
Duke University Medical Center, Durham, NC

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
Jaqueline Hamrick¹, James Albright¹, Suzanna Del Rio¹, Jason, LTC Barnhill, PhD¹, Catherine Uyehara²
¹U.S. Military Academy, West Point, NY; ²Tripler Army Medical Center, HI

MHSRS-19-02585 - Session 1 - #184
Microdermal Implants Show No Effect on Surrounding Tissue during Surgery with Electrocautery
Presentation Author: CPT Rowan Sheldon
Rowan Sheldon, MD¹; Michael Loughren, CRNA, PhD¹; Christopher Marenco, MD¹; Woo Do, MD¹; Kaitlin Morte, MD¹; Daniel Lammers, MD¹; Jason Bingham, MD¹; Jessica Weiss, MD¹; Dominic Forte, MD¹; Vance Sohn, MD¹; Matthew Martin, MD¹; Matthew Eckert, MD¹; Richard Burney, MD¹
¹Madigan Army Medical Center, Tacoma, WA; ²Scripps Mercy Memorial Hospital, San Diego, CA

MHSRS-19-02598 - Session 1 - #185
Intranasal Insulin: A Novel Treatment of Gulf War Multisymptom Illness
Presentation Author: Ms. Ivonne Cruz
Ivonne Cruz, MS¹, Julia Golier, MD¹, Kim Sullivan, PhD², Maxine Krengel, PhD³
¹James J. Peters VA Medical Center, Bronx, NY; ² Boston University School of Public Health, Boston, MA; ³VA Boston Healthcare System, Boston, MA

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
Aaron T. Wright, PhD¹,²; Jordan N. Smith, PhD¹,²; Vivian Lin, PhD¹
¹Pacific Northwest National Laboratory, Richland, WA; ²Washington State University, Pullman, WA; ³Oregon State University, Corvallis, OR

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
Megan. Blackwell, PhD¹, Robert Berger, PhD¹, George Jordy, MS¹, Jonathan Frechette, MS¹, Brian Aull PhD¹, Erik Duerr, PhD¹, Niyom Lue, PhD¹, Casey Evans, 2Lt¹, Lorenzo Vigano¹, Davide Tamborini, PhD², Stefan Carp, PhD², Maria Angela Franceschini, PhD²
MIT Lincoln Laboratory, Lexington, MA; Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA

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
Jennifer Melendez, MS, PE, Daniel Reilly, MS, Christin Duran, PhD
1UES, Inc, Dayton, OH; 2711th Human Performance Wing, WPAFB, OH

MHSRS-19-02669 - Session 1 - #189
Assessments of Gulf War Chemical Toxicity in Rats
Presentation Author: Dr. Joyce Rohan
Joyce G. Rohan, Nathan M. Gargas, Molly K. Miklasevich, Shawn M. McInturf, Tori Ethridge
1Naval Medical Research Unit Dayton, Wright-Patterson Air Force Base, OH; 2Henry Jackson Foundation for Military Research, Bethesda, MD; 3Oak Ridge Institute for Science and Education, Oak Ridge, TN

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
Scott Gross, MS, Robert Hooper, PhD, Yuanyuan Tien, BS, Bo Zhou, MD, PhD, Shweta Aras, PhD, Pranava Mallu, Hinal Joshi, Igor Astsaturov, MD, PhD, Jeffrey Farma, MD, M. Raza Zaidi, PhD, Jonathan Soboloff, PhD
1Lewis Katz School of Medicine at Temple Univ, Philadelphia PA; 2Fox Chase Cancer Center, Philadelphia, PA

MHSRS-19-00787 - Session 1 - #191
Intelligent Textile Systems for Monitoring Individual Exposure Health
Presentation Author: Dr. Gloria See
See, Cushman, Plett, Tompkins
Mantel Technologies, Fort Collins, CO

MHSRS-19-01539 - Session 1 - #192
Blood mRNA Integrity is a Direct and Simple Reporter of Radiation Exposure
Presentation Author: Dr. Abdulnaser Alkhalil
1MedStar Health Research Institute, Washington, DC; 2U.S. Army Center for Environmental Health Research, Fort Detrick, MD; 3The Oak Ridge Institute for Science and Education, Fort Detrick, MD; 4Frederick National Lab for Cancer Research/Advanced Biomedical Computational, Frederick, MD; 5U.S. Army Center for Environmental Health Research, Fort Detrick, MD; 6Georgetown University School of Medicine, Washington, DC

MHSRS-19-01541 - Session 1 - #193
A Translational Medicine Approach to Gulf War Illness: From Cells to Therapy
Presentation Author: Dr. Kristina Aenlle
Kristina Aenlle, PhD, Maria Abreu, PhD, Michelot Michel, BS, Fanny Collado, RN, Mary Ann Fletcher, PhD, Nancy Klimas, PhD
MHSRS-19-01753 - Session 1 - #194
BMI and Diagnosis of Obesity in the Military and Civilian Population
Presentation Author: CPT Jason Estes
Jason Estes, DO¹, Daren Yang, DO¹, Alexis Beauvais, MD¹, Whitney Forbes, PhD²,³ Jana Wardian, PhD³
¹Brooke Army Medical Center, San Antonio, TX; ²Enterprise Intelligence and Data Solutions PMO, San Antonio, TX; ³Diabetes Center of Excellence, San Antonio, TX

MHSRS-19-01973 - Session 1 - #195
Circulating Biomarkers of Acute Nerve Agent Exposure
Presentation Author: Mr. Kevin McGarry Jr
Kevin McGarry, Jr, MS¹, Phillip Beske, PhD¹, Michael Babin, PhD¹, Allyssia Boelk, MS¹, Robert Moyer, PhD¹, Jill Harvilchuck, PhD¹, Gennady Platoff, PhD², David Jett, PhD², David Yeung, PhD²
¹Battelle Memorial Institute, Columbus, OH; ²National Institutes of Health, Rockville, MD

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
Kevin McGarry, Jr, MS, Kevin Schill, MS, Tyson Winters, Erin Lemmon, Carol Sabourin, PhD, Jill Harvilchuck, PhD, Robert Moyer, PhD
Battelle Memorial Institute, Columbus, OH

MHSRS-19-01975 - Session 1 - #197
Detection and Quantification of Immunomodulatory Bacterial Species Important To Health and Performance
Presentation Author: Capt David Leonard
David G. Leonard³, Andrew J. Hoisington, PhD¹,²
¹Air Force Institute of Technology, Wright-Patterson AFB, OH; ²Military and Veteran Microbiome: Consortium for Research and Education, Denver, CO; ³Denver Veterans Affairs Medical Center, Denver, CO 80220

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
Oksana M. Pavlyuk¹,², Patrick M. McLendon¹,², Andrea Hoffmann¹,², Jeffery M. Gearhart¹,³, Darrin K. Ott¹, Dirk P. Yamamoto¹, Heather A. Pangburn⁴
¹U.S. Air Force School of Aerospace Medicine, Aeromedical Research Department, Wright-Patterson AFB, Dayton, OH; ²UES Inc, Dayton, OH; ³Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; ⁴Airman Systems Directorate, Wright-Patterson AFB, OH

MHSRS-19-02389 - Session 1 - #199
Identifying Epigenetic Signatures of Organophosphate Exposure
Presentation Author: Dr. Julie Gleason
Julie Gleason, PhD, Brianna Vecchio-Pagan, PhD, Peter Thielen, MS, Ken Bowden, Susan Wu, Joshua Wolfe, PhD
Johns Hopkins University Applied Physics Laboratory, Laurel, MD
**Epigenetic Regulation in Response to Exposure: Epigenetic Regulator Targetid**
Presentation Author: Dr. Rachel Spurbeck
Rachel R. Spurbeck, PhD, Danielle Huk, PhD, Robert Moyer, PhD
Battelle Memorial Institute, Columbus, OH

**IMPROVED OCCUPATIONAL AND ENVIRONMENTAL EXPOSURE MONITORING**

**Blood Proteomic Biomarker Discovery using an in vivo Inhalation Model**
Presentation Author: Dr. Camilla Mauzy
Camilla Mauzy PhD¹, Lt. Corry Vigil¹, April Daubenspeck PhD¹, Lining Qi PhD¹, Jeanette Frey MS¹, Brian Wong, PhD²
¹711 Human Performance Wing, Wright-Patterson AFB OH; ²Henry M. Jackson Foundation for the Advancement of Military Medicine, WPAFB, OH; ³Naval Medical Research Unit Dayton, WPAFB, OH

**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
Stacy Strausborger, MFS, H. Marie Jenkins, Teri Franks, MD, Michael Lewin-Smith, MB BS
The Joint Pathology Center, Silver Spring, MD

**A Point-of-care Salivary Diagnostic Tool for Detection of Multi Organ Injury in the Battlefield**
Presentation Author: Dr. Anamika Ray
Anamika Ray, PhD¹, Poulomi Roy¹, Yifan Tang, PhD¹, Mohammad Mushfiq¹, Aynun Begum, PhD¹, Maksudul Alam, PhD¹, Paul Slowey, PhD², Jason Koontz PhD³, Uma Sampathkumaran, PhD¹
¹InnoSense LLC, Torrance, CA; ²Oasis Diagnostics, Vancouver, WA; ³U.S. Army Center for Environmental Health Research, Frederick, MD

**A Mouse Model of Gulf War Illness Allows for Mechanistic Studies and the Search for Antidotes**
Presentation Author: Mrs. Nadezhda Sabeva
Reyes-Gonzalez J, Perez D, Ferchmin PA, Sabeva NS
Universidad Central del Caribe, Bayamon, PR

**Simulating Field Storage Conditions for Evaluating Medical and Dental Materials**
Presentation Author: Dr. David Lemon
David Lemon, PhD, Wen Chen, PhD, Frank Horvath, BS, Jeffrey T. Hoyle, DDS, LCDR, DC, USN, Nicholas Hamlin, PhD, DDS, MS, LCDR, DC, USN, Thuyvi Truong, DMD, LT, DC, USN, Dorian Olivera, PhD, Yoon Y. Hwang, PhD
Naval Medical Research Unit, San Antonio, TX

**Development of a Versatile, Translational, Porcine (Sus Domesticus) Model for Lethal Snake**
Envenomation and Rescue: Experience with 70 Animals
Presentation Author: Dr. Lyndi Gilliam
Lyndi L. Gilliam, DVM, DACVIM, PhD1, John N. Gilliam, DVM, DACVIM, DABVP, MS1, Jerry Ritchey, DVM, PhD, DACVP1, Matthew R. Lewin, MD, PhD2
1Oklahoma State Univ Center for Veterinary Health Sciences, Stillwater, OK; 2Ophirex, Inc, Corte Madera, CA

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
Austin J. LaBanc, DO, Mikal J. Nelson, MD, Philip A. Gaudreau, MD, Sean R. Wise, MD
Naval Medical Center San Diego, San Diego, CA

MHSRS-19-00117 - Session 1 - #208
The Trifecta of Tele-Critical Care: Intra-hospital, Operational and Mass Casualty Applications
Presentation Author: Mrs. Kristina Ieronimakis
Kristina M. Ieronimakis, RN, BSN, CCRN, TNCC1, Mark Griffith RN, BSN, CCRN, MCPO, USN, Ret2, Christopher J. Colombo MD, MA, FACP, FCCM1,3, Konrad L. Davis, MD FCCP FCCM2, Jeremy C. Pamplin, MD FCCM, FACP3,4
1Madigan Army Medical Center, Tacoma, WA; 2Naval Medical Center San Diego, San Diego, CA; 3Uniformed Services University, Bethesda, MD; 4Telemedicine and Advanced Technology Research Center, Ft. Detrick, MD

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
Lt Col Irene Folaron1, Col Mark W. True1, Mr. William H. Kazanis2, Dr. Jana L. Wardian3, Capt Joshua M. Tate1, LTC Sky D. Graybill1, Capt Phillip G. Clerc1, Capt Craig R. Jenkins1
1Brooke Army Medical Center, San Antonio, TX; 2Defense Health Agency, San Antonio, TX; 3Diabetes Center of Excellence, Lackland AFB, TX

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
Ericka V. Crosley, MS1, Dirk P. Yamamoto, PhD, CIH2
1Visual Awareness Technology and Consulting Inc, Wright-Patterson Air Force Base, OH; 2US Air Force School of Aerospace Medicine, Wright-Patterson Air Force Base, OH

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
Douglas Jones, MS1,2, Andrew Ordille, MS1,2, Katherine Wilson, MA1,2, Jay Heaney, MA2
1Leidos, San Diego, CA; 2Naval Health Research Center, San Diego, CA

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
Craig G. Crandall PhD, Matthew N. Cramer PhD, Gilbert Moralez PhD, Mu Huang DPT, PhD,
University of Texas Southwestern Medical Center and Texas Health Presbyterian Hospital Dallas, TX

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
Nyamkhishig Sambuughin, PhD; Ming Qiang Ren, PhD; Kevin Chuang, BS; Jacob Harp, MS, ACSM EP-C;
Preetha Abraham, MA; Mark Haigney, MD, FAHA; Francis O’Connor MD, MPH; Patricia Deuster, PhD, MPH, FACSM
¹Henry M Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; ²Uniformed Services University, Bethesda, MD

MHSRS-19-01187 - Session 1 - #214
Palatability of Commercially Available Rehydration Solutions: Preferences of Active Duty Service Members
Presentation Author: SPC Joshua Little
Joshua Little, Belinda Gómez, PhD, Jennifer Gurney, MD, Leopoldo Cancio, MD, Michael Dubick, PhD,
U.S. Army Institute of Surgical Research, JBSA, TX

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
Jay H. Heaney, MA; Andrew J. Ordille, MS; Katherine M. Wilson, MA; Douglas M. Jones, MS
¹Naval Health Research Center, San Diego, CA; ²Leidos Inc, San Diego, CA

MHSRS-19-01420 - Session 1 - #216
Magnitude and Persistence of Clinical Laboratory Markers Following Exertional Heat Stroke
Presentation Author: CPT Matthew Ward
Matthew D. Ward, Michelle A. King, Charles Gabrial, Lisa R. Leon
¹U.S. Army Research Institute of Environmental Medicine; ²Clinical Analytics Branch, Defense Health Agency

MHSRS-19-01433 - Session 1 - #217
Spatial Audio Cues Help Helicopter Pilots Fly When They Can’t See
Presentation Author: Ms. Lana Milam
Lana Milam, BSN; Ellis Akins, BS; Henry William, PhD; Brian Simpson, PhD; Heath G. Jones, PhD
¹U.S. Army Aeromedical Research Laboratory, Fort Rucker, AL; ²Goldbelt Frontiers, LLC, Alexandria, VA; ³Naval Medical Research Unit-Dayton, Dayton, OH; ⁴Battlespace Acoustics Air Force Research Laboratory, Dayton, OH

MHSRS-19-01768 - Session 1 - #218
Realtime Monitoring of Physiological Parameters in Training Operations
Presentation Author: Dr. Alessio Medda
Alessio Medda, PhD; Brian King, Matthew Swarts, Justin Deaver, Kevin Berman, Trey Schneider, Maxwell Blanchard, Victoria Razin, Alan Harner
¹Georgia Tech Research Institute, Atlanta, GA; ²U.S. Army Medical Material Development Activity, Ft Detrick, MD
MHSRS-19-01949 - Session 1 - #219
Performance and Safety Monitoring in Aquatic Environments
Presentation Author: Dr. Regina Shia
Regina Shia, PhD, David Feibus, Lt, Dalton Miller, Capt, Gregory Burnett, PhD
Air Force Research Laboratory, Wright Patterson AFB, OH

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
LT Geoffrey E. Ciarlone1,2, Brian T. Williams1,3, LT Nicholas G. Roney1, Richard T. Mahon1,3, Yasmin Mejia-Guevera2,3, Jacob Dohl2,3, Tianzheng Yu2,3, LCDR Joshua M. Swift1,2, LCDR Heath G. Gasier2
1Naval Medical Research Center, Silver Spring, MD; 2Uniformed Services Univ of the Health Sciences, Bethesda, MD; 3The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD

MHSRS-19-02037 - Session 1 - #221
Real-time Hydration Monitoring
Presentation Author: Ms. Victoria Razin
Victoria Razin, MS, Brian King, BS
Georgia Tech Research Institute, Atlanta, GA

MHSRS-19-02081 - Session 1 - #222
Development of a Rodent Model for High Altitude Induced Working Memory Impairment
Presentation Author: Dr. Brian Williams
Brian T Williams, PhD1,2, LT W Rainey Johnson, MD1, Richard T Mahon MD1,2
1Naval Medical Research Center; 2The Henry M. Jackson Foundation for the Adv of Military Medicine, Inc

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
Hanbing Zhou, MS1,2, Aaron A. Hall, PhD2, LT W. Rainey Johnson, MD2
1The Henry M. Jackson Foundation for the Adv of Military Medicine, Inc; 2Naval Medical Research Center

MHSRS-19-02343 - Session 1 - #224
Ehealth Garment for Physiological Monitoring
Presentation Author: Ms. Trang Young
Kristin Cable
Cornerstone Research Group, Miamisburg, OH

MHSRS-19-02666 - Session 1 - #225
Impact of MOPP-4 on Emergency Response Equipment Usage in Operational Environmental Conditions
Presentation Author: Mr. Ryan McNeilly
Ryan McNeilly, MS, Jacob Kirsh, MS, John Hatch, James Kurzdorfer, Maj
711th Human Performance Wing, Wright-Patterson Air Force Base, OH
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
Paul Sherman, MD1,2, Bianca Cerqueira, PhD2,3, John Sladky, MD1,2, Noel Montgomery4
1USAF School of Aerospace Medicine, Wright-Patterson AFB, OH; 259th MDW, JBSA-Lackland, TX; 3KBRwyle, Houston, TX; 4U.S. Air Force 711th Human Performance Wing/Human Effectiveness Directorate, Fort Sam Houston, TX

MHSRS-19-00314 - Session 1 - #228
Neural Cellular Response to Cavitation-inducing Directed Energy Hazards
Presentation Author: Dr. Christian Franck
Christian Franck, PhD1, Jonathan Estrada, PhD2, Harry C. Cramer III3
1University of Wisconsin-Madison, Madison, WI; 2University of Michigan, Ann Arbor, MI; 3Brown University, Providence, RI

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
Joshua I. Cohen, PhD1,2, Craig McPherson1,2, Vaughn Litteral1,3, Jonathan Slagle2,3
1711th Human Performance Wing, Wright-Patterson Air Force Base, OH; 2Air Force Research Lab, Wright-Patterson Air Force Base, OH; 3UES, Inc, Dayton, OH

MHSRS-19-01057 - Session 1 - #230
Comparing Skin Damage from Directed Energy to Thermal Contact Burns in Swine
Presentation Author: Dr. Christine Kowalczewski
Christine J. Kowalczewski, PhD1, William Voorhees, MS2, James Parker, PhD2, Andrew C. Kowalczewski, BS1, Jeffrey Whitmore, PhD2, Robert J. Christy, PhD1
1U.S. Army Institute of Surgical Research, JBSA Ft Sam Houston, San Antonio, TX; 2711th Human Performance Wing, JBSA Ft Sam Houston, San Antonio, TX

MHSRS-19-01368 - Session 1 - #231
Neural Networks Models for Retinal Laser Lesion Detection and Classification
Presentation Author: Mr. Eddie Gil
Mark A. Keppler1,2, Adam Boretsky2, Joel N. Bixler3
1Texas A&M University, College Station, TX; 2Engility Corporation, Chantilly, VA; 3711th Human Performance Wing, JBSA Fort Sam Houston, TX

MHSRS-19-01441 - Session 1 - #232
Distinctive Convergence Eye Movements in an Acquired Neurosensory Dysfunction from Havana
Presentation Author: Dr. Carey Balaban
Carey D. Balaban, PhD1, Mikhaylo Szczupak, MD2, Alexander Kiderman, PhD2, Bonnie E. Levin, PhD2, Michael E. Hoffer, MD2
**MHSRS-19-02183 - Session 1 - #233**  
**Model to Predict Probability of Significant Skin Burn Injury from Radiant Heat Source**  
Presentation Author: Dr. Anthony Iyoho  
Laurel Ng, PhD, Philemon Chan, PhD  
3 Applied Technologies, San Diego, CA

**MHSRS-19-02306 - Session 1 - #234**  
**Using Human Performance Metrics to Support Lep Acquisition Decisions**  
Presentation Author: LCDR Micah Kinney  
Michael Reddix, PhD  
Naval Medical Research Unit Dayton, Wright-Patterson Air Force Base, OH

**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  
Charles Baschnagel, PhD¹, Ketan Mane, PhD², Min Yi, MS³, David Robison, MS³, Sarah Salter, MSc⁴, Thomas Dufour, MA⁴, CAPT Kimberly Elenberg, RN, DNP²  
¹Booz Allen Hamilton, McLean, VA; ²Office of Under Secretary of Defense, Arlington, VA

**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  
Kathy Puskar, PhD¹, Ran Sun, PhD¹, Ann Gleeson, MS², Debbie Nichols³, Naveen Khan, MS⁴  
¹University of Pittsburgh Schools of Nursing; ²Center for Military Medicine Research; ³Military Children's Collaborative Group; ⁴PT PAL, Surabaya, Indonesia

**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  
Dr. J. Kim Penberthy

**MHSRS-19-00612 - Session 1 - #238**  
**Religion and Spirituality in Veteran Couple Relationships**  
Presentation Author: MAJ Timothy Usset  
Irene Harris, PhD¹, Michelle Sherman, PhD², Laura Meis, PhD³, Zhen Hadassah Cheng, PhD⁴, Cory Voecks, PsyD⁵  
¹Bedford VA Health Care System, Bedford, MA; ²M Health Fairview, Minneapolis, MN; ³Minneapolis VA Health Care System, Minneapolis, MN; ⁴Portland VA Health Care System, Portland, OR; ⁵St. Cloud VA Health Care System, St. Cloud, MN

**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
B Polivka1,2, D Endicott2, R Barnett2, RJ Folz3,4, J Castner5
1University of Kansas, Kansas City, KS; 2University of Louisville, Louisville, KY; 3University Hospitals Cleveland Medical Center, Cleveland, OH; 4Case Western Reserve University, Cleveland, OH; 5Castner Incorporated, Grand Isle, NY

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
J Castner1, D Endicott2, R Barnett2, RJ Folz3,4, B Polivka5
1Castner Incorporated, Grand Island, NY; 2University of Louisville, Louisville, KY; 3University Hospitals Cleveland Medical Center; 4Case Western Reserve University; 5University of Kansas

MHSRS-19-01196 - Session 1 - #242
Transitional 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
Tracey Brickell, DPSych1,2,3,5, Sara Lippa, PhD1,2,3, Louis French, PsyD1,2,3,5, Megan Wright, MA1,2,3, Angela Driscoll, MS1,2,3, Rachel Gartner, MS1,2,3, Jamie Sullivan, BA1,2,3, Nicole Varbedian, BS1,2,3, Elizabeth Barnhart, BA1,2,3, Daniel Ramin, BA1,2,3, Yasmine Eshera, BS1,2,3, Gabrielle Robinson, BA1,2,3, Samantha Braatz, MS1,2,3, Claire Kostelnik, BA1,2,3, Kelly Gillow, MS1,2,3, Jessie Verive, BS1,2,3, Megan Glazer, MS1,2,3, Rael Lange, PhD1,2,3,4
1Defense and Veterans Brain Injury Center, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD; 3National Intrepid Center of Excellence, Bethesda, MD; 4University of British Columbia, Vancouver, BC, Canada; 5Uniformed Services University of the Health Sciences, Bethesda, MD

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
Tracey Brickell, DPSych1,2,3,5, Sara Lippa, PhD1,2,3, Louis French, PsyD1,2,3,5, Megan Wright, MA1,2,3, Angela Driscoll, MS1,2,3, Rachel Gartner, MS1,2,3, Jamie Sullivan, BA1,2,3, Nicole Varbedian, BS1,2,3, Elizabeth Barnhart, BA1,2,3, Daniel Ramin, BA1,2,3, Yasmine Eshera, BS1,2,3, Gabrielle Robinson, BA1,2,3, Samantha Braatz, MS1,2,3, Claire Kostelnik, BA1,2,3, Kelly Gillow, MS1,2,3, Jessie Verive, BS1,2,3, Megan Glazer, MS1,2,3, Rael Lange, PhD1,2,3,4
1Defense and Veterans Brain Injury Center, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD; 3National Intrepid Center of Excellence, Bethesda, MD; 4University of British Columbia, Vancouver, BC, Canada; 5Uniformed Services University of the Health Sciences, Bethesda, MD

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
Tracey Brickell, DPsych1,2,3,5, Louis French, PsyD1,2,3,5, Sara Lippa, PhD1,2,3 & Rael Lange, PhD1,2,3,4
1Defense and Veterans Brain Injury Center, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD; 3National Intrepid Center of Excellence, Bethesda, MD; 4University of British Columbia, Vancouver, BC, Canada; 5Uniformed Services University of the Health Sciences, Bethesda, MD

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
Tracey Brickell, DPsych1,2,3,5, Bridget Cotner, PhD6,7, Louis French, PsyD1,2,3,5, Noelle Carlozz1, PhD8, Danielle O’Connor, MA, MPH6,7, Risa Nakase-Richardson, PhD6,9, Rael Lange, PhD1,2,3,4
1Defense and Veterans Brain Injury Center, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD; 3National Intrepid Center of Excellence, Bethesda, MD; 4University of British Columbia, Vancouver, BC, Canada; 5Uniformed Services University of the Health Sciences, Bethesda, MD; 6James A Haley Veterans Hospital, Tampa, FL; 7Defense and Veterans Brain Injury Center, Tampa, FL; 8University of Michigan, Ann Arbor, MI; 9University of South Florida, Tampa, FL

MHSRS-19-01261 - Session 1 - #246
Supportive Supervisor Behaviors and Family and Health Outcomes
Presentation Author: Dr. Leslie Hammer
Leslie Hammer1,2, Marjaana Sianoja1, Jackie Brady2, Cynthia Mohr2, Tori Crain3
1Oregon Health & Science University, Portland, OR; 2Portland State University, Portland, OR; 3Colorado State University, Ft. Collins, CO

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
Lisa M. Shank1,2, Mary Higgins Neyland1,2,3, David Klein3,4, Sarah Jorgensen3,4, Natasha L. Burke3,5, Tracy Sbrocco1,3, William Leu1,3, Dakota Gillmore1,3, Natasha A. Schvey1,3, Alexandria Morettini1,3, Cara H. Olsen1,3, Mark Stephens3,6, Mark C. Haigney1,2, Jack A. Yanovski3,7, Jeffrey Quinlan1,3, Marian Tanofsky-Kraff1,2,3
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Military Cardiovascular Outcomes Research Program, Bethesda, MD; 3Preventing Obesity in Military Communities-Adolescents Research Team, Bethesda, MD; 4Fort Belvoir Community Hospital, Fort Belvoir, VA; 5Fordham University, Bronx, NY; 6Pennsylvania State University, Hershey, PA; 7National Institutes of Health, Bethesda, MD

MHSRS-19-01340 - Session 1 - #248
Demographic Variation in Military Life Stress and Perceived Support among Military Spouses
Presentation Author: Dr. Nida Corry
Nida H. Corry, PhD1; Samantha S. Karon1; Christianna S. Williams, PhD1; Sharmini Radakrishnan, PhD1; Hope S. McMaster, PhD2; Alicia C. Sparks, PhD1; Ernestine Briggs-King, PhD3; and Valerie A. Stander, PhD4
1Abt Associates, Rockville, MD; 2Leidos, San Diego, CA; 3Center for Child and Family Health, Durham, NC; 4Naval Health Research Center, San Diego, CA

MHSRS-19-01599 - Session 1 - #249
Challenges within Drill Sergeant Families: Deployment vs. the Trail
Presentation Author: Ms. Molly Schwalb
Molly Schwalb, MPH, Toby Elliman, PhD
Walter Reed Army Institute of Research, Silver Spring, MD
MHSRS-19-01734 - Session 1 - #250
Personal Growth in Spouses of Deployed Service Members: Risk and Protective Factors
Presentation Author: Dr. Sybil Mallonee
David Riggs, PhD
Valerie Stander, PhD

MHSRS-19-01747 - Session 1 - #251
Collaborative Relationships for Meaningful Health Outcomes
Presentation Author: Ms. Heather Michael
Heather Michael1, Dr. Sarah Rasco1, Valerie Stander2
1Humana Military, Louisville, KY; 2Naval Health Research Center, San Diego, CA

MHSRS-19-01786 - Session 1 - #252
Through the Eyes of a Child
Presentation Author: Dr. Kimberly Peacock
Kimberly Peacock, EdD1, Roxana Delgado, PhD1, Julie Parish Johnson, MS1, Mary Jo Pugh, PhD2
1University of Texas Health Science Center San Antonio, San Antonio, TX; 2University of Utah, Salt Lake City, UT

MHSRS-19-02004 - Session 1 - #253
Well-being and Coping Strategies of Military Veterans Readjusting into Academia
Presentation Author: MAJ Brian Gregg
Patrick Kitzman, PhD1, Anne Shordike, PhD2, Dana Howell, PhD2
1University of Kentucky, Lexington, KY; 2Eastern Kentucky University, Richmond, KY

MHSRS-19-02029 - Session 1 - #254
PAACC: A Mindfulness Based Multicomponent Program for Family Caregivers of Persons with Dementia
Presentation Author: Dr. Mamta Sapra
Mamta Sapra, MD1, Jyoti Savla, PhD2, Katherine Luci PsyD1, Lauren Hagemann PhD1, Lindsey Jacobs, PhD, MSPH3, Tonda Yates, BA1
1Veteran Affairs Medical Center, Salem, VA; 2Virginia Tech, Blacksburg, VA; 3Veteran Affairs Medical Center, Boston, MA

