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

Author: Dr. Victor Sylvia

The 8th annual San Antonio Military Health System and Universities Research Forum (SURF) was held on June 16, 2022, at the University of Texas at San Antonio. The full day event included podium presentations, panel discussion and poster session highlighting the latest research and discoveries of trainees, faculty, staff and students working to improve health outcomes and readiness.

Opening remarks by the leadership were given by Col Kristen Beals, M.D., Vice Commander, 59th Medical Wing; COL Sean Joseph Hipp, M.D., M.S., Chief Medical Officer, Brooke Army Medical Center; Bernard Arulanandam, Ph.D., Vice President for Research, Economic Development, and Knowledge Enterprise, The University of Texas at San Antonio; and 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.

The Keynote Address, entitled "What we are still missing in the COVID response - lessons from battling pandemics around the globe", was given by Ambassador Deborah Birx, M.D., COL, USA (Ret), former White House Coronavirus Response Coordinator, currently Senior Fellow of the George W. Bush Institute. The first plenary address, entitled "Collaborating with a Non-profit to Advance Military Medical Research", was given by Elise Huszar, M.B.A., President & CEO of The Geneva Foundation. The second plenary address, entitled "Past, Present and Future of Blood Resuscitation in Trauma" was given by COL Andrew P. Cap, M.D., Ph.D., Director of Research at the US Army Institute of Surgical Research.
A panel session entitled "Innovation for Commercialization of Military Health Products" was presented by Christine Burke, Ph.D., Director, Commercialization & Technology Transfer, The University of Texas at San Antonio; John Fritz; Associate Director of Technology Commercialization, The University of Texas Health Science Center at San Antonio; Lyle Hood, Ph.D., Assistant Professor in Mechanical Engineering, The University of Texas at San Antonio; Mike Stimson, Senior Counsel, Norton Rose Fulbright US LLP; and Scott Walter, Ph.D., PE, Director of Technology Transition/Transfer, 59th Medical Wing.

The San Antonio Medical Foundation sponsored the poster session and the top 3 posters were: 1st Place: "Utility Of Follow-Up Blood Cultures In Patient’s Receiving Extracorporeal Membrane Oxygenation" - Dr. Stone Frankford; Ana Markelz; Michal Sobieszczyk; Joseph Marcus, San Antonio Uniformed Services Health Education Consortium; 2nd Place: "Fast-Track Radioactive Iodine Ablation Therapy for Graves’ Disease Patients" - Dr. Kyle Stevens; Dr. Courtney Clutter; Dr. Justin Peacock, San Antonio Uniformed Services Health Education Consortium; 3rd Place: "Transition of REBOA from Zone 3 To Zone 1 to Treat Cardiovascular Collapse During Continued Hemorrhage in Swine" - Dr. Jason Rall; Kimberly Baker; Melody Sandoval; Nola Shepard, 59th Medical Wing.

More information about SURF 2022 and a copy of the digital program is available at https://research.utsa.edu/communicate/events/surf.html

Poster Competition
From left to right: Michael Morris, M.D.; Jason Rall, Ph.D.; Stone Frankford, M.D.; Kyle Stevens, M.D.; Jim Reed (Director, San Antonio Medical Foundation); Victor Sylvia, Ph.D.
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**SURF Leadership Welcome & Opening Remarks**

From left to right:
Col Kristen Beals, M.D.; Maj Gen (ret) Byron Hepburn, M.D.; Bernard Arulanandam; COL Sean Joseph Hipp, M.D.

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**Plenary Speakers**

From left to right:
COL Andrew P. Cap, M.D., Ph.D.; Elise Huszar, M.B.A.

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**Panel Speakers**

From left to right:
Lyle Hood, Ph.D.; Mike Stimson; Christine Burke, Ph.D.; Scott F. Walter, Ph.D.; John Fritz
ST Scientists Attend International Shock Conference

Author: Dr. Jack Hutcheson

Dr. Jack Hutcheson, a GS lead scientist for the Surgical & Technological Advancement for Traumatic Injuries in Combat (STATIC) group in the Joint Austere Medicine portfolio, and Dr. Alexander Penn, a GDIT Research Scientist also with the STATIC group, recently attended the Shock Society’s 45th Annual Conference on Shock in Toronto, ON, Canada from June 4 to June 7, 2022. The intention of this meeting is to promote clinically relevant research into the basic biology of trauma, shock, and sepsis as well as provide a multidisciplinary forum to integrate and disseminate new knowledge in these areas. Of note, there was a substantial discussion throughout the conference about selection of pre-clinical models. The key takeaways from these discussions were that no pre-clinical model is an exact replica for the human condition in the field of shock and therefore some sacrifices are necessarily made regardless of which model is chosen. However, as long as the strengths and weaknesses of the existing models are understood, deliberately considered, and used to guide the planning and execution of the project, and then clearly communicated in any report of the study, we can continue to generate data that reliably address specific research questions. This year’s meeting also featured a robust discussion of the shock-like features of COVID-19. While many of the studies in this area are still preliminary and no consensus currently exists, the substantial interest generated at this year’s meeting ensures that COVID-19 will continue to be a hotly researched topic for years to come.

