

JUNE 15, 2023 | 8AM - 6:30PM | UNIVERSITY OF TEXAS AT SAN ANTONIO

2023



S.U.R.F.

SAN ANTONIO MILITARY HEALTH AND
UNIVERSITIES RESEARCH
FORUM

9TH ANNUAL FORUM

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San Antonio Military Health System and Universities Research Forum (SURF)

In 2015, The University of Texas at San Antonio (UTSA), San Antonio Military Health System (SAMHS) and The University of Texas Health Science Center at San Antonio organized the inaugural SURF. In 2021, regional partners SAMF and BioMedSA joined as collaborators. SURF highlights the latest research and discoveries of trainees, faculty, staff, and students in the region working to improve health outcomes and readiness and also has grown to attract presenters from across the country. With attendees from the military, government, education and industry sectors, SURF is one of San Antonio's largest professional development forums focused on health care research. The forum provides attendees the opportunity to present and share innovations in research practice and policy; connect with scholars and practitioners for future education; and develop research, policy, and practice collaboration. For more information visit research.utsa.edu/surf and follow us on Facebook, facebook.com/satxsurf.

UTSA WiFi

Free WiFi is available through UTSA Air Rowdy wireless network. Guests can access UTSA Air Rowdy by opening WiFi settings and selecting "AirRowdy_Guest." The device will prompt the "Wireless Network Guest Usage Agreement" to proceed with the free WiFi.

Planning Committee

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Senior Research Scientist, 59th Medical Wing/ST Chief Scientist's Office

SURF OVERVIEW

THURSDAY, JUNE 15TH, 2023

7:45 a.m. – 8:30 a.m.

Registration | Ballroom Lobby

8:30 a.m. – 9:00 a.m.

Breakfast & Networking | Denman Room (2.01.28)

Welcome & Opening Remarks | Retama Auditorium (2.02.02)

JoAnn Browning, Ph.D.

Interim Vice President for Research, Economic Development, and Knowledge Enterprise, The University of Texas at San Antonio

Byron C. Hepburn, M.D., Maj Gen, USAF (Ret)

Director, Military Health Institute, UT Health

Brig Gen Jeannine M. Ryder

Commander, 59th Medical Wing

COL Sean Joseph Hipp, M.D., M.S.

Chief Medical Officer, Brooke Army Medical Center

9:00 a.m. – 9:45 a.m.

Keynote Address | Retama Auditorium (2.02.02)

Jonathan Woodson, M.D., MG, USAR (Ret)

President, Uniformed Services University of the Health Sciences

Q&A

9:45 a.m. – 10:00 a.m.

Break | Denman Room (2.01.28)

10:00 a.m. – 11:00 a.m.

Podium Presentations

» **Session 1: Battlefield Health and Trauma** | Harris Room (2.212)

» **Session 2: Brain & Mental Health** | Travis Room (2.202)

» **Session 3: Clinical Investigation, Health Systems Research, and Medical Modeling Simulation & Diagnostics** | Bexar Room (1.102)

» **Session 4: Precision Medicine, Patient Safety/Wellness, and Women's Health Initiatives** | Mesquite Room (2.02.24)

11:00 a.m. – 11:15 a.m.

Break | Denman Room (2.01.28)

11:15 a.m. – 12:15 p.m.

Podium Presentations

» **Session 5: Battlefield Health & Trauma** | Harris Room (2.212)

» **Session 6: Brain & Mental Health** | Travis Room (2.202)

» **Session 7: Other Emerging Science & Technologies**
Bexar Room (1.102)

» **Session 8: Infectious Disease** | Mesquite Room (2.02.24)

12:15 p.m. – 1:00 p.m.

Lunch & Networking | Denman Room (2.01.28)

1:00 p.m. – 2:00 p.m.

Panel Session | Retama Auditorium (2.02.02)

SPaR: Arming the Warfighter with Self-Sustaining Resilience

Moderator

Maj. John R. Jones, Ph.D.

Military Readiness and Clinical Health Psychology Fellow, 59th Medical Operations Squadron, Joint Base San Antonio-Lackland

Panelist

Benjamin M. Keizer, Ph.D.

Board-Certified Clinical Health Psychologist, San Antonio Uniformed Services Health Education Consortium

Andrea “Andi” Krunnusz, Ph.D.

Military Readiness Fellow, 59th Medical Operations Squadron, Joint Base San Antonio-Lackland

Meghan Lewis

Occupational Therapist, Center for the Intrepid at Brooke Army Medical Center

Nick Levine

Postdoctoral Fellow, Center for the Intrepid at Brooke Army Medical Center

Jeffrey Tiede, M.SS, M.D.

Director, Center for the Intrepid, Brooke Army Medical Center

2:00 p.m. – 2:15 p.m.

Break | Denman Room (2.01.28)

2:15 p.m. – 3:35 p.m.

Podium Presentations

- » **Session 9: Battlefield Health & Trauma, Other Emerging Science & Technologies** | Harris Room (2.212)
- » **Session 10: Brain & Mental Health** | Travis Room (2.202)
- » **Session 11: Human Performance, Readiness, and Recovery**
Bexar Room (1.102)
- » **Session 12: Infectious Disease and Dental Research**
Mesquite Room (2.02.24)

3:35 p.m. – 4:00 p.m.

Break | Denman Room (2.01.28)

4:00 p.m. – 5:00 p.m.

Briefing about Prize Competitions for Technology Development

Retama Auditorium (2.02.02)

Jarah Meador, Ph.D.

Director of Open Innovation Programs, General Services Administration

5:00 p.m. – 6:00 p.m.

Poster Session, Exhibits, and Networking

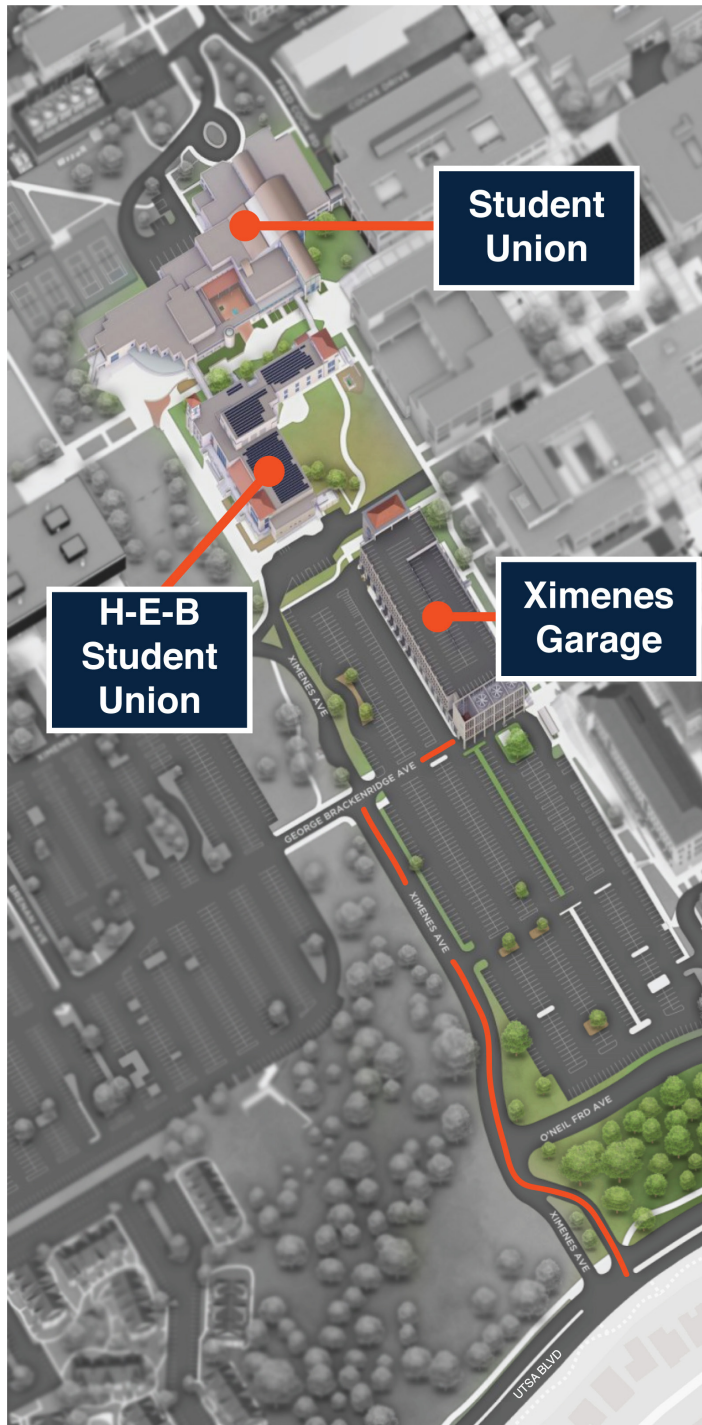
Ballroom (1.104 & 1.106)

6:00 p.m. – 6:30 p.m.

Poster Awards Ceremony and Networking

Ballroom (1.104 & 1.106)

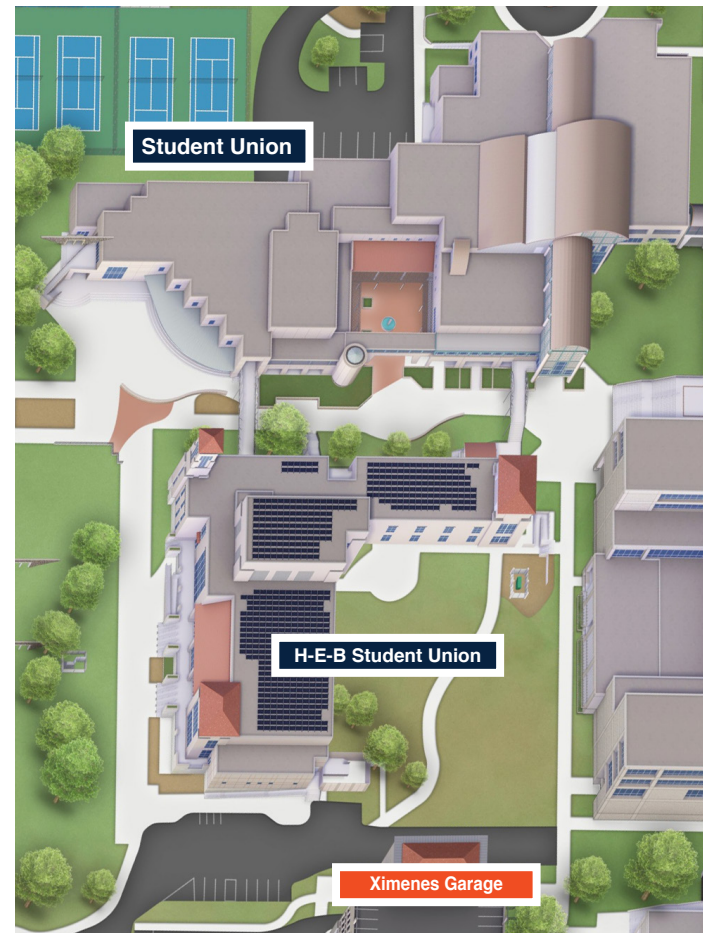
SURF MAP



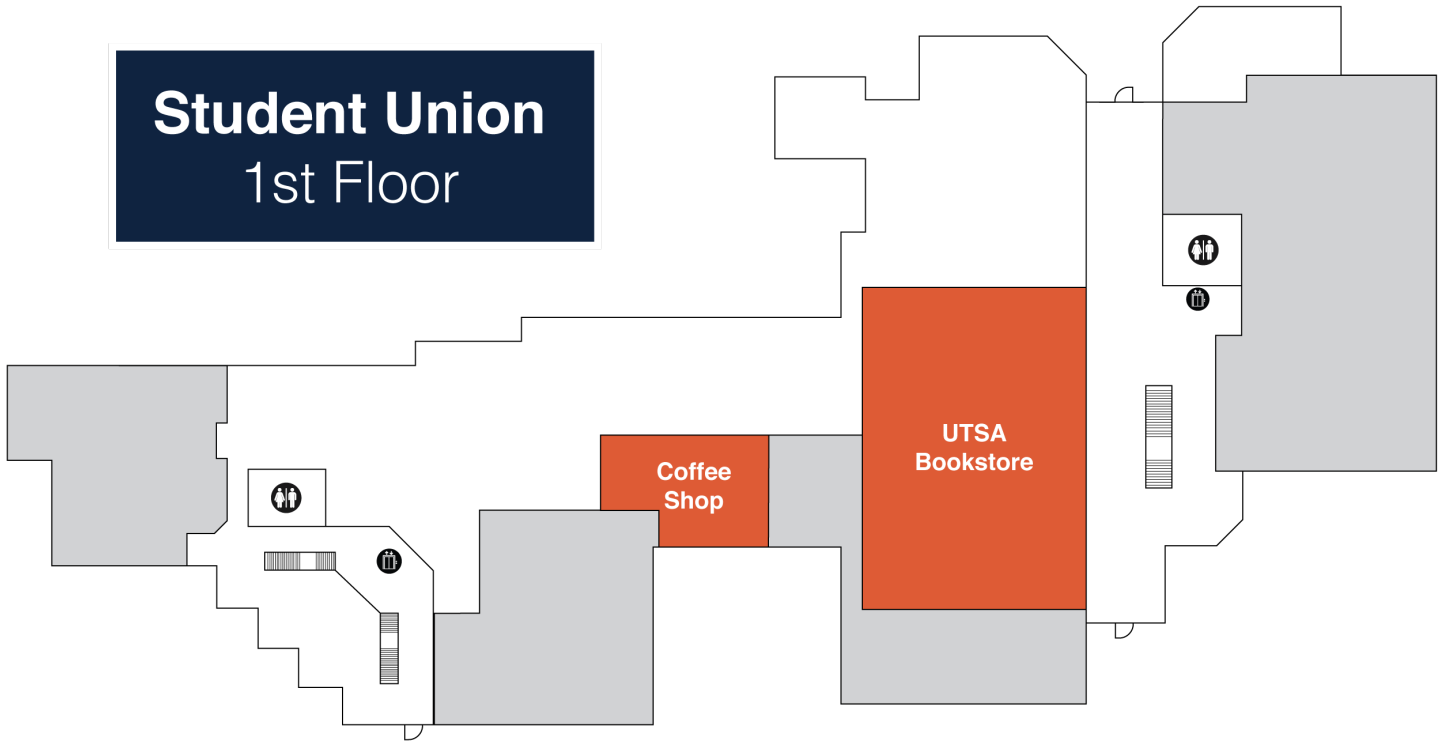
All meeting rooms for SURF are in adjacent buildings: Student Union (SU), the north side building, and H-E-B Student Union (HSU), the south side building.

