The Point

A magazine for and about the people of the
U.S. Army Medical Research and Materiel Command
Summer 2012

The Birth of a Laboratory

The 8,000 square meter state-of-the-art facility with 2,551 square meters of BSL-2 and BSL-3 laboratory space was officially opened March 2011.

In August 2004, the Defense Threat Reduction Agency broke ground on the outskirts of Tbilisi, Georgia, to begin construction of a facility that would be known as the Central Public Health Reference Laboratory. Through a collaboration between the U.S. Department of Defense, the U.S. Army Medical Research and Materiel Command, and the Georgian Ministry of Defense, the 8,000 square meter state-of-the-art facility with 2,551 square meters of biosafety level 2 and BSL-3 laboratory space was officially opened March 2011, and it will serve as the hub of a proposed research campus to be maintained by the Georgian government.

"The goal of the U.S. DoD and GoG [Government of Georgia] is to address the threat of infectious diseases at the source with approaches that utilize modern technological developments applied from the rapidly expanding knowledge base in public and animal health. This collaborative effort is meant to reduce the impact of these threats to local communities, the region, and the world," said Lt. Col. Jamie Blow, director of Overseas Operations for the Walter Reed Army Institute of Research, which is a subcommand of USAMRMC.

As the lead DoD organization in charge of medical research, USAMRMC was tasked to establish a new medical research unit at the CPHRL. This tasking was further delegated to WRAIR for development of the initial Implementation Plan for the facility. With subject matter expertise in areas such as pathogen research, biosecurity, biosurety, and facility operations and maintenance, USAMRMC will help to train Georgian scientists working at the lab, and it will also serve in an advisory capacity to support the Georgian government in its public health initiatives.

"When fully operational, the CPHRL will be a state-of-the-art, internationally certified central reference laboratory and a repository for infectious disease agents unique to the region. The laboratory is a joint human and veterinary public health facility, both with BSL-2 and BSL-3 laboratory capabilities, and separate pathogen repositories. The staff at the Georgian facility will be trained to perform diagnostic and confirmatory laboratory tests, epidemiological data analysis, and database management for national human and animal health authorities. It will be the regional focus of the work of the U.S. DoD Threat Agent Detection and Response program and programs of other international disease surveillance and cooperative research partners.

continues next page

In addition to laboratories, the facility will include office space and host training functions to promote state-of-the-art infectious disease detection and research. The CPHRL is the central component of the overall network of capabilities the U.S. DoD Cooperative Threat Reduction Agency is developing to assist the region in concert with the Georgian Government and international agencies," said Blow.

"At this time, DTRA is in the process of fine-tuning the facility to ensure that all of its systems work properly in order to guarantee that it will meet both U.S. and international standards for operations in containment," she said. "By late 2012 or early 2013, it should be fully functional."

Blow said that Col. Arthur Lyons, the WRAIR lead in Georgia, and Dr. Mikeljon Nikolich, who is the WRAIR science advisor to Georgia, were critical to this effort. In addition, other scientific and support personnel provided critical input to both DTRA and the Georgians on this effort, and their extensive experience is critical to the success of this new Georgian facility.

"We see ourselves as long-term partners who can help the Georgians improve their own scientific and operational capabilities," said Blow. "This is not a U.S. Army facility, it is a Georgian facility, and we really want this lab to be very successful for the Georgians."

"The U.S. Army's goal in this is as a partner, collaborator, and as an advisor," she said. "We do not run other governments' laboratories."

Recently, Blow invited a group of seven Georgian employees from the CPHRL to visit WRAIR and the USAMRMC laboratories at Fort Detrick, Md. The group spent six days at WRAIR touring the facility and meeting with administrative sections to understand how a large research facility conducts business and supports science. In addition, the group was also able to tour the U.S. Army Medical Research Institute of Infectious Diseases, which is highly regarded for its top-level biological research facilities and science personnel.

The CPHRL in Tbilisi, Georgia, is the product of a collaboration between the U.S. DoD, USAMRMC, and the Georgian Ministry of Defense.

Vakhtang Berishvili, CPHRL deputy director, said he was very impressed with the people and labs he toured with the group.

"Of course, the CPHRL building is much smaller, but all of the systems are basically the same," he said. "So, I have been learning much, and I am very focused on observing everything I can to make sure our lab in Georgia is where it should be [operationally]."

"The WRAIR facility was very interesting and well kept," Eka Khabazi, CPHRL biosafety officer said. "Besides the tour, I reviewed many logistics functions, and I spent time with a gentleman at WRAIR who showed me business plans that will help me in my role at the CPHRL."

Khabazi has been learning about the day-to-day safety issues within the lab in anticipation of its being fully operational by the start of 2013.

