



THE INNOVATOR

OPTIMIZING COMBAT CASUALTY CARE



SEPTEMBER 2015

THE NEWSLETTER OF THE U.S. ARMY INSTITUTE OF SURGICAL RESEARCH

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Cap Earns Outstanding Research Accomplishment Award at MHSRS

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CDR's Corner



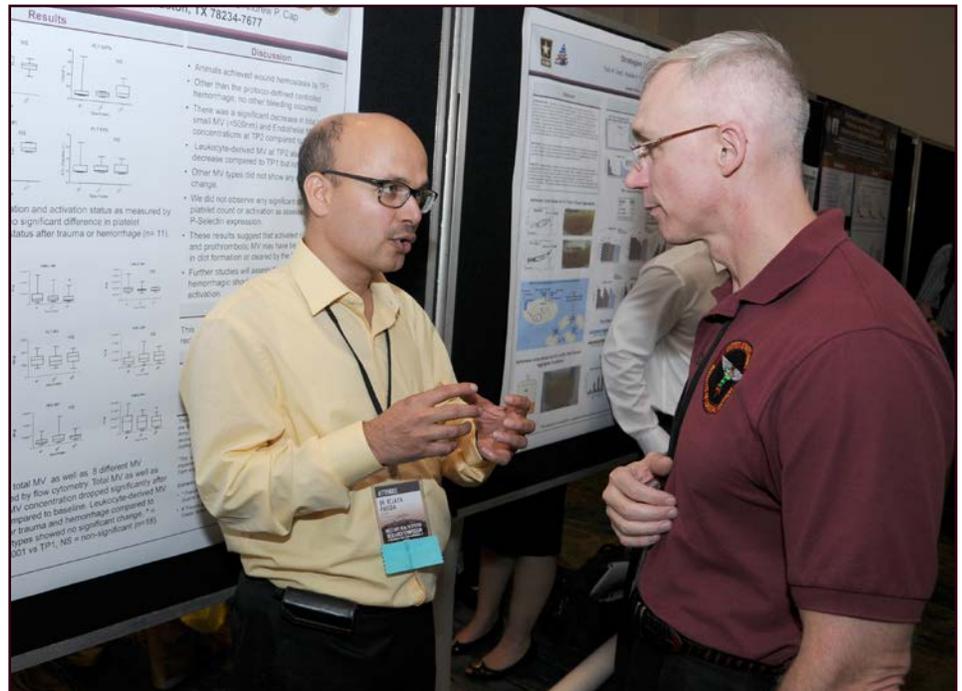
Col. (Dr.) Michael D. Wirt
Commander, USAISR

"Optimizing Combat Casualty Care"

Greetings ISR,

I would like to welcome everyone back from Florida who attended this year's Military Health System Research Symposium. I am very impressed and pleased with your participation before and during the conference. I would like to congratulate Lt. Col. Andre Cap who was presented with the Individual Military Outstanding Research Accomplishment Award for his team's research on cold-stored platelets as well as the USAISR's research teams who took First Place and two Honorable Mention awards in the poster competition. Great job to all!

Congratulations are also in order for all Institute personnel, but especially to our Safety Officer, Stephanie Truss, for her efforts in earning the Army's Safety and Occupational Health Star Recognition. While safety is an ongoing effort by all hands, this recognition shows that we are dedicated to ensure that our workplaces go beyond safety compliance into world class



Col. (Dr.) Michael Wirt, right, listens to Bijaya Parida, Ph.D. as he presents his poster at the Military Health System Research Symposium Aug. 19.

performance. This is a big deal because OSHA formally recognizes the ISR as one of 2,000 sites in the U.S. out of more than 7 million worksites to earn this recognition. Once again, congratulations to all for your outstanding work in your everyday performance to stay safe and making the ISR a Star Site.

As you many know, Labor Day is on the 7th and we have been granted a Day of No Scheduled Activities or DONSA on the 4th by our Commanding General. It's a well-deserved day for you to enjoy and relax with family and friends. Other significant days in September include: Patriot Day Sept. 11th is observed as the National Day of Service and Remembrance in memory of the 2,977 killed in 2001; National Grandparents' Day is observed on the 13th and Stepfamily day on the 16; Constitution Day and Citizenship Day will be observed on the 17th; National POW/MIA Recognition Day will be

held on the 18th; and National Women's Health & Fitness Day is observed on the last day of September. This month also has numerous month-long observations, too many to name, but here's a few: Childhood Cancer Awareness; National Childhood Obesity Awareness; Ovarian Cancer Awareness; Prostate Cancer Awareness; and World Alzheimer's Month, just to name a few. Two notable weekly observations in September are National Suicide Prevention Week, Sept. 7-10 and Malnutrition Awareness Week, Sept. 28-Oct. 2.

As always, thank you for all that you do at the Institute on a daily basis. Your work and dedication to combat casualty care is making a difference. Be safe and enjoy the last few days left this summer.

Serving to Heal... Honored to Serve!



ARMY MEDICINE
Serving To Heal...Honored To Serve

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USAISR welcomes new Sergeant Major

By Steven Galvan
USAISR Public Affairs Officer

Sgt. Maj. James L. Devine assumed duties as the U.S. Army Institute of Surgical Research senior enlisted advisor at Fort Sam Houston, Texas, Aug. 3.

Prior to coming to the USAISR, Devine served as the U.S. Army Medical Command Headquarters' executive officer/liaison sergeant major to the MEDCOM command sergeant major.

"I am definitely impressed with what we do for combat casualty care," said Devine. "It's a privilege and an honor to be part of this organization."

He describes himself as a noncommissioned officer who leads by example, loves the Army, "and a good game of golf."

Devine brings 28 years of experience to the USAISR as a combat medic and respiratory therapist. He began his Army career in 1987 and has served in numerous leadership positions from squad leader to first sergeant. Devine believes that Soldiers are important and valued members of all Army units and that leaders are responsible for the execution of the unit's mission and taking care of Soldiers.

"Outstanding leadership will yield

an environment that motivates, trains and develops subordinates by creating an effective and positive unit that will provide the best service to the Army," said Devine.