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
Joanne Barnieu1, Victor Jones, PhD2, Ivera Harris3, Jennifer Mendoza2, Laura Dines1
1ICF, Inc, Fairfax, VA; 2U.S. Air Force Air Mobility Command, Scott Air Force Base, IL

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
Elizabeth Hisle-Gorman1, Apryl Susi1, Gregory H Gorman1,2
1Uniformed Services University of the Health Sciences; 2Walter Reed National Military Medical Center

MHSRS-19-02250 - Session 1 - #257
What Do Families, Social Support, and Military Convoys Have in Common?
Presentation Author: Dr. Penny Pierce
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
Joetta M. Khan, PhD1, Brittany L. Trammell, BS1, Susan Roberts, PhD2, Sai Krupa Das, PhD2, Susan M. McGraw, BS3, Laura Lutz, MS3, Philip Niro, BS3, Asma S. Bukhari, PhD1
1Walter Reed National Military Medical Center, Bethesda, MD; 2Tufts University, Boston, MA; 3U.S. Army Research Institute of Environmental Medicine, Natick, MA

“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
Aaron San Miguel1, Ashley Marie Holland, BA1,2, Daniel Gruhn, PhD1
1North Carolina State University, Raleigh, NC; 2Army Public Health Center Aberdeen Proving Ground, MD

Interprofessional Student Hotspotting: Addressing the Socio-cultural needs of High Medical Resource Utilizers in the DoD

Presentation Author: MAJ Elizabeth Belleau
2nd Lt Caitlin Brauer, USAF, 2nd Lt Ashley Green-Lott, USAF, CPT Melanie Owes, USA, 2nd Lt Francesca Ursua, USAF, 2nd Lt Danielle Wilkin, USAF
Uniformed Services of the Health Sciences, Bethesda, MD

Integrative Review of Racial and Ethnic Disparities in Perinatal Outcomes among Beneficiaries of Military Healthcare System and Tricare

Presentation Author: Dr. Stacey Iobst
Stacey Iobst, PhD, RNC-OB
Uniformed Services University, Bethesda, MD

APPROACHES TO PREVENTION AND TREATMENT OF HIGH RISK BEHAVIORS

Suicide Attempts and other Risky Behaviors in Service Members – Data from 2017 DoDSER

Presentation Author: Dr. Jennifer Tucker
Jennifer Tucker, PhD1,2, Derek Smolenski, PhD, MPH2, Larry Pruitt, PhD3
1Salient CRGT, Fairfax, VA; 2Psychological Health Center of Excellence, Silver Spring, MD; 3Veterans Affairs Puget Sound Healthcare System, Tacoma, WA

Sexually Transmitted Infection Acquisition Risk in Port among Ship-Assigned U.S. Navy Personnel

Presentation Author: Mr. Daniel Triplett
Daniel P Triplett, MPH1,2, Judith Harbertson, PhD, MPH1,2, Braden Hale, MD, MPH1,2
1Leidos, San Diego, CA; 2Defense Health Agency, San Diego, CA; 3University of California San Diego, La Jolla, CA
MHSRS-19-00471 - Session 1 - #264
Web-delivered Financial Readiness Education Increases Knowledge of Predatory Lending
Presentation Author: Dr. Tim Hoyt
Tim Hoyt, PhD1, Adam Freed, PhD2, Kelly Blasko, PhD1
1Defense Health Agency, Tacoma, WA; 2Madigan Army Medical Center, Tacoma, WA

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
Emily T. Noyes, MA1,2, Erin M. Brennan, MA1,2, Amanda C. Royer, BA2,3, Risa Nakase-Richardson, PhD1,3, Marc A. Silva, PhD1,3
1University of South Florida, Tampa, FL; 2James A. Haley Veterans' Hospital, Tampa, FL; 3Defense and Veterans Brain Injury Center, Tampa, FL

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
Thuyvi A. Truong, DMD, MPH, Athier Jaffar, Iram Qureshi, MPH
Naval Medical Research Unit, San Antonio, TX

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
Jie Lin, PhD, MPH1,2,3, Kangmin Zhu, MD, PhD1,3, Aida M. Soliván-Ortiz, DMD, MPH4, Stacy L. Larsen, DDS5, Scott P. Irwin, DDS, MPH4, Thomas R. Schneid, DMD, MS6, Craig D. Shriner, MD1,2, Sukhyung Lee, MD1,2
1Uniformed Services University of the Health Sciences and Walter Reed National Military Medical Center, Bethesda, MD; 2Uniformed Services University of the Health Sciences, Bethesda, MD; 3Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; 4Uniformed Services University of the Health Sciences, San Antonio, TX; 5Uniformed Services University of the Health Sciences, Fort Bragg, NC; 6Uniformed Services University of the Health Sciences, Fort Sam Houston, TX

MHSRS-19-00955 - Session 1 - #270
Emotional Eating Behavior Mediates the Association between Perceived Stress and Body Weight Status
Presentation Author: MAJ Julianna Jayne
Julianna M. Jayne, PhD, RD1; Rachel Ayala, MS, RD2,3; J. Philip Karl, PhD, RD1; Susan M. McGraw1; Kristie O'Connor, MLA, RD1; Adam J. DiChiara4; Renee E. Cole, PhD, RD3
1U.S. Army Research Institute of Environmental Medicine, Natick, MA; 2Reynolds Army Health Clinic, Fort Sill, OK; 3US Military-Baylor University Graduate Program in Nutrition, Joint Base San Antonio-Fort Sam Houston, TX; 4Combat Capabilities Development Command Soldier Center, Natick MA
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
Elizabeth C. Metzger, MSPH1, Tremaine L. Winstead, MA1, Cristóbal S. Berry-Cabán, PhD1, Lindsay M. Orzechowski, PhD2, Bryce M. Meerhaeghe, BA1, Adam P. Roby, BS1
1Womack Army Medical Center, Fort Bragg, NC; 2Alpert Medical School of Brown University, Providence, RI

MHSRS-19-01112 - Session 1 - #272
Autism Symptoms and Suicide Risk among Active Duty U.S. Military Service Members
Presentation Author: Mr. Ian Stanley
Ian H. Stanley, MS1, Taylor N. Day, MS1;2, Austin J. Gallyer, BS1, Thomas E. Joiner, PhD1
1Florida State University, Tallahassee, FL; 2Florida State University Autism Institute, Tallahassee, FL

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
Eva J Usadi, MA, BCD
Trauma and Resiliency Resources, Inc, New York, NY

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
Nikki R. Wooten, PhD1, Akhtar Hossain1, Diana D. Jeffery2, Christopher J. Spevak3,4
1University of South Carolina, Columbia SC; 2Clinical Support Services, Defense Health Agency, Falls Church, VA; 3Walter Reed National Military Medical Center, Bethesda, MD; 4School of Medicine, Georgetown University, Washington, DC

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
Nikki R. Wooten, PhD, LSW-CP1, Akhtar Hossain, MS1, Christopher Spevak, MD, MPH, JD2,3, Diana D. Jeffery, PhD4, Mary Jo Larson, PhD5
1University of South Carolina, Columbia SC; 2Walter Reed National Military Medical Center, Bethesda, MD; 3School of Medicine, Georgetown University, Washington, DC; 4Clinical Support Services, Defense Health Agency, Falls Church, VA; 5Brandeis University, Waltham, MA

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
Andrew Hopkinson, BS, Shelby Shelton, MPH, Jessica Saben, PhD, Axel Adams, MS, Roy Gerona, PhD, Andrew A. Monte, MD, PhD
MHSRS-19-01652 - Session 1 - #278
A Functional Cellular Based Assay for Synthetic Cannabinoids
Presentation Author: Dr. Andrew Monte
Andrew Monte, MD, PhD, Andrew Hopkinson, BS, Evan Atchley, BS, Jessica Saben, PhD, Robert Scheinman, PhD
University of Colorado, Aurora, CO

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
Melissa A. Little, PhD1, Timothy McMurry, PhD2, Carol Copeland, PhD, Col USAF (ret)1, Xin Qun Wang, MS2, Ann S. Hryshko-Mullen, PhD, LtCol (ret)3, Robert C. Klesges, PhD2
1University of Virginia, JBSA – Lackland, TX; 2University of Virginia, Charlottesville, VA; 3Wilford Hall Ambulatory Surgical Center, JBSA Lackland, TX

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
Nicholas L. Shaughnessy, BS1, Amanda M. Price, MS2,3, Suzanne M. Thomas, MA1, Karson A. Stevenson, BA1, Mark A. Ilgen, PhD2,3, Jennifer H. Olson-Madden, PhD1
1Rocky Mountain Mental Illness Research Education and Clinical Center, Aurora, CO; 2Veterans Administration Center for Clinical Management Research, Ann Arbor, MI; 3University of Michigan, Michigan Medicine, Ann Arbor, MI

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
Meltem Ozcan, Anna I. Burns, Kristin C. Shepard, Anna Alkozei, William D. Killgore
University of Arizona, Tucson, AZ

MHSRS-19-02234 - Session 1 - #282
Towards a System-wide Program for Understanding Destructive Behaviors
Presentation Author: LCDR Peter Walker
CAPT Thomas J. Dixon1, LCDR Peter B Walker2, Monique Clinton-Sherrod1, Lynne Kelley1
1OPNAV N17, 21st Century Sailor Office, Arlington, VA; 2Office of Naval Research, Arlington, VA

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
Meaghan E. Brown, BA1, Michelle J. Bovin, PhD2,3, Raymond C. Rosen, PhD4, Terence M. Keane, PhD2,3, Brian P. Marx, PhD2,3
1VA Boston Healthcare System, Boston, MA; 2National Center for Posttraumatic Stress Disorder, Boston, MA; 3Boston University School of Medicine, Boston, MA; 4New England Research Institute, Boston, MA
**MHSRS-19-02404 - Session 1 - #284**

**Exploration of Emotional Intelligence and Self-perceived Invincibility**

Presentation Author: Mr. Simon Esbit  
Simon Esbit¹, Brieann Satterfield¹, William D. S. Killgore¹²  
¹University of Arizona, Tucson, AZ; ²McLean Hospital, Harvard Medical School, Boston, MA

**MHSRS-19-02412 - Session 1 - #285**

**Self-perceived Invincibility is Associated with Greater Cognitive Flexibility**

Presentation Author: Mr. Kyle LaFollette  
Kyle J. LaFollette¹, Brieann C. Satterfield¹, William D. S. Killgore¹²  
¹University of Arizona, Tucson, AZ; ²McLean Hospital, Harvard Medical School, Boston, MA

**MHSRS-19-02421 - Session 1 - #286**

**Big Five Personality Traits and How They Relate to Self-perceived Invincibility**

Presentation Author: Mr. Michael Strong  
Strong, M.¹, Esbit, S.¹, LaFollette, K. J.¹, Dailey, N. S.¹, Killgore, WDS¹²  
¹University of Arizona, Tucson, AZ; ²McLean Hospital, Harvard Medical School, Boston, MA, USA

**MHSRS-19-02541 - Session 1 - #287**

**Evaluation of AMIOP at Fort Bliss**

Presentation Author: MAJ Marlene Arias-Reynoso  
Marlene Arias-Reynoso, DNP, Gisela J. Carter, LCSW  
William Beaumont Army Medical Center, El Paso, TX

**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  
Austin J. Gallyer, BS; Ian H. Stanley, MS; Taylor N. Day, MS; Thomas E. Joiner, PhD  
Florida State University, Tallahassee, FL

**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  
Jeffery Cigrang, PhD, ABPP, Larry James, PhD, ABPP, Jeremiah Schumm, PhD  
Wright State University, Dayton, OH

**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  
Andrew Johnson¹, Michael Reddix, PhD², Micah Kinney, OD, PhD², Jonathan Sagan³, Grant Roush³, Bernadette McCann³, Kayelin Tiggs³
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

MHSRS-19-00337 - Session 1 - #291
Presentation Author: Dr. Denise Cooper
Denise C. Cooper, PhD1, Ilene F. Klein, PhD1, Aimee C. Ruscio, PhD1, Michelle N. Tsai, PsyD1
Psychological Health Center of Excellence, Defense Health Agency, Silver Spring, MD

Behavioral Correlates of Self-Reported Health Status in U.S. Active Duty Military

MHSRS-19-00369 - Session 1 - #292
Presentation Author: Dr. Tracey Smith
Tracey J. Smith, PhD, RD, Harris Lieberman, PhD, Adela Hruby, PhD
U.S. Army Research Institute of Environmental Medicine, Natick, MA

Why Have a Total Force Fitness Spiritual Fitness Metric? Pros and Cons

MHSRS-19-00377 - Session 1 - #293
Presentation Author: Dr. Kathleen Charters
Elizabeth Alders, MS1, Chase Wilhelm, PhD2, Craig Myatt, PhD3, David Alexander, PhD, DMin4, Patricia Deuster, PhD3
1F. Edward Hébert School of Medicine, Uniformed Services University and the Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; 2U.S. Special Operations Command Special Operations Chaplaincy, Tampa, FL; 3F. Edward Hébert School of Medicine, Uniformed Services University; 4U.S. Coast Guard 17th District, Alameda, CA

Stress Response Optimization in Live Training Exercises

MHSRS-19-00642 - Session 1 - #295
Presentation Author: Mr. Mitchell Ruble
Brent Winslow, PhD, Zach Huber, MS, Joanna Chiang, MS
Design Interactive, Orlando, FL

The Effects of Therapy Dog Intervention on Anxiety in Adult Patients Undergoing Dental Procedures: A Pilot Study

MHSRS-19-00807 - Session 1 - #296
Presentation Author: Dr. Rod Phoenix
Doris Lam, DMD, MS1, Amy O’Connor1, Andrew Avillo, DDS, MS1,2, Ling Ye, DDS, PhD1,2, John Schmidt, PhD1,2, Rodney Phoenix, DDS, MS2
1Naval Postgraduate Dental School, Bethesda, MD; 2Uniformed Services University of the Health Sciences, Bethesda, MD

Validity of the Walter Reed Functional Impairment Scale in a Military Population

MHSRS-19-00813 - Session 1 - #298
Presentation Author: Dr. Farifteh Duffy
Farifteh F. Duffy, PhD; Lyndon A. Riviere, PhD; Joshua E. Wilk, PhD; Charles W. Hoge, MD
Walter Reed Army Institute of Research, Silver Spring, MD

Stress Augmentation with Immersive Virtual Reality and Augmented Reality Technologies: Stress and...
**Neurocognitive Outcomes Pilot Data**
Presentation Author: Dr. Amanda Glueck
Dong Y. Han, PsyD
University of Kentucky College of Medicine, Lexington, KY

**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
Coleen Crouch, PhD, Amanda Start, PhD, Yvonne Allard, MPH
Walter Reed Army Institute of Research, Silver Spring, MD

**MHSRS-19-00906 - Session 1 - #299**
Stressful Life Changes affect Nutrition-related Health Outcomes among U.S. Army Soldiers
Presentation Author: MAJ Julianna Jayne
Julianna M. Jayne, PhD, RD1,2, Christine E. Blake, PhD, RD2, Edward A. Frongillo, PhD2, Angela D. Liese, PhD2, Bo Cai, PhD2, D. Alan Nelson, PhD3, Lianne M. Kurina, PhD3, LesLee Funderburk, PhD4
1U.S. Army Research Institute of Environmental Medicine, Natick, MA; 2University of South Carolina, Columbia, SC; 3Stanford University School of Medicine, Stanford, CA; 4Baylor University, Waco, TX

**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
Rachel Dyal1, Bethany Deschamps1, Susan McGraw2, Julianna Jayne2, J. Phillip Karl2, Renee Cole3
1Nutrition Care Division, Madigan Army Medical Center, Tacoma, WA; 2U.S. Army Research Institute of Environmental Medicine, Natick, MA; 3U.S. Army Medical Department Center and School, San Antonio, TX

**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
Maria J. Stukenborg1, Bethany A. Deschamps1, Susan M. McGraw2, Julianna M. Jayne2, J. Philip Karl2, Renee Cole3
1Madigan Army Medical Center, Tacoma, WA; 2U.S. Army Research Institute of Environmental Medicine, Natick, MA; 3Army Medical Department Center and School, San Antonio, TX

**MHSRS-19-01032 - Session 1 - #302**
Military Health Screening During Accession into the U.S. Armed Forces
Presentation Author: COL Brigilda Teneza
Colonel Brigilda C. Teneza, MD, MPH, U.S. Army, Annette D. Waddelow, MS, Kevin T. DuPont, PhD, Joseph J. McCue, MS, Captain David S. Kemp, PHR, U.S. Navy
U.S. Military Entrance Processing Command, North Chicago, IL

**MHSRS-19-01179 - Session 1 - #303**
U.S. Navy Physical Readiness Test Modality Pilot Study
Presentation Author: Lt Melissa Laird
Melissa D. Laird3, Rebecca S. Weller1,3, Douglas M. Jones1,3, Katherine M. Wilson1,3, Andrew Ordille2,3, Dale A. Hirsch3, John J. Fraser3, Trevor B. Viboch1,3, Aaron J. Wolf1,3, Valerie M. Costantini1,3, Heath Clifford4, Jay H. Heaney3
1Leidos, Inc., San Diego, CA; 2Innovative Employee Solutions, San Diego, CA; 3Naval Health Research Center, San Diego, CA; 421st Century Sailor, Millington, TN
MHSRS-19-01216 - Session 1 - #304
Extending Peer Support across the Military Health System to Promote Physician Resilience
Presentation Author: MAJ Erin Keyser
Erin A. Keyser, MD, Larissa F. Weir, MD, Michelle M. Valdez, MA, Gary L. Schofield, MSN, RN, Renée I. Matos, MD, MPH
Brooke Army Medical Center, San Antonio, TX

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
Nisha Plavelil, PhD; Maureen N. Hood, PhD, RN, FAHA; Peter Bedocs, MD; John F. Capacchione, MD; Michael G. Klein, PhD; Vincent B. Ho, MD, MBA, FAHA; Christine E. Kasper, PhD, RN, FAAN, FACSM; Mark C. Haigney, MD, FAHA
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Department of Veteran Affairs, Washington, DC

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
Joy Hocut, MS, Paul Kim, MR, Coleen Crouch, PhD, Lyndon Riviere, PhD

MHSRS-19-01459 - Session 1 - #307
Medical Nutrition Therapy to Optimize Readiness and Performance: We Can Do Better
Presentation Author: Capt Philip Clerc
Philip G Clerc, MD; Jana L Wardian, PhD, MSW; Matthew Kemm, MD
1Endocrinology Service, Brooke Army Medical Center, TX; 2Wilford Hall Ambulatory Surgical Center, Lackland Air Force Base, TX

MHSRS-19-01492 - Session 1 - #308
Calculating the Cardiac Impact of Exercise in the Military
Presentation Author: 2ndLt Elena Segre
Elena Segre, MS; Lydia Hellwig, MS; Clesson Turner, MD; Craig Dobson, MD; Mark Haigney, MD
1Uniformed Services University, Bethesda, MD; 2The Henry M. Jackson Foundation for Military Medicine, Inc, Bethesda, MD; 3Walter Reed National Military Medical Center, Bethesda, MD

MHSRS-19-01557 - Session 1 - #309
Challenges for Research into Military Disciplinary Investigations
Presentation Author: Dr. Antje Buehler
Ulrich Wesemann, PhD, Gerd-Dieter Willmund, MD, Peter Zimmermann, MD
German Armed Forces Center for Military Mental Health, Berlin, Germany

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
Vanessa Chaplin, PhD; Marigny Normann, BS; Gilbert Pratt III, MS; Mercedes McWaters, MA; Oreoluwa Akinbo, BA; W. Tang Watanasriyakul, MS; Angela Grippo, PhD; Neal McNeal, PhD

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
Valerie J. Rice, Gary L. Boykin, MA
Army Combat Capabilities Development Command, Natick, MA

MHSRS-19-01912 - Session 1 - #312
Brief Meditation to Improve Wellness in Deployed Healthcare Providers
Presentation Author: Lt James D’Andrea
LT Alex D’Andrea, MD, LCDR Elizabeth Buckalew, MD, LT Amy Hildreth, MD
Naval Medical Center, San Diego, CA

MHSRS-19-01940 - Session 1 - #313
Risk of Dental Disease among Israel Defense Forces Combat Soldiers
Presentation Author: CPT Avishai Tsur
Ori Rimon DMD, Noam Protter DMD, Avi Levin DMD, Erez Krap MD, Meidad Chassid DMD, Ronit Turgman DMD, Tarif Bader MD, Avi Benov MD
Israel Defense Forces, Ramat Gan, Israel

MHSRS-19-02077 - Session 1 - #314
Sick & Tired: Burnout and Functioning of Military Healthcare Staff
Presentation Author: Ms. Yvonne Allard
Yvonne S. Allard, MPH, Amanda R. Start, PhD, Coleen L. Crouch, PhD
Walter Reed Army Institute of Research, Silver Spring, MD

MHSRS-19-02111 - Session 1 - #315
Improving the Accuracy of Psychological Health Screening in the Submarine Service
Presentation Author: Lt Chad Peltier
LT Chad Peltier, PhD1, Andrea Bizarro, PhD2, Justin Handy, PhD1, Grace Hand, BS2
1Naval Submarine Medical Research Laboratory, Groton, CT; 2Leidos, New London, CT

MHSRS-19-02134 - Session 1 - #316
Effects of Medical Accession Waivers on Attrition and Operational Readiness among Sailors and Marines, 2012-2017
Presentation Author: Dr. Christine Jachetta
Kara Mandell, PhD1, Jim Jondrow, PhD1, Cathy Hiatt1, Dave Reese1, Tom Woo1, CDR Paul Klimkowski, PA2, Allison Minarcik, MD2, CAPT M. Alaric Franzos, MD, MPH2
1Center for Naval Analysis, Arlington VA; 2U.S. Navy Bureau of Medicine and Surgery, Falls Church, VA

MHSRS-19-02135 - Session 1 - #317
Use of Wearable Physiologic Sensors to Monitor Wellbeing and Health
Presentation Author: Dr. Elizabeth Brokaw
Elizabeth B. Brokaw, Jennifer Lombardo, Michael Fine, Kevin Comer, Jeff Colombe, Valerie Gawron
The MITRE Corporation
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
Xiao Li, MD, Awaneesh Kumar, MD, Joseph O’Neil, BS; Johnson Wong, BS; Siri Kadire, MD Gloria A Mitscher, RN, Peng-Sheng Chen, MD; Michael S. Emery, MD, MS, Thomas H. Everett, IV, PhD
Indiana University School of Medicine, Indianapolis, IN

Deployment Cycle Resilience Training: Quality Improvement Program Evaluation
Presentation Author: Ms. Laurel Booth
Laurel Booth1, Pam Kumparatana, MSW, MPH1, Alexis Rivera Jr.2, Casey Olson2, Susannah K. Knust, PhD, CMPC1
1Walter Reed Army Institute of Research, Silver Spring, MD; 2Army Resiliency Directorate, Crystal City, VA

Applying Item Response Theory to Subscreen to Understand Behavioral Health Response Patterns of Prospective Submariners
Presentation Author: Dr. Andrea Bizarro
Andrea Bizarro, PhD1, LT Chad Peltier, PhD2, Justin Handy, PhD2, Grace Hand, BS1
1Leidos, New London, CT; 2Naval Submarine Medical Research Laboratory, Groton, CT

Revising the Master Resilience Trainer Course: From a Front-end Analysis to a Curriculum Map
Presentation Author: Dr. Susannah Knust
Susannah Knust, PhD, CMPC1, Laurel C. Booth1, Pam Kumparatana, MSW, MPH1, Alexis Rivera Jr.2, Casey Olson2
1Walter Reed Army Institute of Research, Silver Spring, MD; 2Army Resiliency Directorate, Crystal City, VA

Leader Development: Connecting Resilience Training To Army Doctrine
Presentation Author: Ms. Pam Kumparatana
Pam Kumparatana, MSW, MPH1, Laurel Booth1, Alexis Rivera2, Casey J. Olson2, Susannah K. Knust, PhD, CMPC1
1Walter Reed Army Institute of Research, Silver Spring, MD; 2Army Resiliency Directorate, Crystal City, VA

Does Military or First Responder Service Impact Emotional Intelligence?
Presentation Author: Ms. Ashley Holland
Ashley Marie Holland1,2, Daniel Gruehn1
1North Carolina State University; 2Army Public Health Center

Marine Recruits with Behavioral Health Complaints: A Process Improvement Initiative
Presentation Author: Lt Samuel Walther
Samual Walther, MD, Brian Ferguson, MD, Reese Nicolini, MD, Benjamin Walrath, MD, MPH
Naval Medical Center San Diego, San Diego, CA
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
Elizabeth B. Brokaw¹, Patricia Salamone¹, Rachel Spencer¹, Lisa Laliso¹, Raj Gupta², Michael Leggieri²
¹The MITRE Corporation; ²U.S. Army Medical Research and Development Command, Ft. Detrick, MD

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
Rong Gan, PhD, Kyle Smith, MS, Junfeng Liang, PhD, Ariana Gannon, Marcus Brown, MS, Shangyuan Jiang, PhD
University of Oklahoma, Norman, OK

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
JR Stefanson¹,²,³, William A. Ahroon, PhD¹
¹U.S. Army Aeromedical Research Laboratory, Fort Rucker, AL; ²DOD Hearing Center of Excellence, San Antonio, TX; ³zCore Business Solutions, Inc, Round Rock, TX

MHSRS-19-00801 - Session 1 - #328
Constructing the Ototoxic and Therapeutic Compounds Database
Presentation Author: Dr. Kathryn Marshall
Kathryn Marshall, PhD¹,³, Julieta Scalo, PhD, PharmD²,³, Kelly Watts, AuD²,³, Tanisha Hammill, PhD³
¹The Geneva Foundation, Tacoma, WA; ²zCore Business Solutions, Inc. Round Rock, TX; ³Hearing Center of Excellence, San Antonio, TX

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
Daniel A. Williams, AuD, Chengping Zhang, MS, Roger A. Erich, PhD
USAF School of Aerospace Medicine, Wright-Patterson AFB, OH

MHSRS-19-01479 - Session 1 - #330
Nonlinear Passive Acoustic Device for Preventing Blast Injury of the Ear
Presentation Author: Mr. Soroush Shabahang
Soroush Shabahang, PhD, Seok Hyun Yun, PhD
Harvard Medical School and Wellman Center for Photomedicine, Boston, MA

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
Allison Coffin, PhD¹, Alex Nechiporuk, PhD², John Harkness, PhD¹,³, Kristy Lawton, PhD¹
The Military Hearing in Noise Test: Test Design and Norming Study Results
Presentation Author: Dr. Odile Clavier
Odile H Clavier, PhD1, Tristan Ramey1, Jed Wilbur, MS1, Sigfrid Soli, PhD2, Lynn Cook, AuD3, Richard Arold3, Scott McIlwain, AuD4, Marion Juarez-Bedzyk5
1Creare, LLC, Hanover, NH; 2House Clinic, Los Angeles, CA; 3Occupational Audiology Clinic at Naval Health Clinic Annapolis, Annapolis, MD; 4Womack Army Medical Center, Fort Bragg, NC; 5Geneva Foundation, Tacoma, WA

Integrating User Voice in Hearing Care with Focus on Young Adult Warfighter
Presentation Author: Mr. Shayan Gupta
Shayan Gupta, Shawn Kelly, MEng, PhD
Audition Technology, Pittsburgh, PA

Noise-induced Hearing Loss in Police Officers
Presentation Author: Dr. Kristine Sonstrom Malowski
Kristine Sonstrom Malowski, AuD, PhD1, James Steiger, PhD1, Grace Szatkowski, BA1,2, Bethany Dade, BA2, John Hawks, PhD2, Jianxin Bao, PhD2
1University of Akron, Akron, OH; 2Northeast Ohio Medical University, Rootstown, OH

Characterization of Acute Hearing Changes in U.S. Military Populations
Presentation Author: Dr. Quintin Hecht
Quintin Hecht, AuD1,2; Tanisha Hammill, PhD1; Douglas Brungart, PhD3; Benjamin Sheffield, PhD3; Christopher Smalt, PhD4; Paul Calamia, PhD4
1DoD Hearing Center of Excellence, JBSA Lackland, TX; 2Contractor, HoChunk Inc; 3Walter Reed National Military Medical Center; 4Massachussetts Institute of Technology, Lincoln Laboratory

WHAT'S NEW IN ANTIMICROBIAL DEVELOPMENT TO COUNTER MULTIDRUG-RESISTANT BACTERIAL INFECTIONS IN MILITARY PERSONNEL

Photo-inactivation of Neisseria Gonorrhoeae: A Paradigm Changing Approach for Combating Antibiotic-resistant Gonorrhea
Presentation Author: Dr. Tianhong Dai
Ying Wang, MD, PhD1,2, Raquel Ferrer-Espada, PhD1,3, Yan Baglo, PhD1, Xueping S. Goh, BS1,3, Kathryn D. Held, MD, PhD4, Yonatan H. Grad, MD, PhD3, Ying Gu, Md, PhD2, Jeffrey A. Gelfand, MD3, Tianhong Dai, PhD1,3
1Massachusetts General Hospital, Harvard Medical School, Boston, MA; 2Chinese PLA General Hospital, Beijing, China; 3Harvard Medical School, Boston, MA; 4Massachusetts General Hospital, Harvard Medical School, Boston, MA; 5Harvard T.H. Chan School of Public Health, Boston, MA
Screening Traditional Chinese Medicine for Bactericidal Activity against Acinetobacter Baumannii  
Presentation Author: MAJ Lucas Poon  
Lucas Poon, Mozna Khraiwesh, Malik Raynor, Thomas Langowski  
Walter Reed Army Institute of Research, Silver Spring, MD

EBX-205 - A Broad Spectrum Antibiotic to Orally Treat Biodefense and Public Health Threats  
Presentation Author: Ms. Michelle Saylor  
Michelle Saylor, MS, Daniel Hill, PhD, Anthony Treston, PhD, Ravi Anantha, PhD, Jeffry Shearer, MS, Kelly Warfield, PhD  
Emergent BioSolutions, Inc, Gaithersburg, MD