SURF will be held at the UTSA Main Campus.

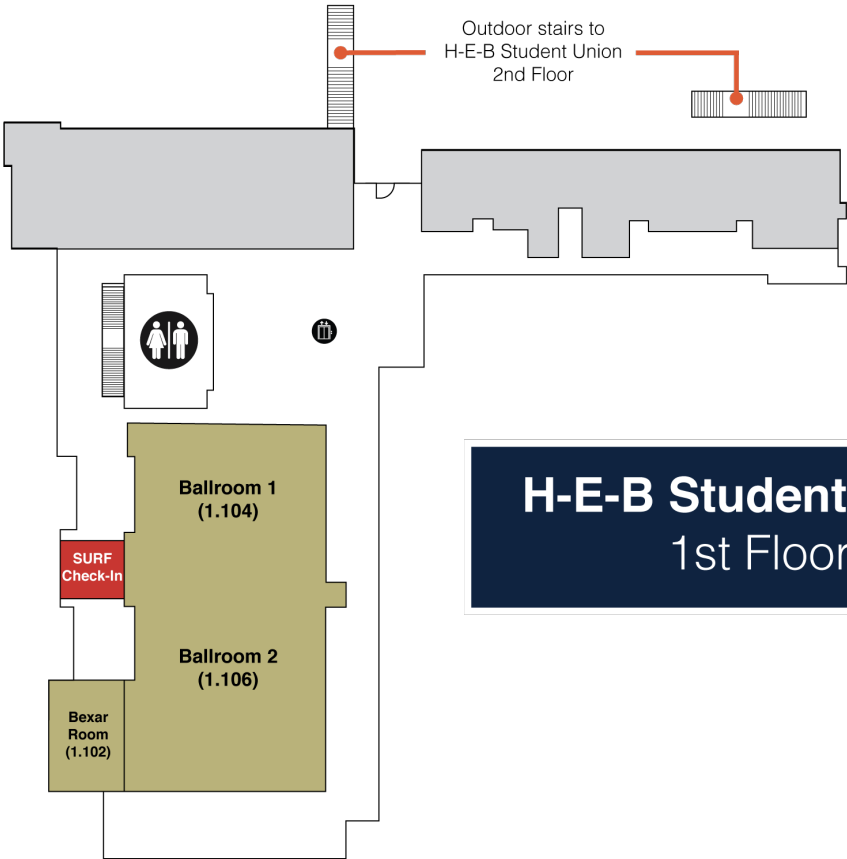
- For non-UTSA Students, Faculty, and Staff, parking will be complimentary in the Ximenes Parking Garage. Upon check-in, you will receive your parking validation card to use at pay stations before returning to vehicles.
- For UTSA Students, Faculty, and Staff, please park in your designated UTSA permit space.



Student Union 1st Floor



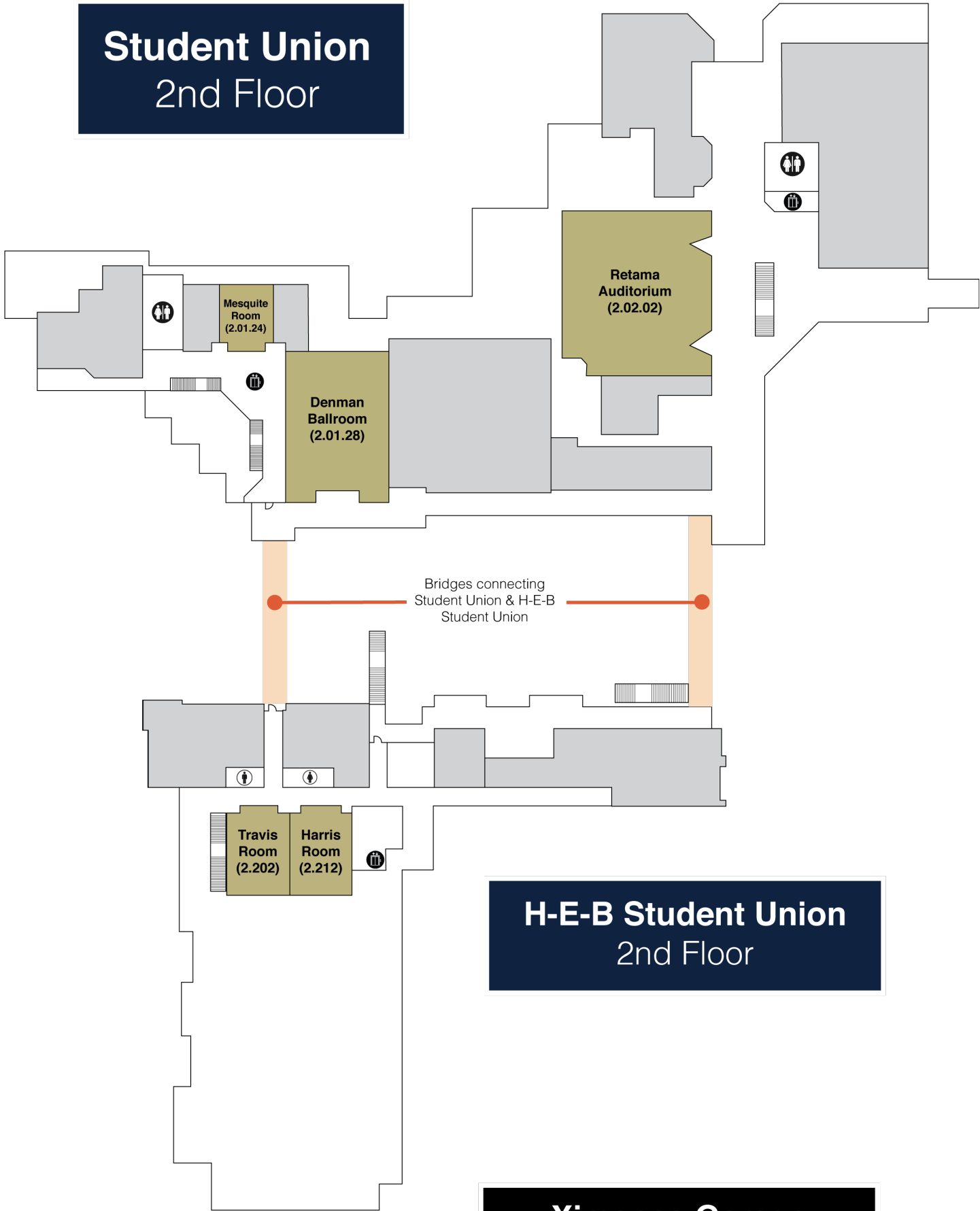
Outdoor stairs to
H-E-B Student Union
2nd Floor



H-E-B Student Union 1st Floor

Ximenes Garage

**Student Union
2nd Floor**



**H-E-B Student Union
2nd Floor**

Ximenes Garage

SPONSORS

The SURF planning committee thanks the following sponsors for their support:

PRESENTING SPONSORS



The University of Texas at San Antonio

The University of Texas at San Antonio (UTSA) is redefining higher education as a next-generation Hispanic-thriving university where students from all backgrounds can excel. With a focus on student success and research excellence, UTSA is serving as a model for the urban-serving public universities of the future. Through the transformational learning experiences that we provide, UTSA is creating bold futures for our students, the citizens of San Antonio and beyond.

UTSA is the largest university in San Antonio and one of 21 universities nationwide holding both the designation of Hispanic Serving Institution and Research One Carnegie classification for very high research activity. As an institution of access and excellence, UTSA embraces multicultural traditions. The University serves as an intellectual, creative, and catalyzing resource for socioeconomic development and intellectual property commercialization in Texas, the nation, and the world.

utsa.edu



UT Health San Antonio - Military Health Institute

The mission of the Military Health Institute is to strengthen the military health activities of UT Health San Antonio to improve the lives of our military service members, veterans and their families. Military health is in our DNA. The Military Health Institute (MHI) was established in 2014 to strengthen military health collaborations for the University of Texas Health Science Center at San Antonio. MHI focuses on four pillars to ensure a strong connection to military health. The first pillar, research, is the primary pillar: MHI facilitates Department of Defense (DoD) and Veterans Affairs (VA) research by eliminating barriers to research grant submissions and fostering collaboration with military partners. With the second pillar, education, MHI provides opportunities for the community to learn about military health. As an example, our Distinguished Lecture Series brings together leaders in industry, academia, and government, who can share keen insights on advancements in military health. The third pillar is clinical advocacy, in which MHI advocates for a strong military health system. Our Director and Deputy Director regularly engage with leaders in Austin and in Washington D.C. on important issues that affect our service members, veterans, and their families. The fourth pillar, engagement, illustrates the importance of working together. MHI engages with city, state, and national partners to promote collaborative efforts to affect positive advancement in the military health system.

militaryhealthinstitute.org

GOLD SPONSORS



San Antonio Medical Foundation

The San Antonio Medical Foundation (SAMF), Founders and Stewards of the South Texas Medical Center, was formed in 1947 as a 501(c)(3) Public Charity. The initial goals were to bring a medical school to San Antonio and add hospitals. The Mission of the SAMF is to “Provide leadership and active stewardship of our land and other assets to improve health care, advance biomedical science and enhance community well-being.” The SAMF serves as a catalyst for the San Antonio and South Texas health care and bioscience industry.

The organization is governed by a 33-member Board comprised of local business, civic and professional leaders. The Foundation has acquired over 600 acres since the 1950’s in what is now the South Texas Medical Center and has given over 200 acres to UT Health San Antonio. Other primarily not-for-profit health care and related entities have had another 150 plus acres made available to them. The Foundation holds an additional approximately 220 acres for entities that will enhance the medical center. In addition, the Foundation has entered into programs addressing youth obesity and established an annual Collaborative Grant program for healthcare and bioscience startups. A website listing over 3,000 San Antonio healthcare and bioscience research projects can be founded at sabioscience.org.

samedfoundation.org

SILVER SPONSORS



Silver Eagle Distributors

Whether our customers are looking for domestic, imported, or craft beers, flavored malt beverages, energy drinks, tea, or water, Silver Eagle Beverages is uniquely positioned to meet the needs of our retailers and local consumers.

As one of the largest members of the Anheuser-Busch wholesaler family, we have a talented team of more than 500 employees. Together, they serve more than 3,800 accounts across 18,481 square miles, including the metropolitan area of San Antonio and Atascosa, Bexar, Dimmit, Edwards, Frio, Kinney, Maverick, Medina, Real, Uvalde, Val Verde, Wilson, and Zavala counties.