The one thing that Devine likes best about his job and being in the Army is leading and developing Soldiers to be "Ready and Resilient."

"Leadership development is very important to our Army and to me," he said. "Noncommissioned officers are the backbone of the Army, and they should possess the tools to make good decisions to demonstrate their abilities."

According to Devine, he joined the Army to serve his country and to see the world. He has deployed to El Salvador during Operation Fuente Apoyo, Kuwait in support of Operation Iraqi Freedom and Afghanistan to support Operation Enduring Freedom.

When asked what the USAISR staff and Soldiers can expect from him he stated that they can anticipate him to be a motivated, fair and impartial leader who is here for them and the organization. On the other hand, he expects the staff and Soldiers to be proud members of the organization who give 110 percent every day in everything that they do—especially when it comes



Sgt. Maj. James L. Devine

to NCOs taking care of Soldiers and their families.

"Never forget the importance of family, as they are the backbone of the Soldiers," Devine said. "NCOs should always be aware of Soldier's quality of life, safety, family support, proper training, equipment and timely recognition for a job well done. Soldiers fight better when caring and effective leaders lead them."



Sgt. Daniel Wendorff, right, presents his poster to Sgt. Maj. James Devine at the Military Health System Research Symposium Aug. 19.

On the Cover

Lt. Col. (Dr.) Andre Cap, left, Chief of Coagulation and Blood Research at the USAISR, earned the Individual Military Outstanding Research Accomplishment Award at the Military Health System Research Symposium in Fort Lauderdale, Fla., Aug. 17-20. Photo by Melissa Myers, USAMRMC Public Affairs.

Company Notes



Company Commander
Capt. Jose A. Juarez

First Sergeant and I would like to welcome the following Soldiers to the ISR family: Sgt. Maj. James Devine, Lt. Col. Ammon Brown, Maj. John Decker, Maj. Amy Fields, Capt. Renae Damske, Staff Sgt. Dustyn Rose, Spc. Joseph Ardion, Spc. Sergio Rubio, Spc. Ashley Taylor, Pfc. Kelechi Uzoukwu, and Pvt. Ellen Fulmer. We would like

to say farewell to the following Soldiers: Maj. Raymundo Racela, Maj. John Graybill, Sgt. 1st Class Michael Mason, and Sgt. Polly Busman; thank you for your contributions to the organization and best wishes in your future endeavors.

Congratulations to Spc. Thomas Spino for his selection as the Soldier of the Month for August, as a reward for his efforts, his photo will be displayed in the Company area during the month. We would also like to congratulate Sgt. David Shelley for graduating from the Advanced Leaders Course and Sgt. Jeremy Walden for graduating from the Master Fitness Trainer Course! Be sure and congratulate these Soldiers when you see them around. Great job!

Thank you to Staff Sgt. Pablo Sierra and all of the Soldiers that planned and executed the retirement ceremony for Sgt. 1st Class Mason. It was a nice ceremony enjoyed by Sgt. 1st Class Mason, his family and all in attendance.

The USAISR annual change of command, Command Climate Survey

is currently ongoing. It will remain open until Sept. 19 and is open to ALL staff (military, GS/Lab Demo and contractors). Taking a few minutes of your time will provide us with valuable insight to the unit so that we can keep on doing what we are doing right (or make it even better) and change what we are doing wrong. Again, the survey is strictly voluntary and your answers/comments are completely anonymous. Your EO team and your Command team are grateful for any feedback you wish to provide. Directions for accessing the test as well as the passwords for your particular section were sent via e-mail. For any questions, please contact Sgt. 1st Class Araceli Brown. Thank you all for your participation!

As the summer comes to an end and the children start a new school year please keep in mind that day light hours will soon be shorter. Make sure that you and your family members continue to remain safety conscious in all that you do. Thank you for everything that you do every day. Serving to Heal... Honored to Serve!



Staff Sgt. Olarewaju Magreola, left, presents Sgt. 1st Class Michael Mason with a flag during his retirement ceremony Aug. 24. Mason retired after 25 years of service as a dental assistant.



Soldier of the Month
Spc. Thomas Spino

USAISR researchers, clinicians attend combat casualty care symposium

By Steven Galvan
USAISR Public Affairs Officer

Researchers and clinicians from the U.S. Army Institute of Surgical Research at Fort Sam Houston, Texas, were among the 2,005 attendees at the 2015 Military Health System Research Symposium in Fort Lauderdale, Florida, Aug. 17-20.

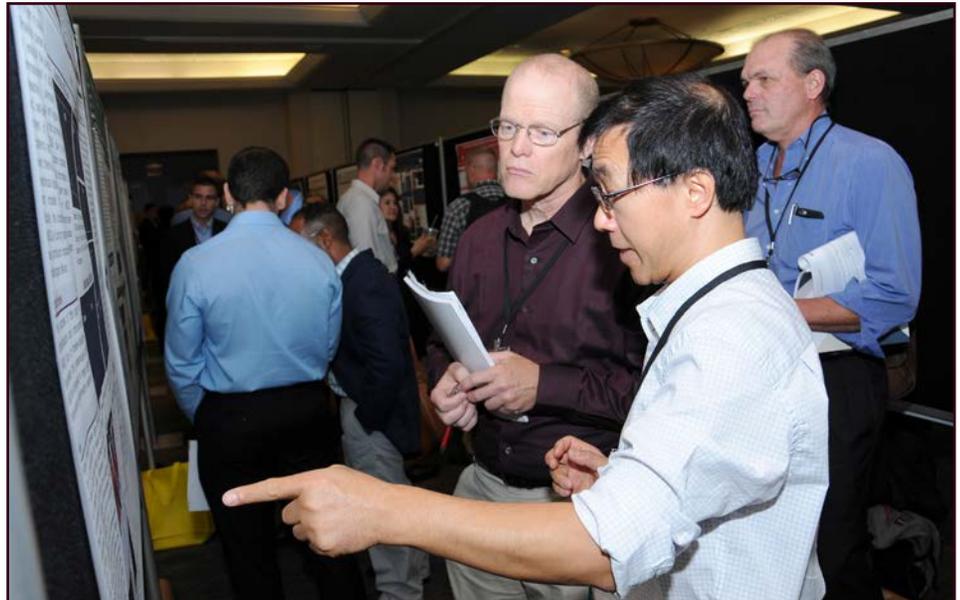
The four-day conference was designed for communicating and disseminating new scientific knowledge resulting from military-specific research and development specifically for the medical needs of the Warfighter. MHSRS is the Department of Defense's premier scientific meeting sponsored by the Assistant Secretary of Defense for Health Affairs that brings together military, academia and industry leaders and researchers to share and discuss research topics related to healthcare initiatives under the topics of combat casualty care, military operational medicine, clinical and rehabilitative medicine and military infectious diseases to maximize research synergy for the DOD.