The Topical Metalloprotease SN514 Enhances Antimicrobial Activity Against Bacterial Biofilms  
Presentation Author: Mr. Paul Renick  
Paul Renick, MS, Aleksa Jovanovic, PhD, Eric Roche, PhD, Lei Shi, PhD  
Smith & Nephew, Inc, Fort Worth, TX

Lactobacillus Membrane Vesicles for Delivery of Novel Antimicrobial Peptides  
Presentation Author: Mr. Scott Dean  
Scott N. Dean¹, Julie C. Caruana², Hillary Dimig³, Scott A. Walper⁴  
¹National Research Council Postdoctoral Fellow, Washington, DC; ²American Society for Engineering Education Postdoctoral Fellow, Washington, DC; ³University of Maryland, Baltimore, MD; ⁴US Naval Research Laboratory, Washington, DC

A Volatolomic Approach: A Step Forward in the Characterization of Wound Pathogens  
Presentation Author: Ms. Shawna Gallegos  
Shawna Gallegos, Paola Prada, PhD, Kendra Rumbaugh, PhD  
Texas Tech University, Lubbock, TX

Broad Spectrum Host-oriented Therapy for Wound Infection: (1) Using Mimetic Peptides as Antagonists  
Presentation Author: Dr. Raymond Kaempfer  
Raymond Kaempfer, PhD¹, Alan S. Cross, MD², Andrey Popugailo, MSc¹, Michal Levy, BSc¹, Orli Turgeman, MSc¹.  
¹Hebrew University, Jerusalem, Israel; ²University of Maryland, Baltimore, MD

Broad Spectrum Host-oriented Therapy for Wound Infection: (2) Evaluating in Vivo Efficacy of Antagonists  
Presentation Author: Dr. Alan Cross  
Alan S. Cross, MD¹, Raymond Kaempfer, PhD², Myeongjin Choi, DVM, PhD¹, Jacqueline N. Kolasny, BSc¹  
¹University of Maryland School of Medicine, Baltimore, MD; ²Hebrew University, Jerusalem, Israel

Development of Precision Based Phage Therapy Model: The Benefits and Science Considerations  
Presentation Author: Dr. Biswajit Biswas
Biswajit Biswas, PhD, Fransisco Malagon, PhD, Kimberly A. Bishop-Lilly, PhD, Robert D. Hontz, PhD, Matthew Henry, MS, Javier Quinones, PhD, Alfred J. Mateczun, MD

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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
Melissa Swain, MLT, Jason Smedburg, PhD, Elaine Por, PhD, Christine Nadeau, PhD
Madigan Army Medical Center, Joint Base Lewis McChord, WA

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
LT Jae Dugan, Michelle Lipinski, Josh Stanbro, Michael Rouse, Michael Deshotel, LCDR Mark P. Simons
Naval Medical Research Center, Silver Spring, MD

MHSRS-19-01007 - Session 1 - #347
The Multidrug-resistant and Other Virulent Organisms Trauma Infections Initiative: 2019 Update
Presentation Author: Dr. Katrin Mende
Katrin Mende, PhD, Lee C. Mangum, PhD, LTC Kevin S. Akers, MD, MAJ Samandra T. Demons, PhD, MAJ Anthony R. Jones, PhD, LCDR Mark P. Simons, PhD, Laveta Stewart, PhD, LTC Stuart D. Tyner, PhD, David R. Tribble, MD, DrPH

1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Brooke Army Medical Center, JBSA Fort Sam Houston, TX; 3The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD; 4U.S. Army Institute of Surgical Research, JBSA Fort Sam Houston, TX; 5Walter Reed Army Institute of Research, Silver Spring, MD; 6Naval Medical Research Center, Silver Spring, MD

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
Iswarduth Soojhawon, PhD, Nagarajan Pattabiraman, PhD, Richard J. Scioti, PhD, Schroeder M, Noble, PHD

1Walter Reed Army Institute of Research, Silver Spring, MD; 2MolBox LLC, Silver Spring, MD

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
Jessica R. Spencer, MPH, Uzo Chukwuma, MPH

1Battelle Memorial Institute, Portsmouth, VA; 2Navy and Marine Corps Public Health Center, Portsmouth, VA

MHSRS-19-01252 - Session 1 - #351
Afghanistan: A Haven For Carbapenemase-producing Organisms
Presentation Author: Dr. Patrick Mc Gann
Patrick Mc Gann, PhD¹, Rebecca Bird, BS², Madeline Galac, PhD¹, Gabriel Harris, MD², Kathy Ong, BS¹, Yoon Kwak, BS¹, Anthony Jones, PhD¹
¹Walter Reed Army Institute of Research, Silver Spring, MD; ²Bagram Air Force Base, Bagram, Afghanistan

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
Michael D. Rouse, PhD¹,², Joshua Stanbro, BS¹,², Anna Jacobs PhD³, Michelle Lipinski, BS¹,², Biswajit Biswas, PhD⁴, Matthew Henry⁴, CDR Michael G. Stockelman, PhD¹, LCDR Mark P. Simons, PhD, MPH¹
¹Naval Medical Research Command, Silver Spring, MD; ²The Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; ³Walter Reed Army Institute of Research, Silver Spring, MD; ⁴Biological Defense Research Detachment, FT Detrick, MD

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 VedBrat
Sharanjit VedBrat, PhD¹, Kevin Garey, PharmD, MS²
¹KamTek Inc, Frederick, MD; ²University of Houston, Houston, TX

MHSRS-19-01556 - Session 1 - #354
Intraoperative use of Amicidin-alpha Surgical Gel to Decrease Risk of Infection
Presentation Author: Dr. Michael Bevilacqua
Daniel J. Huang¹, George F. Babcock, PhD², Tara Riddle², Caitlin E. Nurik¹, PhD, Doug Looker, PhD¹, Shalyn DeWall¹, Timothy J. Deming, PhD¹, Joseph S. Solomkin, MD, FACS¹, Michael P. Bevilacqua, MD, PhD¹
¹Amicrobe, Inc., Carlsbad, CA; ²University of Cincinnati, Cincinnati, OH

MHSRS-19-01576 - Session 1 - #355
Rapid Diagnosis of Bacterial Pneumonia using Volatile Organic Compounds
Presentation Author: Dr. Allyson Dailey
Allyson Dailey, PhD, Robin Couch, PhD
George Mason University, Manassas, VA

MHSRS-19-01657 - Session 1 - #356
DNA Gyrase Inhibition by Binding Small Molecules to both Gyrase A and B
Presentation Author: Dr. Mary MacDonald
Mary MacDonald, PhD¹, Jasmine Kalsi, MS¹, Scott Joseph, MS¹, Edward Metzger, MS², Nagarajan Pattabiraman, PhD³, Schroeder M. Noble, PhD¹, Malik Raynor, PhD¹, Thomas Langowski, BS¹, Mozna Khraiwesh, PhD¹, Anna Jacobs, PhD¹, Ana Manzano, MS¹, Richard Sciotti, PhD⁴, Brandon Pybus, PhD⁵, William McCalmont, PhD¹, Mara Kreishman-Deitrick, PhD¹, Chad Black, DVM¹
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MHSRS-19-01715 - Session 1 - #357
Determining the Safety of Glycoside Hydrolases as a Treatment Option for Dispersing Poly-microbial Biofilms
Presentation Author: Ms. Whitni Redman
Whitni K. Redman, Kendra P. Rumbaugh, PhD
MHSRS-19-01736 - Session 1 - #358
Point-of-injury Thermostable Antimicrobial Wound Matrices for Combat Wounds
Presentation Author: Mr. RaviKiran Mekala
RaviKiran Mekala, M. Pharm, MS, Manav Mehta, PhD
Gel4Med Inc, Boston, MA

MHSRS-19-01746 - Session 1 - #359
Tackling Disease-causing Biofilms using Light Activated Nanomaterials
Presentation Author: Dr. Peng Zhang
Rebecca N. Silva, Hong Tang
University of Cincinnati, Cincinnati, OH

MHSRS-19-01792 - Session 1 - #360
Novel Antimicrobial Wound Dressing for Treating Chronic Wound Infections
Presentation Author: Dr. Haluk Beyenal
Abdelrhaman Mohamed¹, Yash Raval², Hannah M. Zmuda¹, Mia Mae Kiamco¹, Sujala Sultana¹, Robin Patel², and Haluk Beyenal¹
¹Washington State University, Pullman, WA; ²Mayo Clinic, Rochester, MN

MHSRS-19-01833 - Session 1 - #361
Composition, Function, and Relevance of the Microbial Microenvironment in Wounds from Combat Injuries
Presentation Author: Dr. Nicholas Be
Nicholas A. Be, PhD¹, Meenu M. Upadhyay, PhD³,⁴,⁵, Aram Avila-Herrera, PhD¹, Nisha Mulakken, MS¹, James B. Thissen, MS¹, Seth A. Schobel, PhD³,⁴,⁵, Arnaud Belard, MBA³,⁴,⁵, Thomas A. Davis, PhD², Crystal J. Jaing, PhD¹, Eric A. Elster, MD²,³,⁴
¹Lawrence Livermore National Laboratory, Livermore, CA; ²Uniformed Services University of the Health Sciences, Bethesda, MD; ³Uniformed Services University Surgical Critical Care Initiative, Bethesda, MD; ⁴Walter Reed National Military Medical Center, Bethesda, MD; ⁵Henry M. Jackson Foundation for the Advancement of Military Sciences, Bethesda, MD

MHSRS-19-01876 - Session 1 - #362
In Vitro and in Vivo Characterization of a Pseudomonas Aeruginosa Therapeutic Phage Cocktail
Presentation Author: Dr. Anna Jacobs
Anna C. Jacobs, Andrey A. Filippov, Yunxiu He, Amanda M. Ward, Kirill V. Sergueev, Mikeljon P. Nikolich, Samandra Demons¹
Walter Reed Army Institute of Research, Silver Spring, MD

MHSRS-19-01887 - Session 1 - #363
Investigation of the Effects of Blast Overpressure Exposure on Wound Infection Susceptibility
Presentation Author: Dr. Vlado Antonic
Vlado Antonic, PhD, Venkatasivasaisujith Sajja, PhD, Yonas Alamneh, MS¹, Brittany Garry, Maria Medina-Rojas, MS, Helen Freyberger, MS, Daniel Zurawski, PhD, Joseph Long, PhD, LTC Stuart Tyner, PhD, MAJ Samandra Demons, PhD
Walter Reed Army Institute of Research, Silver Spring, MD
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
M. Raynor, PhD, T. Langowski, BS, B. Sullivan, BS, J. Rohde, PhD, M. MacDonald, PhD, A. Manzano BS, B. Pybus, PhD, W. McCalmont PhD, M. Kreishman-Deitrick PhD, C. Black, DMV, PhD, M. Khraiwesh PhD
Walter Reed Army Institute of Research, Silver Spring, MD

Targeted Drug Combination Approach for Identification of New Therapeutics against Multi-drug Resistant Bacteria
Presentation Author: Dr. Malik Raynor
M. Raynor, PhD1, T. Langowski, BS1, B. Sullivan, BS1, J. Rohde, PhD1, M. MacDonald, PhD1, A. Manzano, BS1, Y. Cheng, PhD2, W. Zheng, PhD2, R. Sciotti, PhD2, B. Pybus, PhD1, W. McCalmont, PhD1, M. Kreishman-Deitrick, PhD1, C. Black, DVM, PhD1, M. Khraiwesh, PhD1
1Walter Reed Army Institute of Research, Silver Spring, MD; 2National Institutes of Health, Bethesda, MD

Development of Durable Fixed Phage Cocktails as Therapeutics against Multidrug Resistant Gram-negative Wound Infections
Presentation Author: Dr. Mikeljon Nikolich
Andrey A. Filippov, Anna C. Jacobs, Kirill V. Sergueev, Yunxiu He, Amanda M. Ward, Sarah L. Pierson, Samandra T. Demons, Stuart D. Tyner, Mikeljon P. Nikolich
Walter Reed Army Institute of Research, Silver Spring, MD

Antimicrobial Efficacy of Peptide-based Wound Dressings – from Ex Vivo to in Vivo Models
Presentation Author: Dr. Nina Bionda
James Gras1, Elizabeth J. Bevels1, Joel Gil2, Stephen C. Davis2, Aaron D. Strickland, PhD1, Nina Bionda, PhD1
1Fyber LLC, Ithaca, NY; 2University of Miami, Miller School of Medicine, Miami, FL

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
Joel Gil1, Michael Solis1, Jose Valdes1, Alexander Higa1, Shruti Padhee2, Heather Michaels2, Brian Lenhart2, Richard Houghten2, Stephen C. Davis1
1University of Miami Miller School of Medicine, Miami, FL; 2Torrey Pines Institute for Molecular Studies, Port St. Lucie, FL

Clinical Characteristics of Recurrent Skin and Soft Tissue Infection among U.S. Army Infantry Trainees at Fort Benning, GA
Presentation Author: Dr. Eugene Millar
Angelica L. Barrall BS/BA1,2,3, Eugene V. Millar PhD1,2, David R. Tribble MD DrPH1, Michael W. Ellis MD4, Jason W. Bennett MD MSPH1,5
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD; 3University of Maryland School of Public Health, College Park,
Antimicrobial and Antibiofilm Effect of Chitosan Solutions against Methicillin Resistant Staphylococcus Aureus
Presentation Author: Dr. Keunseok Seo
Cooper Brookshire¹, Michael Flose¹, Issac Jumper¹, Joo Youn Park¹, Stanley Weller², Lloyd Starks², Keun Seok Seo¹
¹Mississippi State University, Mississippi, MS; ²NOVTECH, LLC, Chattanooga, TN

Dual-wavelength (460+405 nm) Photoinactivation of Methicillin Resistant Staphylococcus Aureus
Presentation Author: Dr. Leon Leanse
Leon G Leanse, PhD, Xueping Sharon Goh, BS, Tianhong Dai, PhD
Massachusetts General Hospital, Harvard Medical School, Boston, MA

Quinine Enhances Fungicidal Effects of Antimicrobial Blue Light: Implications for Treating Candidemia Resulting from Blast and Combat Related Injury
Presentation Author: Dr. Leon Leanse
Leon G. Leanse, PhD, Xueping Sharon Goh, BS, Tianhong Dai, PhD
Massachusetts General Hospital, Harvard Medical School, Boston, MA

Elimination of Methicillin Resistant Staphylococcus Aureus through Photo-induced Chemical Bleaching of Staphyloxanthin by Antimicrobial Blue Light and Pyocyanin
Presentation Author: Dr. Leon Leanse
Leon G Leanse, PhD, Tianhong Dai, PhD
Massachusetts General Hospital, Harvard Medical School, Boston, MA

Antimicrobial Blue Light Enhances the Effects of Antibiotics in Bacteria: Implications for the Treatment of Combat Related Multidrug Resistant Infections
Presentation Author: Dr. Leon Leanse
Leon G Leanse, PhD, Jeffery Gelfand, MD, Tianhong Dai, PhD
Massachusetts General Hospital, Harvard Medical School

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
Daniel V. Zurawski, PhD¹, Yonas A. Alamneh, MS¹, Brittany Garry, BS¹, Vlado Antonic, PhD¹, Michael Pucci, PhD², Rania Abu-Taleb, BS¹, LTC Stuart D. Tyner, PhD¹, MAJ Jonathan P. Shearer, DVM/PhD¹, Samandra T. Demons¹, PhD, Troy Lister, PhD²
¹Walter Reed Army Institute of Research, Silver Spring, MD; ²Spero Therapeutics, Inc., Cambridge, MA

The Human Monoclonal Antibody Platform: A Programmatic Effort Targeting the Gram-negative
Bacteria Responsible for Wound and Osteomyelitis Infections
Presentation Author: Dr. Daniel Zurawski
Daniel V. Zurawski, PhD, Molly K. McLendon, PhD, Samandra T. Demons, PhD, LTC Stuart D. Tyner, PhD
Walter Reed Army Institute of Research, Silver Spring, MD

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
Chandan K. Sen, PhD, Dolly K. Khona, PhD, Suman Santra, PhD

MHSRS-19-02422 - Session 1 - #378
Antagonism of Eskape Pathogens by Enterococcus and Coagulase-negative Staphylococcus Isolates from the Multidrug-resistant and Other Virulent Organisms Trauma Infections Initiative
Presentation Author: LCDR Mark Simons
Authors: Josh Stanbro1, Michelle Lipinski1, MAJ Samandra T. Demons, PhD2, LTC Stuart D. Tyner, PhD2, David R. Tribble, MD, DrPH3, Katrin Mende, PhD3,4,5, LCDR Mark P. Simons, PhD, MPH6
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MHSRS-19-02441 - Session 1 - #379
Decacationic Chlorin-Vancomycin Conjugate Mediated Antimicrobial Photodynamic Inactivation of Methicillin-resistant Staphylococcus Aureus
Presentation Author: Dr. Xiaojing Liu
Xiaojing Liu1,2, Min Wang3, He Yin3, Xueping Sharon Goh1, Ying Wang1,4, Xiuli Wang2, Long Y. Chiang3, Tianhong Dai1
1Massachusetts General Hospital, Harvard Medical School, Boston, MA; 2Shanghai Skin Disease Hospital, Tongji University School of Medicine, Shanghai, China; 3University of Massachusetts Lowell, Lowell, MA; 4Chinese PLA General Hospital, Beijing, China

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
Jennifer Neff, PhD, Danir Bayramov, PhD, Esha Patel, MS, and Jing Miao, MS
Allvivo Vascular, Inc, Lake Forest, CA

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
Sarah M. Theodoroff, PhD1,2,5, Kelly M. Reavis, MS, MPH1,4, Susan E. Griest, MPH1,2, Emily J. Thielman, MS1, Rozela M. Melgoza, AuD3,6, M. Samantha Lewis, PhD1,2,5, Kathleen F. Carlson, PhD1,4, James A. Henry, PhD1,2
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
J. David Rios, PhD, LT Charlotte K. Hughes, CPT John Lally, Leticia Bice, DVM, Dallas Golden, MAJ Brent J. Wilkerson, Carlos Esquivel, MD, Charles N. Serhan, PhD, DSc, COL Erik Weitzel, Margaux M. Salas, PhD
1U.S. Army Institute of Surgical Research, JBSA Fort Sam Houston, TX; 259th Medical Win, JBSA Lackland AFB, TX; 3Brigham and Women’s Hospital and Harvard Medical School, Boston, MA

Objective and Subjective Auditory Effects in a Longitudinal Study of Service Members with Traumatic Brain Injury and Blast Exposure

Presentation Author: Dr. Douglas Brungart
1Walter Reed National Military Medical Center; 2National Intrepid Center of Excellence; 3Defense and Veterans Brain Injury Center; 4Henry M. Jackson Foundation; 5Oak Ridge Institute for Scientific Research

Transfer Learning in Deep Neural Networks in a Brain-computer Interface for Two-talker Attention Decoding

Presentation Author: Dr. Gregory Ciccarelli
Gregory Ciccarelli, PhD, Paul Calamia, PhD, Michael Brandstein, PhD, Stephanie Haro, Michael Nolan, Joey Perricone, Thomas Quatieri, ScD, James O’Sullivan, PhD, Nima Mesgarani, PhD, Christopher Smalt, PhD

Investigating the Neurobiology of Tinnitus

Presentation Author: Dr. Jay Piccirillo
Jay F. Piccirillo, MD, Michael S. Jones, Jonathan E. Peelle, PhD, Dorina Kallogjeri, MD MPH, Sara Kukuljan, BS RN, Sean Wise, MD, Sara Murphy, MPH
1Washington University in St. Louis School of Medicine, St. Louis, MO; 2Naval Medical Center, San Diego, CA

Biosignatures of Accumulated Blast Exposure and Associated Symptoms of Tinnitus and Hearing Loss in Exposure to Explosive Breaching

Presentation Author: Dr. Walter Carr
Caroline Wilson, BA, Natalia Mendelev, MS, Zhaoyu Wang, MS, Brian Choi, BS, Yungchao Ge, PhD, Walter Carr, PhD, Natalya Weber, MD, Amanda L. Kelley, MPH, Christina LaValle, MS, Angela Boutte, PhD, Gary H Kamimori, PhD, Fatemeh Haghighi, PhD
1Icahn School of Medicine at Mount Sinai, New York, NY; 2James J. Peters VAMC, New York, NY; 3Oak Ridge Institute for Science and Education, Oak Ridge, TN; 4Walter Reed Army Institute of Research, Silver Spring, MD
Population Description of Women from the Blast-related Auditory Injury Database
Presentation Author: Dr. Mary Clouser
Mary Clouser, PhD, MPH\textsuperscript{1,3}, Kaeley Shannon, MPH\textsuperscript{2,3}, Robyn Matthews, MPH\textsuperscript{1,3}, Antony Joseph, AuD, PhD\textsuperscript{1,3,4}, Andrew MacGregor, PhD\textsuperscript{3}
\textsuperscript{1}Leidos, San Diego, CA; \textsuperscript{2}Axiom, San Diego, CA; \textsuperscript{3}Naval Health Research Center, San Diego, CA; \textsuperscript{4}Illinois State University, Normal, IL

Auditory Processing Disorder in Relation to Blast Exposure: A Future in fMRI Analysis
Presentation Author: Dr. Brandi Murphy

Associations between Tinnitus Severity and Mental Health Symptoms among Veterans with and without Traumatic Brain Injury: A National Survey
Presentation Author: Dr. Kathleen Carlson
Kathleen F. Carlson, PhD\textsuperscript{1}, Tess A. Gilbert, MHS\textsuperscript{1,2}, Elizabeth R. Hooker, MPH\textsuperscript{1}, James A. Henry, PhD\textsuperscript{3}
\textsuperscript{1}VA Portland Health Care System, Portland, OR; \textsuperscript{2}Oregon Health and Science University-Portland State University, Portland, OR; \textsuperscript{3}VA Portland Health Care System, Portland, OR; \textsuperscript{4}Oregon Health and Science University, School of Medicine, Portland, OR

Noise Outcomes in Servicemembers Epidemiology (Noise) Study: Findings to Date
Presentation Author: Dr. James Henry

HOW TO PRESERVE AND RESTORE EYESIGHT AFTER COMBAT TRAUMA

Reawakening the Regenerative Potential of Mammalian Müller Glial Cells to Restore Sight
Presentation Author: Dr. Ross Poche
Elda Rueda\textsuperscript{1}, Benjamin Hall\textsuperscript{1}, Matthew Hill\textsuperscript{1}, Paul Swinton\textsuperscript{1,2}, Xuefei Tong\textsuperscript{1}, James Martin\textsuperscript{1,2}, Ross Poché\textsuperscript{1}
\textsuperscript{1}Baylor College of Medicine, Houston, TX; \textsuperscript{2}Texas Heart Institute, Cardiomyocyte Renewal Lab, Houston, TX

Development of a Micro-coil-based Cortical Visual Prosthesis
Presentation Author: Mr. Shelley Fried
Shelley I. Fried\textsuperscript{1,2,3}, Sang Baek Ryu\textsuperscript{2,3}, Jae-Ik Lee\textsuperscript{2,3}, Seung Woo Lee\textsuperscript{2,3}
\textsuperscript{1}Boston VA Healthcare System, Boston, MA; \textsuperscript{2}Massachusetts General Hospital, Boston, MA; \textsuperscript{3}Harvard Medical School, Boston, MA

Matrix Bound Nanovesicles Protect and Repair Injured Retina and Optic Nerve after Traumatic Ocular Injury
Presentation Author: Dr. Stephen Badylak
George S. Hussey, PhD\textsuperscript{1,2}, Catalina Pineda Molina, PhD\textsuperscript{1}, Stephen F. Badylak, DVM, PhD, MD\textsuperscript{1,2}
\textsuperscript{1}University of Pittsburgh, Pittsburgh, PA; \textsuperscript{2}ECM Therapeutics, Inc, Warrendale, PA
Self-reflow Corneal Prosthetic Device for Temporarily Stabilizing Traumatic Corneal Perforation: Experimental Rabbit Eye Model
Presentation Author: Dr. Espoir Kyubwa
Espoir Kyubwa, MD/PhD1, Jawchynge Lue, PhD1, Evan Tsang, MS1, Juan Cardenas, ME1, Ronald Robnett, ME2, Jim Axtelle, BS1, Edward Burns, ME1, Glenwood Gum, PhD3, Charles Flowers, MD4, Naresh Menon, PhD1
1Chromologic LLC, Monrovia, CA; 2Rhythm Product Development Inc, Santa Monica, CA; 3Absorption Systems California LLC, San Diego, CA; 4University of Southern California Eye Institute, Los Angeles, CA

Inactive Cas9 Blocks TGF-β2-induced Expression of MDM2 and Epithelial to Mesenchymal Transition in Retinal Pigmental Epithelial Cells
Presentation Author: Dr. Hetian Lei
Bing Liu

Development of a Corneal Puncture Model for Assessing Biomaterial Therapeutics
Presentation Author: Dr. Eric Snider
Eric J. Snider PhD, SPC Jorge Acevedo, Peter Edsall, Brian Lund PhD, David Zamora PhD
U.S. Army Institute of Surgical Research, Fort Sam Houston, TX

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
Charlotte E. Joslin1, Reza Dana2, Bennie H. Jeng3, Mark I. Rosenblatt1, Peiman Hematti4, Nadim Mahmud1, Ali R. Djalilian1
1University of Illinois at Chicago, Chicago, IL; 2Harvard Medical School, Boston, MA; 3University of Maryland, Baltimore, Baltimore, MD; 4University of Wisconsin, Madison, WI

Bedside Ocular Ultrasound for Retinal Detachment in the Emergency Department
Presentation Author: CAPT Kristine Jeffers
Wesley Trueblood, MD1, Kristine Jeffers, MD1, Kerri VanArnum, EMPA1, Nicholas Thompson, MD1, Ryan Curtis, EMPA1, Craig Wallace, EMPA1, Eric Chin, MD, MBA1, Michael April, MD, PhD1
San Antonio Military Medical Center, San Antonio, TX

Brain-derived Neurotrophic Factor as Targeting Platform to Deliver Small Molecules to the Optic Nerve
Presentation Author: Dr. Stephen Kahl
Stephen B. Kahl, PhD1, Sandeep Kumar, PhD2, Glenwood G. Gum, MS, PhD2, Jieyu Zhou, PhD3, Kevin Guttenplan, PhD4, Megan Holmes5, Aaron M. Mohs, PhD5, Anh N. Diep DVM6
1Manzanita Pharmaceuticals, Inc., Woodside, CA; 2Absorption Systems LLP, San Diego, CA; 3Abzena (Bristol) LLC, Bristol, PA; 4Department of Neurobiology, Stanford University, Stanford, CA; 5University of Nebraska Medical Center, Omaha, NE; 6Pathology Research Laboratory, Inc., South San Francisco, CA

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
Leo Kim, MD, PhD\(^1\), Santiago Delgado-Tirado, MD\(^1\), Dhanesh Amarnani, MS\(^1\), Whitney Greene, PhD\(^2\), Heuy-Ching Hetty Wang, PhD\(^2\), Dean Eliott, MD\(^1\), Joseph Arboleda-Velasquez, MD, PhD\(^1\)
\(^1\)Schepens Eye Research Institute at Massachusetts Eye and Ear; \(^2\)U.S. Army Institute of Surgical Research

MHSRS-19-00648 - Session 1 - #402
A Porcine Model of Traumatic Optic Neuropathy
Presentation Author: CPT Andrew Holt
Gregory Bramblett, MD, PhD\(^2\), Jason Harris, MD\(^1\), Elaine Por, PhD\(^1\), Jeffery Cleland, OD, MBA\(^1\), Vijay Gorantla, MD, PhD\(^2\), Melody Sandoval\(^1\), Lekrystal Harris\(^1\), Dustyn Rose\(^1\), Peter Edsall, BS\(^1\), Larry Benowitz, PhD\(^3\), Jeffrey Goldberg, MD, PhD\(^4\), Andrew Holt, PhD\(^1\)
\(^1\)Sensory Trauma, U.S. Army Institute of Surgical Research, Fort Sam Houston, TX; \(^2\)Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC; \(^3\)Boston Children's Hospital and Harvard Medical School, Boston, MA; \(^4\)Byers Eye Institute, Stanford University, Palo Alto, CA

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
Donovan Reed, MD, Hunter Phillips, BS, Grant Justin, MD, Wesley Brundridge, DO, Joseph Santamaria, MD, Frank Valentin, MD, Brett Davies, MD, Marissa Weber, MD
Brooke Army Medical Center, San Antonio, TX

MHSRS-19-01071 - Session 1 - #404
Nanowafer Therapeutic for the Rapid and Effective Treatment of Eye Injuries
Presentation Author: Dr. Ghanashyam Acharya
Ghanashyam Acharya, PhD, Crystal Shin, PhD, Mahira Zaheer, MS
Baylor College of Medicine, Houston, TX

MHSRS-19-01132 - Session 1 - #405
Ocular Trauma in Operation Iraqi Freedom and Operation Enduring Freedom: 2001-2011
Presentation Author: CPT Grant Justin
Grant A. Justin, MD\(^1,2\), Morgan Harvey, MD, MAEd\(^3\), David I. Brooks, PhD\(^3\), Denise S. Ryan, MS\(^4\), Eric D. Weichel, MD\(^5\), Marcus H. Colyer, MD\(^2,3\)
\(^1\)Brooke Army Medical Center, San Antonio, TX; \(^2\)Uniformed Services University, Bethesda, MD; \(^3\)Walter Reed National Military Medical Center, Bethesda, MD; \(^4\)Warfighter Refractive Eye Surgery Program and Research Center, Fort Belvoir, VA; \(^5\)Retina Group of Washington D.C., Greenbelt, MD