Silver Eagle Beverages is dedicated to making a difference in the Texas communities where we live and work and we strive to create a Better World through our community efforts. In particular, we prioritize programs that fall under three main focus areas: responsibility, community impact, and safety.

silvereaglebeverages.com



Sans Honneur Wine

San Antonio-based winery producing beautiful and interesting wines from Texas grown grapes.

sanshonneurwine.com

BRONZE SPONSORS



The Southwest Texas Regional Advisory Council

The Southwest Texas Regional Advisory Council (STRAC) is designated by the Texas Department of State Health Services (DSHS) to develop, implement and maintain the regional trauma and emergency healthcare system for the 22 counties in Trauma Service Area - P. TSA-P has a mixture of urban, suburban, rural and frontier areas, from the 7th largest city in the US to the Mexican border, encompassing over 26,000 square miles in southwest Texas. STRAC is one of twenty-two regional advisory councils in Texas that comprise the Texas Trauma/Emergency Healthcare system. STRAC is a 501(c)(3) non-profit, tax-exempt member organization consisting of 74 general and specialty hospitals, including 2 Level I Trauma Centers, 16 PCI centers, 12 Stroke centers, air medical providers, and over 70 EMS agencies.

strac.org

PARTNER SPONSORS



Henry Jackson Foundation

Henry Jackson Foundation is a 501(c)(3) nonprofit organization dedicated to advancing military medicine. We serve military, medical, academic and government clients by administering, managing and supporting preeminent scientific programs that benefit members of the armed forces and civilians alike. Since its founding in 1983, HJF has served as a vital link between the military medical community and its federal and private partners. HJF's support and administrative capabilities allow military medical researchers and clinicians to maintain their scientific focus and accomplish their research goals.

hjff.org



The Metis Foundation

The Metis Foundation is a 501(c)(3) specifically organized to advance clinically relevant scientific research to the medical community, especially within the US Department of Defense. We provide scientific, educational, financial and project management support in the conduct of federally and privately sponsored research, clinical trials and education.

metisfoundationusa.org



Southwest Research Institute

Southwest Research Institute are Research & Development problem solvers providing independent, premier services to government and industry clients. Our multidisciplinary nature allows us to rapidly assemble diverse teams to tackle problems from multiple directions. We push the boundaries of science and technology to develop innovative solutions that advance the state of the art and improve human health and safety. Operating as a nonprofit since our 1947 inception, we work in the public's best interest and toward the betterment of humanity. And as a contract R&D organization, we are here when you need us.

pharmdev.swri.org

CALL FOR SPONSORSHIPS

The SURF planning committee is actively seeking sponsors to support and grow the annual conference. Long-term goals of the planning committee include:

- hosting the conference in the Henry B. Gonzales Convention Center,
- including additional exhibitors,
- publishing abstracts/proceedings in a peer-reviewed journal,
- hosting world-renowned keynote & plenary speakers,
- offering scholarship awards, and;
- offering student travel awards to attend the conference.

For more information about how to sponsor SURF, please reach out to SURF@utsa.edu.

Disclosure: Presenter(s) has no relevant financial or non-financial relationships to disclose relating to the content of this activity; or presenter(s) must disclose the type of affiliation. Financial interest (e.g., employee, speaker, consultant, principal investigator, grant recipient) with company name(s) included. The view expressed in this presentation are those of the author and do not necessarily reflect the official policy or position of SAMHS, UTSA, UT, the accrediting body, Department of Defense, nor the U.S. Government. SAMHS, UTSA, UT Health, sponsors, accrediting body, as well, as the activity planners, and reviewers have no relevant financial or non-financial interest to disclose. Commercial support was not received for this activity.



SURF 2023 AGENDA

REGISTRATION & WELCOME

7:45 a.m. – 10:00 a.m.
H-E-B Student Union

7:45 a.m. – 8:30 a.m.

Registration

Ballroom Lobby

7:45 a.m. – 8:30 a.m.

Breakfast and Networking

Denman Room (2.01.28)

8:30 a.m. – 9:00 a.m.

Welcome & Opening Remarks

Retama Auditorium (2.02.02)

- » **JoAnn Browning, Ph.D.**
Interim Vice President for Research, Economic Development, and Knowledge Enterprise,
The University of Texas at San Antonio
- » **Byron C. Hepburn, M.D., Maj Gen, USAF (Ret)**
Director, Military Health Institute, UT Health
- » **Brig Gen Jeannine M. Ryder**
Commander, 59th Medical Wing
- » **COL Sean Joseph Hipp, M.D., M.S.**
Chief Medical Officer, Brooke Army Medical Center

9:00 a.m. – 9:30 a.m.

Keynote Address

Retama Auditorium (2.02.02)

- » **Jonathan Woodson, M.D., MG, USAR (Ret)**
President, Uniformed Services University of the Health Sciences

9:45 a.m. – 10:00 a.m.

Break

Denman Room (2.01.28)

MORNING BREAKOUT SESSIONS

10:00 a.m. – 12:00 p.m.

SESSION 1: BATTLEFIELD HEALTH & TRAUMA

H-E-B Student Union, 2nd Floor, Harris Room (2.212)

10:00 a.m. – 10:15 a.m.

Advancing The Measurability of the EMDR Patient Experience

Margarita Gonzalez; Hannah Foster; Brian Parise; Alexandra Trani, Ph.D., Georgia Tech Research Institute

10:20 a.m. – 10:35 a.m.

Hemolysate Mixed with Crystalloid Resuscitation Reduces Fluid Requirements but may Increase Acute Decompensation after Severe Hemorrhage unless also Combined with Colloid

Alexander Penn, Ph.D.; Michael Falabella; Orlando Hernandez; Cassandra McFadden; Kimberly Baker; Melody Sandoval; Jack Hutcheson, Ph.D., USAF 59th Medical Wing

10:40 a.m. – 10:55 a.m.

Importance of Clinical Nursing Expertise in Data Abstraction: Deployed Heroes Study

April Chase, APRN; Beatrice Stevens, R.N.; COL. Jennifer Gurney, M.D., Joint Trauma System; Amanda Staudt, Ph.D.; Jennifer Trevino; Julie Cutright, R.N., The Geneva Foundation; Susan West, R.N., 59th Medical Wing

SESSION 2: BRAIN & MENTAL HEALTH

H-E-B Student Union, 2nd Floor, Travis Room (2.202)

10:00 a.m. – 10:15 a.m.

Evaluation of a Single-Session Sleep Intervention for Air Force Trainees

Capt. Samuel Alex; Capt. Jordan Ellis, Ph.D.; Maj. Rosemary Estevez Burns, Ph.D.; Lt. Col. Daniel Cassidy, Ph.D.; Maj. Chase Aycock, PsyD; Maj. Andrea Krunnusz, Ph.D.; Maj. John Jones, Ph.D., Wilford Hall Ambulatory Surgical Center; Indika Mallawaarachchi; Xin-Qun Wang; Robert Klesges, Ph.D., University of Virginia

10:20 a.m. – 10:35 a.m.

MicroRNA Expression Analysis of the Rat Brain During Neuropathic Pain Development

Natasha Sosanya, Ph.D.; Roger Chavez; Michaela Priess; Thomas Stark, D.D.S.; Burook Misganaw; Ruoting Yang, Ph.D.; Aarti Gautam, Ph.D.; Rasha Hammamieh, Ph.D., Walter Reed Army Institute of Research; George Dimitrov, GDIT Falls Church; John Clifford, Ph.D., National Institutes of Health

10:40 a.m. – 10:55 a.m.

Overcoming Nondisclosure of Suicidality: Examining the Suicide Crisis Syndrome as an Indirect Indicator of Suicide Risk in Military and Veteran Populations

Megan Rogers, Ph.D., Texas State University; Igor Galynker, M.D., Ph.D., Mount Sinai Beth Israel

SESSION 3: CLINICAL INVESTIGATION, HEALTH SYSTEMS RESEARCH, AND MEDICAL MODELING SIMULATION & DIAGNOSTICS

H-E-B Student Union, 1st Floor, Bexar Room (1.102)

10:00 a.m. – 10:15 a.m.

Urinary Cancer Risk Using the 2020 American Urologic Association Diagnostic Algorithm of Asymptomatic Microscopic Hematuria

CPT. Tylor Connor, D.O.; Capt. Cameron Denley, M.D.; Capt. Daltrey Meitz, D.O.; Capt. Allen Betts, M.D.; Maj. Alexander Lo, M.D.; Ryan Schwope, M.D.; Christopher Lisanti, M.D.; Lt. Col. Christopher Allam, D.O., Brooke Army Medical Center

10:20 a.m. – 10:35 a.m.

Equitable Anesthesiologist Scheduling under Demand Uncertainty Using Multi-Objective Programming

Kai Sun, Ph.D.; Minghe Sun, Ph.D.; Arkajyoti Roy, Ph.D., The University of Texas at San Antonio; Deepak Agrawal, Ph.D., Meta; Ronald Dravenstott; Frank Rosinia, M.D., The University of Texas Health Science Center at San Antonio

10:40 a.m. – 10:55 a.m.

Establishing an Institutional 3-Dimensional Printing Program to Support Complex Anatomic Modeling and Presurgical Planning for a Case of Congenital Cloaca

CPT. Tylor Connor, D.O.; CPT. Jason Kim, M.D.; CPT. Horace Hays, M.D.; COL. Paul Clark, D.O., Brooke Army Medical Center

SESSION 4: PRECISION MEDICINE, PATIENT SAFETY/WELLNESS, AND WOMEN'S HEALTH INITIATIVES

Student Union, 2nd Floor, Mesquite Room (2.02.24)

10:00 a.m. – 10:15 a.m.

Solving Key Problems of the Use of Anti-Tumor Drug Delivery Vehicles

Philip Serwer, Ph.D.; Miranda Aldis; Samantha Roberts; Elena Wright; Cara Gonzales, Ph.D., D.D.S, The University of Texas Health Science Center at San Antonio

10:20 a.m. – 10:35 a.m.

Impact of a Faith-based Hypertension Control Program on Hispanic Adults Diagnosed with, or at High Risk for Developing, Hypertension

Bradley Wilhite; Summer Wilmoth, Ph.D.; Meizi He, Ph.D., The University of Texas San Antonio

10:40 a.m. – 10:55 a.m.

Examining Insomnia Symptoms in a Sample of Pregnant Military Mothers

Maj. Rosemary Estevez Burns, Ph.D.; Capt. Shelby Ogden; Capt. Justin Williams, M.D.; Maj. Andrea Krunnfusz, Ph.D.; Capt. Jordan Ellis, Ph.D.; Maj. Chase Aycock, PsyD; John Jones, Ph.D., United States Air Force; Capt. Manasa Kokonda; Sara Nowakowski, Ph.D., Baylor College of Medicine

11:00 a.m. – 11:15 a.m.

Break

Denman Room (2.01.28)

SESSION 5: BATTLEFIELD HEALTH & TRAUMA

H-E-B Student Union, 2nd Floor, Harris Room (2.212)

11:15 a.m. – 11:30 a.m.

Materials Available to Tactical Medical Personnel for Constructing Field Improvised Exoskeletons

Garrett Flores; Antuione Perry, Henry M. Jackson Foundation; Brett Johnson, Ph.D.; Lee Childers, Ph.D., Veterans Affairs Extremity Trauma and Amputation Center of Excellence

11:35 a.m. – 11:50 a.m.

Prehospital Use of Whole Blood in Pediatric Trauma Patients: Initial Experiences

Capt. Kelly Harrell, D.O.; Abigail Johnson; John C Myers, M.D.; Maxwell Braverman, D.O.; Brian Eastridge, M.D.; Lillian Liao, M.D.; Susannah Nicholson, M.D.; Ronald Stewart, M.D.; Donald Jenkins, M.D.; Katie Wiggins-Dohlvik, M.D., The University of Texas Health Science Center at San Antonio; Eric Epley, South Texas Regional Advisory Committee

11:55 a.m. – 12:10 p.m.

Testing The Validity of Various Viscosity Values for a Versatile Oxygenating Perfusion System

Anjelyka Fasci; Mariana Garcia; Jessica Oseghale; Sophia Salzar; Anis Khalil; Brandt Wearden; Leslie Muenchow; Jose Gonzales; Carorina Villareal; David Di Rocco; Daniel Portillo, The University of Texas at San Antonio

SESSION 6: BRAIN & MENTAL HEALTH

H-E-B Student Union, 2nd Floor, Travis Room (2.202)

10:45 am – 11:00 am

Pain is Inevitable, Suffering is Optional: Implementation of an Interprofessional Single-Session Intervention for Pain

Maj. Andrea “Andi” Krunnusz, Ph.D.; Maj. Chase Aycock, Psy.D., Wilford Hall Ambulatory Surgical Center; Maj. John Blue Star, Ph.D., Hanscom Air Force Base

11:35 a.m. – 11:50 a.m.

Peptidomimetic Proteasome Activators as Novel Agents to Battle Neurodegeneration

Maria Gaczynska, Ph.D.; Pawel Osmulski, Ph.D.; Estrella Chocron, Ph.D.; Erin Munkascy, Ph.D., The University of Texas Health Science Center at San Antonio; Andrew Pickering, Ph.D., University of Alabama at Birmingham; Elzbieta Jankowska, Ph.D.; Przemyslaw Karpowicz, Ph.D., University of Gdansk; Pawel Wityk, Ph.D., Gdansk University of Technology; Veronica Galvan, Ph.D., Oklahoma Health Science Center; Jonathan Bohmann, Ph.D., Southwest Research Institute

11:55 a.m. – 12:10 p.m.

Prospective Bidirectional Relations Between Depression and Metabolic Health in the NHLBI CARDIA Study: A 30 Year Follow-Up

Capt. Nicholas Moorehead, Wilford Hall Ambulatory Surgical Center; Jeffrey Goodie, Ph.D.; David Krantz, Ph.D., Uniformed Services University of the Health Sciences

SESSION 7: OTHER EMERGING SCIENCE & TECHNOLOGIES

H-E-B Student Union, 1st Floor, Bexar Room (1.102)

11:15 a.m. – 11:30 a.m.