USAISR staff members presented 73 posters, 28 oral presentations and were moderators and co-moderators of 11 sessions during the conference.

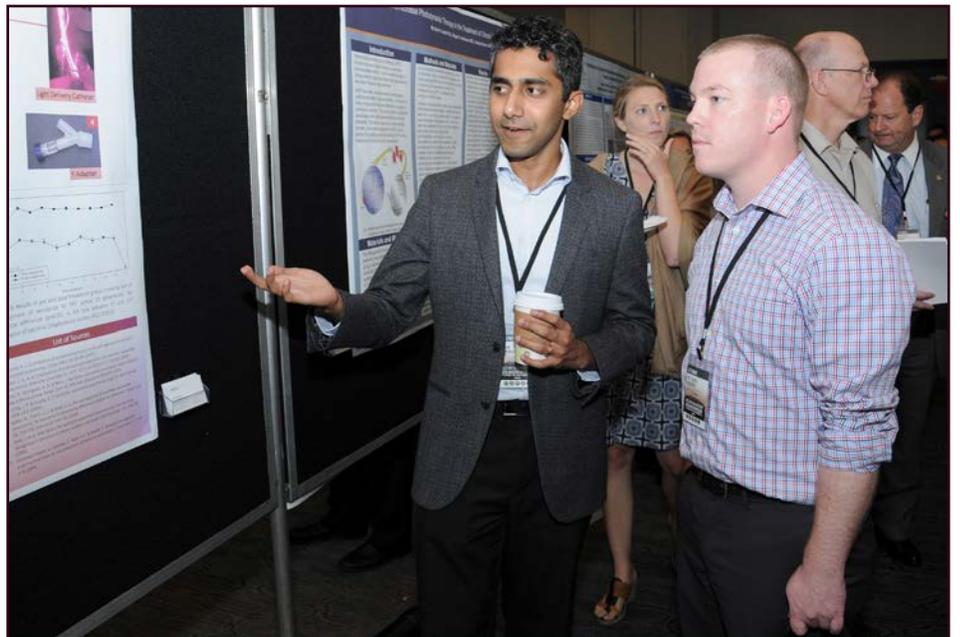
"This is an important conference for our staff to attend," said USAISR Commander Col. (Dr.) Michael Wirt. "It's an opportunity for us to highlight the work that is done every day at the Institute to optimize combat casualty care. It is also an opportunity see what other combat casualty care researchers are doing and establish and maintain enduring relationships for possible future collaborations."

During the conference, Lt. Col. (Dr.) Andrew Cap, Chief of the Coagulation and Blood Research Program, was awarded the Individual Military Outstanding Research Accomplishment Award for research on cold-stored platelets.

In the poster competition USAISR staff received first place and an honorable mention.. The poster awarded first place was titled: "Burn Scars Modulation Through Laser Deliver



Yansong Li, Ph.D., presents his poster Aug. 18 at the Military Health System Research Symposium.



Sgt. Daniel Wendorff, right, inquires about a poster that was being presented at the Military Health System Research Symposium Aug. 19.

of Stem Cells" and included Robert Christy, Ph.D., Sandra Becerra, and Shanmugasundaram Natesan, Ph.D. on the research team. The poster that received an honorable mention was titled: "Antibiotic-Loaded Keratin Hydrogels as a First-Line Therapy for

Battlefield Burns" and included Daniel Roy, Ph.D., Christine Kowalczewski, Ph.D., Robert Christy, Ph.D., and Kameel Isaac on the research team.

"This was one of the most productive MHSRS conferences in recent

MHSRS continues on page 6

MHSRS continued from page 5
memory,” said USAISR Director of Research Lt. Col. (Dr.) Kevin Chung. “Overall, there was a high palpable level of enthusiasm for and dedication to serving wounded Service Members through innovative research. ISR maintained an elite presence throughout the conference.”

“I am very proud of everyone’s work before and during the conference,” said Wirt. “We are the Army’s premiere combat casualty care research laboratory, and we prove it every day.”

MHSRS combined three previous conferences, including the former Advanced Technology Applications for Combat Casualty Care Confer-

ence; the Air Force Medical Service Medical Research Symposium; and the Navy Medicine Research Conference. By combining these conferences into one event, the meeting serves as a critical strategy session for leaders to set future milestones for the DOD’s deployment-related medical research programs, centered on the needs of the Warfighter.