MHSRS-19-01272 - Session 1 - #406
A Portable, Smartphone Based Slit Lamp/opthalmoscope for use in Austere Environments
Presentation Author: Dr. Michael Browne
Michael Browne, PhD, Nathan Fo

MHSRS-19-01377 - Session 1 - #407
Photophobia Associated with Traumatic Brain Injury: A Meta-analysis
Presentation Author: Ms. Natalya Merezhinskaya
Natalya Merezhinskaya PhD\(^1\), Rita K Mallia OD\(^2\), DoHwan Park PhD\(^2\), Daniel W Bryden PhD\(^3\), David A Eliason MD\(^1\), COL Mark E Reynolds MD MPH\(^1\), Felix M Barker II OD MS\(^1\)
Terminally Sterilized Amniotic Membrane Allografts: A Comparison of Supercritical CO2 and Gamma Irradiation Methods

Presentation Author: Dr. Jennifer Wehmeyer
Jennifer Wehmeyer, PhD1, Michael Cardenas1, Irene Palacios1, Donny Villarreal1, Rogelio Zamilpa, PhD1, Jennifer McDaniel, PhD2, David Zamora, PhD2, Anand Srinivasan, PhD1, Scott Jones, PhD1
1GenCure, San Antonio, TX; 2U.S. Army Institute of Surgical Research, Ft. Sam Houston, TX

PCL Nanoparticles for Retinal Drug Delivery of a Small Molecule Inhibitor of RUNX1

Presentation Author: Dr. Joseph Arboleda-Velasquez
Joseph F. Arboleda-Velasquez1, Daniela Isaacs-Bernal1, Dhanesh Amarnani1, Santiago Delgado-Tirado1, Hannah Whitmore1, Whitney Greene2, Heuy-Ching Hetty Wang2, Dean Eliott3, Leo A. Kim1,2
1Schepens Eye Research Institute and Harvard Medical School, Boston, MA; 2U.S. Army Institute of Surgical Research, Houston, TX; 3Mass Eye and Ear and Harvard Medical School, Boston, MA

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
SPC Austin T. Rogers, SPC Joshua W. Hudson, SSG Ashley R. Wilson, Timothy R. Varney, PhD
U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD

Direct-Write Electrospun Collagen Nanofibers with Integrated Sensors for Corneal Surgical Training

Presentation Author: Dr. Frank Alexander
Frank Alexander1, Lee Johnson2, Kyle Packer3
1Geneva Foundation, Tacoma, WA; 2Meadowave LLC, Washington, DC; 3Womack Army Medical Center, Fort Bragg, NC

Topical Delivery of MG53 to Repair Corneal Injury and Prevent Scarring

Presentation Author: Dr. Tao Tan
Tao Tan1,2, Heather L Chandler3, Anne J. Gemensky-Metzler3, Xinyu Zhou1, Qiang Wang1, Frank Yi, Hua Zhu1, Jianjie Ma1,2
1The Ohio State University, Columbus, OH; 2TRIM-edicine, Inc, Columbus, OH; 3The Ohio State University, Columbus, OH

3D-printed Craniofacial Bone Grafts with Autologous Cells for Bone Regeneration

Presentation Author: Dr. Ethan Nyberg
Ethan Nyberg1, Aine O’ Sullivan1, Ashely Farris1, Michael Grant2, Warren Grayson1
1Johns Hopkins School of Medicine, Baltimore, MD; 2University of Maryland School of Medicine, Baltimore, MD
Monocular Reduced Vision in Pilot Performance
Presentation Author: LCDR Micah Kinney
Michael Reddix, PhD¹, CAPT Matthew Rings, MD²
¹Naval Medical Research Unit Dayton, WPAFB, OH; ²Naval Aerospace Medicine Institute, NAS Pensacola, FL

Performance Assessment of the New Military Vision Standard
Presentation Author: LCDR Hong Gao
Authors: Hong Gao, OD, PhD¹, Donna Murdoch, PhD², Neil Delallana², Myah Mirzaoff², Erica Dukovich²
¹Army Public Health Center, Aberdeen Proving Ground, MD; ²Naval Medical Center San Diego, San Diego, CA

When Technology Hurts us: A Devastating Projectile Globe Injury in a Young Active Duty Soldier
Presentation Author: CPT Maxine Harvey
Maxine Harvey, DO, Roger Anderson, MD, Matthew Debiec, MD, Robert Mazzoli, MD
Madigan Army Medical Center, Tacoma, WA

Recent Trends in Surgical Management of the Orbital Floor Fracture at Brooke Army Medical Center
Presentation Author: CPT John Lally
CPT Benjamin K. Walters, MD; CPT Jason K. Adams, MD; MAJ Scott E. Bevans, MD; LTC Samuel A. Spear, MD; LTC Jon Robitschek, MD

Drug Loading of SCCO2 Sterilized Human Amniotic Membrane
Presentation Author: Dr. David Zamora
Jennifer S. McDaniel, PhD, Anthony J. Johnson, MD, David O. Zamora, PhD
U.S. Army Institute of Surgical Research, Ft. Sam Houston, TX

WARFIGHTER READINESS: IMPACT OF TRAUMA

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
Jeffrey Cook, PhD¹, Jennifer Phillips, PhD¹, Maegan Paxton BS², April Thompson MSW¹, Avni Patel MPH², David Riggs PhD¹, Tracey Koehlmoos PhD²
¹Henry M. Jackson Foundation, Bethesda, MD; ²Uniformed Services University of the Health Sciences, Bethesda, MD

Mindfulness Based Stress Reduction Increases Quality of Life and Occupational Readiness among Emergent Providers
Presentation Author: Ms. Dallas Ducar
J. Kim Penberthy, J. Forrest Calland
Longitudinal Relationship of Combat Exposure with Psychological Health Diagnoses in the Military Health System

Presentation Author: Dr. Marjorie Campbell
Marjorie Campbell, PhD, Xian Liu, PhD, Lindsay Stewart, Kevin O’Gallagher, Jean Otto, DrPH, MPH, Bradley Belsher, PhD, Daniel Evatt, PhD
Psychological Health Center of Excellence, Silver Spring, MD

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
Elyse Katz, PhD1,2, Martin Brown, MSc3, Ann Rasmusson, MD4,5, Natalia Kan-Dobrosky, PhD6, Heather Lyons-Zincyn, PhD1,2
1U.S. Army Medical Materiel Development Activity, Fort Detrick, MD; 2Tunnell Government Services, Bethesda, MD; 3PPD, Cambridge, United Kingdom; 4Department of Veterans Affairs Boston Healthcare System and National Center for Posttraumatic Stress Disorder, Boston, MA; 5Boston University School of Medicine, Boston, MA; 6PPD, Morrisville, NC

Effects of TBI and PTSD Symptoms on the Mayo-Portland Adaptability Subscales among U.S. Active Duty Service Members

Presentation Author: Mrs. Larissa Tate
Larissa L. Tate, MPS1, Maegan M. Paxton, BS2, Louis M. French, PsyD1,2,3, Wendy A. Law, PhD1,2, Katherine W. Sullivan, SLP2,3, David S. Riggs, PhD1
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD; 3Defense Veterans and Brain Injury Center, Falls Church, VA

Assessing Primary Care Physicians’ Knowledge and Confidence Related to Posttraumatic Stress Disorder among Military Populations

Presentation Author: Dr. Nida Corry
Nida Corry, PhD1, Kelly Lack, MPP2, Rayan Joneydi, PhD1, Lauren Olsho, PhD2, Christopher Spera, PhD3
1Abt Associates, Durham, DC; 2Abt Associates, Cambridge, MA; 3Abt Associates, Rockville, MD

Secret Stories – The Impact of Miscarriage and Abortion on Soldiers’ Warfighter Readiness

Presentation Author: Dr. Rita Quasten
Rita Quasten, Dr. Phil, Jennifer Greenberg, MPH, Ruth Quah, MPH, Michael Engler, MPH, Zachary Peters, MPH
Psychological Health Center of Excellence, Silver Spring, MD

Theodicy and Spiritual Distress among Veterans Managing Posttraumatic Stress

Presentation Author: MAJ Timothy Usset
J. Irene Harris, PhD1, Zhen Hadassah Cheng, PhD2
1Bedford VA Health Care System; 2Portland VA Health Care System

Nociceptin/Orphanin FQ Receptor Antagonists Support Extinction Learning in a Rodent Model Fear
Conditioning
Presentation Author: Dr. Emily Lowery-Gionta
Emily Lowery-Gionta, PhD, Rachel Taylor, PhD, Isaac Jeong, BS, Matthew May, MS, Matthew Ventura, BS, Elizabeth Bergman, BS, Gabriella Silva, CPT Liana Matson, PhD, CPT Nicole Moore, PhD
Walter Reed Army Institute of Research, Silver Spring, MD

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
Jeffrey Cook, PhD1,2, Jennifer Phillips, PhD1,2, Maegan Paxton BS2, Avni Patel MPH2, David Riggs PhD1,2, Tracey Koehlmoos PhD2
1Henry M. Jackson Foundation, Bethesda, MD; 2 Uniformed Services Univ of the Health Sciences, Bethesda, MD

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
Willie J. Hale1, Brian A. Moore1,2, Casey L. Straud2, Jim Mintz2, Kirsten H. Dillon3, Stefanie T. LoSavio3, Jennifer S. Wachen4,5, Brett T. Litz4,5, Jeffrey S. Yarvis6, Stacey Young-McCaughan7, Alan L. Peterson1,2,7, Patricia A. Resick3
1University of Texas at San Antonio, San Antonio, TX; 2University of Texas Health Science Center at San Antonio, San Antonio, TX; 3Duke University Medical Center, Durham, NC; 4VA Boston Healthcare System, Boston, MA; 5Boston University, Boston, MA; 6Carl R. Darnall Army Medical Center, Fort Hood, TX; 7South Texas Veterans Health Care System, San Antonio, TX

MHSRS-19-02093 - Session 1 - #430
Cognitive Reappraisal Mitigates Mental Health Consequences of Combat Exposure
Presentation Author: Mr. Hunter Yates
Hunter K. Yates, Jeffrey M. Osgood, Jayne Holzinger, Morgan A. Conway, Phillip J. Quartana
1Walter Reed Army Institute of Research, Silver Spring, MD

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
K. Caleigh Shepard, Meltem Ozcan, Anna I. Burns, Anna Alkozei, and William D.S. Killgore

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
Kristen H. Walter, PhD1,2, Nicholas P. Otis, BS1,2, Travis N. Ray, MS1,2, Lisa H. Glassman, PhD1,2, Alexandra L. Powell, BS1,2, Matthew A. Humphreys, MD2, Betty Michalewicz-Kragh, MS3, Cynthia J. Thomsen, PhD2
1Leidos, Reston, VA; 2Naval Health Research Center, San Diego, CA; 3Naval Medical Center San Diego, San Diego, CA

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 Przegienda

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
Jeanette Little, MS1, COL Jeffrey S Yarvis, PhD2, Larry Pruitt, PhD3, Katy Dondanville, PsyD, ABPP4, Michelle Barrera, BS4, Amanda Schmeltz, MED5, Yukia Green, MS6, Mabel Cooper, MS5, Tabitha Waldrop, MS6
1Telemedicine and Advanced Technology Research Center, Fort Gordon, GA; 2The Carl R. Darnall Army Medical Center (CRDAMC), Ford Hood, TX; 3U.S. Department of Veteran Affairs, Seattle, WA; 4University of Texas Health Science Center at San Antonio School of Medicine, Psychiatry, Fort Hood, TX; 5The Geneva Foundation, Fort Gordon, GA; 6Irving Burton Associates, LLC (IBA), Fort Gordon, GA

MHSRS-19-00283 - Session 1 - #437
Development and Implementation of a 30-day Outpatient Program for Subthreshold PTSD
Presentation Author: Mrs. Larissa Tate
Larissa Tate, MPS1, Sybil Mallonee, MA1, Fernanda De Oliveira1, BS, Augusto Ruiz, PsyD2,3, Cynthia Giron, BA1
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD; 3Center for Deployment Psychology, Bethesda, MD

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
Cortney Mast, BA, Christopher Hines, MD, Joanne Huff, RN, David Wilkie, MD, Chelsea Henry, BS, Scott Mooney, PhD, ABPP
Dwight D. Eisenhower Army Medical Center, Fort Gordon, GA

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
Valerie Riege, Captain, USN, Rph, MHA, MA, Curtis Null, Chief Petty Officer, USN, Jenny Tsao, MHA, USN
BUMED

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
Jenny Owens, OTD1, Leanne Knobloch, PhD2, Leonard Matheson, PhD3, Mathew Dodson, OTD4
REBOOT Alliance, Pleasant View, TN; 2University of Illinois, Urbana, IL; 3EpicRehab, Chico, CA; 4Braintrust Services, Fort Collins, CO

MHSRS-19-00511 - Session 1 - #441
Closed-loop Vagus Nerve Stimulation to Treat PTSD
Presentation Author: Dr. Seth Hays
Seth A. Hays, PhD
University of Texas at Dallas, Richardson, TX

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
Alan Peterson, PhD1,2,3, Patricia Resick, PhD4, Stacey McCaughan-Young, RN, PhD1,2, Donald McGeary, PhD1,2, Cindy McGeary, PhD1,2, John Moring, PhD1,2, Lindsay Bira, PhD1,2, Kirsten Dillon, PhD4, Paul Nabity1,2, PhD, Alexandra Macdonald5, Dawn Velligan, PhD1, Willie Hale, PhD1,2, Antoinette Brundige, MA1, Jose Lara-Ruiz, MA1,3, Emma Mata-Galan2, Stephen L. Holliday2, Jim Mintz, PhD1
1University of Texas Health Science Center at San Antonio, San Antonio, TX; 2South Texas Veterans Health Care System, San Antonio, TX; 3University of Texas at San Antonio, San Antonio, TX; 4Duke University Medical Center, Durham, NC; 5The Citadel, Military College of South Carolina, Charleston, SC

MHSRS-19-00904 - Session 1 - #443
Assessment of Far Forward Behavioral Health Needs of Soldiers, Medics, and Leaders
Presentation Author: Dr. Joshua Wilk
Joshua E. Wilk, PhD, Kristina Clarke-Walper, MPH, Katie Nugent, PhD, Justin Curley, MD
Walter Reed Army Institute of Research, Silver Spring, MD

MHSRS-19-00928 - Session 1 - #444
Acupuncture Helps Complex Medical Illness: Dissemination of Results
Presentation Author: Dr. Lisa Conboy
Lisa Conboy, ScD1,2, Lisa Taylor-Swanson, PhD, MACOM, EAMP3, Beth Ann Schmitt, LicAc, MA1, Eric Jacobson, PhD4
1New England School of Acupuncture at MCPHS, Worcester, MA; 2Beth Israel Deaconess Medical Center, Boston, MA; 3University of Utah, Salt Lake City, UT; 4Harvard Medical School, Boston, MA

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
Laurel L. Hourani, PhD, MPH1, Maria I. Davila, PhD2, Jessica Morgan, PhD1, Sreelatha Meleth, PhD1, Derek Ramirez, MA1, Greg Lewis, PhD2, Paul N. Kizakevich, MS, PE1, Randy Eckhoff, BS1, Tim Morgan, MA1, Laura Strange PhD1, RN, Becky Lane, PhD1, Belinda Weimer, MA1, Amanda Lewis1
1RTI International, Research Triangle Park, NC; 2Indiana University, Bloomington, IN; 3University of North Carolina, Chapel Hill, NC

MHSRS-19-01208 - Session 1 - #446
Can Mindfulness Help to Predict Veterans’ Mental Health Service Utilization? Introduction
Presentation Author: Dr. Nicholas Barr
Sara Kintzle, PhD1,2, Carl Castro1,2
**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  
Nugent, K.L.\(^1\), Clarke-Walper, K.M.\(^2\), Macdonald, J.B.\(^1\), Penix, E.A.\(^1\), Woolaway-Bickel, K.\(^3\), Rangel, T.A.\(^3\), Laygo, R.M.\(^3\), Wilk, J.E.\(^1\)  
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**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  
Marian E. Betz MD, MPH\(^1\), \(^2\), Col. Kathleen Flarity, PhD\(^3\), Bonnie J. Siry, MSS\(^1\), Christopher E. Knoepke, PhD, MSW\(^3\), Deborah Azrael, PhD\(^6\), Rachel L. Johnson, MS\(^7\), Amanda Medlin,\(^1\) Elizabeth Juariz-Colunga, PhD\(^7\), Evan Polzer, MA\(^1\), Daniel D. Matlock, MD, MPH\(^2\)  
\(^1\)University of Colorado School of Medicine, Aurora, CO; \(^2\)VA Eastern Colorado Geriatric Research Education and Clinical Center, Aurora, CO; \(^3\)Center for COMBAT Research, Aurora, CO; \(^4\)HQ Air Mobility Command, Scott AFB, IL; \(^5\)University of Colorado School of Medicine, Aurora, CO; \(^6\)Harvard School of Public Health, Boston, MA; \(^7\)Colorado School of Public Health, Aurora, CO

**MHSRS-19-01643 - Session 1 - #449**  
Measurement Invariance and Item Response Theory Modeling of the Suicide Cognitions Scale  
Presentation Author: Dr. Justin Baker  
Justin C. Baker, PhD\(^1\), Craig J. Bryan, PsyD\(^1\), Alexis M. May, PhD\(^2\), Michael H. Allen, MD\(^3\), Craig A. Cunningham, PhD, CNOR\(^4\), Michelle D. Wine, PsyD\(^5\), AnnaBelle O. Bryan, MS\(^5\), Julia A. Harris, MS\(^1\), William A. Russell, CSW\(^1\)  
\(^1\)University of Utah, Salt Lake City, UT; \(^2\)Wesleyan University, Middletown, CT; \(^3\)University of Colorado School of Medicine, Aurora, CO; \(^4\)Naval Medical Center Portsmouth, Portsmouth, VA; \(^5\)U.S. Army Medical Department Activity, Fort Carson, CO

**MHSRS-19-01853 - Session 1 - #450**  
Strategic Manning for Embedded Mental Health in Operational Settings: A Data-driven Approach  
Presentation Author: CDR Jeffrey Millegan  
Jeffrey Millegan, MD, MPH, FAPA\(^1\), Robert Lippy, PhD, ABPP\(^1\), Thomas F. Murray IV, MSIT, PMP, ITILv3\(^2\), Bernardo Buenviaje, PhD, MBB\(^5\), Katherine Hucles, PhD\(^3\), Jennifer Webb-Murphy, PhD\(^7\), Jagruti Bhakta, PhD\(^1\), Eileen Delaney, PhD\(^1\), Ingrid Pauli, PhD\(^2\)  
\(^1\)Bureau of Medicine and Surgery, San Diego, CA; \(^2\)Bureau of Medicine and Surgery, Falls Church, VA; \(^3\)Navy and Marine Corps Public Health Center

**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  
Brianna Biel, BA, Ralph B. Arnold DMin, EdD, LPCS, Angela Sutherland, MPH, Suzanne Martin, PsyD, MPH, DeeAnn Taylor-Rivera, RN, BSN  
Naval Medical Center Camp Lejeune, Camp Lejeune, NC
Identifying Error Rates in Suppressed Emotions during Training
Presentation Author: 2LT Raul Betancourt-Perez
R. Gabriel Betancourt-Perez, OMS II; Michelle Lu, DO; Michael Bork, DO; Larry Brunson; Gail Singer-Chang, PsyD; Natalie Nevins, DO; Tuan Hoang, MD; Marian Safaoui, MD; Michael Czekajlo, MD, PhD; Alan Moloff, DO, MPH; Rosellen Roche, MD, PhD; Anthony LaPorta, MD, FACS
1Rocky Vista University College of Osteopathic Medicine, Ivins, UT; 2Rocky Vista University College of Osteopathic Medicine, Parker, CO; 3Veracity Security Systems, San Diego, CA; 4Western University of Health Sciences College of Osteopathic Medicine, Pomona, CA; 5United States Army Reserve; 6Naval Medical Center, San Diego, CA; 7Virginia Commonwealth University School of Medicine, Richmond, VA; 8Strategic Operations, San Diego, CA; 9Ohio University, Athens, OH

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
Maria Davila, PhD1, Paul Kizakevich, MS2, Randy Eckhoff, BS2, Jessica Morgan, PhD2, Sreelatha Meleth, PhD2, Derek Ramirez, MA2, Tim Morgan, MA2, Laura Strange PhD2, RN, Becky Lane, PhD2, Belinda Weimer, MA2, Amanda Lewis2, Gregory Lewis, PhD3, Laurel Hourani, PhD2
1Univ of North Carolina, Chapel Hill, NC; 2RTI International, Durham, NC; 3Indiana University, Bloomington, IN

A Pilot Study to Examine Psychological and Neuropsychological Outcomes and a Novel Detoxification Program for Gulf War Illness
Presentation Author: Dr. Gayle Morse
Donald Graves1, Gayle Morse1,2, Kathleen Kerr3, and David O. Carpenter2
1The Sage Colleges, Troy, NY; 2University at Albany, Albany, NY; 3University of Toronto, Toronto, Ontario, Canada

Healthcare Utilization in Soldiers with Concussion and Other Deployment-related Injuries
Presentation Author: Ms. Kristina Clarke-Walper
Kristina Clarke-Walper, MPH, Joshua Wilk, PhD, Hunter Yates, BS
Walter Reed Army Institute of Research, Silver Spring, MD

The Impact of Personality Disorders On CPT Treatment Outcome in Active Duty Military
Presentation Author: Dr. Sahli Cavallaro

Approaches to Prevention and Treatment of High-risk Behaviors using Neuromodulation
Presentation Author: Mr. Richard Hanbury
Richard Hanbury, MBA, Dip. Law, BA.Hons1, Brad Chedister, BS, BioEng, MS2, Philippe A. Souvestre, MD, CES, CEA/PhD, FAsMA3
1Sana Health Inc, Boulder CO; 2Draper Laboratory, Reston, VA; 3NeuroKinetics Health Services, Inc, Vancouver, BC, Canada
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
Angus G. Scrimgeour, PhD

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
Rachel Taylor, PhD, Matthew May, MS, Nicole Moore, PhD, Liana Matson, PhD, Emily Lowery-Gionta, PhD
Walter Reed Army Institute of Research, Silver Spring, MD

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
Alan L. Peterson, PhD, Tabatha H. Blount, PhD, Edna B. Foa, PhD, Lilly A. Brown, PhD, Carmen P. McLean, PhD, Terence M. Keane, PhD, Richard P. Schobitz, PhD, Bryann R. DeBeer, PhD, Brooke A. Fina, LMSW, Wyatt R. Evans, PhD, Samantha Synnett, MSW, Brittany N. Hall-Clark, PhD, Timothy O. Rentz, PhD, Jeffrey S. Yarvis, PhD, Katherine A. Dondanville, PsyD, Hunter Hansen, PsyD, Vanessa M. Jacoby, PsyD, Jose Lara-Ruiz, MA, Casey L. Stroud, PsyD, Willie Hale, PsyD, Dhiya Shah, PsyD, Lauren M. Koch, PhD, Kelsi M. Gerwell, PhD, Stacey Young-McCaugham, RN, PhD, Brett T. Litz, PhD, Eric C. Meyer, PhD, Douglas E. Williamson, PhD, John D. Roache, PhD, Martin A. Javors, PhD, Allah-Fard M. Sharrieff, LMSW, Jim Mintz, PhD
1University of Texas Health Science Center at San Antonio, San Antonio, TX; 2South Texas Veterans Health Care System, San Antonio, TX; 3University of Texas at San Antonio, San Antonio, TX; 4University of Pennsylvania, Philadelphia, PA; 5National Center for PTSD, Boston, MA; 6VA Boston Healthcare System, Boston, MA; 7Boston University, Boston, MA; 8Brooke Army Medical Center, San Antonio, TX; 9Central Texas Veterans Health Care System, Waco, TX; 10Carl R. Darnall Army Medical Center, Fort Hood, TX; 11Massachusetts Veterans Epidemiology Research and Information Center, Boston, MA; 12Duke University Medical Center, Durham, NC

MHSRS-19-01046 - Session 1 - #461
Delta Opioid Receptor Biased Agonists as a New Treatment Paradigm for PTSD
Presentation Author: Dr. Mark Peterson
Mark Peterson, PhD, Amal Wahhab, PhD, Veronique Blais, MSc, Dwight Macdonald, PhD, Luc Richard, MSc, Helmut Thomas, PhD, Yves Dory, PhD, Louis Gendron, PhD
1Cyclenium Pharma Inc, Montreal, Quebec, Canada; 2University of Sherbrooke, Sherbrooke, Quebec, Canada

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
Frank P. Bymaster, Michael Lisieski, Arman Harutyunyan, Banibrata Das, Israel Liberzon, Maarten Reith, Shane A. Perrine, Aloke K. Dutta
1TRImaran Pharma Inc; 2Wayne State University; 3University of Michigan; 4New York University
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
Jennifer Perusini, PhD, Richard Zemsky, JD
Neurovation Labs, Inc, New York, NY

MHSRS-19-01538 - Session 1 - #464
Intravenous Ketamine Infusion Does Not Alter Long-term Fear Memory in Male Rats
Presentation Author: CDR Kennett Radford
CDR Kennett Radford, PhD, CRNA, Michael Zhang, BS, Rina Berman, BS, Kwang Choi, PhD
Uniformed Services University of the Health Sciences, Bethesda, MD

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
Daniel Hupalo1, Christopher Forsberg2, Jack Goldberg2,3, William S. Kremen4,5, Michael J. Lyons6, Anthony Soltis1, Coralie Viiolet1, Robert J. Ursano7, Murray B. Stein4, Carol E. Franz4, Yan V. Sun8, Viola Vaccarino8, Nicholas L. Smith2,3, Clifton L. Dalgard1, Matthew D. Wilkerson1, Harvey B. Pollard1
1The American Genome Center, Uniformed Services University, Bethesda, MD; 2U.S. Department of Veteran Affairs, Seattle, WA; 3University of Washington, Seattle, WA; 4University of California San Diego, San Diego, CA; 5VA San Diego Center of Excellence for Stress and Mental Health, San Diego, CA; 6Boston University, Boston, MA; 7Uniformed Services University, Bethesda, MD; 8Emory University, Atlanta, GA

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
Shawn G. Rhind1, Alex P. Di Battista1, Maria Y. Shiu1, Ruth A. Lanius2, J. Don Richardson2, Rakesh Jetly4
1Defense Research & Development Canada, Toronto Research Centre, Toronto, Ontario; 2University of Western Ontario, London, Ontario; 3Canadian Forces Health Services, Ottawa, Canada

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
Guillaume Duvey, PhD1, Cyril Goudet, PhD2, Valérie Bertaina-Anglade, PhD3, Emilie Cayre, MS3, Jean-Philippe Pin, PhD, Christophe Drieu-la-Roche, PhD3, Sylvain Celanire, PhD1
1PRAGMA Therapeutics, Archamps, France; 2Institut de Génomique Fonctionnelle, Montpellier, France; 3Biotrial, Rennes, France

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
Mihai Popescu, Elena-Anda Popescu, Thomas J. DeGraba, John D. Hughes
Walter Reed National Military Medical Center, Bethesda, MD
Salivary Hormone Analysis: A Useful Tool to Detect Detrimental Stress Responses during Military Deployments?
Presentation Author: MAJ Jeffrey Colburn
Jeffrey Colburn, MD
Brooke Army Medical Center, San Antonio, TX

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
Kwang H Choi, PhD, Michael Zhang, BS, Rina Y Berman, BS, T John Wu, PhD, Kennett D Radford, PhD
Uniformed Services University, Bethesda, MD, 20814

COGNITIVE READINESS: BRIDGING THE GAP BETWEEN NEUROPSYCHOLOGICAL TESTS AND WARFIGHTER READINESS

Presentation Author: Dr. Mark Ettenhofer
Mark L. Ettenhofer, PhD¹,²,³, Weimin Zheng, PhD⁴,⁵, Pinata Sessoms, PhD⁴, Sarah I. Gimbel, PhD¹,²,⁶, LT Melissa Laird, PhD⁷, ZLT Bo Robertson⁸, Lars D. Hungerford, PhD¹,²,⁶
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Attentional Improvements Following Neurofeedback Therapy for Traumatic Brain Injury in Service Members: A Single-group Pilot Study
Presentation Author: Dr. Jamie Hershaw
Jamie N. Hershaw, PhD¹,², Candace Hill-Pearson, RN¹,³, Jorge I. Arango, MD¹,³, CAPT Alicia R. Souvignier, DPT¹,⁴, CAPT Renee M. Pazdan, MD¹
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Service Member Experience and Patient Satisfaction Following Utilization of Military Teleneuropsychology Service
Presentation Author: Dr. Scott Mooney
Chelsea Henry, BA¹, CPT Cody Curin, PsyD¹, Angelica Escalona, PhD², Scott Mooney, PhD, ABPP¹
¹Dwight D. Eisenhower Army Medical Center, Fort Gordon, GA; ²Fort Belvoir, VA

Attention-deficit/hyperactivity Disorder is Linked to Reduced Cognitive Resiliency to Subconcussive
Head Impact: A Case-control Intervention Study
Presentation Author: Dr. Keisuke Kawata
Keisuke Kawata, PhD, Madeleine Nowak, BS, Patrick Quinn PhD, Zhongxue Chen, PhD, Keisuke Ejima, PhD, Timothy Mickleborough, PhD, David Koceja, PhD, Sharlene Newman, PhD
Indiana University, Bloomington, IN

MHSRS-19-00689 - Session 1 - #475
Heart Rate Variability Changes Following Live Z Score Neurofeedback Therapy
Presentation Author: Ms. Megan Loftin
Megan C. Loftin, MS1, Candace Hill-Pearson, RN1, Jamie N. Hershaw, PhD1, Jorge Arango, MD1, CAPT Alicia Souvignier, DPT1,2, CAPT Renee Pazdan, MD1
1Department and Veterans Brain Injury Center, Fort Carson, CO; 2United States Public Health Service, Fort Carson, CO