Adaptable Socket May Improve Prosthetic Fit and Comfort during Military Specific Tasks

Alyssa Salazar; Ciera Price, Henry M. Jackson Foundation; Molly Baumann, Ph.D.; W. Lee Childers, Ph.D., Extremity Trauma and Amputation Center of Excellence; Kate Allyn; Nick deGrasse; Connor Lanahan; Bailey Ramesh; Joseph Garbini, Ph.D.; Joan Sanders, Ph.D., University of Washington

11:35 a.m. – 11:50 a.m.

Advancing Expeditionary Interventional Radiology and Additive Manufacturing as the Primary Approach to Surgical Emergencies Encountered During Space Flight

CPT Tylor Connor, D.O.; CPT Horace Hays, M.D.; CPT Jason Kim, M.D.; Lt. Col. John Pavlus, M.D., Brooke Army Medical Center; DeAnn McNamara, N.P., Brigham and Women’s Hospital

11:55 a.m. – 12:10 p.m.

Combination of CDK 4/6 Inhibitor Palbociclib with Rapamycin Synergistically Inhibits Growth of Hepatocellular Carcinoma in Preclinical Models

Ankur Tiwari, M.D.; Araceli Huerta; Hakim Bouamar, Ph.D.; Debodipta Das, Ph.D.; Francisco Cigarroa, M.D.; LuZhe Sun, Ph.D., The University of Texas Health Science Center at San Antonio

SESSION 8: INFECTIOUS DISEASE

Student Union, 2nd Floor, Mesquite Room (2.02.24)

11:15 a.m. – 11:30 a.m.

Solving Key Problems of Phage Therapy: Phage-Innocuous Killing of Bacteria

James Chambers, Ph.D., The University of Texas at San Antonio; **Elena Wright; Samantha Roberts; Philip Serwer, Ph.D.**; The University of Texas Health Science Center at San Antonio

11:35 a.m. – 11:50 a.m.

High HIV Pre-Exposure Prophylaxis Retention at a Military Infectious Disease Clinic

CPT Jacob Colver, D.O., San Antonio Uniformed Services Health Education Consortium; **COL. Jason Okulicz, M.D.**; **MAJ. Joseph Marcus, M.D.**, Brooke Army Medical Center

LUNCH AND NETWORKING

12:15 p.m. – 1:00 p.m.

Denman Room (2.01.28)

PANEL SESSION

1:00 p.m. – 2:00 p.m.

Student Union, 2nd Floor, Retama Auditorium (2.02.02)

SPaR: Arming the Warfighter with Self-Sustaining Resilience

An emerging concept known as ‘Operator Syndrome’ has been used to describe the presence of a unique constellation of symptoms and negative long-term health effects that develop from prolonged periods of demanding mission operations. Many special operations (SO) members frequently develop cognitive deficits, sleep disturbances, HPA dysregulation, persistent negative mood, and orthopedic issues over the course of their career. Cumulatively, these negative effects can compromise military readiness and diminish the quality of life of these members when they separate or retire from service. The current program at the Center for the Intrepid (CFI) is an early attempt to assess and treat these concerns in this understudied population while they remain in active-duty status. The findings of this program are promising as data suggest a brief intensive intervention may mitigate against the individual, operational, and healthcare cost associated with Operator Syndrome.

Moderator

» **Maj. John R. Jones, Ph.D.**

Military Readiness and Clinical Health Psychology Fellow, 59th Medical Operations Squadron, Joint Base San Antonio-Lackland

Panelist

» **Benjamin M. Keizer, Ph.D.**

Board-Certified Clinical Health Psychologist, San Antonio Uniformed Services Health Education Consortium

» **Andrea “Andi” Krunnusz, Ph.D.**

Military Readiness Fellow, 59th Medical Operations Squadron, Joint Base San Antonio-Lackland

» **Meghan Lewis**

Occupational Therapist, Center for the Intrepid at Brooke Army Medical Center

» **Nick Levine**

Postdoctoral Fellow, Center for the Intrepid at Brooke Army Medical Center

» **Jeffrey Tiede, M.SS, M.D.**

Director, Center for the Intrepid, Brooke Army Medical Center

2:00 p.m. – 2:15 p.m.

Break

Denman Room (2.01.28)

AFTERNOON BREAKOUT SESSIONS

2:15 p.m. – 4:30 p.m.

SESSION 9: BATTLEFIELD HEALTH & TRAUMA, OTHER EMERGING SCIENCE & TECHNOLOGIES

H-E-B Student Union, 2nd Floor, Harris Room (2.212)

2:15 p.m. – 2:30 p.m.

The Relationship of Exoskeleton Interfaces with the Ability to Off-Load a Tibia Fracture

Sarah Pesquera; W. Lee Childers, Ph.D.; W. Brett Johnson, Ph.D., Veterans Affairs Extremity Trauma and Amputation Center of Excellence

2:35 p.m. – 2:50 p.m.

Traumatic Supraclavicular Blunt Brachial Plexus Injuries – Can Conventional CT Provide Earlier Detection?

Michael Povlow, M.D., San Antonio Uniformed Services Health Education Consortium; **Capt. Jordan Davis, M.D.; LTC Aaron Betts, M.D.; Sara Clayton, M.D.; John Ritter, M.D.**, Brooke Army Medical Center

2:55 p.m. – 3:10 p.m.

The Design of a Robotic Lower Limb Surrogate to Evaluate the Effects of Orthotic Devices on Tibial Strain

Robert McGrath, Ph.D.; Michael Poppo; The Henry M. Jackson Foundation; **W. Brett Johnson, Ph.D.; W. Lee Childers, Ph.D.**, Extremity Trauma and Amputation Center of Excellence

SESSION 10: BRAIN & MENTAL HEALTH

H-E-B Student Union, 2nd Floor, Travis Room (2.202)

2:15 p.m. – 2:30 p.m.

Solving The Biochemical/Conformational Pathway of Alzheimer's Disease

Philip Serwer, Ph.D., The University of Texas Health Science Center at San Antonio

2:35 p.m. – 2:50 p.m.

Sex Differences in the Association of Functionality and Symptom Burden on Life Satisfaction Among Veterans with Mild Traumatic Brain Injury

Alicia Swan Ph.D.; Rebecca Tapia, M.D., Department of Veterans Affairs; **Joseph Torres; Amber Lyle; Elizabeth Sanford; Meghan Anspach**, The University of Texas at San Antonio

SESSION 11: HUMAN PERFORMANCE, READINESS, AND RECOVERY

H-E-B Student Union, 1st Floor, Bexar Room (1.102)

2:15 p.m. – 2:30 p.m.

Brooks Aerospace Environment Protection Laboratory Combines Dynamic Operational Hypobaric Profiles with Synthetic Precision Piloting to Monitor Human Performance at Altitude

Jeremy Beer, Ph.D.; Bria Morse; Todd Dart, Ph.D., KBR Science & Space; Col. (Ret.) Paul Sherman, M.D., USAF 59th Medical Wing

2:35 p.m. – 2:50 p.m.

Research Initiatives at the Center for the Intrepid

Lee Childers, Ph.D.; Molly Baumann, Ph.D.; Brett Johnson, Ph.D., Extremity Trauma and Amputation Center of Excellence; Shannon Barnicott; Ben Keizer, Ph.D.; Jeff Tiede, M.D., Brooke Army Medical Center

2:55 p.m. – 3:10 p.m.

The Vertical Delaminating Tear of the Semitendinosus: A Pitfall in Hamstring Injury Classification

CPT. Tylor Connor, D.O.; Maj. Matthew Kluckman, M.D.; Douglas Byerly, M.D., Brooke Army Medical Center

3:15 p.m. – 3:30 p.m.

Long-Term Use and Return to Duty Rates Among Intrepid Dynamic Exoskeletal Orthosis Users

Michelle Lockwood, Ph.D.; John R. Ferguson; W. Lee Childers, Ph.D., Brooke Army Medical Center; Tyler J. Cagle, The University of Texas Southwestern Medical Center; Sarah N. Pierrie, M.D., University of Cincinnati Medical Center; COL. Joseph F Alderete, M.D., U.S. Army Institute of Surgical Research

SESSION 12: INFECTIOUS DISEASE AND DENTAL RESEARCH

Student Union, 2nd Floor, Mesquite Room (2.02.24)

2:15 p.m. – 2:30 p.m.

Siphophage 0105phi7-2: Novel Phage Therapy-relevant Propagation, Genome-implied Assembly

Samantha Roberts; Philip Serwer, Ph.D.; Miranda Aldis; Elena Wright; Cara Gonzales, D.D.S., Ph.D.; Zhao Lai, Ph.D.; Susan Weintraub, Ph.D.; Stephen Hardies, Ph.D., The University of Texas Health Science Center at San Antonio

2:35 p.m. – 2:50 p.m.

In Vitro and Ex Vivo Antifungal Activity of Antimicrobial Peptide-loaded Microfiber Wound Dressings

Sabrina Snyder, Ph.D.; Crystal Rock; Nancy Millenbaugh, Ph.D., Naval Medical Research Unit - San Antonio

2:55 p.m. – 3:10 p.m.

Assessment of the Structural Changes of Human Teeth and Bone by Low-field Nuclear Magnetic Resonance

Qingwen Ni, Ph.D.; Ingrid Rodriguez, Texas A&M International University

3:35 p.m. – 4:00 p.m.

Break

Denman Room (2.01.28)

BRIEFING SESSION

4:00 p.m. – 5:00 p.m.

Student Union, 2nd Floor, Retama Auditorium (2.02.02)

Prize Competitions for Technology Development

Jarah Meador, Ph.D., Director of Open Innovation Programs, General Services Administration

Poster Session, Exhibits, & Networking Reception

5:00 p.m. – 6:00 p.m.

H-E-B Student Union, 1st Floor, Ballroom

BATTLEFIELD HEALTH AND TRAUMA

- 1. A Prehospital Feasibility Assessment of a Lightweight, Durable, Wearable Biosensing Platform to Improve Combat Medic Management and Triage of a Massive Casualty (MASCAL) Scenario: A Pilot Study** | Maj. Patrick Ng, M.D.; Chris Bennett; Krystal Valdez-Delgado, BSN, R.N.; Maria Castaneda; Dylan Rodriguez; Shelia Savell, Ph.D.; Allyson Mireles, Ph.D., USAF 59th Medical Wing; Krishna Constantino, M.D., USA MEDCOM
- 2. Acute Management of Hemodynamically Unstable Patients with Pelvic Ring or Acetabular Fractures: A Comparison of Angioembolization and Preperitoneal Pelvic Packing** | Aaron Singh; Travis Kotzur; Rishi Gonuguntla; Lorenzo Canseco; David Momtaz; Ali Seifi, M.D.; Case Martin, M.D., The University of Texas Health Science Center at San Antonio
- 3. Analyzing the Top Three Trauma Types in Individual Military Service Members and Veterans with PTSD** | Elizabeth Santos; Kiara Buccellato, M.A.; Tabatha Blount, Ph.D.; Casey Straud, Psy.D.; Stacey Young-McCaughan, R.N., Ph.D.; Willie Hale, Ph.D.; Kelsi Gerwell, Ph.D.; Alan Peterson, Ph.D., The University of Texas Health Science Center at San Antonio; Terence Keane, Ph.D., Boston University
- 4. Baseline Familiarity of the Joint Trauma System Clinical Practice Guidelines Amongst Anesthesia Providers at a Military Treatment Facility** | 1LT James Park, R.N.; Ashley Morris, R.N.; CPT. Nicholas RisCassi, R.N.; COL (Ret.) Thomas Ceremuga, Ph.D., United States Army Graduate Program in Anesthesia Nursing; MAJ. David Gisla, AN, DNP; MAJ. David Robinson, AN, DNAP; LTC (Ret.) Paul Jones, DNAP; James Aden, Ph.D., Brooke Army Medical Center
- 5. Biomarkers of Endothelial Activation Detected After Blast and Radiation Exposure** | Whitney Greene, Ph.D.; Jeanine Badrak; Jemima McCluskey; Cassandra Niemeyer; Michael Urban, Ph.D., United States Army Institute of Surgical Research
- 6. Efficacy of Stop the Bleed Curriculum in Young Adolescents** | Abigail Johnson; Lorenzo Canseco; Kajal Bhakta, Pharm.D.; Kirk Evoy, Pharm.D., The University of Texas Health Science Center at San Antonio; Shelby Humpert, Pharm.D.; Sorina Torres, Pharm.D., The University of Texas at Austin; Tataka Perry-Johnson, R.N., University Health System
- 7. Hemodynamic Trends During Air Transport of Critically Ill Combat Wounded with Brain Injury** | Maj. William Davis, M.D.; Kimberly Medellin, BSN, R.N.; Jule Cutright, BSN, R.N.; Allyson Arana, Ph.D.; Maj. Patrick Ng, M.D.; Shelia Savell, Ph.D., R.N., USAF 59th Medical Wing; Col. Richard Strilka, M.D.; Lt. Col. Derek Sorensen, M.D., 711 Human Performance Wing; Lt. Col. Joseph Maddry, M.D., US Army Institute of Surgical Research