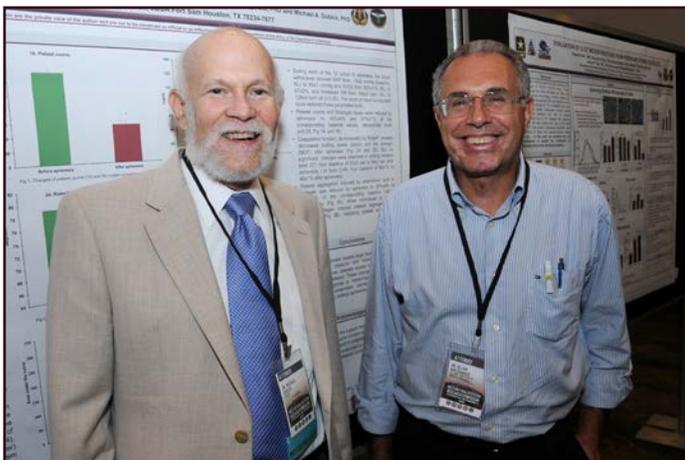
MHSRS continues on page 7



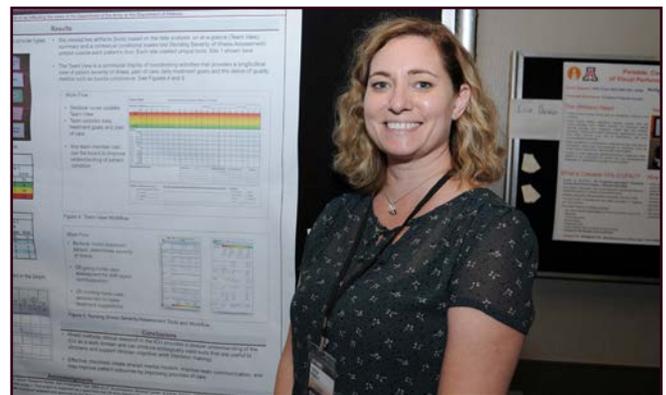
Dr. Andriy Batchinsky



Margaux Salas, Ph.D.



Michael Dubick, Ph.D. and Bijan Kheiribadi, Ph.D.



Sarah Murray

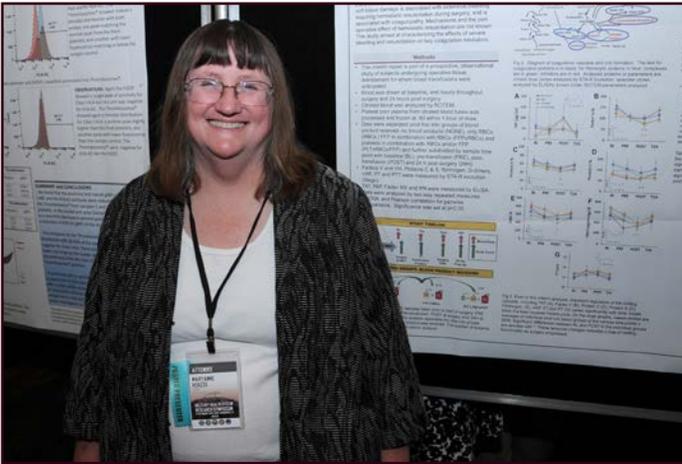


Jud Janak, Ph.D.



Daniel Darlington, Ph.D.

MHSRS continued from page 6



Maryanne Herzig



Jae Hyek Choi, Ph.D., Ben Antebi, Ph.D., and Lt. Col. Elizabeth Mann-Salinas



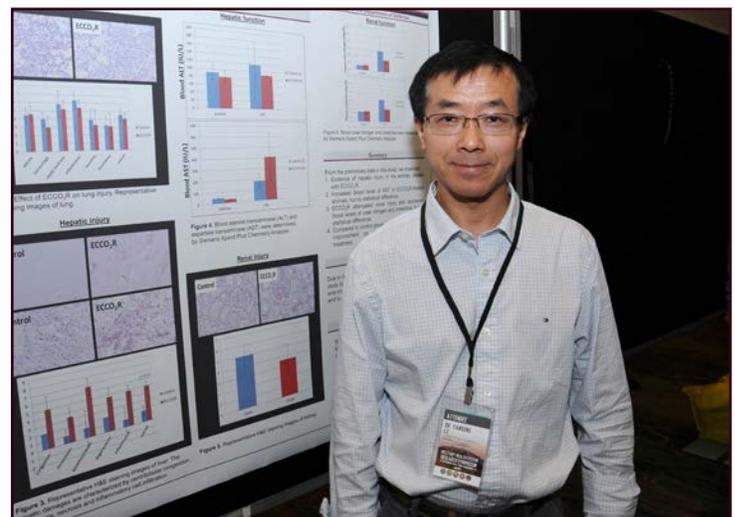
Whitney Greene, Ph.D., Capt. Gina Griffith, and Capt. Elaine Por



Lt. Col. (Dr.) Jeremy Pamplin



Patricia Carlisle, Ph.D.



Yansong Li, Ph.D.

Army Medicine Study Looks at Optimizing Combat Casualty Care



Lt. Col. Elizabeth Mann-Salinas presents data at MHSRS Aug. 19 to introduce a five-year study evaluating utilization of Role 2 forward surgical capabilities.

By Steven Galvan
USAISR Public Affairs Officer

Experts from the U.S. Army Institute of Research presented data at the Military Health System Research Symposium Aug. 19 to introduce a five-year study evaluating utilization of Role 2 forward surgical capabilities, trauma care on the battlefield and highlighting possible ways to optimize care for wounded warriors.

“The study that we are working on is to learn from our current and our past to plan for our future,” said Lt. Col. Elizabeth Mann-Salinas, a nurse scientist at the U.S. Army Institute of Surgical Research who presented the project funded by the U.S. Army Medical Research and Materiel Command’s Congressionally Directed Medical Research Programs.

To provide the best care of wounded warriors, the Army leverages five echelons of care, including:

- Role 1 – care provided at the point of injury
- Role 2 – life-saving interventions

- provided by a medical staff at a Forward Surgical Team
- Role 3 – care at a Combat Support Hospital
- Role 4 – care provided at hospitals, such as Landstuhl Regional Medical Center in Germany
- Role 5 – definitive care at a Military Treatment Center state-side, such as the Walter Reed National Military Medical Center in Bethesda, Maryland

“From our estimation, we have woefully overlooked the importance of evaluating how we are using the Forward Surgical Team [Role 2] capacity to inform how we are going to move forward to train for future contingencies,” said Mann-Salinas. “This is particularly relevant given the emphasis on the expectation of the ‘prolonged field care’ in other military theaters of operation.”

Mann-Salinas explained the study is to evaluate the historical utilization of Role 2 assets in recent conflicts to optimize pre-deployment readiness of combat casualty care providers.

“We want to look at how we’ve done it in the past. We want to do some sophisticated modeling predictive features to try to come up with better point of injury care. But my real passion is getting the person who is going to be delivering that care up to that standard of everybody else on their team and it doesn’t matter what uniform – active or reserve status – that you come from. We all must be prepared to do the same job and deliver the best possible care to our wounded warriors on the battlefield,” Mann-Salinas said.