When speaking of their new laboratory, the Georgian team members certainly display a great deal of enthusiasm.

"We have plenty of evidence that the Georgians are feeling a great sense of ownership and that they are committed to the success of the CPHRL," said Maj. Gen. James K. Gilman, USAMRMC commander.

Looking ahead, the Georgian government plans to move its National Center for Disease Control (which is equivalent to the U.S. Centers for Disease Control and Prevention in Atlanta, Ga.) onto the campus. Its primary mission is public health, which includes the avoidance of epidemics and outbreaks of diseases that can be otherwise controlled with proper research, planning, and preparation.

As for the U.S. Army, it anticipates being a tenant in the Georgia facility and establishing a new Medical Research Unit within the CPHRL.

"The mission of WRAIR is to establish a new medical research unit in the Georgia lab," said Blow. "A smaller

The Point is published quarterly. Its contents do not necessarily reflect the official views of the U.S. Government, the Department of Defense, or the U.S. Army. Editorial content is prepared by the U.S. Army Medical Research and Materiel Command Public Affairs Office; 301-619-7549 or DSN 343-7549.

unit will be there full-time to partner with the Georgians."

Blow certainly speaks from experience as the U.S. Army's partnerships with the governments of both Thailand and Kenya have proven very successful with regard to overseas research units. WRAIR has a long history of overseas medical research units. The U.S. Army and the Royal Thai Army have been in partnership in the Armed Forces Research Institute of Medical Sciences located in Bangkok, Thailand, which has been in existence for 51 years. Similarly, the U.S. Army has partnered with the Kenyan Medical Research Institute for more than 40 years in Kenya.

"These two medical research units have been critical in the development of products to protect both the Warfighter and also public health," said Blow. "Recently, these two units have been involved in development and testing of malaria and HIV vaccines that are the first to show any efficacy."

Within the new facility, WRAIR intends to conduct research in wound infection, bacteriophage, and vector-borne diseases as well as enteric diseases, which include bacterial causes such as *Escherichia coli*, *Salmonella*, and *Shigella*, and viral pathogens such as rotavirus and norovirus.

Regarding the new lab in Georgia, Gilman said, "We [the USAMRMC] have been a significant factor in helping to develop a long-term friendship in a part of the world where we still need to have some friends. Lt. Col. Jamie Blow is the person who is most responsible for that."

Jeffrey Soares
USAMRMC Public Affairs

USAMRICD Hosts 18th Bioscience Review

As part of the daily demonstrations conducted by USAMRICD's Chemical Casualty Care Division, Daniel Boehm begins to transform USAMRICD's Jennifer Devorak into a nerve-agent casualty.
Photo by Peter Hurst, USAMRICD

The U.S. Army Medical Research Institute of Chemical Defense hosted its 18th Biennial Medical Defense Bioscience Review in Hunt Valley, Md. May 20–24. Sponsored by the U.S. Army Medical Research and Materiel Command, USAMRICD's parent organization located at Fort Detrick, Md., the conference highlighted the latest research to develop medical countermeasures to protect against the effects of chemical warfare agents, toxic industrial chemicals, and biological neurotoxins. The conference also featured discussions on the current strategies to manage and provide medical care to chemical casualties.

"Bioscience Review is significant in that it represents the only opportunity for the entire medical chemical defense community to gather for focused scientific exchanges," said Dr. John Graham, who chaired this year's conference and serves as USAMRICD's deputy to the commander for research.

"A broad range of pertinent topics was discussed, in both platform and poster presentations," continued Graham. "There were plenty of opportunities for further discussion of experimental results and planning for future collaborative research efforts among the attendees."

Graham opened the conference and then introduced a special lecture by Dr. John Petrali, a research anatomist who has worked at USAMRICD for more than 50 years. Petrali presented a historical perspective of the institute entitled, "Within These Hallowed Halls: A Personal History of USAMRICD." The opening morning session concluded with a keynote address, "Animal Welfare," by USAMRICD's commander, Col. Peter Schultheiss. Schultheiss, a Veterinary Corps officer, provided a historical overview of animal welfare regulations.

A highlight of each Bioscience conference is the presentation of the Clarence A. Broomfield Award and the award lecture. Dr. David Lenz, renowned in the medical chemical defense community for his research in the development of bioscavengers as a pretreatment to protect military personnel exposed to nerve agents, was this year's recipient of the award. His lecture, "Protein Drugs against Nerve Agent Poisoning: From A to B," was a historical overview of the bioscavenger program. Lenz discussed early attempts to generate antibodies to nerve agents. He then went on to describe the development of butyrylcholinesterase as the leading stoichiometric bioscavenger and the ongoing research on catalytic bioscavengers, which will one day replace the stoichiometric product, because they are less expensive, more readily available, more efficient at scavenging nerve agents in the blood, and require much less volume to be injected. Lenz retired from USAMRICD last fall after more than 40 years of service.