ST Scientists

From left to right:
Dr. Jack Hutcheson, Dr. Alexander Penn

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A few additional research highlights included:

- Basilia Zingarelli, M.D., Ph.D., Cincinnati Children’s Hospital Medical Center, who elegantly showed how exosomal tracking is being used as a liquid biopsy in sepsis, with specific exosomes correlated to burn severity, worse outcomes, and infection risk.

- Marc Jeschke, M.D., Ph.D., Sunnybrook Health Sciences Centre, who demonstrated how sheets of skin are being printed to provide large scale grafts following severe burn injuries. (Biofabrication, 2020 Feb 3;12(2):025002. doi: 10.1088/1758-5090/ab6413)

- Damien Carter, M.D., Maine Medical Center, whose research revealed that tranexamic acid plays a role in limiting the release of damage associate molecular patterns from dying cells, limiting the early immune response after burn injury. J Trauma Acute Care Sur, 2019 Apr;86(4):617-624. doi: 10.1097/ TA.0000000000002177.

- Isaiah Turnbull, M.D., Ph.D., Washington University School of Medicine, gave an update on advances in personalized medicine in sepsis. This approach was illustrated by a case study where an IL-7 deficiency was detected in a patient with intractable fungal wound sepsis. After weeks where little progress was made towards wound closure, identifying this patient’s specific deficiency and instituting a treatment plan to restore IL-7 lead to resolution of the fungal infection and wound closure. Open Forum Infect Dis. 2021 May 23;8(6):ofab256. doi: 10.1093/ofid/ofab256. eCollection 2021 Jun.

San Antonio Military Medical Industry Day (SA MMID)

Author: Dr. Scott Walter

The 59th Medical Wing’s Office Science & Technology division was instrumental in helping the City of San Antonio's preparing and conducting the third San Antonio Military Medical Industry Day (SA MMID) on April 19, 2022, at the Henry B. Gonzalez Convention Center. This all day event featured speakers and panel members from military, academia, industry, government, investors, and others to promote and help stimulate collaborations between organizations. In addition, the event increased awareness of the medical needs of the military, shared information about how to connect with potential collaborators, provided details on how to seek funding to support collaborative work, identified resources that are available to help with development and commercialization of medical products and services needed by military, provided regulatory guidance to enable faster Food and Drug Administration (FDA) approvals, delivered a collective vision of collaboration from all leaders, and so much more.
This event included a welcome video from Brigadier General Jeannine M. Ryder, the 59th Medical Wing and San Antonio Military Health System Market Director, an acknowledgement by Mayor Ron Nirenberg of the City of San Antonio's commitment to the military and medical R&D, a briefing of the "Future of Military Medical R&D in San Antonio" by Brigadier General Katherine Simonson, the DHA Deputy Assistant Director, Research & Development Directorate (J-9), Defense Health Agency (DHA), and a video presentation "Preparing the Medical Force for the Future Operating Environment" by Major General Paul Friedrichs. The genesis for holding military medical industry day was conceived as part of the City of San Antonio's Military Life Science Commercialization Action Plan as a way to bring together military researcher organizations, industry, academia, non-profit organizations, and other organizations to exchange ideas and enable collaborative medical research and development (R&D), discuss military needs, obtain information on funding opportunities, and enable community commercialization opportunities to address needs and create lifesaving technologies.

As with the previous MMID event, this industry also provided an opportunity for attendees to meet one-on-one with a panel of subject matter experts from the 59th Medical Wing, the Naval Medical Research Unit San Antonio, and the Army's Institute for Surgical Research in eight topic areas. The primary focus of the sessions was on treating the combat wounded and injured, including important clinical research initiatives such as the treatment of burns, poly-traumatic injuries, directed energy, sustaining medical readiness through training opportunities for military medical personnel, as well as building healthy communities by providing routine care to service members, veterans, and their families. For the first time, this event included the opportunity for exhibitors to set up a booth at the event to demonstrate medical capabilities being developed, facilitate interactions with the military medical community, and offer an opportunity for companies that are currently developing products and services for the military to present their technology and seek military collaboration partners. Another first for an industry day were the webinars that were held ahead of the event that enabled attendees to become better prepared for industry day and optimize their experience. Overall the event was acknowledged as successful with 232 attendees & 10 exhibitors, and many attendees expressing appreciation.
Science and Technology Contact Information

Our Vision
Grow Medical Leaders, Drive Innovations in Patient Centered Care and Readiness

Our Mission
Conduct clinical studies and translational research and apply knowledge gained to enhance performance, protect the force, and advance medical care and capabilities

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