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
Rael Lange, PhD1,2,3,4, Sara Lippa, PhD1,2,3, Tracey Brickell, DPsych1,2,3,5, Ping-Hong Yeh, PhD2,3, Angela Driscoll, MS1,2,3, Megan Wright, MA1,2,3, Rachel Gartner, MS1,2,3, Jamie Sullivan, BA1,2,3, Nicole Varbedian, BS1,2,3, Elizabeth Barnhart, BA1,2,3, Daniel Ramin, BA1,2,3, Yasmine Eshea, BS1,2,3, Gabrielle Robinson, BA1,2,3, Samantha Braatz, MS1,2,3, Claire Kostelnik, BA1,2,3, Kelly Gillow, MS1,2,3, Jessie Verive, BS1,2,3, Megan Glazer, MS1,2,3, Louis French, PsyD1,2,3,5
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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
Rael Lange, PhD1,2,3,4, Tracey Brickell, DPsych1,2,3,5, Louis French, PsyD1,2,3,5, Angela Driscoll, MS1,2,3, Megan Wright, MA1,2,3, Rachel Gartner, MS1,2,3, Jamie Sullivan, BA1,2,3, Nicole Varbedian, BS1,2,3, Elizabeth Barnhart, BA1,2,3, Daniel Ramin, BA1,2,3, Yasmine Eshea, BS1,2,3, Gabrielle Robinson, BA1,2,3, Samantha Braatz, MS1,2,3, Claire Kostelnik, BA1,2,3, Kelly Gillow, MS1,2,3, Jessie Verive, BS1,2,3, Megan Glazer, MS1,2,3, & Sara Lippa, PhD1,2,3
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MHSRS-19-01103 - Session 1 - #478
A Review of Research into Training as a Cognitive Performance Enhancement Technique
Presentation Author: Ms. Amanda Hayes
Amanda Hayes, MS1,2, Amanda Kelley, PhD1, Emmanuel Nwala, PhD1
1U.S. Army Aeromedical Research Laboratory, Fort Rucker, AL; 2Oak Ridge Institute for Science and Education, Oak Ridge, TN

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
Caitlin Haven, MPH, Katherine Finkelstein, MA, Nicole Ekon, MA, Alexis Maule, DSc, Susan P. Proctor, DSc, Kristin J. Heaton, PhD
1U.S. Army Research Institute of Environmental Medicine, Natick, MA; 2VA Boston Healthcare System, Boston, MA

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
Alice LaGoy, Hassen Khan, Shawn Eagle, PhD, Aaron Sinnott, Meaghan Beckner, Shawn Flanagan, PhD, Fabio Ferrarelli, PhD, Bradley Nindl, PhD, Anne Germain, PhD, Chris Connaboy, PhD
1University of Pittsburgh, Pittsburgh, PA; 2University of Pittsburgh Medical Center, Pittsburgh, PA; 3University of Pittsburgh School of Medicine, Pittsburgh, PA

MHSRS-19-02031 - Session 1 - #483
Cognitive Rehabilitation for the Warfighter: Application of Smart
Presentation Author: Dr. Ida Babakhanyan
Ida Babakhanyan, PhD, Rosemary A. Remigio-Baker, PhD, Daniel Kim, MA, CDR, Sandi Chapman, PhD, CDR Paul Sargent, MD, Jason M. Bailie, PhD
1Defense and Veterans Brain Injury Center; 2Naval Hospital Camp Pendleton, CA; 3General Dynamics Health Solutions, Fairfax, VA; 4University of Texas at Dallas, Dallas, TX

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
Marielle M. Nagele, Matthew J. Kmiecik, Zhengsi Chang, MS, David M. Martinez, MS, Mikalea Juarez, Margarita Khachaturyan, Michael Lundie, MA, Lauren Kim, Nyaz Didehbani, PhD, Daniel C. Krawczyk, PhD
1The University of Texas at Dallas Center for BrainHealth, Dallas, TX; 2University of Texas Southwestern Medical Center, Dallas, TX

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
Jared S Garland, BS, Megan Tsui, BS, Emilia-Marie Jaskot, BS, Martin A Knoll, MS, Jerika A Taylor, MA, Kiara H Buccellato, MA, Margaret Swanberg, DO, Paul F Pasquina, MD
Mindfulness: An Emerging Strategy for Enhancing Health and Readiness in the Military
Presentation Author: CPT Thomas Nassif
Thomas H. Nassif, PhD, Amanda L. Adrian, PhD, Alexis Dixon, MA, Richard B. Gonzales, Antonio Best, MA, Amy B. Adler, PhD
Walter Reed Army Institute of Research, Bethesda, MD

Paradoxical Effect of Stimulus Density on PVT Time-on-task Effect during Sleep Deprivation
Presentation Author: Dr. Kimberly Honn
Kimberly A. Honn, PhD, Hans P.A. Van Dongen, PhD
Washington State University Spokane, Spokane, WA

LONG-TERM IMPAIRMENT FOLLOWING CONCUSSION: UNDERSTANDING DISCREPANCIES IN REPORTED OUTCOMES AND IMPLICATIONS FOR RETURN-TO-DUTY

Does Method of Receiving A Traumatic Brain Injury Influence Care Seeking?
Presentation Author: Ms. Bianca Chavez
Bianca Chavez, BSA1,2,3, Sandra Escolas, PhD1,4, Hamid Ferdosi, MD1,2, Sean Sebesta, MD1,3, Daniel Beauchamp, DO3
1Defense and Veterans Brain Injury Center, Silver Spring, MD; 2General Dynamics Information Technology, Fairfax, VA; 3Traumatic Brain Injury Clinic, Fort Bliss, TX; 4Fort Hood Intrepid Spirit Center, Fort Hood, TX

Telerehabilitation for Combat Wounded with Traumatic Brain Injury and Post Traumatic Stress Disorders
Presentation Author: Dr. Kris Siddharthan

Non-medical Predictors of Long-term TBI Outcomes
Presentation Author: Ms. Catherine Butt
Felicia Hendrix-Bennett, MHA, Catherine Butt, MA, Brick Johnstone, PhD
Defense and Veterans Brain Injury Center, Fort Belvoir Intrepid Spirit Center, Fort Belvoir, VA

Task Practice Intensity Estimation in Individuals with Traumatic Brain Injury
Presentation Author: Dr. Sandeep Subramanian
Sandeep Subramanian, PhD1,2, Jericho Barela, SPT1, Laura Landry, SPT1, Bryan Sheffield, SPT1, Esequiel Salcedo, BSN1, Patricia Rivera, DPT2, Elizabeth Koyle, PhD2, Ramesh Grandhi, MD3
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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
Emily T. Noyes, MA1-2, Xinyu Tang, PhD3, Deveney Ching, MA1-2, Marc A. Silva, PhD1-2,4, Kristen Dams-O’Connor, PhD5, Jacob A. Finn, PhD6, Flora M. Hammond, MD7-8, Mary Jo Pugh, PhD, RN9, Angelle M. Sander, PhD, FACRM10-11, Lillian F. Stevens, PhD12-13, William C. Walker, MD13-14, Risa Nakase-Richardson, PhD1-2,4
1University of South Florida, Tampa, FL; 2James A Haley Veterans’ Hospital, Tampa, FL; 3Tampa VA Research and Education Foundation, Tampa, FL; 4Defense and Veterans Brain Injury Center, Tampa, FL; 5Icahn School of Medicine at Mount Sinai, New York, NY; 6Minneapolis VA Healthcare System, Minneapolis, MN; 7Indiana University School of Medicine, Indianapolis, IN; 8Rehabilitation Hospital of Indiana, Indianapolis, IN; 9University of Utah, Salt Lake City, UT; 10Baylor College of Medicine, Houston, TX; 11Brain Injury Research Center, TIRR Memorial Hermann; 12Hunter Holmes McGuire VA Medical Center, Richmond, VA; 13Virginia Commonwealth University, Richmond, VA; 14Defense and Veterans Brain Injury Center, Richmond, VA

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
Deveney Ching, MA1-2, Xinyu Tang, PhD3, Emily T. Noyes, MA1-2, Flora M. Hammond, PhD4-5, William C. Walker, MD6-7, Kristen Dams-O’Connor, PhD8, Angelle M. Sander, PhD, FACRM9-10, Risa Nakase-Richardson, PhD1-2,11
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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
Risa Nakase-Richardson1-3, PhD, Xinyu Tang, PhD4, Emily T. Noyes, MA1-2, Deveney Ching, MA1-2, Marc A. Silva, PhD1-3, Kristen Dams-O’Connor, PhD5, William Walker, MD6-7, Flora Hammond, MD8-9, Jacob A. Finn, PhD10, Lillian F. Stevens, PhD6-7,11
1James A. Haley VA Hospital, Tampa, FL; 2University of South Florida, Tampa, FL; 3Defense and Veterans Brain Injury Center, Tampa, FL; 4Tampa VA Research and Education Foundation, Tampa, FL; 5Icahn School of Medicine at Mount Sinai, New York, NY; 6Virginia Commonwealth University, Richmond, VA; 7Defense and Veterans Brain Injury Center, Richmond, VA; 8Indiana University School of Medicine, Indianapolis, IN; 9Rehabilitation Hospital of Indiana, Indianapolis, IN; 10Minneapolis VA Hospital, Minneapolis, MN; 11Mental Health Service, Hunter Holmes McGuire VA Hospital, Richmond, VA

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
Shannon R. Miles, PhD1-2, Marc A. Silva, PhD1-3, Christina Dillahunty-Aspillaga, PhD1-2, John Corrigan, PhD4, Dawn Neumann, PhD5, Blessen Eapen, MD6, Elizabeth Gavin, PsyD1, Risa Nakase-Richardson, PhD1-3
Obstructive Sleep Apnea and PTSD Symptoms in Veterans with TBI
Presentation Author: Dr. Leilia Abuelhiga
Leila S. Abuelhiga, PhD¹, Marc A. Silva, PhD¹-³, Shannon R. Miles, PhD¹-², Risa Nakase-Richardson, PhD¹-³
¹James A. Haley VA Hospital, Tampa, FL; ²University of South Florida, Tampa, FL; ³Defense and Veterans Brain Injury Center, Tampa, FL

Arrest Rates in Veterans and Military Personnel after TBI: A VA TBI Model Systems Study
Presentation Author: Dr. Elizabeth Gavin
Elizabeth Gavin, PsyD¹, Shannon R. Miles, PhD¹-², Marc A. Silva PhD¹-³, John Corrigan,PhD⁴, Dawn Neumann, PhD⁵, Blessen Eapen, MD⁶, Christina Dillahunt-Aspillaga, PhD¹-², Risa Nakase-Richardson, PhD¹-³
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Time Interval to Follow Commands in Severe Traumatic Brain Injury Survivors with Favorable Outcomes at 2 Years
Presentation Author: Dr. Tiffany Wilkins
Tiffany E. Wilkins, MD, Sue R. Beers, PhD, Allison J. Borrasso, MS, Yue-Fang Chang, PhD, Ava M. Puccio, RN, PhD, David O. Okonkwo, MD, PhD
University of Pittsburgh, Pittsburgh, PA

Specific Sleep Disorder Targeted Intervention Therapy Impact on Sleep Quality and Satisfaction with Life Scale: A Team-TBI Study
Presentation Author: Dr. Matthew Mesley
Matthew Mesley, MD, Ryan Soose, MD, Kathryn Edelman, MS, Ava Puccio, PhD, Julia Billigen, RN, BS, Jane Sharpless, MS, Tina Harrison, BS, David Okonkwo, MD, PhD
University of Pittsburgh, Pittsburgh, PA

Prevalence of Sleep Apnea Differs by Severity of Traumatic Brain Injury in Veterans and Service Members. A VA TBI Model System Study
Presentation Author: Ms. Amanda Royer
Amanda C. Royer, BA¹-², Emily T. Noyes, MA²-³, Deveney Ching, MA²-³, Erin M. Brennan, MA²-³, Risa Nakase-Richardson, PhD¹-³, Marc A. Silva, PhD¹-³
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Identifying Risk Factors for Pain Related Disability in Veterans and Service Members Exposed to Mild Traumatic Brain Injury
Presentation Author: Dr. Michelle Hoot
Michelle R. Hoot, PhD, Bilal Khokhar, PhD, William C. Walker, MD
1Hunter Holmes McGuire Veterans Affairs Medical Center, Richmond, VA; 2Defense and Veterans Brain Injury Center, Richmond, VA; 3General Dynamics Information Technology, Silver Spring, MD; 4Virginia Commonwealth University, Richmond, VA

MHSRS-19-01334 - Session 1 - #502
Pupillary Evidence for Impaired Neural Gain Modulation in Chronic Mild Traumatic Brain Injury
Presentation Author: Dr. Jamie Hershaw
Jamie N. Hershaw, PhD, Mark L. Ettenhofer, PhD
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Defense and Veterans Brain Injury Center, Fort Carson, CO; 3Defense and Veterans Brain Injury Center, San Diego, CA; 4Chenega Corporation, Anchorage, AK; 5General Dynamics Information Technology, Fairfax, VA

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
Jason M. Bailie, Rosemary A. Remigio-Baker, Wes Cole, Mark Ettenhofer, Therese West, Felicia Qashu, Emma Gregory
1Defense and Veterans Brain Injury Center; 2Naval Hospital Camp Pendleton; 3General Dynamics Health Solutions, Fairfax, VA; 4Venesco, Chantilly, VA; 5Womack Army Medical Center, Fort Bragg, NC; 6Naval Medical Center San Diego, San Diego, CA; 7American Hospital Services Group, Exton, PA; 8U.S. Army Medical Research and Development Command, Fort Detrick, MD; 9National Institute of Health, Bethesda, MD

MHSRS-19-01436 - Session 1 - #504
Validation of NIH Toolbox Emotion Battery for Traumatic Brain Injury
Presentation Author: Dr. Ida Babakhanyan
Ida Babakhanyan, PhD, Noelle E. Carlozzi PhD, Benjamin S. McKenna PhD, Kaitlin B. Casaletto PhD, Allen W. Heinemann PhD, Robert K. Heaton PhD
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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
Nancy Temkin, PhD, Sureyya Dikmen, PhD, Joan Machamer, MA, Geoffrey Manley, MD, Esther Yuh, MD, Lindsay Nelson, PhD, the TRACK-TBI investigators
1University of Washington, Seattle, WA; 2University of California San Francisco, San Francisco, CA; 3Medical College of Wisconsin, Milwaukee, WI

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
Tina Aldana, OD, Kendra Jorgensen-Wagers, Ph.D, Stephanie Maxfield Pankier, Ph.D
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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
Catherine Diethelm, BA, Beth Miller, BS, COA, Jordan Racca, AuD, Frank Epitropoulus, BS, David Tovar, BS, Bohan Kim, Chad Evans, Jennifer Lindsey, MD, Amy Chomsky, MD, Angelletta Payne, MD, Lucas Groves, MD, Kara Bean, AuD, Charles Woods, PhD, Marc Zola, PhD, Mark Wallace, PhD, Martin J. Gallagher, MD, PhD, Bennett Landman, PhD, Adam Anderson, PhD, Marcus Colyer, MD, Patrick Lavin, MD, René Gifford, PhD, Linda Hood, PhD, Cindy Chen, PhD, Tonia S. Rex, PhD
1Vanderbilt University Medical Center (VUMC), Nashville, TN; 2Vanderbilt University, Nashville, TN; 3Veterans Health Administration, Tennessee Valley Healthcare System, Nashville, TN; 4Blanchfield Hospital, Fort Campbell, KY; 5Intrepid Spirit Center, Fort Campbell, KY; 6Walter Reed National Military Medical Center, Bethesda, MD

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
Allison Borrasso, MS, Sue R. Beers, PhD, Yuefang Chang, PhD, Ava Puccio, PhD, Kathryn Edelman, MS, Walter Schneider, PhD, Anthony Kontos, PhD, Michael Collins, PhD, David Okonkwo, MD, PhD
University of Pittsburgh, Pittsburgh, PA

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
Servatius, R.J., PhD, Handy, J.D., PhD, Haskell, A., MA, Servatius, L., BA, Wright, W.G., PhD
1Syracuse VA Medical Center, Syracuse, NY Syracuse, NY; 2Stress and Motivated Behavior Institute, Upstate Medical University, Syracuse, NY; 3Temple University, Philadelphia, PA

MHSRS-19-01677 - Session 1 - #510
Self-reported Sleep Quality in Persons with Chronic TBI: Can Exercise Help?
Presentation Author: Mr. Kevin Balibay
Kevin Balibay, Lisa MK Chin PhD, Diane Damiano PhD
1NIH, Bethesda, MD; 2Center for Neuroscience and Regenerative Medicine, Bethesda, MD

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
Erin M. Brennan, MA, Emily T. Noyes, MA, Amanda C. Royer, BA, Risa Nakase-Richardson, PhD, Marc A. Silva, PhD
1University of South Florida, Tampa, FL; 2James A. Haley Veterans' Hospital, Tampa, FL; 3Defense and Veterans Brain Injury Center, Tampa, FL

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
CDR Lalon Kasuske, PhD¹, Anna Tschiffely, PhD², CDR Carl Goforth, PhD², Jonathan Statz, PhD², LT John Casachahua, PhD², You Hou, PhD³, Fei Wang, PhD³, CAPT Craig Cunningham, PhD¹
¹Naval Medical Center Portsmouth, Portsmouth, VA; ²Naval Medical Research Center, Silver Spring, MD; ³Weill Cornell Medical College, New York City, NY

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
CDR Lalon Kasuske, PhD¹,² Peter Hoover, BS², Tim Wu, MD², Jesus J Caban, PhD²
¹Naval Medical Center Portsmouth, VA; ²Walter Reed National Military Medical Center, Bethesda, MD

MHSRS-19-01903 - Session 1 - #515
The Effects of Fatigue and Sleep on Reported Concussion-related Symptoms
Presentation Author: Dr. Daniel Leeds
Daniel D. Leeds PhD¹, Wanjia Song¹, Christopher D’Lauro, PhD², Brian R. Johnson, PhD³
¹Fordham University, Bronx, NY; ²U.S. Air Force Academy, USAF, CO; ³Walter Reed Army Institute of Research, Silver Spring, MD

MHSRS-19-01909 - Session 1 - #516
MTBI and PTSD are Dissociable using Novel Virtual Reality Postural Assessments
Presentation Author: Dr. W. Geoffrey Wright
Handy, J.D., PhD¹, Haskell, A., MA¹, Servatius, L., BA¹, Servatius, R.J., PhD¹²
¹Syracuse VA Medical Center, Syracuse, NY; ²Upstate Medical University, Syracuse, NY

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
Sandra Escolas, PhD¹²³, Sahar Leazer, MD¹²³, Marjorie Luton, MA, CBIS¹²³, Hamid Ferdosi, MD¹², Scot Engel, PsyD¹³
¹Defense & Veterans Brain Injury Center, Silver Spring, MD; ²General Dynamics Health Solutions, Fairfax, VA; ³Fort Hood Intrepid Spirit Center, Fort Hood, TX

MHSRS-19-02106 - Session 1 - #518
Comparing Acute Phase and Persistent Symptoms Following a First Mild Traumatic Brain Injury
Presentation Author: Mr. Peter Hoover
Peter Hoover¹, Filip Dabek¹, Tim Wu¹, Kendra Jorgensen-Wagers², Jesus J Caban¹
1Walter Reed National Military Medical Center, Bethesda, MD; 2Landstuhl Regional Medical Center, Landstuhl Germany

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
LCDR Carla Chase CCC/SLPD, Katharine Stout, PT, DPT, NCS, MBA
Defense and Veterans Brain Injury Center, Silver Spring, MD

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
Matthew Reid, PhD1,2, Maria Lara, MS1,2, Lisa Lu, PhD1,2, Jan Kennedy, PhD1,2
1Defense & Veterans Brain Injury Center, San Antonio, TX; 2General Dynamics Health Solutions, San Antonio, TX

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
Maheen M. Adamson, PhD1,2, Max Gray, BA1, Ryan Thompson, BA1,4, Summer Han, PhD3, Joyce S. Chung2, PhD, Odette A. Harris, MD, MPH1,2,3
1Defense and Veterans Brain Injury Center; 2Department of Polytrauma, VA Palo Alto Health Care System; 3Stanford School of Medicine; 4Palo Alto University, CA

MHSRS-19-00538 - Session 1 - #523
Vestaid: A Tablet-based Technology for Objective Exercise Monitoring in Vestibular Rehabilitation
Presentation Author: Dr. Pedram Hovareshti
Hovareshti P, PhD1, Holt L, PhD1, Gao P1, PhD, Xiao L, MS1, Tolani D, PhD1, Whitney SL, DPT, PhD2
1Intelligent Automation, Inc; 2University of Pittsburgh Department of Physical Therapy, Pittsburgh, PA

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
Alix Cagnin, MSc1,2, Manon Choinière, PhD1,3, J Bureau, MD Msc FRCPC1,3, Madeleine Durand, MD Msc FRCPC1,3, Neila Mezghani, PhD1,2, Nathaly Gaudreault, PhD1, Nicola Hagemeister, PhD1,2
1Research center of the Centre Hospitalier de l’Université de Montréal, Québec, Canada; 2Laboratoire imagerie et orthopédie de l’École de technologie supérieure, Montréal, Québec, Canada; 3Faculty of Medicine, Université
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
Olga A. Prokhorenko, MD,2 Tracey Brickell, DPsych1,2,3,5, Carrie Cheung, BA6, Sara Lippa, PhD1,2,3, Louis French, PsyD1,2,3,5, Rachel Gartner, MS1,2,3, Angela Driscoll, MS1,2,3, Megan Wright, MA1,2,3, Rael Lange, PhD1,2,3,4
1Defense and Veterans Brain Injury Center, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD; 3National Intrepid Center of Excellence, Bethesda, MD; 4University of British Columbia, Vancouver, BC, Canada; 5Uniformed Services University of the Health Sciences, Bethesda, MD; 6Defense and Veterans Brain Injury Center, Silver Spring, MD

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
Jerry Flanagan, OD, MPH1, Helen White, MBA2, Tim Tschampel1, Eric Singman MD, PhD3, Don Gagliano MD MHA4
1Computer Technology Associates, Cardiff, CA; 2DoD/VA Vision Center of Excellence, Silver Spring, MD; 3Johns Hopkins Medicine; 4Global Medical Innovation, Washington, DC

MHSRS-19-01490 - Session 1 - #527
Visual Exploration and Gait in People with Mild Traumatic Brain Injury
Presentation Author: Dr. Samuel Stuart
Samuel Stuart1,2, Bryana Popa1,3, Lucy Parrington1,2, Nicholas Kreter1,2, Laurie King1,2
1Oregon Health and Science University, Portland, OR; 2Veterans Affairs Portland Health Care System, Portland, OR; 3School of Public Health, Portland State University, Portland, OR

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
Nevin Varghese, Barclay Morrison III, PhD
Columbia University, New York, NY

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
Robert C. Lynall, PhD, ATC1, Rachel S. Johnson, MS, ATC1, Landon B. Lempke, MEd, ATC1, Timothy C. Mauntel, PhD, ATC2,3, Julianne D. Schmidt, PhD, ATC1
1University of Georgia, Athens, GA; 2Walter Reed National Military Medical Center, Bethesda, MD; 3Uniformed Services University of the Health Sciences, Bethesda, MD

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
Kwiecien JM1,2, Kwiecien-Delaney CJ1, Yaron J3, Shutz, L3, Zhang L3, Dabrowski W4, Lucas AR3
1McMaster University, Hamilton, ON, Canada; 2Medical University of Lublin, Poland; 3Biodesign Institute, Arizona State University, Tempe, AZ; 4Medical University of Lublin, Lublin, Poland

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
Zachary J. Domire, PhD, Caitlin M. O’Connell, PhD, Gustavo Sandri Heidner, MS, J. Chris Mizelle, PhD, Nicholas P. Murray, PhD, Patrick M. Rider, MS
East Carolina University, Greenville, NC

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
Kristen A. Reynier1, Ahmed Alshareef1, Daniel F. Shedd, PhD1, Erin Sanchez2, James Funk, PhD2, Matthew Panzer, PhD1
1University of Virginia, Center for Applied Biomechanics, Charlottesville, VA; 2Biocore LLC, Charlottesville, VA

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
Dawn Collins, MA1,2, Kendra Jorgensen-Wagers, PhD1,2; Jeffrey Tiede, MD1
1Landstuhl Regional Medical Center, Landstuhl, Germany; 2Defense and Veterans Brain Injury Center, Silver Springs, MD

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
Larysa Petrenko, SPT1, Julianna Prim, MS1, Kellie Adams, SPT1, Amy Cecchini, DPT2, Karen McCulloch, PhD, PT, NCS1
1The University of North Carolina at Chapel Hill, Chapel Hill, NC; 2Geneva Foundation at Intrepid Spirit Center-Fort Bragg, Fayetteville, NC

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
Susan Linder, DPT, Mandy Koop, PhD, Diane Tucker, OD, Dan Gray, MS, Karen Guzi, MSN, Jay Alberts, PhD
Cleveland Clinic, Cleveland, OH

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 POWAR-TOTAL - A Test of Return to Duty Readiness Following Concussion
Presentation Author: Ms. Kellie Adams
Kellie Adams¹, Julianna Prim¹, Amy Cecchini², and Karen McCulloch¹
¹The University of North Carolina at Chapel Hill, Chapel Hill, NC; ²Geneva Foundation at Intrepid Spirit Center-Fort Bragg, Fayetteville, NC

MHSRS-19-02297 - Session 1 - #538
Characteristics of Active Duty Service Members Post-concussion Referred to Physical Therapy
Presentation Author: Dr. Karen L McCulloch
Karen L. McCulloch¹,
Julianna H. Prim¹, Larysa M. Petrenko¹, Amy S. Cecchini², Lisa O’Block³
¹School of Medicine, UNC-Chapel Hill, Chapel Hill, NC; ²Geneva Foundation at Intrepid Spirit Center, Fort Bragg, Fayetteville NC; ³Intrepid Spirit Center, Madigan Army Medical Center, Joint Base Lewis-McChord, Tacoma, WA

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
Zhengsi Chang¹, Matthew Kmiecik¹, David Martinez¹, Michael Lundie¹, Marielle Nagele¹, Lauren Kim¹, Margarita Khachaturyan¹, Mikalea Juarez¹, Nyaz Didehbani¹, Marcia Clover², Greg Rule³, Bradley Willson³, Gabriel Scott², Daniel Krawczyk, PhD¹
¹The University of Texas at Dallas, Richardson, TX; ²Virtual Heroes®, Division of Applied Research Associates, Inc, Raleigh, NC

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
Margaret M. Weightman, PT, PhD¹, Teri Takehiro PT, DPT, NCS¹, Christine Pocrnich PT, DPT¹, Patrick Michielutti PT, DPT¹, Peter C. Fino, PhD², Laurie A. King, PhD, PT³⁴
¹Courage Kenny Research Center, Minneapolis, MN; ²University of Utah, Salt Lake City, UT; ³Oregon Health & Science University, Portland, OR; ⁴Veterans Affairs Portland Health Care System, Portland, OR

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
Shailly H. Jariwala, PhD¹,², Zoe Bilis¹,², Maziar Shah Mohammadi PhD¹,², Paul F. Pasquina, MD¹,³, Luis M. Alvarez, PhD¹,²
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
Craig Hofferber, DDS, MS\textsuperscript{1}, Ling Ye, DDS, PhD\textsuperscript{1,2}, Rodney Phoenix, DDS, MS\textsuperscript{2}
\textsuperscript{1}Naval Postgraduate Dental School, Bethesda, MD; \textsuperscript{2}Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-19-00777 - Session 1 - #543
Evaluation of Mesenchymal Stromal Cell Differentiation for Healing of Large Tissue Defects
Presentation Author: Dr. Rodney Phoenix
Jessica Stukel, PhD\textsuperscript{1}, Joseph Macaitis, MS\textsuperscript{1}, Wen Chen, PhD\textsuperscript{1}, Eric Botts\textsuperscript{1}, Melissa Grunlan, PhD\textsuperscript{2}, Wen Lien, DDS, MS\textsuperscript{1,4}, Alexander Burdette, PhD\textsuperscript{1}, Rodney Phoenix, DDS, MS\textsuperscript{4}
\textsuperscript{1}Naval Medical Research Unit - San Antonio, JBSA-Fort Sam Houston, TX; \textsuperscript{2}Texas A&M University, College Station, TX; \textsuperscript{3}Dental Research and Consultation Service, JBSA Fort Sam Houston, TX; \textsuperscript{4}Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-19-00030 - Session 1 - #544
Buccal Bone Thickness Adjacent to Virtual Dental Implants Following Guided Bone Regeneration
Presentation Author: CPT Daniel J. Phillips
Daniel J. Phillips, DMD, Dane T. Swenson, DMD, Thomas M. Johnson, DMD, MS
Uniformed Services University of the Health Sciences, Fort Gordon, GA

MHSRS-19-00092 - Session 1 - #545
Tunnel Access for Guided Bone Regeneration
Presentation Author: CPT Ryan T. McGary
Thomas M. Johnson, DMD, MS, Dmitry Baron, DDS
Army Postgraduate Dental School, Uniformed Services University of the Health Sciences

MHSRS-19-00095 - Session 1 - #546
Rational Prophylactic Antibiotic Selection for Sinus Elevation Surgery
Presentation Author: MAJ Joshua A. Akers
Thomas M. Johnson, DMD, MS, Richard B. Hill, DDS, Sachiyo Kawaguchi, DDS, MS
Army Postgraduate Dental School, Uniformed Services University of the Health Sciences

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
Ji Hyun Kim, PhD, In Kap Ko, PhD, Myung Jae Jeon, MD, PhD, Ickhee Kim, MD, PhD, Sang Jin Lee, PhD, Anthony Atala, MD, James J. Yoo, MD, PhD
Wake Forest Institute for Regenerative Medicine, Wake Forest School of Medicine, Winston-Salem, NC