The need for evaluating battlefield combat casualty care is recognized internationally, and as a result, the Role 2 project is a component of the formal US-UK partnership. In 2011, President Barak Obama and Prime Minister David Cameron created the “US-UK Service Personnel, Families, and Veterans Task Force,” comprised of five working groups covering issues from transition to civilian life, mental health, rehabilitation, family support, and medical interoperability. Additionally a formal Cooperative Research Agreement was established with the Israeli Defense Force to compare our experiences in modern combat casualty care. The preliminary results of this comparison were presented at this year’s conference.

“I believe that if we understand how we’ve used Role 2 in the past that it will help us in be better trained in the future for providing combat casualty care,” added Mann-Salinas.

MHSRS combined three previous conferences, including the former Advanced Technology Applications for Combat Casualty Care Conference; the Air Force Medical Service Medical Research Symposium; and the Navy Medicine Research Conference. By combining these conferences into one event, the meeting serves as a critical strategy session for leaders to set future milestones for the Department of Defense’s deployment-related medical research programs, centered on the needs of the Warfighter.

JTS working to improve data requests processes



Staff members from the Joint Trauma System at the U.S. Army Institute of Surgical Research hosted staff members from the Office of Research Protections at the U.S. Army Medical Research and Materiel Command who conducted a staff assistance visit August 10-12 to discuss ways to broaden the JTS's ability to disseminate data from the registry's valuable and unique combat casualty care data set and refine processes to ensure requests for data are handled in accordance with applicable Army, Defense Health Agency and federal regulations. Back row, left to right: Natalie Klien, Ph.D., MRMCM Office of Research Protections; Col. Stacy Shackelford, JTS; Col. (Dr.) Kirby Gross, JTS Director; Susan West, JTS; Kathy Ryan, Ph.D., ISR Research Regulatory Compliance; Capt. Zsolt Stockinger, JTS; and Mary Ann Spott, JTS. Front row: Stephen Maleson, MRMCM Attorney Advisor; Andrea Kline, MRMCM Director of Institutional Review Board Office; and Laura Brosch, Ph.D., MRMCM Director of Office of Research Protections.

Story and photo by Steven Galvan
USAISR Public Affairs Officer

The Joint Trauma System at the U.S. Army Institute of Surgical Research hosted staff members from the Office of Research Protections at the U.S. Army Medical Research and Materiel Command to conduct a staff assistance visit August 10-12.

The USAISR's JTS receives the majority of the requests for visits from DOD personnel, but the JTS also receives requests from civilian academic institutions, international partners and other federal agencies.

According to JTS Deputy Director Mary Ann Spott, this visit will serve to broaden the JTS's ability to disseminate data from the registry's valuable

and unique combat casualty care data set and will refine processes to ensure requests for data are handled in accordance with applicable Army, Defense Health Agency and federal regulations.

"JTS seeks to respond to requests in a manner to facilitate clinical investigation for those with a sincere interest in advancing combat casualty care," said Spott. "The goal of the collaboration is to have transparent standard processes which do not present unnecessary barriers to clinical investigators."

Spott added: "Many lessons are to be learned from the data maintained in the registry. JTS encourages clinical investigators who seek to improve combat casualty care and wishes to facilitate knowledge sharing. The yield of information to be gathered from

the DoDTR will only occur when access to data in the DoDTR is made widely available. However, availability of registry data should be in line with DOD policy and regulation as we are custodians of this valuable national resource."



Safety Notes

By Stephanie L. Truss
Health, Safety and Environmental Specialist



Back to school, back to the books, back in the saddle or back in the car for all the parents. The new school year means its back to packing lunches and after-school snacks for students, scouts, athletes, dancers and all the other children who carry these items to and from home. One “back” you do not want to reacquaint children with, however, is bacteria.

Bacteria that cause foodborne illness, commonly known as food poisoning, grow rapidly at temperatures between 40 and 140 degrees Fahrenheit. In just two hours, these microorganisms can multiply to dangerous levels, which can cause foodborne illness. To make sure lunches and snacks are safe for those you pack for, you should follow the USDA’s four steps to food safety: Clean – Separate – Cook – and Chill.



Packing Tips

- If the lunch/snack contains perishable food items like luncheon meats, eggs, cheese, or yogurt, make sure to pack it with at least two cold sources. Harmful bacte-

In the Spotlight

Spc. Isaiah J. Land

Job title: Bioscience Specialist

How long have you worked at the ISR? 1 year

What or who has been an inspiration to you in your work? I’d have to say it’s the team I work with on a day-to-day basis. We take our work seriously, laugh at each other’s jokes, and respect one another equally.



What is your favorite part of your work? Having the opportunity at any given day to learn something new.

What is your proudest achievement? Becoming a father!

Short- and long-term goals: Short-term, finish my bachelors in biology. Long-term, pass the MT exam and commission as a Lab Officer.

Hobbies: Art and animation, music, and exercising.

Favorite book: Any good manga or graphic novel.

Favorite movie/TV show: One of my favorite movies would have to be *White Chicks*.

Favorite quote: “The only person you should try to be better than is the person you were yesterday.”

- ria multiply rapidly so perishable food transported without an ice source won’t stay safe long.
- Frozen juice boxes or water can also be used as freezer packs. Freeze these items overnight and use with at least one other freezer pack. By lunchtime, the liquids should be thawed and ready to drink.
- Pack lunches containing perishable food in an insulated lunchbox or soft-sided lunch bag. Perishable food can be unsafe to eat by lunchtime if packed in a paper bag.
- If packing a hot lunch, like soup, chili or stew, use an insulated container to keep it hot. Fill the container with boiling water, let stand for a few minutes, empty, and then put in the piping hot food. Tell children to keep the insulated container closed until

- lunchtime to keep the food hot - 140 °F or above.
 - If packing a child’s lunch the night before, parents should leave it in the refrigerator overnight. The meal will stay cold longer because everything will be refrigerator temperature when it is placed in the lunchbox.
 - If you’re responsible for packing snack for the team, troop, or group, keep perishable foods in a cooler with ice or cold packs until snack time. Pack snacks in individual bags or containers, rather than having children share food from one serving dish.
- Storage Tips**
- If possible, a child’s lunch should be stored in a refrigerator or cooler with ice upon arrival. Leave the lid of the lunchbox or bag open in the

SAFETY continues on page 16

Health News

By Maria G. Dominguez, R.N. COHN-S/CM Occupational Health



I trust that you had a great and safe summer and took time for yourself and your family to spend quality time together. Students have returned back to school and the daily routine will be more structured. September now brings a different focus. Read on for highlights of what is underway in September.