8. **Optic Nerve Sheath Diameter for Automated Point of Care Testing of Increased Intra-Cranial Pressure by Sonography (OPTICS)** | Ashley Barasa, M.D.; MAJ. John Hunninghake, M.D.; CAPT. Tyler Campbell, D.O.; Brittany Daley; Marisol Resendiz, Ph.D.; COL. Michael Morris, M.D., Brooke Army Medical Center
9. **Regulation of Assembly Status and Activity of the Proteasome as a Non-toxic Way to Mitigate Military Relevant Muscle Atrophy** | Pawel Osmulski, Ph.D.; Maria Gaczynska, Ph.D., The University of Texas Health Science Center at San Antonio; Jonathan Bohmann, Ph.D., Southwest Research Institute; Stanton McHardy, Ph.D., The University of Texas at San Antonio; Jetze Tepe, Ph.D., Michigan State University
10. **Systematic Multiplex Cytotoxicity Screening for Future Cytotoxicity Evaluation in Developing Small Molecules for Rapid Hemorrhage Control and Patient Stabilization in Combat** | Dena Norouzi; Shauna Hill, Ph.D.; Kameel Zuniga, Ph.D.; Chester Hutcheson, Ph.D., USAF 59th Medical Wing; Amber Nagy, Ph.D., Texas Biomedical Research Institute
11. **Wearable, Continuous, Non-Invasive Blood Pressure Monitor for Use During Prolonged Field Care** | Xina Quan, Ph.D.; Weyland Leong; Keith Drake, Ph.D.; Junjun Liu, Ph.D., PyrAmes Inc.; Thomas Roxlo, Ph.D., Naval Medical Research Unit - San Antonio; Lamia Soghier, M.D., Children's National Health System; R. Brandon Hunter, M.D., Texas Children's Hospital; Rodica Turcu, M.D., Tufts Medical Center; Kamran Yusuf, M.D., University of Calgary; Anoop Rao, M.D., Lucile Packard Children's Hospital at Stanford; Matt Dalton, Ph.D., Air Force Research Laboratory

BRAIN & MENTAL HEALTH

12. **A Single-Session, Group-Based Intervention for Sleep: Is it Enough?** | Samuel Alex; Capt. Nicholas Moorehead; Capt. Michael Scharf; Maj. Andrea Krunnusz, Ph.D., Wilford Hall Ambulatory Surgical Center
13. **Comparative Analysis of Mirna Expression Profiles from Brain and Peripheral Tissues** | Emily Shrimpton; Chris Ayo; Emma Dalan; Melanie Carless, Ph.D., The University of Texas San Antonio; Mark Kos, Ph.D., The University of Texas Rio Grande Valley
14. **Comprehensive Approach to Investigate Cytoskeleton Filaments in Physiological and Pathological Conditions** | Annitta George; Marcelo Marucho, Ph.D., The University of Texas at San Antonio
15. **Data-Driven Development of a "Full Continuum of Resilience" to Understand, Detect, and Prevent Suicide among United States Military Service Members** | Samantha Lie-Tjauw; Hannah Foster; Alexandra Trani, Ph.D., Georgia Tech Research Institute
16. **"Epileptoconomics," The Futurist Cost to Live in Space: Economics of Epilepsy Hospitalizations in the United States During the Past Three Decades** | Shwetha Menon; Carlos Garcia, M.D.; Margaret Moran, M.D.; Ali Seifi, M.D., The University of Texas Health Science Center at San Antonio
17. **Expanding and Standardizing Mental Health Screening for All Brooke Army Medical Center Pediatric Subspecialty Clinics** | CPT. Victoria Coccozza, D.O.; CPT. Lydia Sickbert, M.D.; CPT. Tim Kenny, D.O.; LTC. Zachary Turner, M.D.; Lt. Col. Kevin Pieroni, M.D.; Tamara Passut, R.N.; Maj. Dimas Espinola, M.D., Brooke Army Medical Center

- 18. Exploring the Potential Impact of Tetrahydrobiopterin (BH4) Deficiency on the Urea Cycle in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS)** | Laurel Crosby, Ph.D.; Sharada Kalanidhi; Ronald Davis, Ph.D., Stanford Genome Technology Center
- 19. Financial Burden of Nonconvulsive Status Epilepticus in the United States During 1993-2014** | Shwetha Menon; Carlos Garcia, M.D.; Ali Seifi, M.D., The University of Texas Health Science Center at San Antonio
- 20. Incidence and Clinical Features of Nightmare Disorder and Trauma Associated Sleep Disorder in U.S. Military Personnel with Sleep Disturbances** | Capt. Zahari Tchopov, M.D.; Capt. Brent Jacobus II, M.D.; Lt. Col. Shana Hansen, M.D., San Antonio Uniformed Services Health Education Consortium; COL (Ret.) Vincent Mysliwiec, M.D., The University of Texas Health Science Center at San Antonio; Lt. Col. Matthew Brock, M.D., Brooke Army Medical Center
- 21. The Use of Phenobarbital for Alcohol Withdrawal Syndrome on General Medicine Floors: A Review of Care from a 425-bed Military Academic Medical Center** | Capt. Adam Golos, Pharm.D.; Devon Jacobs, Pharm.D.; Gary Burdge, Pharm.D., Brooke Army Medical Center
- 22. The Use of Ultrasound in Detecting Intracranial Pathologies in the Emergency Department** | Rohan Banerjee, University of the Incarnate Word; Jason Vadhan, D.O., University of Texas Southwestern Medical Center; Kailey Jacobson, Nova Southeastern University
- 23. The Weekend Effect in Stroke** | Dhyan Dave; David Momtaz; Cerise Cisneros, The University of Texas Health Science Center at San Antonio
- 24. Disruptive Neurobehavioral Symptoms Associated with Return to Productivity Status for Veterans with Mild Traumatic Brain Injury** | Joseph A. Torres; Amber Lyle, The University of Texas at San Antonio; Rebecca N. Tapia; Alicia A. Swan, Ph.D., M.D., Department of Veterans Affairs

CLINICAL INVESTIGATIONS

- 25. Effects of Single-Session Weight Loss Intervention Within a Military Population** | Capt. Nicholas Moorehead; Capt. Samuel Alex; Capt. Tyler Marshall; Maj. John Jones, Ph.D., Wilford Hall Ambulatory Surgical Center
- 26. Mechanistic Trial of Dupilumab in Adults with House Dust Mite-Associated Asthma Using an Aeroallergen Challenge Chamber: Rationale** | Alisha Smith, Ph.D.; Nathan Harper; Grace Lee, Pharm.D., Ph.D.; Lavanya Pandranki; Fabio Jimenez; Muthu Saravanan Manoharan; Sunil Ahuja, M.D., The University of Texas Health Science Center at San Antonio; Robert Jacobs, M.D., Biogenics Research Chamber
- 27. The Not-So-Slow Evolution of a Benign Plasma Cell Dyscrasia into an Aggressive Plasmablastic Lymphoma** | Morgan P. Pinto, D.O.; Kristin E. Stoll, D.O.; Nicholas S. Thorneloe, M.D.; Mark R. Brown, D.O.; Molly Stalons, M.D.; Allen R. Holmes, M.D.; Paul A. Gonzales, M.D., San Antonio Uniformed Services Health Education Consortium

28. Point-of-Care Ultrasound: Improving Residents' Proficiency for Critical In-Theater Assessments and Inpatient Care | Capt. Morgan Pinto, D.O., Brooke Army Medical Center, Uniformed Services Health Education Consortium; Capt. Ashley Barasa, M.D.; Capt. Aneesh Bapodra, M.D.; Capt. Zachary Jarret, D.O.; Capt. Craig Yugawa, M.D.; Capt. Nicholas Villalobos, M.D., Brooke Army Medical Center

CRITICAL CARE MEDICINE

29. Association Between Pulmonary Embolism and Deep Vein Thrombosis in the Upper or Lower Extremities in Neurocritical Care Patients | Yusuf Mufti; MAJ. Geoffrey Peitz, M.D.; Ali Seifi, M.D., The University of Texas Health Science Center at San Antonio

30. Comparison of Burn Patients Transported by the Burn Flight Team and Critical Care Air Transport Teams | Kimberly Medellin, R.N.; Shelia Savell, Ph.D., USAF 59th Medical Wing, Jeff Howard, Ph.D., The University of Texas at San Antonio; Amanda Staudt, Ph.D.; Leopoldo Cancio, M.D., U.S. Army Institute of Surgical Research; COL. Christopher VanFosson, Ph.D., R.N.; LTC. Julie Rizzo, M.D.; Lt. Col. Joseph Maddry, M.D., Brooke Army Medical Center

31. Efficacy of a One-day, Mannequin-based Extracorporeal Membrane Oxygenation Training Course in Swine (SUS SCROFA) | Lt. Col. Joseph Maddry, M.D.; R. Madelaine Paredes, Ph.D.; Joni Paciocco, R.N.; Maria Castaneda; Allyson Arana, Ph.D.; Crystal Perez, R.N., USAF 59th Medical Wing; CPT. Timur Abdurashidov, M.D., San Antonio Military Medical Center

32. Inhalation Injury Severity Score on Admission Correlates with Overall Survival in Burn ICU Patients | Ashley Flinn, M.D.; CPT Phillip Kemp Bohan, M.D.; Catherine Rauschendorfer; Tuan Le; LTC Julie Rizzo, M.D., San Antonio Uniformed Services Health Education Consortium

33. Right Ventricular-Pulmonary Arterial (RV-PA) Coupling in Patients Requiring Venopulmonary Artery Extracorporeal Membrane Oxygenation (VPA-ECMO) due to COVID-ARDS | Faith Kelly, M.D.; Capt. Carlos Matrinez, -Licha, M.D.; Capt. Anthony Trinh, M.D.; MAJ. Albert Marle, M.D.; COL. (Ret.) Michael Morris, M.D.; MAJ. Emilio Fentanes, M.D., Brooke Army Medical Center

DENTAL RESEARCH

34. Understanding the Ethical Dilemma in Dental Bone Grafting | Tayler Pham, Austin College; Brittany Dang, The University of Texas Medical Branch

HEALTH SYSTEMS RESEARCH

35. Did the COVID-19 Pandemic Impact the Trend of Carotid Surgeries in the United States During 2016 to 2020? | Alexis Lorio; Roma Ahuja; Ali Seifi, M.D., The University of Texas Health Science Center at San Antonio

36. Does the Inclusion of a Nurse-Specific Documentation Tool in the EHR, as Compared to Not Having a Nurse-Specific Documentation Tool, Effect Nurse Documentation Time? | Stephanie Garcia, D.N.P., R.N., Wilford Hall Ambulatory Surgical Center, Melissa Reedy, D.N.P., R.N.; Michael Landry, D.N.S., R.N., American Sentinel College of Nursing & Health Sciences Post University; Rebecca Heyne, Ph.D., D.N.P., USAF 59th Medical Wing

- 37. Emergency Department Utilization in the San Antonio-New Braunfels Metropolitan Statistical Area** | Lorenzo Canseco; Travis Kotzur; Abigail Johnson; Robert De Lorenzo, M.D., The University of Texas Health Science Center at San Antonio
- 38. Initial Observations from a Virtual Heart Failure Clinic to Optimize Management of Heart Failure with Reduced Ejection Fraction** | Andrew Wilson, D.O.; Capt. Elena Segre, M.D.; CPT. Loreto Calaquin, M.D.; LTC. Kimberly Kenney, M.D.; MAJ. Emilio Fentanes, M.D.; Lt. Col. Serafim Perdikis, M.D., San Antonio Uniformed Services Health Education Consortium
- 39. Providing Continuity of Care for Chronic Diseases After Natural Disasters: A Resource Allocation Model for Public Health Preparedness in Texas** | Eduardo Perez; Faria Farzana, Texas State University
- 40. Three Decades of Cerebrovascular Accidents in the United States: A Healthcare Economic Perspective** | Alexis Lorio; Carlos Garcia-Rodriguez, M.D.; Ali Seifi, M.D., The University of Texas Health Science Center at San Antonio
- 41. We Asked What Brings Someone to Homelessness and Keeps Them There: An Interpretive Approach Study Based on Convenience Sample** | Christopher Paulo, D.O.; Amy Moore, P.A.; Anastasia Abbott, D.O.; 2Lt. Ui Lee, D.O.; Logan Bruntmyer; Hannah Redwine, D.O., University of the Incarnate Word