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
Ji Hyun Kim, PhD, Young Min Ju, PhD, Abdelrahman Alwan, MD, Won S Kim, BS. Anthony Atala, MD, PhD, James J Yoo, PhD

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
Casey Shutt-Hoblet, PT, DPT, OCS, Rob Halle, PT, DSc, OCS, SCS, Eliza Szymanek, PT, DSc, OCS, SCS
1-2 Stryker Brigade Combat Team, Joint Base Lewis-McChord, WA; 2Madigan Army Med Center, Tacoma, WA

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
Yi Arnold, PhD, George Klarmann, PhD, Averell Gnatt, PhD, Saya Vijily, PhD
Theradaptive, Inc, Frederick, MD

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
Hong Zhang, Heather J. Faust, Matthew T. Wolf, Okhee Jeon, Kaitlyn Sadler, Alexis Pena, Liam Chung, David Maestas, Drew Pardoll, Judy Campisi, Franck Housseau, Ada J. Tam, Daohong Zhou, Clifton O. Bingham III, Jennifer Elisseeff
1Johns Hopkins University, Baltimore, MD; 2Buck Institute for Research on Aging, Novato, CA; 3Bloomberg-Kimmel Institute for Cancer Immunotherapy, Johns Hopkins; 4Johns Hopkins University, Baltimore, MD; 5University of Florida, Gainesville, FL

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
Grant Wandling, BS, Jung Il Lee, MD, MA Hassan Talukder, MBBS, PhD, Prem Kumar Govindappa, DVM, PhD, John Elfar, MD
1The Pennsylvania State University College of Medicine, and Milton S. Hershey Medical Center, Hershey, PA; 2Hanyang University College of Medicine, Seoul, South Korea

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
Jung Il Lee, MD, M. A. Hassan Talukder, MBBS, PhD, Anagha Gurjar, PhD, Andrew Rodenhouse, BA, Kristen Manto, BS, John Elfar, MD
1The Pennsylvania State University College of Medicine and Milton S. Hershey Medical Center, Hershey, PA; 2Hanyang University College of Medicine, Seoul, South Korea
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  
Jung Il Lee, MD  
M. A. Hassan Talukder, MBBS, PhD, Anagha Gurjar, PhD, Andrew Rodenhouse, PhD, Prem Kumar Govindappa, DVM, PhD, Mary O’Brien, BA, John Elfar, MD  
1The Pennsylvania State University College of Medicine and Milton S. Hershey Medical Center, Hershey, PA;  
2Hanyang University College of Medicine, Seoul, South Korea

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  
M.A. Hassan Talukder, MBBS, PhD, Andrew Clark, BS, Chia George Hsu, PhD, Mark Noble, PhD, John Elfar, MD  
1The Pennsylvania State University College of Medicine and Milton S. Hershey Medical Center, Hershey, PA;  
2University of Rochester, Rochester, NY;  
3The University of Rochester Medical center Rochester, NY

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  
M.A. Hassan Talukder, MBBS, PhD, Li Yue, PhD, Jung Il Lee, MD, Anagha Gurjar, PhD, Mary O’Brien, BS, John C. Elfar  
1The Pennsylvania State University College of Medicine and Milton S. Hershey Medical Center, Hershey, PA;  
2The Warren Alpert Medical School of Brown University/Rhode Island Hospital, Providence, RI

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  
Huiyin Tu, PhD, Dongze Zhang, MD, Michael C. Wadman, Yu-Long Li, MD, PhD  
University of Nebraska Medical Center, Omaha, NE

MHSRS-19-00393 - Session 1 - #558  
**A Novel, Promising Strategy for Repairing Peripheral Nerve Defect: Nerve Graft Prefabrication**  
Presentation Author: Dr. Huseyin Karagoz  
Huseyin Karagoz, MD, PhD, Fatih Zor, MD, Vijay Gorantla, MD, PhD  
Wake Forest Institute for Regenerative Medicine, Winston Salem, NC

MHSRS-19-00639 - Session 1 - #559  
**Lower Abdominal-penoscrotal Vascularized Composite Allotransplantation**  
Presentation Author: Dr. Richard Redett  
1Johns Hopkins School of Medicine, Baltimore MD;  
2Cooper University Health Care, Camden, NJ
A Human Joint Model System to Study the Pathogenesis and Treatment of Post-traumatic Osteoarthritis
Presentation Author: Dr. Melissa VonDran
Melissa VonDran, PhD
Thomas Bell, MS, PhD
Saboor Shad, Gene Kopen, PhD, Garima Dwivedi, PhD
Lisa Flaman, Murat Cirit, Alan Grodzinsky, ScD
1National Disease Research Interchange, Philadelphia, PA; 2Massachusetts Institute of Tech, Cambridge, MA

Desensitization using Costimulatory Blockade and Bortezomib Does Not Prevent DSA Formation and Rejection in Reconstructive Transplantation
Presentation Author: Dr. Franka Messner
Franka Messner, Yinan Guo, Gerald Brandacher, Byoung Chol Oh
Johns Hopkins University School of Medicine, Baltimore, MD

WISP1 Regulates Chondrogenic Differentiation in Tendon Associated Heterotopic Bone
Presentation Author: Dr. Aaron James
Ching-Yun Hsu BDS, MS
Carolyn A. Meyers, BS
Jiajia Xu, PhD
Greg Asatryan, DDS
Catherine Ding, BS
Karen Lyons, PhD
Benjamin Levi, MD
Aaron W. James, MD
1Johns Hopkins University, Baltimore, MD; 2University of California Los Angeles, Los Angeles, CA; 3University of Michigan, Ann Arbor, MI

Bone Surgery Followed by Prolonged Musculoskeletal Disuse Aggravates Atrophy: Apoptosis Concomitant with Immune Deficiency
Presentation Author: Mr. Nabarun Chakraborty
Nabarun Chakraborty, Aarti Gautam
Paul Childress
Bintu Sowe
Melissa A. Kacena
Rasha Hammamieh
1U.S. Army Center for Environmental Health Research, Fort Detrick, MD; 2Integrative Systems Biology, US Army Center for Environmental Health Research, Fort Detrick, MD; 3Indiana University School of Medicine, Indianapolis, IN; 4ORISE, US Army Center for Environmental Health Research, Fort Detrick, MD; 5Richard L. Roudebush VA Medical Center, Indianapolis, IN

Nuclear Sequestration of NFκB Delays the Inflammatory Switch in Raw 264.7 Macrophages
Presentation Author: CPT Alexander Kolb
CPT Alexander L. Kolb, PhD, Marinaliz C. Reynoso, MS, Alyssa V. Geddis, BS, Ronald W. Matheny Jr., PhD
U.S. Army Research Institute of Environmental Medicine, Natick, MA

The Adapter Proteins MyD88 and TRIF are Primary Regulators of Inflammation in Bone Marrow Derived Macrophages
Presentation Author: Ms. Marinaliz Reynoso
Marinaliz C. Reynoso, MS, Alyssa V. Geddis, BS, Ronald W. Matheny Jr, PhD, CPT Alexander L. Kolb, PhD
U.S. Army Research Institute of Environmental Medicine, Natick, MA

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
Huseyin Karagoz, MD, PhD\(^1\), Ceyhun Cesur, MD\(^2\), Mustafa Tansel Kendirli, MD\(^2\), Omer Ozcan, MD\(^2\), Zafer Kucukodaci, MD\(^2\), Ekrem Ramazan Keskin, MD\(^2\), Vijay Gorantla, MD, PhD\(^1\)
\(^1\)Wake Forest Institute for Regenerative Medicine, Winston Salem, NC; \(^2\)University of Health Sciences, S.A. Hamid Training Hospital, Istanbul, TR

MHSRS-19-01019 - Session 1 - #567
A Porous Collagen-GAG Scaffold Promotes Muscle Regeneration Following Volumetric Muscle Loss Injury
Presentation Author: Dr. Adriana Panayi
Adriana C. Panayi, MD\(^1\), Nicole Hays, BS\(^2\), Kodi Udeh, BS\(^1\), Yori Endo, MD\(^1\), Bin Li, MD\(^1\) Kristo Nuutila, MS, PhD\(^1\), Ali Tamayol, PhD\(^3\), Ronald L. Neppl, PhD\(^1\), Dennis P. Orgill, MD, PhD\(^1\), Indranil Sinha, MD\(^1\)
\(^1\)Brigham and Women’s Hospital, Boston, MA; \(^2\)University of Maryland School of Medicine, Baltimore, MD; \(^3\)University of Nebraska, Lincoln, NE

MHSRS-19-01029 - Session 1 - #568
An Entirely New Approach to Flexor Tendon Repair
Presentation Author: Dr. Aaron Dingle
Weifeng Zeng MD, Nicholas Albano MD, Ruston Sanchez MD, Ronald Mccabe PhD, Ray Vanderby PhD, Samuel O. Poore MD, PhD, Aaron M. Dingle PhD
University of Wisconsin-Madison, Madison, WI

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
Jason Souza, MD\(^{1,2}\), Christopher Scheiber, MD\(^1\), Stephen Goldman, PhD\(^{2,3}\), Christopher Dearth, PhD\(^{2,3}\), Peter Liacouras, PhD\(^{1,2}\), Matthew Ritter, MD\(^{1,2}\), Matthew Bradley, MD\(^{1,2}\)
\(^1\)Walter Reed National Military Medical Center, Bethesda, MD; \(^2\)Uniformed Services University of the Health Sciences, Bethesda, MD; \(^3\)Extremity Trauma and Amputation Center of Excellence, Bethesda, MD

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
Christopher Scheiber, MD\(^1\), Stephen Goldman, PhD\(^{2,3}\), Peter Liacouras, PhD\(^{1,2}\), Christopher Dearth, PhD\(^{2,3}\), Jason Souza, MD\(^{1,2}\)
\(^1\)Walter Reed National Military Medical Center, Bethesda, MD; \(^2\)Uniformed Services University of the Health Sciences, Bethesda, MD; \(^3\)Extremity Trauma and Amputation Center of Excellence, Bethesda, MD

MHSRS-19-01185 - Session 1 - #571
Stem Cell and Novel Neurotrophic Factor Therapies to Improve Outcomes in Neuromusculoskeletal Injuries
Presentation Author: Dr. Shashikumar Salgar
Shashikumar Salgar, PhD\(^1\), Jessica Weiss, MD\(^1\), Cody Phillips MD\(^1\), Edward Malin, MD\(^1\), Joseph Harding, PhD\(^2\), Vijay Gorantla, MD, PhD\(^3\)
\(^1\)Madigan Army Medical Center, Tacoma, WA; \(^2\)Washington State University, Pullman, WA; \(^3\)Wake Forest University, Salem, NC
Innovative Approach to Nerve Repair
Presentation Author: Dr. Yoojeong Kim
Yoojeong Kim, PhD, Anant Singh, PhD
Triton Systems, Inc, Chelmsford, MA

Innovative Catheter Design to Enable Safe Urinary Management of Warfighters with Neurogenic Bladder
Presentation Author: Mr. Derek Herrera
Bill Colone, Jeff Kasalko, Stephanie Rallis, Bev Carpenter, Shannon Metzger, Avi Sharma
Ernest Agatstein, MD, Sreenivas Vemullapalli, MD, Steven Siegel, MD, Ian L. Goldman, MD, Thomas Mueller, MD

Development of Biological Approaches to Improve Functional Recovery after Compartment Syndrome Injury
Presentation Author: Dr. Tracy Criswell
Benyam Yosef, MD, PhD1, James Poteracki, MS2, Yu Zhou, PhD2, James Irrgang, PhD3, Shay Soker, PhD2, Tracy Criswell, PhD2
1Brigham and Women’s Hospital, Boston, MA; 2Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC; 3University of Pittsburgh, Pittsburgh, PA

Effects of Visual Biofeedback on Loading Symmetry in Recovery from a Multi-ligamentous Knee Injury and Dislocation
Presentation Author: Dr. Julianne Stewart
Julianne Stewart, PT, DPT, Tatiana Djafar, MS, Trevor Kingsbury, MA
Naval Medical Center San Diego, San Diego, California

Conversion of Foot Strike Pattern To Treat Service Members With Running-related Knee Pain
Presentation Author: Dr. Brittney Mazzone
Brittney Mazzone DPT1,2, Adam Yoder MS1,2, Amy Silder PhD1,2, Shawn Farrokhi PT, PhD1,2
1DoD-VA Extremity Trauma and Amputation Center of Excellence, San Diego CA; 2Naval Medical Center San Diego, San Diego, CA

Point-of-Care Tomosynthesis Imaging of the Wrist
Presentation Author: Dr. Yueh Lee
Yueh Z. Lee, Christina R Inscoe, Alex Billingsley, Connor Puett, Shawn Feinstein, Elias T. Gunnell, Daniel Nissman, Troy Maetani, Reid Draeger, Jianping Lu, Otto Zhou
The University of North Carolina at Chapel Hill, Chapel Hill, NC

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
Opioid Paradoxically Exacerbates Postfracture Pain despite Evidence of Bone Union
Presentation Author: Dr. Fletcher White
Fletcher A. White, PhD1,2, Zachary J. Gunderson BA1, Aamir T. Tucker BA1, Natalie N Taylor-Nguyen BA1, Peter Malicky BA1, Rachel J. Blosser BA2 Melissa A Kacena PhD1,2
1Indiana University School of Medicine, Indianapolis, IN; 2Richard L. Roudebush VA Medical Center, Indianapolis, IN

The Vascular Architecture in Microvascular Free Flaps: Analysis of Vessel Morphology and – Morphometry in a Murine Free Flap Model
Presentation Author: MAJ Andreas Pabst
Andreas Pabst, MD DMD
Department of Oral- and Maxillofacial Surgery, Federal Armed Forces Hospital, Rübenacherstr. 170, 56072 Koblenz, Rheinland-Pfalz, Germany

Vascularized Composite Allotransplantation in Swine (Sus Scrofa) Using a Graft Implanted Immunosuppressive Protocol
Presentation Author: Dr. Jaclyn Yracheta
JL Yracheta1,2, M Sippel1,2, J Karp3, V S Gorantla3,4, MM Salas3, EK Weitzel1
159 Medical Wing U.S. Air Force; 2University of Texas Health San Antonio, San Antonio, TX; 3Brigham and Women’s Hospital, Cambridge, MA; 4Wake Forest University Institute for Regenerative Medicine, Winston-Salem, NC

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
Veronika Pav, MS1,2, Timothy C. Mauntel, PhD, ATC3,4, LTC Jonathan F. Dickens, MD3,4,5
1Kennell & Associates, Inc, Falls Church, VA; 2Johns Hopkins Bloomberg School of Public Health DrPH Program, Baltimore, MD; 3Walter Reed National Military Medical Center, Bethesda, MD; 4Uniformed Services University of the Health Sciences, Bethesda, MD; 5Keller Army Community Hospital, West Point, NY;

Modulating Macrophage Phenotype to Decrease Muscle Fibrosis in Ischemia Reperfusion Injury
Presentation Author: Mr. Chase Pagani
Large Gap Peripheral Nerve Repair with Photochemical Tissue Bonding and Acellular Nerve Allograft in a Non-human Primate Model
Presentation Author: Dr. Marek Hansdorfer
Marek A. Hansdorfer, MD1, Jane M. Tsui, MD1, Gem G. Runyan, MS1, Mark A. Randolph, MAS1, William S. David, MD, PhD1, Reiner B. See, MD1, Ian Valerio, MD, MS, MBA2, Jonathan Winograd, MD1, Robert W. Redmond, PhD1
1Massachusetts General Hospital, Harvard Medical School, Boston, MA; 2The Ohio State University Wexner Medical Center, Columbus, OH

Center for Disruptive Musculoskeletal Innovations as a Model for Rapid Advancement of Prevention, Management and Treatment Strategies
Presentation Author: LCDR Dustin Huber

Blast Injury Prevention Standards Recommendation Process: Skull Fracture Blast Injury Type
Presentation Author: Dr. Matthew Downs
Matthew E. Downs1, Jennifer Lombardo1, Elizabeth B. Brokaw1, Rachel W. Spencer1, Lisa Lalis1, Raj Gupta2, Michael Leggieri2
1The MITRE Corporation; 2U.S. Army Medical Research and Development Command, Ft. Detrick, MD

Soft Tissue Manipulation Attenuates Inflammation, Modulates Pain and Improves Gait in Conscious Rodents with Induced Low Back Pain
Presentation Author: Dr. Mary Loghmani
M. Terry Loghmani, PT, PhD, Alanna Fennimore, SPT, Colleen Quigley, DPT, Carolyn Tobin, DPT
Indiana University, Indianapolis, IN

The Effect of Gelatin MW on Lubricating Ability of an HA-Gelatin Compound in a Tendon Injury Model
Presentation Author: Dr. Peter Amadio
Michael J. Forthofer, Katherine M. Arnold, BS, Ramona L. Reisdorf, BS, Chunfeng Zhao, MD
Mayo Clinic, Rochester, MN

Viral Vector Delivery of Follistatin Enhances Recovery of Reinnervated Muscle
Presentation Author: Dr. Satya Mallu
Jonathan Isaacs, MD, Mark A. Feger, PhD, ATC, Satya Mallu, MD, Dorne Yager, PhD, Mary Shall, PhD, Gaurangkumar Patel, BS, Omar Protzuk, BA, Lindsay Graham
Virginia Commonwealth University Medical Center, VA

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
Presentation Author: LTG Enrique Smith-Forbes
Enrique Smith-Forbes, PhD, Robin Tennekoon, DSc, Yvette Woods, PhD
San Antonio Military Medical Center, JBSA Fort Sam Houston, TX

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
Sarah Kinsley, PA-C, Shuang Song, Elena Losina PhD, Simon G Talbot MD
Brigham and Women’s Hospital, Boston, MA

MHSRS-19-02217 - Session 1 - #594
Critical Perfusion Threshold for Segmental Tissue at Risk after Cervical Spinal Cord Injury
Presentation Author: Dr. Zin Khaing
Zin Z. Khaing, PhD, Dane M. DeWees, MS, Ryan Hammond. MS, Jeffrey E. Hyde, BS, Lindsay N. Cates, BS, Matthew F. Bruce, PhD, Christoph P. Hofstetter, MD PhD
The University of Washington, Seattle, WA

MHSRS-19-02243 - Session 1 - #595
The First Preclinical Porcine Model to Study Facial Scar Contractures and their Mechanisms
Presentation Author: Dr. Sashwati Roy
Sashwati Roy, PhD, Mohamed El-Masry, MD, Amitava Das PhD, Nandini Ghosh, John Bailey, MD, Shomita S. Steiner, PhD, Kai Leung, PhD, Chandan K. Sen, PhD

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
Yingfang Fan MD, PhD, Samuel D. Zarfos BS, Gem Runyan MS, William A Farinelli BA, Ying Wang MD PhD, Joshua Tam PhD, Mohsen Erfanzadeh PhD, Benjamin J. Vakoc PhD, R. Rox Anderson MD, Mark A. Randolph MAS, Robert W. Redmond PhD
Massachusetts General Hospital, Harvard Medical School, Boston, MA

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
CDR Leslie Hair, PT1, Ms. Jenny Tsao, Sr Health Sys Eng1, Mr. Matt Sawicki, Health Sys Eng2
1U.S. Navy Bureau of Medicine and Surgery; 2Johns Hopkins Applied Physics Lab

MHSRS-19-02361 - Session 1 - #599
Weightbearing CT Scan after Pilon Fracture Fixation Demonstrates Significant Early Joint Space Narrowing
Presentation Author: Dr. Michael Willey
Michael Willey, MD1, Jocelyn Compton, MD1, Donald D. Anderson PhD1, Conor Kleweno, MD2, Julie Agel, MS2, Elizabeth Scott, MD1, John Davison, MPH1, Gabrielle Bui, BS1, JL Marsh, MD1
1University of Iowa, Iowa City, IA; 2University of Washington, Seattle, WA

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
Yi Arnold, PhD, George Klarmann, PhD, Averell Gnatt, PhD, Viviane Luangphakdy, MS, Cynthia Boehm, Saya Vijily PhD, Nicolas Piuzzi, MD, George Muschler, MD, Yasutoshi Nishikawa

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
CDR Scott M. Tintle, MD1,2,3, L. Scott Levin, MD3, Callie Tyner, PhD4, Jerry Slotkin, PhD4, Christopher L. Dearth, PhD1,2,5, Annamarie D. Horan, PhD3, Mary E. Dooley, PhD3, Elizabeth Husson, BS1,5, Pamela Kisala, MA4, David Tulsky, PhD4
1Walter Reed National Military Medical Center, Bethesda, MD; 2Uniformed Services University of the Health Sciences, Bethesda, MD; 3University of Pennsylvania, Philadelphia, PA; 4University of Delaware, Center for Health Assessment Research and Translation, Newark, DE; 5Walter Reed National Military Medical Center / Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-19-02420 - Session 1 - #602
Cervical Spine Motion Characteristics as Objective Indicators of Neck Health
Presentation Author: Mr. Jonathan Dufour
Jonathan Dufour, MS, Alexander Aurand, MS, Prasath Mageswaran, PhD, Safdar Khan, MD, William Marras, PhD
The Ohio State University Spine Research Institute, Columbus, OH

MHSRS-19-02482 - Session 1 - #603
Engineering a Hybrid Thymus to Unravel the Tolerogenic Properties of Vascularized Composite
Allotransplants
Presentation Author: Ms. Jialu Wang
Yinan Guo, Luigi Marino, Sara AlFadil, Marcos Iglesias, Gerald Brandacher, Giorgio Raimondi
Johns Hopkins School of Medicine, Baltimore, MD

MHSRS-19-02498 - Session 1 - #604
Qualitative Evaluation of Psychosocial Predictors of Outcomes in Upper Extremity Vascularized Composite Allotransplantation
Presentation Author: Dr. Simon Talbot
Sarah Kinsley PA-C, Nora K Lenhard, Emma C Lape, Sejal B Shah MD, Robert Edwards PhD, Jeffrey N Katz MD, Simon G Talbot MD
Brigham and Women’s Hospital, Boston, MA

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
Kristo Nuutila, MSc, PhD1, Adriana C. Panayi, MD1, Lucindri Smit, BS1, Kodi Udeh, BS1, Bin Li, MD1, Yori Endo, MD1, Dharaniya Sakthivel, MS1, Ali Tamayol, PhD2, Ronald L. Neppl, PhD1, Dennis P. Orgill, MD, PhD1, Indranil Sinha, MD1
1Brigham and Women’s Hospital, Harvard Medical School, Boston, MA; 2University of Nebraska, Lincoln, NE

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
Greg E. Gaski MD, Robert Wessel MD, Yoram Vodovotz PhD, Timothy R. Billiar MD, Todd O. McKinley MD

MHSRS-19-02548 - Session 1 - #607
Transcutaneous Contrast-enhanced Ultrasound Imaging of The Post-traumatic Spinal Cord Following Laminectomy
Presentation Author: Mr. Matthew Bruce
Matthew F. Bruce, PhD, Zin Z. Khaing, PhD, Ryan Hammond, Jeffrey E. Hyde, Lindsay N. Cates, Christoph P. Hofstetter MD, PhD
University of Washington, Seattle, WA

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
Lim Jing, PhD1, Boris Holzapfel, MD, PhD2, Peter M. Prodinger, MD3, Dietmar W. Hutmacher, PhD4,5,6
1Osteopore International Pte Ltd, Singapore, Singapore; 2Julius-Maximilians University Wuerzburg, Wuerzburg; 3Klinikum Rechts der Isar, Technical University Munich, Munich, Germany; 4Queensland University of Technology, Brisbane, Australia; 5Georgia Institute of Technology, Atlanta, GA; 6Technical University Munich, Munich, Germany

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
Justin Casebier BS, Won Suk You PHD, Ravi Balasubramanian PHD
Oregon State University, Corvallis, OR

MHSRS-19-02601 - Session 1 - #610
In Situ Skeletal Muscle and Bone Tissue Handheld Printers
Presentation Author: Mr. Jacob Quint
Jacob Quint, BS, Azadeh Mostafavi, MS, Carina Russel, BS, Ali Tamayol, PhD
University of Nebraska-Lincoln, Lincoln, NE

MHSRS-19-02622 - Session 1 - #611
A Novel Protective Role of GPNMB/Osteoactivin in Post-traumatic Osteoarthritis
Presentation Author: Dr. Fayez Safadi
Asaad Al Adlaan, PhD\textsuperscript{1,2}, Nazer Hussein, MS\textsuperscript{1,2}, Fatima Jaber, PhD\textsuperscript{1,2}, Fayez Safadi\textsuperscript{1,2,3,4}
\textsuperscript{1}Northeast Ohio Medical University, Rootstown, OH; \textsuperscript{2}Kent State University, Kent, OH; \textsuperscript{3}SUMMA Health System, Akron, OH; \textsuperscript{4}Akron Children's Hospital, Akron, OH

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
Joseph F. Capetillo, DMD, MS, Brandon G. Coleman, DMD, MS, Thomas M. Johnson, DMD, MS
Uniformed Services University, Fort Gordon, GA

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
Ted Melcer, PhD\textsuperscript{1}; Jay Walker, BA\textsuperscript{2}; Jocelyn Sazon, MSN, RN, TCRN\textsuperscript{3}; Robbie Domasing, BSN, RN\textsuperscript{3}; Michael Galarneau, MS, NR, EMT\textsuperscript{1}
\textsuperscript{1}Naval Health Research Center, San Diego, CA; \textsuperscript{2}Leidos, San Diego, CA; \textsuperscript{3}Axiom, San Diego, CA

MHSRS-19-00031 - Session 1 - #615
Correlates of Outpatient Prescription Medication Activity Following Serious Combat Injury: A Retrospective Analysis
Presentation Author: Dr. Ted Melcer
Ted Melcer, PhD\textsuperscript{1}; Jay Walker, BA\textsuperscript{2}; Jocelyn Sazon, MSN, RN, TCRN\textsuperscript{3}; Robbie Domasing, BSN, RN\textsuperscript{3}; Michael Galarneau, MS, NR, EMT\textsuperscript{1}
\textsuperscript{1}Naval Health Research Center, San Diego, CA; \textsuperscript{2}Leidos, San Diego, CA; \textsuperscript{3}Axiom, San Diego, CA
MHSRS-19-00038 - Session 1 - #616
IDEO Work Reliance Increases after Functional Training
Presentation Author: Mr. John Collins
Julianne Stewart, DPT, PT, Tatiana Djafar, MS, Trevor Kingsbury, MA
Naval Medical Center San Diego, San Diego, CA

MHSRS-19-00085 - Session 1 - #617
Presentation Author: Dr. Marc Schweizer
1Combat Support-Joint Trauma System, Joint Base San Antonio Fort Sam Houston, TX; 2Sainte Anne Military Hospital, Toulon Cedex 9, France; 3Naval Medical Readiness Training Command Jacksonville, Jacksonville, FL

MHSRS-19-00186 - Session 1 - #618
Loading Effect of Prosthetic Feet's Anthropomorphicity on Transtibial Osseointegrated Implant
Presentation Author: Dr. Mark Pitkin
Mark Pitkin, PhD, Laurent Frossard
1Poly-Orth International, Sharon, MA; 2Tufts University School of Medicine, Boston, MA; 3YourResearchProject Pty Ltd, Brisbane, Australia; 4Queensland University of Technology, Brisbane, Australia; 5Griffith University, Gold Coast, Australia

MHSRS-19-00206 - Session 1 - #619
Prosthetic Feet Options and Balance Performance in Persons with Transtibial Amputation
Presentation Author: Dr. Amy Silder
Amy Silder, PhD, Brittney Mazzone, PT, Andrea Ikeda, MS, CP, Adam Yoder, MS, Brad D. Hendershot, PhD, Shawn Farrokhi, PT, PhD
1DoD-VA Extremity Trauma and Amputation Center of Excellence, Fort Sam Houston, TX; 2Naval Medical Center San Diego, San Diego, CA; 3Brooke Army Medical Center, Fort Sam Houston, TX; 4Walter Reed National Military Medical Center, Bethesda, MD; 5Uniformed Services University of the Health Sciences, Bethesda, MD

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
Brittney Mazzone, DPT, Amy Silder, PhD, Brad Hendershot, PhD, Shawn Farrokhi, PT, PhD
1DoD-VA Extremity Trauma and Amputation Center of Excellence, San Diego, CA; 2Naval Medical Center San Diego, San Diego, CA; 3Walter Reed National Military Medical Center, Bethesda, MD; 4Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-19-00279 - Session 1 - #621
Development of a Balance Measure for Amputees
Presentation Author: Ms. Jennifer Johansson
Jennifer Johansson, MS, Craig Kelly, BS, Carlton King, BS, Brianna Rozell, BS, Conor Messer, Rudolf Buijs, MS, Michael Delph, MS, Susan D’Andrea, PhD, Jason Wheeler, PhD
1Liberating Technologies, Inc, Holliston, MA; 2Providence VA Medical Center, Providence, RI; 3Sandia National Laboratories, Albuquerque, NM
MHSRS-19-00280 - Session 1 - #622
Tissue-engineered Electronic Nerve Interfaces: A Next-generation Technology for Amputees
Presentation Author: Dr. Jack Judy
Jack Judy, PhD, Cary Kuliasha, PhD, Abbas Furniturewalla, Benjamin Spearman, Eric Atkinson, Elizabeth Nunamaker, PhD, Kevin Otto, PhD, Christine Schmidt, PhD
University of Florida, Gainesville, FL

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
2LT Colin Harrington, MS1,2, LT Jordan Tropf, MD1, LT Sean Wade, MD1, COL Benjamin Potter, MD1, LCDR Jason Souza, MD2
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD

MHSRS-19-00320 - Session 1 - #624
Early Clinical Evaluation of Active Cooling System for Improving Residual Limb Care
Presentation Author: Dr. Ryan Myers
Ryan T. Myers, PhD1, Gordon B. Hirschman, MEng1, Jennifer Johansson, MS2, Kristian DiMatteo, MS1, Michaelina Dupnik, BS1, Ryan Binette, BS1, Brianna Rozell, BS2, Craig Kelly, BS2, Todd Farrell, PhD2
1Vivonics, Inc, Bedford, MA; 2Liberating Technologies, Inc, Holliston, MA

MHSRS-19-00435 - Session 1 - #625
Developing a Combat-relevant Translatable Large Animal Model of Heterotopic Ossification
Presentation Author: Dr. Dustin Williams
Richard Epperson1,2, Dustin Williams, PhD1,2, David Rothberg, MD1,2, Raymond Olsen, MVSc1,2, Brooke Kawaguchi, BS1,2, Jeffery Rogers, MHA1,2, Ryan Rasmussen1,2, John Maxwell, BS1,2, Mary Dickerson, DVM1, Paul Pasquina, MD3,4, John Shero, MHA5, Brad Isaacson, PhD, MBA, MSF3,6
1University of Utah, Salt Lake City, UT; 2George E. Wahlen Department of Veterans Affairs, Salt Lake City, UT; 3Uniformed Services University, Bethesda, MD; 4Walter Reed National Military Medical Center, Bethesda, MD; 5Extremity Trauma Center of Excellence, Joint Base San Antonio Fort Sam Houston, San Antonio, TX; 6The Geneva Foundation, Tacoma, WA

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
Adam Yoder, MS1,2, Amy Silder, PhD1,2, Shawn Farrokhi, PT, PhD1,2, Christopher Dearth, PhD1,3,4, Brad Hendershot, PhD1,3,4
1DoD-VA Extremity Trauma and Amputation Center of Excellence, Joint Base San Antonio Fort Sam Houston, San Antonio, TX; 2Naval Medical Center, San Diego, CA; 3Walter Reed National Military Medical Center, Bethesda, MD; 4Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-19-00587 - Session 1 - #627
A Multi Domain Approach to Decision Making in O&P
Presentation Author: Dr. Sarah Chang
Sarah Chang, PhD, David Boone, PhD
**Orthocare Innovations, LLC, Edmonds, WA**

**MHSRS-19-00799 - Session 1 - #628**  
Enabling Technology for Prosthetic Telerehabilitation and Performance Optimization  
Presentation Author: Dr. David Boone  
David Boone, PhD, Ben Macomber, Ray Austin, Jonathan Maier, Sarah Chang, PhD  
Orthocare Innovations, LLC, Edmonds, WA

**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  
Ross Powrie, CPO¹, Christian Langton, PhD, DSc, PhD (Hon)²  
¹Custom Prosthetics, Mudgeerabah, QLD, Australia; ²Queensland University of Technology, Brisbane, QLD, Australia

**MHSRS-19-00939 - Session 1 - #630**  
Criteria for Advanced Prosthetic Foot Prescription: A Multi-center Clinical Trial  
Presentation Author: Dr. Jason Maikos  
Jason Maikos, PhD¹, Alison Pruziner, PT, DPT, ATC², Samuel Phillips, CPO, PhD³, Jeffrey Heckman, DO⁴, John Chomack, MS¹, Leif Nelson, PT, DPT, ATP, CSCS⁵  
¹New York Harbor Healthcare System, New York, NY; ²Uniformed Services University of the Health Sciences, Bethesda, MD; ³James A. Haley VA Medical Center, Tampa, FL; ⁴Puget Sound VA Medical Center, Seattle, WA; ⁵Veterans Affairs, Washington, DC

**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  
Hyungsoo Kim, PhD¹, Aaron M. Dingle, PhD¹, Jared P. Ness, MS¹, Dong-Hyun Baek, PhD¹, Nikita O. Shulzhenko, MD¹, Jacqueline S. Israel, MD¹, Weifeng Zeng, MD¹, Jane A Pisaniello, BS¹, Augusto X. T. Millevolte, BS¹, In-Kyu Lee, PhD¹, Dong-Wook Park, PhD¹⁸, Jiuye Bong, PhD¹, Aaron J. Suminski, PhD², Yei Hwan Jung, PhD¹, Justin C. Williams, PhD¹⁸, Samuel O. Poore, MD PhD¹, Zhenqiang Ma, PhD¹  
¹University of Wisconsin-Madison, Madison, WI; ²University of Seoul, Seoul, South Korea

**MHSRS-19-01078 - Session 1 - #632**  
An Overview of Combat-related Extremity Injury in U.S. Service Members  
Presentation Author: Ms. Katheryne Perez  
Katheryne Perez, MPH¹²³, Mary Clouser, PhD¹², Susan Eskridge, PT, PhD¹², Cameron McCabe, PhD¹², Jessica Watrous, PhD¹², Michael R. Galarneau, MS, NREMT²  
¹Leidos, San Diego, CA; ²Naval Health Research Center, San Diego, CA; ³Extremity Trauma and Amputation Center of Excellence, San Antonio, TX

**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
Callie Tyner, PhD, Jerry Slotkin, PhD, Pamela Kisala, MA, Ross Zafonte, DO, Claire Kalpakjian, PhD, MS, Trevor Kingsbury, MA, Jill M. Cancio, OTD, Christopher L. Dearth, PhD, Alyssa Griffith, MA, Marriah Ma, Aaron Boulton, PhD, David Tulsky, PhD

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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
Matthew J Carty, MD, Tyler Clites, PhD, Shriya Srinivasan, MS, Hugh Herr, PhD
1Brigham and Women’s Hospital, Boston, MA; 2Media Lab, Massachusetts Institute of Technology, Cambridge, MA

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
ENS Matt Henriques, MS, 2LT Colin Harrington, MS, COL Benjamin Potter, MD, CAPT Jonathan Forsberg, MD, PhD, LCDR Jason Souza, MD
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD

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
Jason M. Wilken, PT, PhD, MPT, Kirsten M. Anderson, Donald D. Anderson, PhD
The University of Iowa, Iowa City, IA

MHSRS-19-01464 - Session 1 - #637
Burn Injuries and Combat-related Amputation in U.S. Service Members
Presentation Author: Ms. Katheryne Perez
Katheryne Perez, MPH, Susan Eskridge, PT, PhD, Jill Cancio, OTD, OTR, CHT, Michael R. Galarneau, MS
1Leidos, San Diego, CA; 2Naval Health Research Center, San Diego, CA; 3Extremity Trauma and Amputation Center of Excellence, San Antonio, TX; 4Center for the Intrepid, San Antonio, TX

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
Trent Rankin, Krishan Bhakta, MS, Jonathan Camargo, MS, Lee Childers, PhD, CP, CO, Kinsey Herrin, CO, CP, Aaron Young, PhD
1Georgia Institute of Technology, Atlanta, GA; 2Brooke Army Medical Center, JBSA Ft. Sam Houston, TX; 3DoD-VA Extremity Trauma and Amputation Center of Excellence, JBSA Ft. Sam Houston, TX; 4Uniformed Services University of the Health Sciences, Bethesda, MD
A Bio-mimetic Adapter for Real-time Self-alignment of Prosthetic Foot

Presentation Author: Dr. Md Amanul Haque

MD Amanul Haque, PhD, Vamsidhar R. Rajula, MS, MST Kamrunnahar, PhD
Impulse Technology LLC, State College, PA

Military-specific Virtual Reality Training Improves Physical Function in Service Members with Lower Extremity Injury

Presentation Author: Ms. AuraLea Fain

AuraLea C. Fain,1,3 Riley C. Sheehan1,3,4, Jonathan B. Wilson1,3,4, Michael C. Vernon1, Christopher A. Rábago1,2,4
1Brooke Army Medical Center, JBSA Ft. Sam Houston, TX; 2Extremity Trauma and Amputation Center of Excellence, JBSA Ft. Sam Houston, TX; 3The Henry M. Jackson Foundataion for the Advancement of Military Medicine Inc, Bethesda, MD; 4Uniformed Services University, Bethesda, MD

Development of an Integrated Platform for Performing Multi-center Extremity Trauma and Rehabilitation Research

Presentation Author: Dr. Kenton Kaufman

Kenton R. Kaufman1, Joseph J. Wick1, Christine M. Huyber1, Riley Sheehan2-4, Mark D. Grabiner5, Marilynn Wyatt6, Claire Z. Zai6, Meghan L. Tullos7, Brad D. Hendershot4,7-8, Christopher L. Dearth4,7-8
1Mayo Clinic, Rochester, MN; 2Center for the Intrepid-Brooke Army Medical Center, San Antonio, TX; 3Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; 4Uniformed Services University of the Health Sciences, Bethesda, MD; 5University of Illinois, Chicago, IL; 6Naval Medical Center, San Diego, CA; 7DoD-VA Extremity Trauma and Amputation Center of Excellence, Fort Sam Houston, TX; 8Walter Reed National Military Medical Center, Bethesda, MD

Amputee Preference and Perception of Ankle-foot Stiffness during Walking

Presentation Author: Dr. Elliott Rouse

Elliott Rouse, PhD1 Max Shepherd, MS1,2,3
1University of Michigan, Ann Arbor, MI; 2Northwestern University, Evanston, IL; 3Shirley Ryan AbilityLab, Chicago, IL

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

Jonathan B. Wilson1,2,3, Christopher A. Rábago1,3,4, Carrie W. Hoppes5, Phaidra L. Harper6, Jin Gao6, Bria R. Fowler6, Elizabeth Russell Esposito3,4,7
1Brooke Army Medical Center, JBSA Ft. Sam Houston, TX; 2The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD; 3Uniformed Services University, Bethesda, MD; 4Extremity Trauma and Amputation Center of Excellence, JBSA Ft. Sam Houston, TX; 5Army-Baylor University DPT Program, JBSA Ft. Sam Houston, TX; 6Sentier Strategic Resources, Austin, TX; 7VA Puget Sound Health Care System, Seattle, WA

Bioenergetic Consequences of Lower Limb Trauma: Comparisons Between Lower Limb Reconstruction
and Amputation
Presentation Author: Dr. Elizabeth Russell Esposito
Elizabeth Russell Esposito, PhD; Jonathan M. Elrod, MS; Kelly A. Schmidtbauer, MS
1DoD-VA Extremity Trauma and Amputation Center of Excellence, JBSA Ft. Sam Houston, TX; 2Brooke Army Medical Center, JBSA Ft. Sam Houston, TX; 3VA Puget Sound Health Care System, Seattle, WA; 4Uniformed Services University, Bethesda, MD

MHSRS-19-01649 - Session 1 - #645
Enhanced Non-invasive Peripheral Nerve Stimulation for Sensory Restoration and Neuropathic Pain Treatment
Presentation Author: Mr. Andres Pena
Andres Pena, BS, Luis Herran, Ranu Jung, PhD
Florida International University, Miami, FL

MHSRS-19-01673 - Session 1 - #646
Military Culture as a Therapeutic Factor in Rehabilitation: An Ethnographic Account
Presentation Author: Dr. Seth Messinger
Paul F. Pasquina, MD, Jerika Taylor, MA

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
Amy Silder, PhD; Adam Yoder, MS; Shawn Farrokhi, PT, PhD; Christopher Dearth, PhD; Brad D. Hendershot, PhD
1DoD-VA Extremity Trauma and Amputation Center of Excellence, JBSA Ft. Sam Houston, TX; 2Naval Medical Center San Diego, San Diego, CA; 3Walter Reed National Military Medical Center, Bethesda, MD; 4Uniformed Services University of the Health Sciences, Bethesda, MD

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
Susan L. Eskridge, PT, PhD; Amber L. Dougherty, MPH; Cameron T. McCabe, PhD; Jessica R. Watrous, PhD; Andrea J. Ikeda, MS, CP; Michael R. Galanneau, MS
1Leidos, San Diego, CA; 2Naval Health Research Center, San Diego, CA; 3Extremity Trauma and Amputation Center for Excellence, San Antonio, TX; 4Center for the Intrepid, Brooke Army Medical Center, San Antonio, TX

MHSRS-19-01750 - Session 1 - #649
Power and Work Comparisons between IDEO Users and Patients with Transtibial Amputation
Presentation Author: Mr. Trevor Kingsbury
Tatiana E. Djafar, Julianne M. Stewart, John D. Collins, Trevor D. Kingsbury
1Naval Medical Center San Diego, San Diego, CA; 2University of Delaware, Newark, DE

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
Devaveena Dey; Mehdi Belkhodja; Jonathan A Forsberg; Thomas A Davis
1Naval Medical Center San Diego, San Diego, CA; 2University of Delaware, Newark, DE
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
Nicholas G. Fischer¹, Devaveena Dey²,³, Mehdi Belkhodja²,³, Thomas A. Davis², Joan E. Bechtold⁴, Jonathan A. Forsberg², Conrado Aparicio¹
¹University of Minnesota, Minneapolis, MN; ²Uniformed Services University of the Health Sciences, Bethesda, MD; ³The Henry M Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; ⁴University of Minnesota

MHSRS-19-01843 - Session 1 - #652
The Point Digit: Mechanical Design and Testing of a Ratcheting Prosthetic Finger
Presentation Author: Dr. Levin Sliker
Jacob L. Segil¹, Levin Sliker², Stephen Huddle³, Richard F. ff. Weir³
¹University of Colorado, Boulder, CO; ²Point Designs LLC, Longmont, CO; ³University of Colorado, Denver, CO

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
Biswaup Mukherjee, PhD¹, Ananya S. Dhawan, MS¹, Shrinivas Patwardhan, MS¹, Wilsaan M. Joiner, PhD², Siddhartha Sikdar, PhD¹
¹George Mason University, Fairfax, VA; ²University of California, Davis, CA

MHSRS-19-01961 - Session 1 - #654
Early Research Toward a Muscle-driven, Implantable Limb Prosthesis
Presentation Author: Dr. Dustin Crouch
Dustin L Crouch, PhD¹, Patrick T. Hall¹, Samantha Z. Bratcher¹, Cheryl Greenacre, DVM, DAVBP², Stacy M Stephenson, MD³, David E. Anderson, DVM, MS²
¹University of Tennessee, Knoxville, TN; ²University of Tennessee College of Veterinary Medicine, Knoxville, TN; ³University of Tennessee Graduate School of Medicine, Knoxville, TN

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
Brad D. Hendershot¹,³, Christopher L. Dearth¹,², Barri L. Schnall², Caitlin E. Mahon¹,², David Beachler², Benjamin K. Potter², Jonathan A. Forsberg²
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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
Barri L. Schnall, Jonathan M. Elrod, Christopher L. Dearth, Sara R. Koehler-McNicholas, Eric Nickel, Andrew H. Hansen, Brad D. Hendershot
1Walter Reed National Military Medical Center, Bethesda, MD; 2DoD-VA Extremity Trauma and Amputation Center of Excellence, Bethesda, MD; 3Uniformed Services University of the Health Sciences, Bethesda, MD; 4Minneapolis Veterans Affairs Health Care System, Minneapolis, MN; 5University of Minnesota, Minneapolis, MN

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
Brad D. Hendershot, Julian C. Acasio, Courtney M. Butowicz, Caitlin E. Mahon, Meghan Tullos, Riley C. Sheehan, Emily Miller, Marilynn Wyatt, Clair Z. Zai, Jules Stewart, Christopher L. Dearth, Mark D. Grabiner, Kenton R. Kaufman
1DoD-VA Extremity Trauma and Amputation Center of Excellence, Fort Sam Houston, TX; 2Walter Reed National Military Medical Center, Bethesda, MD; 3Uniformed Services University of the Health Sciences, Bethesda, MD; 4Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; 5Brooke Army Medical Center; San Antonio, TX; 6Mayo Clinic, Rochester, MN; 7Naval Medical Center San Diego, San Diego, CA; 8University of Illinois at Chicago, Chicago, IL

MHSRS-19-02153 - Session 1 - #658
Prosthetic Care for Combat Casualties at Walter Reed National Military Medical Center
Presentation Author: Mr. Akshay Thaper
Akshay Thaper, BA, William Roddy, BS, Douglas Smith, MD, Joshua Jeffries, BS, Allison Symssack, PT, Jared Garland, BS, Michael Jacobs, MD, CAPT USN, Paul Pasquina, MD, COL (Ret.)
1Uniformed Services University of Health Sciences, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD; 3Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD

MHSRS-19-02392 - Session 1 - #659
Bi-directional Control and Sensory Restoration Solution for Amputees
Presentation Author: Dr. Edward Keefer
Edward Keefer, Cynthia Overstreet, Jonathan Cheng, Zhi Yang, Qi Zhao
1Nerves Incorporated, Dallas, TX; 2University of Texas Southwestern Medical School, Dallas, TX; 3University of Minnesota, Minneapolis, MN

MHSRS-19-02395 - Session 1 - #660
The Impact of Sensory Feedback on Grasping Performance with Different Prosthetic Types
Presentation Author: Dr. Deanna Gates
Deanna Gates, Michael A. Gonzalez, Jiyeon Kang, Christina Lee, Brent Gillespie
University of Michigan, Ann Arbor, MI

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
Jerry Slotkin, PhD, Callie Tyner, PhD, David Tulsky, PhD, Christopher L. Dearth, PhD, Jill M. Cancio, OTD, Alison Pruziner, DPT, Pamela Kisala, MA
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MHSRS-19-02427 - Session 1 - #662
Influence of Strut Stiffness on the Mechanical Properties of the IDEO during Walking
Presentation Author: Mr. Trevor Kingsbury
Nicholas Lobb, John Collins, Tatiana Djafar, Megan Alfi, Julianne Stewart, Trevor Kingsbury
Naval Medical Center, San Diego, CA

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
Kafayat Oyemade, BS, Ramona Reisdorf, BS, Chunfeng Zhao, MD
Mayo Clinic, Rochester, MN

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
David Tulsky, PhD,1 Callie Tyner, PhD1, Jerry Slotkin, PhD1, Jill M. Cancio, OTD2,3, Christopher L. Dearth, PhD3,4,5, Trevor Kingsbury, MA6, Claire Kalpakjian, PhD7, Ross Zafonte, DO8, Alison Pruziner, DPT9, Pamela Kisala, MA1, Aaron Boulton, PhD1
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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
Jaskot E1,3, Moran CW4, Armiger RS5, Nordstrom MJ1,3, Acasio J1,3, Hendershot B2,5, Hawkins AR1,2, Sorenson J1,3, Buccellato KH1,3, Taylor JA1,3, Pasquina PF1,2
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MHSRS-19-02476 - Session 1 - #666
Dietary Magnesium Intake and Associated Risk for Type 2 Diabetes Mellitus in a Military Population with Traumatic Lower Traumatic Limb Loss
Presentation Author: MAJ Joetta Khan
Joetta M. Khan, PhD1, Rebecca C. Prince, BS1, Alison L. Pruziner, DPT1,3,4, Asma S. Bukari1, Brittany Trammel, BS1, David R. Spain, BS1, Anne M. Andrews, PhD2
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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
Joetta M. Khan, PhD1, David R. Spain, BS1, Alison L. Pruziner, DPT 2-4, Asma S. Bukhari, PhD1, Rebecca C. Prince, BS1, Brittany L. Trammell, BS1, Anne M. Andrews, PhD5
1Walter Reed National Military Medical Center, Bethesda, MD; 2DoD/VA Extremity Trauma Amputation Center of Excellence, Ft. Sam Houston, TX; 3Walter Reed National Military Medical Center, Bethesda, MD; 4Uniformed Services University of Health Sciences, Bethesda, MD; 5National Institute of Standards and Technology, Gaithersburg, MD

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
Roddy WT1-3, Thaper A1-3, Smith DG1-3, Isaacson BM1,2,4, Pasquina PF1-2
1The Center for Rehabilitation Sciences Research, Uniformed Services University of Health Sciences, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD; 3The Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; 4The Geneva Foundation, Tacoma, WA

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
L Heyburn1, A Gautam2, R Hammamieh3, R Kumar2, G Dimitrov, H Nachabe2, D Youssef2, C Moyler2, R Campbell2, DM Wilder1, P Arun1, JB Long4, VS Sajja1
1Walter Reed Army Institute of Research, Silver Spring, MD; 2U.S. Army Center for Environmental Health Research, Frederick, MD

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
Madelyn A K Eaton, BS, Kyvory A Henderson, BS, Robert S Salzar, PhD
University of Virginia, Charlottesville, VA

MHSRS-19-00815 - Session 1 - #671
Correlation of Pathophysiological Markers in the Brain with Cumulative Effects of Repeated Blast
Presentation Author: Dr. Sujith Sajja
VS Sajja, PhD1, JK Statz, MS2, LH Heyburn, PhD1, R Abutarboush, PhD2, S Goodrich, BS2, DW Wilder, MS1, ST Ahlers, PhD2, JB Long, PhD1
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MHSRS-19-00902 - Session 1 - #672
Explosive Breaching Career Personnel: Auditory, Ocular Motor, and Vestibular System Assessments
Presentation Author: MAJ Brian Johnson
MAJ Brian R. Johnson1, Christopher Zalewski, PhD2, Kelly King, PhD2, John E. King, PhD1, Walter Carr, PhD1,3, Eric M. Wassermann, MD2, LT Claire M. Modica4, CDR Carl W. Goforth4,5, Stephen T. Ahlers4, Carmen Brewer2
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MHSRS-19-00908 - Session 1 - #673
Examining Headache and Postural Control Variability in Serial Blast-related Training Exposure
Presentation Author: Dr. Walter Carr
Kristine C. Dell, BA1, Walter Carr, PhD2,3, Peter A. Arnett, PhD1, John H. Challis, PhD1, Gary Kamimori, PhD3, Matthew L. LoPresti, PhD3, Angela M. Yarnell, PhD4, Elena Polejaeva, BS5, Frank G. Hillary, PhD1
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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
Jennifer N. Belding1,2, Shannon Fitzmaurice1,2, Hannah Kwiatkowski1,2, Jourdan R. Jackson1,2, Cynthia J. Thomsen2, LT Uade Olaghere da Silva2
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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
Eggleston B1, Dismuke-Greer CE2, PogodaTK3, Denning JH4, Eapen BC5, Carlson KF6, Bhatnagar S7, Richardson R8, Troyanskaya M9, Nolen T10, Walker WC
1RTI International, Research Triangle Park, NC; 2VA Palo Alto Healthcare System, Palo Alto, CA; Medical University of South Carolina, Charleston, SC; 3VA Boston Healthcare System, Boston, MA; Boston University School of Public Health, Boston, MA; 4Medical University of South Carolina, Charleston, SC; 5VA Greater Los Angeles Healthcare System, Los Angeles, CA; 6VA Portland Health Care System; Oregon Health and Science University, Portland, OR; 7Department of Veterans Affairs; 8James A. Haley Veterans Hospital, Tampa, FL; University of South Florida, Tampa, FL; 9Defense and Veterans Brain Injury Center, Tampa, FL; 10Baylor College of Medicine, Houston, Tx; 10Virginia Commonwealth University, Richmond, VA; Hunter Holmes McGuire Veterans Affairs Medical Center, Richmond, VA

MHSRS-19-01478 - Session 1 - #676
Advanced Total Body Model for Impact Injury Analysis
Presentation Author: Dr. Laurel Ng
Laurel Ng, PhD1
Kiran Mathews, MS1, Jianxia Cui, PhD1. Eugene Niu, PhD1
L-3 Applied Technologies, Inc, San Diego, CA

MHSRS-19-01609 - Session 1 - #677
High Energy Head Impacts Measured in Humans Impair Readiness and Performance
Presentation Author: Dr. Adam Bartsch
A Computational Study of the Biomechanical Response of the Human Lower Extremity Subjected to High Rate Vertical Accelerative Loading

Presentation Author: Ms. Jazmine Aira
Jazmine Aira1,2, Zachary Hostetler 1,2, Joel D. Stitzel1,2, F. Scott Gayzik1,2
1Wake Forest University School of Medicine, Winston-Salem, NC; 2Virginia Tech – Wake Forest University Center for Injury Biomechanics, Blacksburg, VA

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
James Engall, PhD1, Fabio Lionessa, MD1, Cyrus Dunba, BS1, Eric Schneider, PhD1,2,3, CDR Josh Duckworth MD1
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2University of Virginia, Charlottesville, VA; 3Johns Hopkins University, Baltimore, MD

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
Johna K. Register-Mihalik, PhD, LAT, ATC1; Kenneth L. Cameron, PhD, MPH, ATC2; Karen Y. Peck, MEd, ATC, CCRP2; Megan N. Houston, PhD, ATC2; Melissa C. Kay, MS, LAT, ATC1; Paula Gildner, MPH1; Zachary Y. Kerr, PhD, MPH1; COL (Ret) Steven J. Svoboda, MD2; Stephen W. Marshall, PhD1
1The University of North Carolina at Chapel Hill, Chapel Hill, NC; 2Keller Army Hospital, West Point, NY

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
Jonathan Yee, MA1; Katelyn Marchany, MPH1; Mary Alexis Greenan, MPH1; William C. Walker, MD2,3; Terri K. Pogoda, PhD1,4
1Center for Healthcare Organization and Implementation Research, VA Boston Healthcare System, Boston, MA; 2Hunter Holmes McGuire VA Medical Center, Richmond, VA; 3Department of Physical Medicine and Rehabilitation, Virginia Commonwealth University, Richmond, VA; 4Boston University School of Public Health, Boston, MA

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

Presentation Author: Lt Adam Biggs
LCDR Matthew Doubrava
Investigation of Cranial Strains and Strain Rates in a 3D Human Head Model during the Helmet Military Specification Test
Presentation Author: Dr. Chad Hovey
Chad Hovey, PhD1, Alice Fawzi2, Ron Szalkowski3, Sushant Malave3, Ryan Terpsma1, Christian Franck, PhD4
1Sandia National Laboratories, Albuquerque, NM; 2Brown University, Providence, RI; 3Team Wendy, Cleveland, OH; 4University of Wisconsin-Madison, Madison, WI

Vertebral Level-specific Neck Forces and Moments under G-X Accelerative Loading
Presentation Author: Mr. John Humm
Yuvaraj Purushothaman1, John Humm1, Davidson Jebaseelan2, Narayan Yoganandan1
1Medical College of Wisconsin, Milwaukee, WI; 2VIT University, Chennai Campus, India

A Qualitative Study of Concussion Reporting at the U.S. Air Force Academy
Presentation Author: Dr. Christopher D’Lauro
Chris J. D’Lauro, PhD1, Michelle L. Weber, MS, ATC2, Brian R. Johnson, PhD3, Johna K. Register-Mihalik, PhD, LAT, ATC4, Karin DeAngelis, PhD1, Julianne D. Schmidt, PhD, ATC2
1U.S. Air Force Academy, USAF Academy, CO; 2University of Georgia, Athens, GA; 3Walter Reed Army Institute of Research, Silver Spring, MD; 4University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

Interdisciplinary Efforts to Test and Implement Perceived Cost-based Concussion Interventions at the Us Air Force Academy
Presentation Author: Dr. Christopher D’Lauro
Christopher D’Lauro, PhD1, Craig Foster, PhD1, Brian Johnson PhD 2, Brewer Ayres1, Meriah Valk1, Emily Jones ATC1, Joel Robb, PT1, Gerald McGinty, PT1, Matthew Weirath, DO1, Jonathan Jackson, MD1
1USAF Academy, CO; 2Walter Reed Institute of Army Research, Silver Spring, MD

Peripheral Markers of Operational Blast Exposure
Presentation Author: Dr. Fatemeh Haghighi
Fatemeh Haghighi, PhD1,2, Zhaoyu Wang, MS2, Natalia Mendelev, MS2, InBae Choi, BS1, Caroline Wilson, BA2, Jeffrey Nemes, MS3, Christina LaValle, MS3, Yongchao Ge, PhD2, Gary Kamimori, PhD3, Deborah Shear, PhD3, Angela Boutte, PhD3, Walter Carr, PhD3,4
1James J. Peters VA Medical Center, Bronx, NY; 2Icahn School of Medicine at Mount Sinai, New York, NY; 3Walter Reed Army Institute of Research, MD; 4Oak Ridge Institute for Science and Education, TN

Developing Multiscale Computational Models for Traumatic Brain Injury Prediction
Presentation Author: Mr. Connor Bradfield
Connor Bradfield, MSE1,2, Liming Voo, PhD1,2, KT Ramesh, PhD2, Nicholas Vavalle, PhD1, David Drewry, MSE1
1Johns Hopkins University Applied Physics Laboratory, Laurel, MD; 2Johns Hopkins University, Baltimore, MD

Optimization of Structural Imaging on Chinchilla Lanigera as a Pre-clinical Model of Blast TBI.
Presentation Author: Dr. Vijaya Prakash Krishnan Muthaiah
Ferdinand Schweser, Marilena L Preda
MHSRS-19-02468 - Session 1 - #690
Interview and Biosample Analysis of Blast Overpressure Exposure among Service Members
Presentation Author: Dr. Michael Egnoto
Egnoto, M.J.1,2, Carr, W.1,4, Modica, C.M.3, Goforth, C.W.3, Crouch, C.L.1
1Walter Reed Army Institute of Research, Silver Spring, MD; 2Geneva Foundation, Silver Spring, MD; 3Naval Medical Research Center, Silver Spring, MD; 4Oakridge Research Institute for Science and Education, Silver Spring, MD

MHSRS-19-02472 - Session 1 - #691
The Characterization of Flashbangs used by Law Enforcement and Military Personnel
Presentation Author: Dr. Michael Egnoto
Jonathan E. Salib2, MS Anthony C. Misistia, MS2, Gary H. Kamimori, PhD2, Christina R. LaValle, MS2, Alejandro N. Ramos, BS2, Walter Carr, PhD1,2, Michael J. Egnoto, PhD2
1Oak Ridge Institute for Science and Education, Oak Ridge, TN; 2Walter Reed Army Institute of Research, Silver Spring, MD