As you prepare school lunches, keep in mind September is National Childhood Obesity Awareness Month. One in three children in the United States are overweight or obese. Childhood obesity puts kids at risk for health problems that were once seen only in adults, like type 2 diabetes, high blood pressure and heart disease. The good news is that childhood obesity can be prevented. In honor of National Childhood Obesity Awareness Month, ISR Occupational Health and Army Health Promotion encourages you and your family to make healthy changes together.

Taking small steps as a family can help your child stay at a healthy weight. Get active outside: Walk around the neighborhood, go on a bike ride, or play basketball at the park. Limit screen time: Keep screen time (time spent on the computer, watching TV, or playing video games) to two hours or less a day. Make healthy meals: Buy and serve more vegetables, fruits, and whole-grain foods.

Snack time. Gives kids important nutrients and help control hunger between meals. Need healthy ideas? Here's some: "Ants on a log" (celery

with peanut butter and raisins); fresh or canned fruit (canned in 100 percent juice, not syrup) with fat-free or low-fat yogurt; whole-grain crackers with low-fat cheese; vegetable "matchsticks" (made from fresh carrots, zucchini, or bell peppers); whole-wheat bread or apple slices with peanut butter; quesadillas; unsalted pretzels or air-popped popcorn; baked (not fried) tortilla chips and salsa; or hummus with whole-wheat pita bread or veggies.

Always On the go? Take nuts and unsweetened dried fruits, fresh veggies, or fresh fruit in small baggies. Pack low-fat string cheese sticks. Set the rules! Teach your kids to ask before they help themselves to snacks. Eat snacks at the table or in the kitchen, not in front of the TV. Serve snacks in a bowl. Don't let kids snack directly out of the bag or box. Drink water or milk (fat-free or low-fat) instead of soda or juice.

Luckily September also brings "More Matters Month" focusing on how fruits and vegetables can make a difference. Use the month to raise awareness about the importance of getting enough fruits and vegetables, even in a lunch bag or box.

Spread the word about programs that support local agriculture. Encourage families to make small changes. Engaging the children in preparing the lunch & gives them the awareness needed.



Parents should include goals to remain healthy for your children as well. September is National Prostate Cancer Awareness Month and Gynecologic Cancer Awareness Month. Both observances are aimed at increasing public understanding of these cancers.

Five main types of cancer affect a woman's reproductive organs: cervical, ovarian, uterine, vaginal and vulvar. As a group, they are referred to as gynecologic cancers. Each gynecologic cancer is unique, with different signs, symptoms and risk factors. In 2007, a total of 80,976 women in the United States were diagnosed with some form of gynecologic cancer, and 27,739 women died from the disease.

Prostate cancer is the most common cancer among men in the United States. In 2007 (the most recent year for which data are available), 223,307 new cases were diagnosed, and 29,093 men died of the disease in the United States. Aside from non-melanoma skin cancer, prostate cancer is the most common cancer among men in the United States. It is also one of the leading causes of cancer death among men of all races and Hispanic origin populations.

To keep ISR VPP Star momentum; September is National Preparedness Month. "Don't Wait. Communicate. Make Your Emergency Plan Today."

This year focus to take action now. Make a plan with your community, your family and for your pets. Plan how to stay safe and communicate during the disasters that can affect your community. We ask everyone to participate in America's PrepareAthon! and the national day of action, National PrepareAthon! Day, which culminates National Preparedness Month on September 30..

Finally, it's time to prepare for Influenza Season! The Grand Prize! The first scheduled ISR annual clinic day will be September 25. Stay tuned. More to come.

Around the ISR



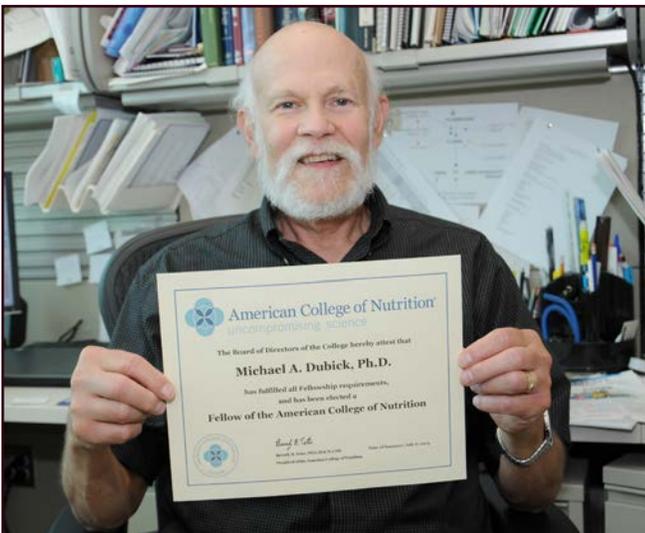
Top left: Pfc. Fabian Quattlebaum cuts a birthday cake Aug. 14 to celebrate ISR staff who had birthdays during the third quarter.

Center right: Lt. Col. (Dr.) Andre Cap presents Dr. Heather Pidcock with a Commander's Award for Civilian Service Aug. 13 during a going-away luncheon.

Bottom right: Sgts. Jacqueline Mason and Nguvan Uhaa serve baked goods Aug. 31 during a bake sale by the ISR Special Events Committee.

Bottom left: Michael Dubick, Ph.D. poses with a certificate Aug. 13 for fulfilling Fellowship requirements and being elected a Fellow of the American College of Nutrition.

Center left: Lt. Col. (Dr.) Kevin Chung presents Maria Chapa with a Superior Civilian Service Award Aug. 24.