HUMAN PERFORMANCE, READINESS AND RECOVERY

- 42. Cardiovascular Impact of COVID-19 Among Hospitalized U.S. Active-Duty Service Members** | Patton McClelland, M.D.; Capt. Samuel Theis, D.O.; Capt. Kevin O’Gorman, M.D.; MAJ. Emilio Fentanes, M.D., Brooke Army Medical Center; Autumn Mains, R.N.; Bethelhem Markos; Mark Haigney, M.D., Uniformed Services University of the Health Sciences; Col. Stacy Shackelford, M.D., U.S. Army Institute of Surgical Research
- 43. Effects of Sleep Extension on Cognitive Performance in Military-Aged Adults: A Systematic Review** | MAJ. Bryan Yu; CPT. Talia Barrow; Elaina DaLomba, Ph.D.; CAPT. Maria Barefield, Army-Baylor University; LTC. Brian Gregg, Ph.D., Brooke Army Medical Center
- 44. The Effect of Sleep Leadership Training on Army Holistic Health and Fitness Performance Team Members** | CPT. Talia Barrow; MAJ. Yu Bryan, United States-Army Baylor University
- 45. Frequency of Use for Form Fields in En-route Critical Care Medical Records to Inform Electronic Health Record Development** | Krystal Valdez-Delgado, R.N.; Kimberly Medellin, R.N.; Allyson Mireles, Ph.D.; Maj. Patrick Ng, M.D.; Maj. William Davis, M.D., USAF 59th Medical Wing; Alejandra Mora, Ph.D.; Lt. Col. Joseph Maddry, M.D., United States Army Institute of Surgical Research
- 46. Management of Combat Casualties During Aeromedical Evacuation from Role 2 to Role 3 Medical Facility** | Patrick Ng, M.D.; Julie Cutright, R.N., USAF 59th Medical Wing; Alejandra Mora, Ph.D.; Joni Paciocco, R.N.; Crystal Perez, R.N.; Lauren Reeves; Lt. Col. Joseph Maddry, M.D., U.S. Army Institute of Surgical Research
- 47. Resiliency Interacts with Distress Tolerance to Predict Functional Impairment in Veterans** | Madison Stout; Sydney Lozada; Alexis Blessing, Ph.D.; Sandra Morissette, Ph.D., The University of Texas at San Antonio

48. Slow Breathing Reduces Markers of Stress in Response to a Virtual Reality Active Shooter Training Drill | Courtney Dillard; Matthew McAllister, Ph.D.; Hunter Martaindale, Ph.D., Texas State University

49. Ultrasonographic Characterization of Scapholunate Joint Interval in Wrist Extended and Neutral Push-Up Positions | MAJ. Bryan Yu; MAJ. Jon Umlauf, DSc, DPT; Elaina DaLomba, Ph.D.; CAPT. Maria Barefield, Army-Baylor University; CPT. Talia Barrow; LTC. Brian Gregg, Ph.D., Brooke Army Medical Center

50. University Environments Influence Academic Outcomes in Student Veterans | Allison Wright; Alexis Blessing, Ph.D.; Sandra B. Morissette, Ph.D., The University of Texas at San Antonio

INFECTIOUS DISEASE

51. Acinetobacter baumannii Mutants with Deleted Pilus-Forming Genes Exhibit Different Hydrophobicities and Surface Potentials | Joel Salinas; Angelica Diaz-Sanchez, BioMedical Engineering Joint Graduate Program at The University of Texas at San Antonio/The University of Texas Health Science Center San Antonio; Nehal Abu-Lail, Ph.D., The University of Texas at San Antonio

52. Coriandrum sativum, Tazobactam and Piperacillin Effectively Work Against Biofilms of Thioredoxin-a Protein Mutant Strains of Acinetobacter baumannii | Angelica Diaz-Sanchez; Joel Salinas; Nehal Abu-Lail, Ph.D., The University of Texas at San Antonio

53. Descriptive Analysis of Covid-19 Aeromedical Evacuations by Critical Care Air Transport Teams: An Update From 2021 | Maj. Patrick Ng, M.D.; Maj. William Davis, M.D.; Julie Cutright, R.N.; Shelia Savell, Ph.D., R.N.; Kimberly Medellin, R.N.; Allyson Arana, Ph.D., USAF 59th Medical Wing; Col. Vikhyat Bebartha, M.D., CU Anschutz Center for COMBAT Research; Lt. Col. Joseph Maddry, M.D., U.S. Army Institute of Surgical Research

54. Examining the Comprehensive Economic Impact of Mycobacterium bovis Tuberculosis on the Livestock Industry and Public Health Outcomes | Bunnarin Theng; Inchara Raj, Joy Li University of Texas Medical Branch at Galveston

55. Impact of Route of Administration of Side Effects of Jynneos Vaccination | Capt. Julia Switzer, M.D.; Maj. Joseph Marcus, M.D., Brooke Army Medical Center

56. Outcomes of COVID-19 Pneumonia in Active-Duty Military Personnel | Capt. Anita V. Pechenko, M.D.; Michael J. Morris, COL (Ret), M.D., Brooke Army Medical Center

57. Use of A Clinical Laser System to Enhance the Effect of Gentamicin Against in Vitro Multi-drug Resistant Staphylococcus Aureus Biofilms | Dickson Kirui, Ph.D.; Virginia Lowry; German Garcia; Nancy Millenbaugh, Ph.D., Naval Medical Research Unit - San Antonio

MEDICAL MODELING, SIMULATION AND DIAGNOSTICS

58. Combating the Nursing Shortage through Technological Engagement | Enesha Hicks, R.N., USAF 59th Medical Wing

59. Implementation of an Inpatient Activity and Mobility Promotion Program | Giang Martinez, D.N.P.; Shareen Jones; Capt. Patricia Sapp, Brooke Army Medical Center

OTHER EMERGING SCIENCE AND TECHNOLOGIES

60. A Market Assessment of Stylet Technology to Aid with Endotracheal Intubation | Jevaughn Henry; Gianna Gutierrez, University of the Incarnate Word; Michael April, M.D.; Maj. Brit Long, M.D., Brooke Army Medical Center; LTC. Steven Schauer, D.O., The University of Texas Health Science Center San Antonio

61. Cytoskeleton Filaments and Their Potential Role in Electrical Activities of Healthy and Dysfunctional Neurons | Md Mohsin; Marcelo Marucho, Ph.D., The University of Texas at San Antonio

62. DNA Methylation Association with Energy Homeostasis in a Hispanic Childhood Obesity Cohort | Chris Serrano; Melanie Carless, Ph.D. The University of Texas at San Antonio; Mark Kos, Ph.D., The University of Texas at Rio Grande Valley; Nancy Butte, Ph.D., Baylor College of Medicine; Anthony Comuzzie, Ph.D., The Obesity Society; Shelley Cole, Ph.D., Texas Biomedical Research Institute

63. Enabling Privacy-Preserving Prediction for Length of Stay in ICU – A Multimodal Federated-Learning-Based Approach | Tongnian Wang; Raymond Choo, Ph.D.; Yuanxiong Guo, Ph.D., The University of Texas at San Antonio

64. Exploring the Therapeutic Potential of Snake Venom in the Treatment of Melanomas: A Comprehensive Analysis | Inchara Raj; Bunnarin Theng, The University of Texas Medical Branch

65. Inter-rater Reliability for the Pragmatic Evaluation of Point of Care Lung Ultrasound for the Triage of COVID-19 Patients Using a Simple Scoring Matrix | Maj. Patrick Ng, M.D., USAF 59th Medical Wing; Timothy Tran, M.D.; Juliana Wilson; Ana Fernandez-Bustamante, M.D., Ph.D., University of Colorado; Matthew Riscinti, M.D., Mikita Fuchita; John Kendall, M.D., Denver Health

66. Survey of Solvent and Small Molecule Compatibility of Resin-Based 3D Printed Microfluidic Devices | Marseille Savala; Gongchen Sun, Ph.D., The University of Texas at San Antonio

PATIENT SAFETY/WELLNESS

67. Acute Hyponatremia Symptoms and Management on a Surgical Trauma Unit | Lt. Erin Wei, R.N.; Ann Marie Lazarus; Kimberly Murphy; SPC. Leon Britton; Alma Guerrero; Sr.A. Maverick Peterson, Brooke Army Medical Center

68. Closing The Gap on Incomplete Adverse Drug Reaction and Allergy Reporting in An Electronic Health Record at a Level-1 Trauma Emergency Department. | CPT. Jacob VanBemmel, Pharm.D., San Antonio Combined Military Medical Center; Erin Sheehan, Pharm.D.; Jackoline Costantino, Pharm.D.; LTC. Todd Reader, Pharm.D., Brooke Army Medical Center

69. Determining the Frequency that Internal Medicine Hospitalized Patient are Discharged in Less Than 48-hours in a Department of Defense Hospital | CAPT. Ryan Carfi, D.O.; CAPT. Matthew Bondaryk, M.D., Brooke Army Medical Center

70. Tailored Crash Cart Inventory | Laura Trevino, Crash Cart Exchange Program

PRECISION MEDICINE

71. An Evaluation of the Use of an Alternative Intravenous Levothyroxine Dosing Strategy at a Military Treatment Facility | MAJ. Raina Covington Hart, Pharm.D.; Jackoline Costantino; MAJ. Dimas Espinola, M.D., San Antonio Combined Military Medical Center; T. Marcus Egbuka, Pharm.D., Fort Sam Houston

72. Weight-Based Dosing Strategies of Intravenous Immune Globulin | Capt. Brennan Jacobs, Pharm.D.; Brian Barthol, Pharm.D.; Jackoline Costantino, Pharm.D., Brooke Army Medical Center

REGENERATIVE MEDICINE

73. A Novel Astrocyte-Targeting Drug, AST-004, as a Potential Treatment for Spinal Cord Injury | Nahin Radit; Naomi Sayre, Ph.D.; James Lechleiter, Ph.D.; Shane Sprague, The University of Texas Health Science Center San Antonio; Theodores Liston, Ph.D., Astrocyte Pharmaceuticals, Inc.

WOMEN'S HEALTH INITIATIVES

74. Impact of Dobbs v. Jackson Women's Health Organization on Female Sterilization Rates in a Military Medical Center | Capt. Abigail Downey, M.D.; LTC. Erin Keyser, M.D.; Capt. Jessica Gottula, M.D.; CPT. Shenika Shah, D.O.; CPT. Meghan Munisteri, D.O., Brooke Army Medical Center

75. Rare Malignant Transformation of a Tailgut Cyst: A Gynecologist's Perspective | Monica Purmalek, M.D.; Maj. Anna Garcia, M.D.; Maj. Matthew Uy, M.D.; COL. Jasmin Han, M.D., Brooke Army Medical Center; Allison Eubanks, M.D., Naval Hospital Okinawa

76. The Effect of Polycystic Ovarian Syndrome on Fibrocystic Breast Changes in Postmenopausal Women | Brittany Dang; Brittany Miles, The University of Texas Medical Branch; Quan Nguyen, M.D., Baylor College of Medicine

77. Using the PDCA Model to Create an Occupation-Based Antepartum Program | Monica Clark, O.T.D., University of the Incarnate Word

POSTER COMPETITION AWARDS CEREMONY

6:00 p.m. – 6:30 p.m.

H-E-B Student Union, 1st Floor, Ballroom (1.104 & 1.106)

KEYNOTE SPEAKER

Jonathan Woodson, M.D., MG, USAR (Ret)

President | Uniformed Services University of the Health Sciences



Dr. Jonathan Woodson is the seventh President of the Uniformed Services University of the Health Sciences (USU). As such, he is responsible for the academic, research and leadership mission of the university, which includes a combined total of more than 2,500 students in the F. Edward Hébert School of Medicine and its associated graduate programs in the biomedical sciences and public health, the Daniel K. Inouye Graduate School of Nursing, the university's Postgraduate Dental College, and the College of Allied Health Sciences. Through its graduate and undergraduate programs, the University has more than 11,500 alumni, many of whom serve the nation as uniformed health providers or civilian scientists. Dr. Woodson also oversees more than 15 research centers and the Armed Forces Radiobiology Research Institute (AFRRI).

Prior to his current position, Dr. Woodson was a Lars Anderson Professor in Management and Professor of the Practice at Boston University's (BU) Questrom School of Business. He holds joint appointments as professor of Surgery at the School of Medicine and professor of Health Law, Policy and Management at the School of Public Health. He established and led the BU university-wide Institute for Health System Innovation and Policy.

From 2010-2016, Dr. Woodson was Assistant Secretary of Defense for Health Affairs and Director of the Tricare Management Activity in the United States Department of Defense (DoD). He was the principal advisor to the Secretary of Defense for all health and force health protection-related issues and ensured the effective execution of the DoD medical mission. He exercised authority, direction and control over the Defense Health Agency, USU, AFRRI, Defense Center of Excellence for Psychological Health and Traumatic Brain Injury, and the Tricare Health Plan serving 9.5 million beneficiaries.

Before his appointment to the DoD by President Obama in 2010, Dr. Woodson was a professor of Surgery and Associate Dean for Students, Diversity, and Multicultural Affairs and senior attending vascular surgeon at Boston Medical Center. In 2016, he was appointed as a member of the USU Board of Regents and later served as its chair.

Dr. Woodson retired at the rank of Major General, United States Army Reserve, and as Commander of the United States Army Reserve Medical Command, Pinellas Park, Florida in June 2022 after 36 years of service. His military deployments include Saudi Arabia for Operation Desert Storm, Kosovo, and Operation Enduring Freedom and Operation Iraqi Freedom. He is a former senior medical officer with the National Disaster Management System, through which he responded to the September 11, 2001, attack on the World Trade Center. Dr. Woodson is a graduate of the City College of New York and the New York University School of Medicine. He received his postgraduate medical education at Massachusetts General Hospital, Harvard Medical School, and completed residency training in internal medicine, as well as general and vascular surgery. He is board-certified in internal medicine, general surgery, vascular surgery, and critical care surgery. He also holds a master's degree in strategic studies (concentration in strategic leadership) from the United States Army War College. In 1992, he was awarded a research fellowship at the Association of American Medical Colleges Health Services Research Institute.