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
Anthony C. Misistia, MS2, Jonathan E. Salib, MS2, Gary H. Kamimori, PhD2, Christina R. LaValle, MS2, Alejandro N. Ramos, BS2, Walter Carr, PhD1,2, Michael J. Egnoto, PhD2
1Oak Ridge Institute for Science and Education, Oak Ridge, TN; 2Walter Reed Army Institute of Research, Silver Spring, MD

MHSRS-19-02508 - Session 1 - #693
Design of Helmet Liner for Mitigating Blast Induced Traumatic Brain Injury
Presentation Author: Mr. Xiancheng Yu
Xiancheng Yu, MS, Mazdak Ghajari, PhD
Dyson School of Design Engineering, Imperial College London, London, United Kingdom

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
Matthew Bradley, MD1,2,6, M Christopher Dente, MD3,5,6, Vivek Khatri, PhD, MHS1,6,8, Seth Schobel, PhD1,6,8, Felipe Lisboa, MD1,6,8, Allan Kirk, MD, PhD5,6, Timothy G. Buchman3,7, Eric Elster, MD1,6
1Uniformed Services University of the Health Sciences and Walter Reed National Military Medical Center, Bethesda, MD; 2Naval Medical Research Center, Silver Spring, MD; 3Emory University, Atlanta, GA; 4Duke University, Durham, NC; 5Grady Memorial Hospital, Atlanta GA; 6Uniformed Services University, Bethesda, MD; 7DecisionQ Corporation, Arlington, VA; 8Henry M. Jackson Foundation for the Advancement of Military Sciences, Bethesda, MD
Stimulating Mitochondrial Energetics Resuscitates Life-threatening Shock Syndromes
Presentation Author: Dr. Charles McCall
Charles E. McCall, MD, Peter W. Stacpoole, MD, PhD
1Wake Forest University Medical School, Winston Salem, NC; 2University of Florida College of Medicine, Gainesville, FL

Infusensor: A “Smart” Catheter and Platform for Dynamic, “Closed-loop” Sedation and Anesthesia
Presentation Author: Dr. Edward Chaum
Edward Chaum, MD, PhD, Erno I. Lindner, PhD
1Vanderbilt University Medical Center, Nashville, TN; 2University of Memphis, Memphis, TN

Continuing Towards Early Prediction of Vasospasm and Mortality Following Severe Traumatic Brain Injury
Presentation Author: Dr. Vivek Khatri
Vivek Khatri, PhD, MHS, Rima Rindler, MD, Shelia Mesraghi, MD, Jonathan Grossberg, MD, LaShondra DeYampert, Megan Turk, MBA, Neal Iwakoshi, Seth Schobel, PhD, Eric Elster, MD, Nicholas Boulis, MD
1Walter Reed National Military Medical Center, Bethesda, MD; 2Uniformed Services University of the Health Sciences, Bethesda, MD; 3Emory University School of Medicine, Atlanta, GA; 4Henry Jackson Foundation for the Advancement of Military Medicine, Inc, Bethesda, MD

Predicting Severe Sepsis in Surgical ICU Patients
Presentation Author: Dr. Seth Schobel
Seth A. Schobel, PhD, Suresh Agarwal, MD, Meron Ghebremedhin, MS, Vivek Khatri, PhD, MHS, Felipe Lisboa, MD, Matthew J. Bradley, MD, Christopher J. Dente, MD, Timothy G. Buchman, PhD, MD, Allan D. Kirk, MD, PhD, Eric A. Elster, MD
1Walter Reed National Military Medical Center, Bethesda, MD; 2Uniformed Services University of the Health Sciences, Bethesda, MD; 3Medical Research Center, Silver Spring, MD; 4Emory University, Atlanta, GA; 5Duke University, Durham, NC; 6DecisionQ, Arlington, VA; 7Henry M Jackson Foundation for the Advancement of Military Medicine

Predicting Acute Respiratory Distress Syndrome in Surgical ICU Patients
Presentation Author: Dr. Seth Schobel
Seth A. Schobel, PhD, Stephen Music, Meron Ghebremedhin, MS, Vivek Khatri, PhD, MHS, Felipe Lisboa, MD, Matthew J. Bradley, MD, Christopher J. Dente, MD, Timothy G. Buchman, PhD, MD, Allan D. Kirk, MD, PhD, Eric A. Elster, MD
1Walter Reed National Military Medical Center, Bethesda, MD; 2Uniformed Services University of the Health Sciences, Bethesda, MD; 3Naval Medical Research Center, Silver Spring, MD; 4Emory University, Atlanta, GA; 5University, Durham, NC; 6DecisionQ, Arlington, VA; 7Henry M Jackson Foundation for the Advancement of Military Medicine; 8Campbell University, Buies Creek, NC

Trauma Patients Wound Infection and the Relations with Injury and Clinical Progress
Presentation Author: Dr. Mingqing Song
Mingqing Song, PhD1,3, Bartley Adams1,3, Alexander Limkakeng, MD1,3, Jennifer Cheeseman, MS1,3, Chandra Quigley, MA1,3, Mary-Beth Joshi, MPH1,3, Robyn Osborne, MS1,3, Bezawit Wodajo1,3, Arnaud Belard, MBA3, Eric Elster, MD2,3, Allan Kirk, MD, PhD1,3
1Duke University, Durham, NC; 2Walter Reed National Military Medical Center, Bethesda, MD; 3Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-19-01353 - Session 1 - #701
Joint Trauma System Developing a Robust Performance Improvement Model to Optimize Trauma Outcomes
Presentation Author: Dr. Kimberly Smith
Elizabeth A. Mann-Salinas, PhD, Richard G. Best, PhD, Laura L. Runyan, MS, Lawrence E. Crozier, MS, MSG Michael A. Remley, COL Jennifer M. Gurney, MD, Col Stacy A. Shackelford, MD, CDR Jacob J. Glaser, MD Defense Health Affairs, Joint Trauma System, Fort Sam Houston, TX

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
Manjula Darshi, PhD1, Jae H Choi, PhD, DVSc2,3, Jiwan J Kim, BS1, Pragya Singhmalla, MS1, Dan Wendorff, BS2,3, Brendan Beely, BS, RRT2,3, Teryn Roberts, MS2,3, George Harea, BS2,3, Kyle Sieck, BS2,3, Cassidy Daw, MS1, Subramanya Srikanth, PhD1, Muniswamy Madesh, PhD1, Xianlin Han, PhD1, Kevin K Chung, MD4, Valerie G. Sams, MD5, Andriy Batchinsky, MD2,3, Kumar Sharma, MD1
1UT Health Science Center, San Antonio, TX; 2The Geneva Foundation, Tacoma WA; 3Autonomous Reanimation and Evacuation Program, San Antonio, TX; 4Uniformed Services University of the Health Sciences, Bethesda, MD; 5San Antonio Military Medical Center, JBSA, Ft. Sam Houston, TX

MHSRS-19-01503 - Session 1 - #703
3D Bioprinted Bone Tissue Construct for Craniomaxillofacial Reconstruction
Presentation Author: Dr. Sang Jin Lee
Hyeongjin Lee, PhD, Carlos Kengla, PhD, Ickhee Kim, MD, James J. Yoo, MD, PhD, Anthony Atala, MD, Sang Jin Lee, PhD
Wake Forest School of Medicine, Winston-Salem, NC

MHSRS-19-01504 - Session 1 - #704
Tissue-engineered Small Diameter Blood Vessels for Limb Reconstruction
Presentation Author: Dr. Sang Jin Lee
Young Min Ju, PhD, Ickhee Kim, MD, PhD, Lauren West-Livingston, BS, Anthony Atala, MD, James J. Yoo, MD, PhD, Sang Jin Lee, PhD
Wake Forest School of Medicine, Winston-Salem, NC

MHSRS-19-01506 - Session 1 - #705
3D Bioprinted Human Skeletal Muscle Tissue Constructs for Restoration of Muscle Function
Presentation Author: Dr. Sang Jin Lee
Ji Hyun Kim, PhD, In Kap Ko, PhD, James J. Yoo, MD, PhD, Anthony Atala, MD, Sang Jin Lee, PhD
Wake Forest School of Medicine, Winston-Salem, NC

MHSRS-19-01521 - Session 1 - #706
Estimating the Development of Heterotopic Ossification in Combat-related Extremity Trauma
Presentation Author: Dr. Felipe Lisboa
Felipe A. Lisboa, MD, Matthew J. Bradley, MD, Seth A. Schobel, PhD, Vivek Khatri, PhD, Audrey Shi, MSc, Benjamin K. Potter, MD, Christopher J. Dente, MD, Timothy G. Buchman, MD, PhD, Allan D. Kirk, MD, PhD, Eric A. Elster, MD

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MHSRS-19-01614 - Session 1 - #707

A Novel Therapy to Improve Cognitive Recovery Following Moderate/Severe Traumatic Brain Injury

Presentation Author: Mr. Paco Herson

1 University of Colorado Anschutz Medical Campus, Aurora, CO; 2 U.S. Army Institute of Surgical Research, San Antonio, TX

MHSRS-19-01615 - Session 1 - #708

Surgical Critical Care Initiative: Consensus-driven Harmonization and Standardization of Biorepository Terminology

Presentation Author: Ms. Mary-Beth Joshi
Mary-Beth Joshi, MPH, Laura Pinson, BA, Megan Turk, MBA, Nicole Bissonnette, BS, Andy MacKelfresh, MBA, Neal, PhD, Seth Schobel, PhD, Vivek Khatri, PhD, Arnaud Belard, MBA, Caroline Clear, MBA, Alexander Limkakeng, MD, Timothy Buchman, PhD, MD, Allan Kirk, MD, PhD, Eric Elster, MD

1 Duke University, Durham, NC; 2 Emory University, Atlanta, GA; 3 Walter Reed National Military Medical Center, Bethesda, MD; 4 Uniformed Services University of the Health Sciences, Bethesda, MD; 5 Duke Clinical Research Institute, Durham, NC; 6 Henry M Jackson Foundation for the Advancement of Military Medicine

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
Robyn Osborne, MS, Jaspreet Seth, PhD, Harshini Dinesdurage Fernando, MS, Neal Iwakoshi, PhD, Krystin Brinkley, Caroline Clear, MBA, Justin Kearns, Angela McKenzie, Mourine Todd, Marcella Sarzotti-Kelsoe, PhD, Arnaud Belard, MBA, Mary-Beth Joshi, MPH, Timothy Buchman, PhD, MD, Allan Kirk, MD, PhD, Eric Elster, MD

1 Duke University, Durham, NC; 2 Emory University, Atlanta, GA; 3 Walter Reed National Military Medical Center, Bethesda, MD; 4 Uniformed Services University of the Health Sciences, Bethesda, MD; 5 Duke Clinical Research Institute, Durham, NC; 6 Henry M Jackson Foundation for the Advancement of Military Medicine

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
Neal Iwakoshi, PhD, Syreese Fuller, Krystin M Brinkley, Richard L Bearden, William T. Daprano, Dwana L. Webb, Allan Kirk, MD, PhD, Eric Elster, MD, Timothy Buchman, MD, PhD, Christopher Dente, MD

1 Emory University, Atlanta, GA; 2 Uniformed Services University of the Health Sciences, Bethesda, MD; 3 Walter Reed National Military Medical Center, Bethesda, MD; 4 Duke University Medical Center, Durham, NC

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
Yu Zhou1,2, Meimei Wan1,2, Kristina Stumpf1,2, Justin Campbell1,2, Robert Bardsley1,2, Patrice South1,2, Alfredo Perez1,2, Frank Marini1,2, Tracy Criswell1,2, Colin Bishop1,2, Atala Anthony1,2, Thomas Shupe1,2
1Regenerative Medicine Development Organization, Salem-Winston, NC; 2Wake Forest Institute for Regenerative Medicine, Salem-Winston, NC

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
Todd O. McKinley, MD1, Yoram Vodovotz2, Timothy R. Billiar2, Greg E. Gaski1
1Indiana University School of Medicine, Indianapolis, IN; 2University of Pittsburgh School of Medicine, Pittsburgh, PA

MHSRS-19-01947 - Session 1 - #713
Precision Medicine Research to Meet Military Trauma Care Requirements
Presentation Author: Dr. Debra Niemeyer
Carl Brinkley1, Adam Willis2, Thomas Gibbons1, Robert Green3, Victor Sylvia1
159th Medical Wing, Joint Base San Antonio, Lackland Air Force Base, TX; 2Department of Neurology, San Antonio Military Medical Center, San Antonio, TX; 3Harvard Medical School, Boston, MA

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
Marek A. Hansdorfer, MD, Jane M. Tsui, MD, Marco C. Visaggio, MD, Gem G. Runyan, MS, Samuel D. Zarfos, BA, Mark A. Randolph, MAS, Robert W. Redmond, PhD
Massachusetts General Hospital, Boston, MA

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
Yuanyuan Kang1, Mi Ryung Roh1,2, Hensin Tsao1
1Massachusetts General Hospital, Boston, MA; 2University College of Medicine, Seoul, Korea

MHSRS-19-02221 - Session 1 - #717
Combat Medic Testing of a Novel Monitoring Capability for Early Detection of Hemorrhage
Presentation Author: Ms. Natalie Koons
Natalie J. Koons, BS1, Gregory A. Owens, MPH2, Donald L. Parsons2, MAJ Steven G. Schauer, DO, MS1, COL Jerome L. Buller, MD1, Victor A. Convertino, PhD1
1U.S. Army Institute of Surgical Research, JBSA Fort Sam Houston, TX; 2Defense Health Agency Medical Education and Training Campus, JBSA Fort Sam Houston, TX
Inhibition of DPP4 Suppresses Collagen Synthesis in Keloids
Presentation Author: Dr. Yuanyuan Kang
Mi Ryung Roh,1,2 Yuanyuan Kang,1 Anpuchchelvi Rajadurai,1 Hensin Tsao1
1Massachusetts General Hospital, Boston, MA; 2University College of Medicine, Seoul, Korea

Delayed Custom Synthetic Implant Cranioplasty for Host National Patients: Retrospective Case Series
Presentation Author: Dr. Peter Liacouras
Maj Patrick R. Maloney, MD, Peter Liacouras, PhD, Lt. Com Paul N. Porensky, MD, Lt. Col. Michael S. Dirks, MD; Maj George N. Rymarczuk, MD, Lt. Com Justin A. Dye, MD

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
Meagan J McManus, PhD; Kevin Browne, Thomas Hallowell, MS; Nile Delso, Jonathan Starr, Carolyn E. Keating, Ross Plyler, Madeline Stolow, Will Landis, Susan Margulies, PhD; D. Kacy Cullen, MD, PhD; Todd J. Kilbaugh, MD, PhD
1The Children’s Hospital of Philadelphia, Philadelphia, PA; 2The University of Pennsylvania, Philadelphia, PA; 3Emory University and the Georgia Institute of Technology, Atlanta, GA

Understanding Disease Heterogeneity through Machine Learning Applications: High-resolution Spatial Metabolomics and Integrated Multi-omic Analysis
Presentation Author: Dr. Daniel Montemayor
Daniel Montemayor, PhD, Guanshi Zhang, PhD, Doug Lee, PhD, Annapurna Pamreddy, PhD, Kumar Sharma, MD
University of Texas Health San Antonio, San Antonio, TX

Apollo Lung Cancer Moonshot: Comprehensive Proteogenomic Analytics for Classification and Predicting Patient Outcome
Presentation Author: Dr. Anthony Soltis
Anthony R. Soltis, PhD; Nicholas W. Bateman, PhD; Thomas P. Conrads, PhD; Clifton L. Dalgard, PhD; Hai Hu, PhD; Teri J. Franks, MD; Jeff Liu, PhD; Daoud Meertzman, PhD; Emanuel F. Petricoin III, PhD; Chen Qi, PhD; Chunhua Yan, PhD; Xijun Zhang, MS; Craig D. Shriver, MD; The APOLLO Research Network, Christopher A. Moskaluk, MD; Robert F. Browning, MD; Matthew D. Wilkerson, PhD
1Uniformed Services University of the Health Sciences, Bethesda, MD; 2Walter Reed National Military Medical Center, Bethesda, MD; 3Inova Schar Cancer Institute, Falls Church, VA; 4Chan Soon-Shiong Institute of Molecular Medicine at Windber, Windber, PA; 5Department of Defense, Joint Pathology Center, Silver Spring, MD; 6National Cancer Institute, Rockville, MD; 7George Mason University, Manassas, VA; 8University of Virginia, Charlottesville, VA

TLR4/MYD88 Signaling Pathway Mediates Peripheral Tissue Injury Induced Ileus and Systemic Inflammation
Presentation Author: Dr. Anthony Bauer
Vlado Antonic, COL Alexander Stojadinovic (retired), Anthony J.M. Bauer
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
Marc A. Schweizer, MBChB, MPH¹, Jud Janak, PhD¹, CAPT Zsolt Stockinger, MC, USN², LTC Tristan Monchal, MC³
¹U.S. Department of Defense Joint Trauma System, Joint Base San Antonio Fort Sam Houston, TX; ²Naval Medical Readiness Training Command Jacksonville, Jacksonville, FL; ³Sainte Anne Military Hospital, Toulon Cedex 9, France

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
Uri Manor¹,², Raviv Allon³, Hadar Gan-Or³, Orr Yahal²,⁴, Avi Benov⁴,⁵, Jacob Chen⁵
¹Tel Aviv University, Tel Aviv, Israel; ²Sheba Medical Center, Tel HaShomer, Israel; ³Technion Institute of Technology, Haifa, Israel; ⁴Bar-Ilan University, Safed, Israel; ⁵Israel Defense Forces, Medical Corps, Ramat Gan, Israel

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
Solomon Major, PhD, Lcdr Eva Reed, PhD
Center for Global Health Engagement, Rockville, MD

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
Eric Garges, Ltc, MC USA, David Brett-Major, MD, MPH

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
Lt Caitlin Haltiner, MD, Lcdr Sasha Betz, DDS, MS, Lcdr Jenny Smith, MD, Capt Brenda Nelson, DDS, MS, Lcdr Art A. Ambrosio, MD, MBA
Naval Medical Center San Diego, San Diego, CA

MHSRS-19-00491 - Session 1 - #729
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
Sajeewane M. Seales, MD, MPH1, Lisa A. Braun, PhD1, Rhonda A. Lizewski, MD2, Holly M. Perez, PhD3, Theophil A. Stokes, MD4, Gregory H Gorman, MD, MHS5
1Naval Medical Center Portsmouth, Portsmouth, VA; 2Navy and Marine Corps Public Health Center, Portsmouth, VA; 3Naval Medical Center Camp Lejeune, NC; 4Walter Reed National Military Medical Center, Bethesda, MD; 5Defense Health Agency, Falls Church, VA

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
LTC Julie A. Ake1, Francis Kiweewa7, Jonah Maswai2,9,10, John Owuoth2,9, Lucas Maganga3, Emmanuel Bahemana4,1, Yakubu Adamu5,1, Brig. Gen Nurudeen A. Hussain8, LTC Jan Maby1, Christina S. Polyak1,2
1Walter Reed Army Institute of Research, Silver Spring, MD; 2Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD; 3National Institute for Medical Research - Mbeya Medical Research Center, Mbeya, Tanzania; 4Henry Jackson Foundation MRI, Mbeya, Tanzania; 5U.S. Army Medical Research Directorate- Africa/Nigeria, Abuja, Nigeria; 6Henry Jackson Foundation MRI, Abuja, Nigeria; 7Makerere University-Walter Reed Project, Kampala, Uganda; 8Ministry of Defence Health Implementation Programme Abuja Nigeria; 9Kenya Medical Research Institute/U.S. Army Medical Research Directorate-Africa, Nairobi, Kenya; 10Henry Jackson Foundation MRI, Kericho, Kenya

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
Bonnie Tran, PhD1,2, Nicole Glass, MPH1,2, Osika Tripathi, MPH1,2, Olivier Kalombe, MD1, Pascal Ibata3, Romain Bagamboula Mpassi3
1Department of Defense HIV/AIDS Prevention Program, San Diego, CA; 2Leidos Inc, Reston, VA; 3Armed Forces of the Republic of the Congo, Brazzaville, Republic of the Congo, Africa

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
Sueann Ramsey, MS1, Franca Jones, PhD2
1Uniformed Services University, Bethesda, MD; 2Global Emerging Infections Surveillance, Silver Springs, MD

MHSRS-19-00755 - Session 1 - #734
Developing and Deploying Ideal Teams for Optimal Global Health Engagement Outcomes
Presentation Author: Col Edwin Burkett
Edwin K. Burkett MD, MBA1, Kathleen M. Casey, MD2, Gretchen Thompson, PhD3
MHSRS-19-01037 - Session 1 - #735
Big Data Framework for Predicting Impact of Disasters on Human Health
Presentation Author: Dr. Kajal Claypool
Kajal Claypool, PhD, MBI1,2, CDR James Balcius3,4
1MIT Lincoln Laboratory, Lexington, MA; 2Harvard Medical School, Boston, MA; 3Medical Service Corps, U.S. Navy; 4Marine Corps Systems Command, Quantico, VA

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
Zhiwen Zhang, MS1,2, Tatyana Belinskaya, MS1,2, Chien-Chung Chao, PhD1,2, Wei-Mei Ching, PhD1,2
1Naval Medical Research Center, Silver Spring, MD; 2Uniformed Services University of the Health Sciences, Bethesda, MD

MHSRS-19-01226 - Session 1 - #737
An Update on the Development of Novel Anthelmintic Medications
Presentation Author: Dr. Belinda Jackson-Thompson
Belinda M. Jackson-Thompson, PhD, Alexander F. Flynn, PhD, Jatinder Singh, PhD, Alyssa Lindrose, BS, Edward Mitre, MD
Uniformed Services University, Bethesda, MD

MHSRS-19-01265 - Session 1 - #738
Expanded Fever Surveillance among Provincial Hospitals in the Lao People’s Democratic Republic
Presentation Author: Lt Jose Garcia
Jose A. Garcia1, Vilada Chansamouth2, Matthew Robinson2, Paul Newton2
1U.S. Navy Medical Research Unit Two, Phnom Penh, Cambodia; 2Lao-Oxford-Mahosot Hospital-Wellcome Trust Research Unit, Vientiane, Laos

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
Clark C1, Folker C2, Vicari KF3, Winslow A4, Jaskiewicz J1, Norwood B1, Moree J5, Villarroel S6, Gorman GH7
1Walter Reed National Military Medical Center, Bethesda, MD; 2Naval Medical Center, Portsmouth, VA; 3Naval Dental Clinic, Portsmouth, VA; 4Naval Hospital, Camp Lejeune, NC; 5Naval Hospital, Pensacola, FL; 6Naval Medical Center, San Diego, CA; 7Uniformed Services University, Bethesda, MD

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
Folker C 1, Clark C 2, Winslow A 3, Jaskiewicz J 5, Norwood B 2, Moree J 4, Villarroel S 5, Gorman GH 6
1Walter Reed National Military Medical Center, Bethesda, MD; 2Naval Medical Center Portsmouth, VA; 3Naval Hospital Camp Lejeune, NC; 4Naval Hospital Pensacola, FL; 5Naval Medical Center San Diego, CA; 6Uniformed Services University, Bethesda, MD

MHSRS-19-01635 - Session 1 - #742
Surveillance for Antibiotic Resistance in Eskape Pathogens from Latin America
Presentation Author: Mr. Paul Rios
Paul Rios, MSc 1, Claudio Rocha, MD 2, Andrea McCoy, LCDR 1, James Regeimbal, LCDR 1
1Naval Medical Research Unit-Six, Lima, Peru; 2Universidad Autonoma de Barcelona, Barcelona, Spain

MHSRS-19-01674 - Session 1 - #743
Assessing Incidence of Tropical Diseases in Deploying Peruvian Military Personnel
Presentation Author: Mr. Crystyan Siles
Crystyan Siles 1, Francisco Perona 2, Isabel Bazán 1, Maria Silva 1, Julia S. Ampuero 1, Eugenio J. Abente 1, Andrea J. McCoy 1
1U.S. Naval Medical Research Unit No. 6, Lima, Peru; 2Peruvian Ministry of Health, Iquitos, Peru

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
Shraddha Patel, MPH, Miles Stewart, MS 1, Martina Siwek, PhD
Johns Hopkins University Applied Physics Laboratory, Laurel, MD

MHSRS-19-01838 - Session 1 - #745
Optimization of Medical Site Performance during USNS Comfort’s Operation Enduring Promise 2018
Presentation Author: LCDR Paul Roszko
Eric Sulava, MD 1, Michael Matteucci, MD 2
1Naval Medical Center Portsmouth, Portsmouth, VA; 2Naval Medical Center San Diego, San Diego, CA

MHSRS-19-01995 - Session 1 - #746
Improving Infectious Disease Modeling and Prediction through Global Health Engagement
Presentation Author: CPT Suzanne Mate
Captain Suzanne Mate
Joint West Africa Research Group partners; Walter Reed Army Institute of Research; Nigerian Ministry of Defense; Ghana Armed Forces; Armed Forces of Liberia; Henry M. Jackson Foundation; Navy Medical Research Unit-3 Ghana Detachment; U.S. Army Medical Research Institute of Infectious Diseases; Military HIV Research Program Nigeria; African Center of Excellence for Genomics of Infectious Diseases; University of Nebraska Medical Center; Noguchi Memorial Institute for Medical Research; Broad Institute; National Public Health Institute of Liberia; Navy Medical Research Center

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
Irina Maljkovic Berry 1, Wiriya Rutvisutthinunt 1, Logan Voegtly 2,3, Karla Prieto 4, Simon Pollett 1, Kimberly Bishop-Lilly 2, Michael Wiley 5, Brett Forshey 6, Lindsay Morton 6, Richard G. Jarman 1
Detergent-enhanced Lamp for Detecting African Trypanosomes in Clinical CSF Samples
Presentation Author: Dr. Dennis Grab
Dennis J. Grab¹, Bertrand Courtieux², Oriel M. M. Thekisoe³, Stefan Magez⁴, J. Stephen Dumler¹, Sylvie Bisser²
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Leveraging Whole Genome Sequencing for Global Surveillance of Transferable Carbapenem Resistance
Presentation Author: Dr. Patrick Mc Gann
Erik Snesrud, Jason Stam, Madeline Galac, Rosslyn Maybank, Ana Ong, Brendan Corey, Yoon I. Kwak, Michael Julius, Kevin Hauns, Anthony Jones
Walter Reed Army Institute of Research, Silver Spring, MD

Teaching Pocus in Austere Environments – A Tool for Immediate Impact in Patient Care and Capacity Building
Presentation Author: Lt John Sullivan
John F. Sullivan, DO, LT, MC, USN, Robert P. Lennon, MD, LCDR, MC, USN, Rachel E. Carter, MD, LCDR, MC, USN
Naval Hospital Jacksonville, Jacksonville, FL

Battlefield Trauma Data Tool Development, Collection and Analysis for the Afghanistan National Army
Presentation Author: LTC Russell Giese

Battlefield Trauma Data Development, Collection and Analysis for the Afghanistan National Army, 203rd Corps
Presentation Author: LTC Russell Giese

Eliminating Threats to Scientific Validity: Identifying Careless and Insufficient Effort Responders from Self-report Databases
Presentation Author: Mr. Michael Andrews
Michael Andrews, MA, Maria St. Pierre, MA, Walter Sowden, PhD
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Role-out of the DoD-mandated eIRB Platform
Presentation Author: Dr. Christine Carter
Christine Carter, PhD, MPH¹, Sandy Gott², Michael Coronado³
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**MHSRS-19-01048 - Session 1 - #755**

**Fostering Readiness Investigation in Graduate Medical Education**
Presentation Author: Ms. Jessica Cromheecke
Heidi Gaddey, Col, USAF, MC, Patrick Kennedy, Lt Col, USAF, BSC, Jessica Cromheecke, MS, RBP, John Tupin, JD, Sachin Shah, PharmD, Kevin Grayson, DVM, PhD, Bradley Williams, MD
David Grant USAF Medical Center, Travis AFB, CA

**MHSRS-19-01687 - Session 1 - #756**

**Motivations for Participation in Clinical Research: A Survey**
Presentation Author: 2LT Nicholas Dulin
Nicholas Dulin, BS1, Adam Spanier BS1, Christine Lee MD2, Andrea Robichaud2, Christine Lee, MD2, Merlin Robb MD2, Paige E. Waterman, MD1,2, Melinda J. Hamer MD, MPH1,2,3
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**MHSRS-19-02049 - Session 1 - #757**

**Human Research Protection Program Compliance Trends in the Department of the Navy**
Presentation Author: Mrs. Chidima Ioanou
Chidima Ioanou MS, CCRP, Derek Enslis MBA, EdS, CIP, Nancy Dawood EdD, John Melton, PhD, CDR, MSC, USN
Department of the Navy Human Research Protection Program, Falls Church, VA

**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
Jason Rohde, PhD1, Mozna Khraiwesh, PhD1, Diana Caridha, PhD1, Mary MacDonald, PhD1, Malik Raynor, PhD1, Ana Manzano, BS1, Patricia Lee, MS1, Brandon Pybus, PhD1, Kristina Pannone, MS1, William McCalmont, PhD1, Mara Kreishman-Deitrick, PhD1, Yonas Alamneh, MS1, Schroeder Noble, PhD1, Anna Jacobs, PhD1, Dan Zurawski, PhD1, Samantha Demons, PhD1, Patrick McGann, PhD1, Anthony Jones, PhD1, Jonathan Shearer, DVM, PhD1, Stuart Tyner, PhD1, Nelson Michael, MD, PhD1, Kendra Lawrence, PhD2, Steven Zumbrun, PhD3, Rekha Panchal, PhD3, Dayadevi Jirage, PhD4, Mark Simons, PhD4,5, Amanda Horstman-Smith, PhD6, Paige Waterman, MD7, Chad Black, DVM, PhD1
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**MHSRS-19-02282 - Session 1 - #759**

**Exploring the 99MDG Regional Clinical Investigation Program**
Presentation Author: Ms. Jill Clark