College interns complete summer internship program at USAISR



Eleven college students participated in a 10-week summer internship program at the U.S. Army Institute of Surgical Research at Fort Sam Houston, Texas. Left to right: Christopher Kennedy, Hannah Fields, Betty Nguyen, Tiffany Chance, Claire Caldwell, Cynthia Njatcha, Alissa Isaac, Rosemary Pfaff, Montane Silverman, and Sean Christy, (not in photo Audry Albach.).

Story and photos by Steven Galvan
USAISR Public Affairs Officer

After a 10-week summer internship at the U.S. Army Institute of Surgical Research at Fort Sam Houston, Texas, a group of undergraduate college students wrapped up their research with a poster presentation for the USAISR staff to highlight their work.

At the beginning of summer, the 11 interns, which were sponsored by the Oak Ridge Institute for Science and Education, were paired with USAISR researchers who served as mentors who oversaw their work on combat casualty care research projects.

“Overall, the poster session was a tremendous success,” said USAISR Director of Research Lt. Col. (Dr.) Kevin Chung. “It gave the students an opportunity to put what they learned this summer on full display. I was very impressed with what they were able to accomplish during their short time

with us. Many of their projects will have an immediate and relevant impact in helping shape combat casualty care.”

David M. Burmeister, Ph.D., US-AISR combat casualty care research scientist and lead intern mentor, said that the ORISE program exposes students to a laboratory environment and provides them with invaluable research experience.

“This program also helps students to clarify their educational goals and enables them to reach those goals,” added Burmeister.

The interns’ time at the USAISR was more than learning about and conducting research. The interns attended weekly seminars, led journal club sessions, and attended Burn Center Intensive Care Unit rounds with the unit staff.

University of California, Los Angeles, student Betty Nguyen was one of the interns assigned to work with

research physiologists Carmen Hinojosa-Laborde, Ph.D., Vic Convertino, Ph.D., USAISR senior scientist, and Lt. Col. Robert Carter at the Tactical Combat Casualty Care task area.

Nguyen performed data analysis from data gathered using the Compensatory Reserve Index. The CRI uses an algorithm designed to take information from a patient’s finger pulse oximeter and gauge whether immediate medical attention is needed – even if the patient seems alert and responsive. It is the first device of its kind that can truly detect when a patient seems stable but is actually getting dangerously worse, known as “crashing.”

“It was a great experience, and I learned a lot of relevant knowledge that will help me with my college studies,” Nguyen said. “I learned the most from shadowing and watching some influential clinicians and researchers in

INTERNS continues on page 16



CELEBRATING SCIENCE

In this section we endeavor to celebrate the dissemination of generalizable knowledge in the form of published manuscripts. One of our core missions is translation of knowledge gained through pre-clinical and clinical experiments in an effort to optimize combat casualty care. It is important to acknowledge and recognize the collective work of our investigators during this process. Hence, we plan on “celebrating science” on a regular basis.



TOP THREE PAPERS OF THE MONTH

Bone defect

Alternatives to autograft evaluated in a rabbit segmental bone defect.

McDaniel JS, Pilia M, Raut V, Ledford J, Shiels SM, Wenke JC, Barnes B, Rathbone CR.

Int Orthop.



Jennifer McDaniel

This study was designed to identify strategies for treating bone defects that can be completed on the day of surgery. Forty New Zealand white rabbits with unilateral rabbit radius segmental defects (15 mm) were treated with commercially available scaffolds containing either demineralised bone matrix (DBM) or a collagen/beta-tricalcium phosphate composite (Col:β-TCP); each scaffold was combined with either bone marrow aspirate (BMA) or concentrated BMA (cBMA). The concentration of nucleated cells, colony-forming unit-fibroblasts and platelets were increased and haematocrit concentration decreased in cBMA as compared to BMA. There was significantly greater bone regeneration in the defects treated with DBM grafts as compared to Col:β-TCP grafts. The healing of bones treated with Col:β-TCP was improved when augmented with cBMA.

Biologic scaffolds

An acellular biologic scaffold does not regenerate appreciable de novo muscle tissue in rat models of volumetric muscle loss injury.

Aurora A, Roe JL, Corona BT, Walters TJ.
Biomaterials

Extracellular matrix (ECM) derived scaffolds have been used for lower extremity volumetric muscle loss (VML) injury repair. In particular, MatriStem™, a porcine urinary bladder matrix (UBM), has



Amit Aurora

Thomas Walters

shown improved functional outcomes and vascularization, but limited myogenesis. However, efficacy of the scaffold for the repair of traumatic muscle injuries has not been examined systematically. This study demonstrates that the porcine UBM scaffold does not support muscle tissue regeneration. Functional recovery may be hastened through the mechanism of scaffold mediated functional fibrosis.

Resolution of inflammation

LXA4 actions direct fibroblast function and wound closure.

Herrera BS, Kantarci A, Zarrouh A, Hasturk H, Leung KP, Van Dyke TE.

Biochem Biophys Res Commun.

Timely resolution of inflammation is crucial for normal wound healing. Resolution of inflammation is an active biological process regulated by specialized lipid mediators including the lipoxins and resolvins. Lipoxins, including Lipoxin A4 (LXA4), have known anti-fibrotic and anti-scarring properties. The goal of this study was to elucidate the impact of LXA4 on fibroblast function. The results suggest that mediators of resolution of inflammation enhance wound healing and limit fibrosis in part by modulating fibroblast function.

CLINICAL RESEARCH

Machine learning in burn care

Machine learning in burn care and research: A systematic review of the literature.

Liu NT, Salinas J. *Burns*.



Nehemiah Liu



Jose Salinas

Toxic epidermal necrolysis

Pediatric Toxic Epidermal Necrolysis: Experience of a Tertiary Burn Center.

Rizzo JA, Johnson R, Cartie RJ. *Pediatr Dermatol*.



Maj. Julie Rizzo

Wound packing

Gauze vs XSTAT in wound packing for hemorrhage control.

Kragh JF Jr, Aden JK, Steinbaugh J, Bullard M, Dubick MA. *Am J Emerg Med*.