CONFERENCE LEADERSHIP SPEAKERS

JoAnn Browning, Ph.D.

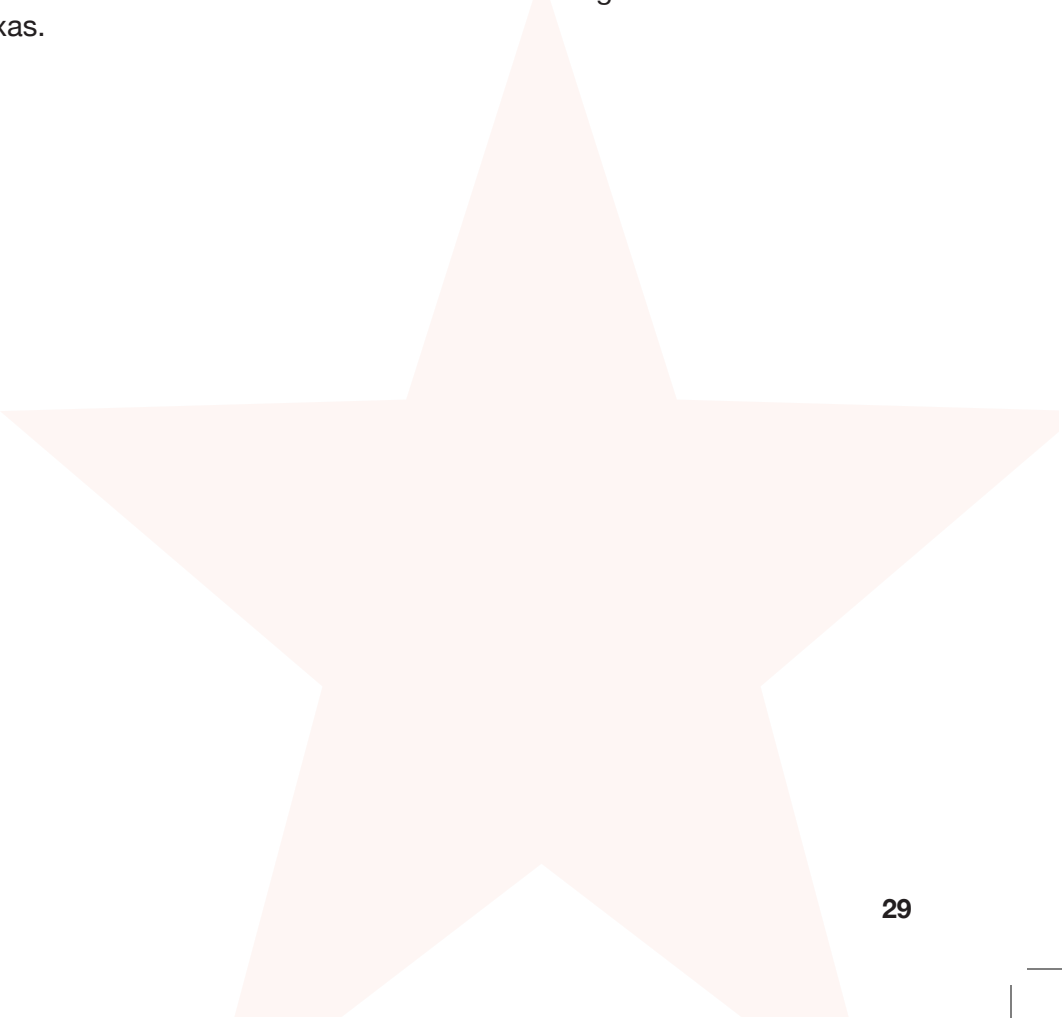
Interim Vice President | The Office of the Vice President for Research, Economic Development, and Knowledge Enterprise, The University of Texas at San Antonio



JoAnn Browning, Interim Vice President for Research, Economic Development and Knowledge Enterprise and Dean, Margie & Bill Klesse College of Engineering and Integrated Design, David and Jennifer Spencer Distinguished Chair in Engineering. P.E. Kansas & Texas.

Dr. Browning was appointed UTSA’s Interim Vice President for Research, Economic Development and Knowledge Enterprise effective June 1, 2023. Dr. Browning has served as Dean of UTSA’s Margie & Bill Klesse College of Engineering and Integrated Design and the David and Jennifer Spencer Distinguished Chair in Engineering since September 2021, and as Dean of Engineering since 2014. She has served on the National Board of Directors of the American Concrete Institute (ACI) and has chaired a subcommittee of the ACI 318 Building Code Committee since 2014. She also serves on the Board of Directors for NIBS BSSC (Vice Chair) and the

Dee Howard Foundation. Her own research interests include structural engineering, earthquake engineering, engineering materials, reinforced concrete design and analysis, and engineering education. Purdue University named Browning a Distinguished Woman Scholar in 2015. In 2016, INSIGHT into Diversity magazine presented her with an Inspiring Women in STEM award, and in 2018 she received the San Antonio Business Journal Women’s Leadership Award. She received the American Concrete Institute’s Young Member Award for Professional Achievement in 2008 and was named an ACI Fellow in 2009. Browning is a Professional Engineer in the states of Kansas and Texas.



Byron C. Hepburn, M.D., Maj Gen, USAF (Ret)

Associate Vice President | Director, Military Health Institute
The University of Texas Health Science Center at San Antonio



Dr. Byron C. Hepburn, Maj Gen, USAF Ret, is Associate Vice President and the inaugural Director of the Military Health Institute at the University of Texas Health Science Center at San Antonio. In this role, he strengthens the University's DoD and VA collaborations with the goal of improving the health and well-being of military personnel, veterans and their families through innovative medical research, health education and clinical care. He holds the title of Professor of Family and Community Medicine, Assistant Dean for Military Health in the School of Medicine and the USAA Patty and Joe Robles, Jr. Distinguished Chair for Military Health.

Dr. Hepburn has a distinguished military career spanning 38 years. He served as the inaugural Director of the San Antonio Military Health System (SAMHS). In addition, he was Commander of the 59th Medical Wing, Wilford Hall Ambulatory Surgical Center, Joint Base San Antonio-Lackland, the Air Force's largest medical wing composed of 6,000 military, civilian, contract employees, residents and students. Previously, he served as Deputy Surgeon General of the Air Force, where he directed all operations of the Air Force Medical Service, a \$5.1 billion, 43,000-person integrated health care delivery system serving 2.4 million beneficiaries at 75 military treatment facilities worldwide.

Dr. Hepburn is a distinguished graduate of the U.S. Air Force Academy and earned a Master of Arts degree in European Studies for his work at the University of Geneva, Switzerland. He also graduated from the Uniformed Services University of Health Sciences School of Medicine and completed a residency in family practice. He was one of only 15 Air Force pilot-physicians and was a command pilot with more than 3,000 flight hours on the T-37, T-38, C-9A and C-17A aircraft. Dr. Hepburn is an honored recipient of the Mackay Trophy for his participation in the USS Cole medical evacuation mission and was deployed to Afghanistan in 2001 in support of Operation Enduring Freedom.

Brigadier General Jeannine M. Ryder

Commander, 59th Medical Wing and Market Director | San Antonio Military Health System, Joint Base San Antonio-Lackland and Chief, Air Force Nurse Corps



Brigadier General Jeannine M. Ryder is the Commander, 59th Medical Wing and Market Director for San Antonio Military Health System, Joint Base San Antonio-Lackland and Chief, Air Force Nurse Corps. She commands the Air Force Medical Service's largest healthcare, medical education and readiness platform comprising six groups with a staff of 8,400 personnel executing a \$317 million budget. The Wing provides 900,000 clinic visits, 18,000 surgical procedures and greater than 300 worldwide deployments annually. The 59 MDW staff at Brooke Army Medical Center supports 1.4 million patient visits and 25,000 admissions per year. As the Director for the San Antonio Military Health System, Brigadier General Ryder directs and manages the overall operations and resources of an integrated, joint-service health system with a collective operating budget of \$1.2 billion to provide high-quality, safe and reliable health care to more than 255,000 local beneficiaries. As Chief Nurse of the

Air Force, General Ryder creates and evaluates policies and programs for 19,000 active-duty Guard and Reserve nursing personnel. She interacts with Air Staff, Joint Staff, Department of Defense, Department of Veterans Affairs and civilian healthcare organizations to ensure the highest caliber of nursing care and personnel. General Ryder is a 1991 graduate of Boston College where she earned a Bachelor of Science degree in Nursing. She has commanded at the flight, squadron, and group level in both deployed and in-garrison environments. Prior to her current assignment, General Ryder was the Commander, 711th Human Performance Wing.

COL Sean Joseph Hipp, M.D., M.S.

Chief Medical Officer

Brooke Army Medical Center



COL Sean J. Hipp, M.D. received his B.S. in Biology from Georgetown University in 1996 and his M.D. from Temple University School of Medicine in 2002. He completed a Pediatric residency at the University of North Carolina, Chapel Hill in 2005 with Pediatric board certification in the same year.

COL Hipp was commissioned in the U.S. Army reserves in 2002 and then went active duty after residency in 2005. His first assignment was at the U.S. Army MEDDAC, Heidelberg, Germany as the Chief of Adolescent Medicine. In 2006 COL Hipp became the Chief of Pediatrics at the same location in charge of the local inpatient pediatric ward as well as outlying clinics. He then was deployed to Afghanistan from May 2007 to April 2008 taking care of soldiers and local nationals in the Himalayas.

Upon return from deployment in 2008, COL Hipp transferred to the Washington, DC, area and completed a fellowship in Pediatric Hematology-Oncology at Walter Reed Army Medical Center in June 2011. COL Hipp's area of focus was the imaging of pediatric brain tumors as well as the development of phase I therapeutic trials.

In July of 2011, COL Hipp was transferred to Brooke Army Medical Center (BAMC) in Texas working as a Pediatric Hematologist-Oncologist. He was involved in resident graduate medical education (GME), direct patient care, and started a volunteer program extending homebound education in the hospital.

In June 2013, he was transferred to the Warrior Transition Battalion at BAMC. He served for 2 years as the Battalion Surgeon interfacing with soldiers, staff and the hospital command.

In June 2015, he returned to Pediatric Hematology-Oncology at BAMC and took over as the Associate Program Director of the Pediatric Residency Program, electronic medical record development and Pediatric clinical trials with the Children's Oncology Group.

In July 2016, COL Hipp started to work with Virtual Health/Telehealth to coordinate programs at BAMC. In the Fall 2016, BAMC competed to become the first Virtual Medical Center in the military to coordinate services across garrison and operational forces, and it was awarded in March 2017. In June 2017, COL Hipp was officially designated as the Director of the Virtual Medical Center and continues to develop staff, structure and programs to support virtual medicine across the garrison and operational domains. In Aug 2021, COL Hipp transitioned to his current position as the Chief Medical Officer at BAMC. He is currently enrolled in US Army War College Distance Education Program class of 2024.

PANELISTS

Moderator: John R. Jones, Ph.D.

Military Readiness and Clinical Health Psychology Fellow | 59th Medical Operations Squadron, Joint Base San Antonio-Lackland



Maj John Jones, PhD, is a Military Readiness Fellow in clinical psychology with the 59th Medical Operations Squadron, Joint Base San Antonio-Lackland, TX. After earning his doctorate degree at the University of Detroit Mercy, Capt Jones commissioned in the United States Air Force. He completed his pre-doctoral residency program at Wilford Hall Ambulatory Surgical Center, Joint Base San Antonio - Lackland. He has served on active duty for 6 years in a variety of roles, including the Chief of the Behavioral Health Optimization Program and the Director of Psychological Health. During his first assignment at Robins AFB, he also completed a deployment as the SERE psychologist and Mental Health Officer in Charge, 379 Medical Group, Al-Udeid AB. His research interests are primarily in the practice of psychology in primary care, emotional intelligence, public health, weight loss, and performance enhancement.

Benjamin M. Keizer, Ph.D., A.B.P.P.

Board-Certified Clinical Health Psychologist | San Antonio Uniformed Services Health Education Consortium



Benjamin M. Keizer, Ph.D., A.B.P.P., is a board-certified Clinical Health Psychologist with extensive post-doctoral training in clinical health psychology at the San Antonio Uniformed Services Health Education Consortium. He formerly served as an Active-Duty Army officer in a variety of positions for eight years and currently serves as an Army Reserve Clinical Psychologist. In his civilian capacity, he serves as a Clinical Health Psychologist and Program Director for the Special Operations Performance and Recovery (SPaR) program and the Functional Restoration Program (FRP) at the Center for the Intrepid (CFI), Brooke Army Medical Center, San Antonio, Texas, where he provides care for military service members who have sustained serious injuries (e.g., amputation, limb-salvage, multi-trauma, major surgery). He has been awarded an Army Systems of Health Innovation Grant as a result of excellence in creating novel interdisciplinary programs in a military setting, and his leadership resulted in a 2018 Best of the Best Specialty Care Clinic award from the Military and Army Health Systems.