John Kragh



Michael Dubick

EXTRAMURAL COLLABORATION

Cerebral blood velocity regulation during progressive blood loss compared to lower body negative pressure in humans.

Rickards CA, Johnson BD, Harvey RE, Convertino VA, Joyner MJ, Barnes JN. *JAppl Physiol* (1985).

Evaluation of Cardiac Involvement in Children with Dengue by Serial Echocardiographic Studies.

Kirawittaya T, Yoon IK, Wichit S, Green S, Ennis FA, Gibbons RV, Thomas SJ, Rotlunan AL, Kalayanarooj S, Srikiatkachom A. *PLoS Negl Trop Dis*.



TOP PAPER OF THE MONTH

Lt. Col. (Dr.) Keving Chung presents Amit Aurora with a command coin Aug. 26 for earning the Top Paper of the Month.

Photo by Lt. Col. (Dr.) Kevin Akers.

INTERNS continued from page 13
 their work environment.”

Nguyen learned about the internship program during a presentation provided by Carter at UCLA. Carter and Nguyen are both Gates Millennium Scholars, a scholarship funded by the Bill and Melinda Gates Foundation.

“This summer experience has made me more confident about my abilities and has strengthened my interest in pursuing a medical and public health dual degree,” said Nguyen. “I’ll always remember the friendships made here as well as the many Texas adventures I had as I return to California with a newfound love for country music and Texas barbeque.”



Lt. Col. Robert Carter and Betty Nguyen

SAFETY continued from page 10

fridge so that cold air can better circulate and keep the food cold.

Eating and Disposal Tips

- Pack disposable wipes for washing hands before and after eating.
- After lunch, discard all leftover food, used food packaging, and paper bags. Do not reuse packaging because it could contaminate other food and cause foodborne illness.

For additional information take a moment to review the various articles in check-your-steps. And or contact the undersigned to sign up for the next Food Handlers Safety Course that are periodically held within the USAISR/ BHT. Just in time for the Section/Division Holiday Parties. As always Safety first!



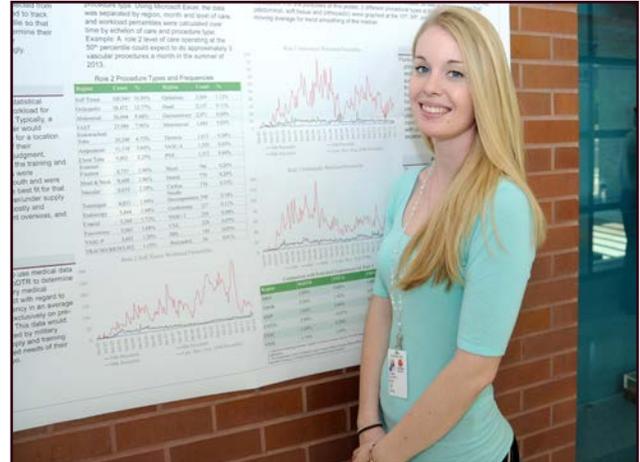
Cynthia Njatcha



INTERNS continued from page 16



Audry Albach



Claire Caldwell



Alissa Isaac



Christopher Kennedy



Summer intern poster presentation Aug. 12.

August Awards

Army Commendation Medal
Lt. Col. Andre Cap
Sgt. Matthew Winans

Army Achievement Medal
Sgt. Jamar Williams

Good Conduct Medal
Sgt. Daniel Wendorff

Certificate of Appreciation
Pfc. David Watson

USAMMA Commander's Scroll of Appreciation
Sgt. Damien Thomas

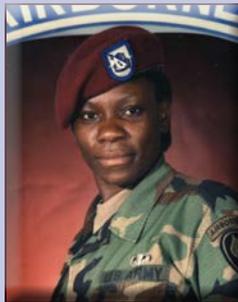
Back When...



Can you guess who this ISR staff member is? This photo was taken in 1985 when he was a Staff Sgt. and a graduate of the Air Force Recruiter School at Randolph AFB, Texas.

Submit your photo for publication in upcoming issues.

Last Month's Answer:



Karliss Kimbrough
Community Outreach
Coordinator



a USAMRMC emblem at the top right corner of each PubMed citation that will take you to the full text. Sometimes it is direct; sometimes you need to type in the journal title and citation information.

There are also approximately 17 titles in our subscription list that have unique ISR usernames/passwords. These titles are purchased directly and include electronic access. Sometimes the electronic content is better (no embargo) or easier to access, so we list the usernames/passwords on the library Intranet page. Sometimes we only have electronic access at ISR. This link will show you the entire subscription list and electronic access points, including username/password if necessary.

http://amedc2aisr0031/library_JournalHoldings_files/JOURNAL%20HOLDINGS%20Links2015f.pdf

I encourage those of you who research articles and papers to use these library resources. You will find full-text readily available. If you find a technical issue, please report it to me with a screenshot if possible. I will do all I can to remedy the problem.

Thank you for using the ISR Library!

Library News

By Gerri Trumbo
Library Manager



I recently sent out the annual e-mail notification for journal subscriptions additions/deletions for calendar year 2016. If you have any suggestions, please send me the titles for consideration.

I will take this opportunity to briefly explain why we maintain print subscriptions in this age of electronic access. Many publishers will not grant electronic access unless print is purchased also. Within our US-AMRMC library consortia, each lab

library is responsible for maintaining a print subscription based on its field of research. Hence, ISR has a heavy content of trauma, critical care and regenerative medicine print titles. With each of the five lab libraries purchasing their specialty subscriptions in print, the command librarian is able to negotiate a deep discount electronic license for all five libraries to share. The package deals with each publisher/database (ScienceDirect, Wiley, etc.) are available to all of us on our electronic journal platform, LEAP (TDNet and/or MyAthens).

The subscription list I send out is what ISR pays for locally. In turn, electronic access is available on the shared LEAP portal. That is why it is important for you to check LEAP or use PubMed on LEAP to see if electronic access is available for the particular article you are looking for. There will be

The Research Regulatory Compliance Division will be providing a Research Orientation session October 1 in the BHT1 2nd floor conference room from 0800-1500.

This is a great way for new research staff to understand how research processes work at ISR and who to go to for help.