Andrea “Andi” Krunnbusz, Ph.D.

Military Readiness Fellow | 59th Medical Operations Squadron, Joint Base San Antonio-Lackland



Maj Andrea “Andi” Krunnbusz, Ph.D., is a Military Readiness Fellow in clinical psychology with the 59th Medical Operations Squadron, Joint Base San Antonio-Lackland, TX. She is responsible for fostering and empowering behavioral health changes for TriCare beneficiaries as well as conducting research related to improved physical, mental, and overall population health. Maj Krunnbusz earned her clinical psychology doctoral degree at the California School of Professional Psychology and completed her pre-doctoral residency at Wright-Patterson Air Force Base, Ohio. Following residency, she was assigned to 72nd Medical Group, Tinker AFB, where she served in a variety of clinical and leadership roles, including Outpatient Mental Health Officer in Charge, Family Advocacy Officer, and Director of Psychological Health at Tinker Air Force Base in Oklahoma. Her clinical and research interests include the performance optimization and improved medical readiness of military members and

their families through both preventative and responsive services. She has particular interest in implementing a targeted, interdisciplinary approach of addressing healthcare disparities and health-related behaviors that affect sleep, chronic pain, and other aspects of holistic wellbeing and performance optimization.

Meghan Lewis, MOT, OTR/L

Occupational Therapist | Center for the Intrepid at Brooke Army Medical Center



Meghan Lewis is an occupational therapist at the Center for the Intrepid at Brooke Army Medical Center. She graduated from the University of Florida with a Masters of Occupational Therapy in December 2013. She started her career at University of Virginia’s Level I Trauma Center and quickly advanced to a leadership role. Meghan specialized in the acute treatment of polytrauma, burn, spinal cord injury, and brain injury populations, specifically in ICU settings. She has traveled to Malawi on two occasions to assist the Malawi Surgical Initiative through the University of North Carolina. She educated hospital staff in Malawi and assisted in development of rehabilitation programs after burn injury for children and adults. She started at the Center for the Intrepid in March 2019 with a focus on treating amputations, limb salvage, and polytrauma and has assisted in the development of multiple programs, including a cognitive, visual, and vestibular performance program for Special Operations Performance and Recovery.

Nick Levine

Postdoctoral Fellow | Center for the Intrepid at Brooke Army Medical Center



Nick Levine was fueled by his own experience of chronic pain to understand two main problems: how injuries occur and how to modify military training in a way that maintains the standard while decreasing the risk of injury. He completed a graduate degree while studying biomechanics and motor behavior, and currently works at the Center for the Intrepid, where he is completing his postdoctoral work with the Special Operators Performance and Recovery (SPaR) Program. His research interests include the biomechanical effects of fatigue, strength and conditioning, and muscle mechanics.

Jeffrey Tiede, M.SS, M.D., D.ABA-PM

Director | Center for the Intrepid, Brooke Army Medical Center



Jeffrey Tiede, M.SS, M.D., D.ABA-PM, is a pain management physician who serves as Director of the Center for the Intrepid, Brooke Army Medical Center, JBSA - Ft. Sam Houston, TX. After completing his doctorate from Saint Louis University, he completed residency and fellowship at the Mayo Clinic. He has a broad practice and research experience in academic, industry, and military settings. The Center for the Intrepid is one of three DHA Advanced Rehabilitation Centers mandated to care for and rehabilitate Service Members with catastrophic limb injuries. He serves as the Medical Director for the Special Operator Performance and Recovery (SPaR) program which addresses human performance, MSKIs and comorbid conditions such as PTS and post-concussive symptoms. As an Army Reservist, COL Tiede commands 5th BDE (HS), 94th Training DIV, and is responsible for NCO professional development and combat medic recertification in the USAR. He is a distinguished

graduate of the Army War College, and his operational experience includes service as 7th MSC Command Surgeon and BTN SGN, 2-502 IN BTN, 101st AA.

BRIEFING SPEAKER

Jarah Meador, Ph.D.

Director | Open Innovation Programs (Challenge.gov and CitizenScience.gov),
Technology Transformation Services, U.S. General Services Administration



Jarah leads the crowdsourcing, citizen science and prize competition open innovation portfolio at GSA that includes the Challenge.Gov and CitizenScience.gov. Previously, she led the innovation sourcing program at the Department of Veterans Affairs Center for Innovation and this portfolio included prize competitions, broad agency announcements, and pay for success/social impact financing. The AAAS Science and Policy Technology Fellowship brought her to the federal government at the US Agency for International Development 10 years ago where she led a large-scale desalination technology development prize competition. Jarah earned her PhD in Cancer Biology at the University of Texas Graduate School of Biomedical Sciences and is an Air Force Veteran.

EXHIBITORS



BioMed SA

BioMedSA is a non-profit that represents the \$44B healthcare and bioscience ecosystem of San Antonio. Our mission is to accelerate the growth of the healthcare and bioscience sector by creating regional economic benefits that contribute to the health of San Antonio and beyond. We serve as the hub for the industry, connecting people, opportunities, and resources, as well as facilitating key collaborations, advocating for industry needs, convening industry leader forums to conquer challenges, and promoting the City of Science and Health.

biomedsa.org



Henry Jackson Foundation

Henry Jackson Foundation is a 501(c)(3) nonprofit organization dedicated to advancing military medicine. We serve military, medical, academic and government clients by administering, managing and supporting preeminent scientific programs that benefit members of the armed forces and civilians alike. Since its founding in 1983, HJF has served as a vital link between the military medical community and its federal and private partners. HJF's support and administrative capabilities allow military medical researchers and clinicians to maintain their scientific focus and accomplish their research goals.

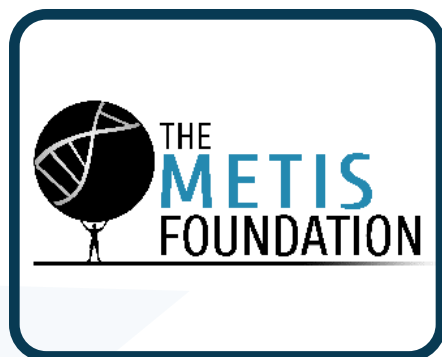
hjf.org



MATRIX AI Consortium for Human Well-Being

The MATRIX AI Consortium for Human Well-Being is a transdisciplinary multi-stakeholder research enterprise that serves as a central hub for basic and applied AI research housed at UTSA. MATRIX's mission is to conduct transformative research in the design, use, and deployment of AI that enhances human life, and to offer rigorous research training opportunities that transcend disciplinary boundaries. MATRIX consists of 65 researchers spanning four collaborating organizations: UTSA, UT Health San Antonio, Southwest Research Institute, and Texas Biomedical Research Institute. MATRIX core researchers are recognized thought leaders.

ai.utsa.edu



The Metis Foundation

The Metis Foundation is a 501(c)(3) organization dedicated to advancing clinically relevant medical research, especially within the Department of Defense. We seek to foster collaboration among government, academic, and industry entities by providing scientific, educational, financial, and project management support during the conduct of federally and privately sponsored research, clinical trials, and education. We are researchers and are committed to the success, impact, development, and longevity of your research.

metisfoundationusa.org



Southwest Research Institute

Southwest Research Institute are Research & Development problem solvers providing independent, premier services to government and industry clients. Our multidisciplinary nature allows us to rapidly assemble diverse teams to tackle problems from multiple directions. We push the boundaries of science and technology to develop innovative solutions that advance the state of the art and improve human health and safety. Operating as a nonprofit since our 1947 inception, we work in the public's best interest and toward the betterment of humanity. And as a contract R&D organization, we are here when you need us.

pharmdev.swri.org



STRONG STAR Research Consortium

The STRONG STAR Consortium is a multidisciplinary and multi-institutional research consortium funded by the U.S. Departments of Defense (DoD) and Veterans Affairs (VA) and other agencies to develop and evaluate the most effective early interventions possible for the prevention, detection, diagnosis, and treatment of psychological health conditions in military personnel, veterans, and first responders. STRONG STAR is focused on reducing the suffering of our nation's wounded warriors and first responders. STRONG STAR investigators want to help our returning war fighters to continue living healthy, productive lives and to prevent the development of chronic psychological health problems in a new generation of veterans.

STRONGSTAR.org



The Southwest Texas Regional Advisory Council

The Southwest Texas Regional Advisory Council (STRAC) is designated by the Texas Department of State Health Services (DSHS) to develop, implement and maintain the regional trauma and emergency healthcare system for the 22 counties in Trauma Service Area - P. TSA-P has a mixture of urban, suburban, rural and frontier areas, from the 7th largest city in the US to the Mexican border, encompassing over 26,000 square miles in southwest Texas. STRAC is one of twenty-two regional advisory councils in Texas that comprise the Texas Trauma / Emergency Healthcare system. STRAC is a 501(c)(3) non-profit, tax-exempt member organization consisting of 74 general and specialty hospitals, including 2 Level I Trauma Centers, 16 PCI centers, 12 Stroke centers, air medical providers, and over 70 EMS agencies.

strac.org



UT Health San Antonio - Military Health Institute

Military Health Institute Mission: Strengthen the military health activities of UT Health San Antonio to improve the lives of our military service members, veterans, and their families. Military health is in our DNA. The Military Health Institute (MHI) was established in 2014 to strengthen military health collaborations for the University of Texas Health Science Center at San Antonio. MHI focuses on four pillars to ensure a strong connection to military health. The first pillar, research, is the primary pillar; MHI facilitates Department of Defense (DoD) and Veterans Affairs (VA) research by eliminating barriers to research grant submissions and fostering collaboration with military partners. With the second pillar, education, MHI provides opportunities for the community to learn about military health. As an example, our Distinguished Lecture Series brings together leaders in industry, academia, and government, who can share keen insights on advancements in military health. The third pillar is clinical advocacy, in which MHI advocates for a strong military health system. Our Director and Deputy Director regularly engage with leaders in Austin and in Washington D.C. on important issues that affect our service members, veterans, and their families. The fourth pillar, engagement, illustrates the importance of working together. MHI engages with city, state, and national partners to promote collaborative efforts to affect positive advancement in the military health system.

militaryhealthinstitute.org



UTSA - Brain Health Consortium

Integrating researchers with expertise in stem cells/precision medicine, neuroscience, biomedical engineering, psychology and behavior to answer fundamental questions regarding the mechanisms of brain health and disease. We use cutting-edge technologies in order to identify strategies to restore and improve brain function while educating and training the next generation of scientists, propelling them into a career of novel scientific and human therapeutic discovery.

utsa.edu/bhc

UTSA - Magnetic Resonance Laboratory

utsa.edu/sciences/labs/DanielWherritt

UTSA - Research Cores

research.utsa.edu/cores

- **UTSA Cell Analysis Core**

The Cell Analysis Core provides researchers access to state-of-the-art instrumentation in flow cytometry, confocal microscopy, and consultative scientific services to support their research goals. Our facility provides comprehensive training in cross-translational cytometry and imaging, including experimental design, sample preparation, instrument operation and data analysis.

- **UTSA Genomics Core**

The UTSA Genomics Core is a fee-for-service core facility that prepares nucleic acid samples for nucleic acid Next Generation Sequencing (NGS) applications (genome, transcriptomes, epigenome, etc.). We provide a particular focus in single-cell genomics and currently growing into spatial transcriptomics.

- **UTSA Mass Spectrometry & Proteomics Core**

The UTSA Mass Spectrometry & Proteomics Core provides a range of high-resolution, high mass accuracy mass spectrometry-based services to identify and characterize a range of analytes from small organic molecules to proteins and other biomolecules; proteomics; and LC-MS/MS.

- **UTSA Stem Cell Core**

The mission of the UTSA Stem Cell Core is to enhance the research portfolio at UTSA by providing high quality induced pluripotent stem cells and their genetically modified or differentiated progeny to researchers in Texas and nationwide and to reduce the barriers to investigators who want to enter this specialized research field.

- **UTSA-Kleberg Advanced Microscopy Center (KAMC)**

The Kleberg Advanced Microscopy Center (KAMC) core is open access facility that provides state-of-the-art technology in electron microscopy and advanced material characterization to support world-class research in nanotechnology, biology, chemistry, and materials sciences.

The Center features world-class instrumentation, including Helenita – the first aberration-corrected electron microscope installed in the United States that can see and chemically identify individual atoms, a Focused Ion Beam (FIB) instrument for TEM sample preparation, and 3-D imaging & chemical mapping via serial slicing and various SEMs. KAMC also supports analytical studies and characterization of nanoscale systems via a high-resolution, multi-functional X-Ray Diffraction Spectroscopy (Panalytical Empyrean), Raman Spectroscopy, as well as Atomic Force Microscopes.

2023

S.U.R.F.

**SAN ANTONIO MILITARY HEALTH AND
UNIVERSITIES RESEARCH
FORUM**