A new session this year was a special working lunch with representatives from the U.S. Food and Drug Administration who provided an overview of the agency's Medical Countermeasures Initiative. The session also included discussions on the use of in vitro, ex vivo, in vivo, and in silico models during the development of medical countermeasures against drugs and biologics. Another topic was the development of in vitro diagnostics, and contact information for

pre-investigational new drug discussions with FDA officials was provided.

Each day of the conference during the afternoon break, members of USAMRICD's Chemical Casualty Care Division, Field Training Team, gave a demonstration, "Between Hollywood and the Field Hospital," to "showcase the latest method for creating and staging ultra-realistic simulated CBRNE casualties." The demonstrations gave attendees, who were also invited to participate, the opportunity to see someone transformed into a severely injured simulated casualty. Over the course of the demonstrations, injuries that would result from exposure to nerve, pulmonary, and vesicant agents, as well as from lacerations and thermal burns, were simulated. The division has incorporated these moulage techniques, as well as the use of state-of-the-art computerized manikins, into its applied learning programs.

For the first time in the history of the Bioscience Review, awards were presented to attendees for top scientific posters. Five posters were recognized for scientific merit. Maj. Shai Shrot, Israel Defense Forces, received the award for International Principal Investigator for his poster, "Early In Vivo MR Spectroscopy Findings in Organophosphate-Induced Brain Damage–Potential Biomarkers for Short-Term Survival." The Department of Defense Principal Investigator poster award went to USAMRICD's Donald Maxwell for "A Common Mechanism for Resistance of Agent-Inhibited Acetylcholinesterase to Oxime Reactivation Based on QSAR of Nerve Agent Analogues of Sarin, Cyclosarin, and Tabun." The Post-Doctoral Fellow award went to a USAMRICD investigator as did the Young Investigator award: Dr. John Azeke, for "Comparative Assessment of Cutaneous Sulfur Mustard Injuries in Sinclair Miniature Versus Weanling Yorkshire Swine," and Cristin Rothwell, "Analysis of Micro RNA Expression in Human Keratinocytes Following Exposure to Sulfur Mustard," respectively. The U.S. Non-DoD Principal Investigator award recipient was Dr. Stanton McHardy, Southwest Research Institute, for "Development of Novel, 'Non-Pyridinium' AChE Reactivators or Peripheral and Central Protection against CWA Poisoning." Graham presented each winner with a certificate and one of Schultheiss' commander coins.

Recognition was also given to five seniors from the Aberdeen High School Science and Mathematics Academy who completed their Capstone projects under the mentorship of USAMRICD scientists. Each of their outstanding projects in medical chemical defense was presented in a poster at the conference, and each student received a certificate acknowledging her efforts. Allison Opitz, mentored by Dr. Erik Johnson, presented "Urinary Biomarkers Detect Nephrotoxicity Following Soman (GD) Exposure." Alexandria Will-Cole's project was "Analysis of In Vitro Interactions Between Conventional Therapeutic Drugs and Bioscavenger Enzymes," mentored by Dr. Tamara Otto. Nia Alleyne worked with Dr. Benedict Capacio on her project, "Rapid Simultaneous Analysis of Alkyl Methylphosphonic Acids Using a Solid-Phase Extraction Technique." Kamini Mallick's mentor was Dr. Heidi Hoard-Fruchey, and her project was "Getting to the Heart of the Matter: Molecular Alterations Following Nerve Agent-Induced Cardiotoxicity." Nickole's Kanyuch, mentored by Dr. John McDonough, presented her project, "Comparing the Neuroprotective Effects of Benzamide and Dantrolene Following Soman Exposure."

Representatives from 11 countries were among the 276 conference attendees. They presented their research in 132 posters and 55 platform talks.

"The meeting was quite successful," said Graham at the end of the week. "Feedback from the attendees on the entire meeting was very positive with hopes of continuing this conference in the future."

Cindy Kronman
USAMRICD Public Affairs

Aberdeen High School Science and Mathematics Academy student Allison Opitz describes her Capstone project to USAMRICD's commander, Col. Peter Schultheiss (left), and Dr. John Graham, deputy to the commander for research.

Photo by Cary Sisolak, USAMRICD

USAMRIID Soldier Captures MEDCOM NCO of the Year Award

After a year of one tough competition after another and winning each along the way, Staff Sgt. Craig Wayman, an emergency management medic from the U.S. Army Medical Research Institute of Infectious Diseases, Fort Detrick, Md., was named Noncommissioned Officer of the Year by the U.S. Army Medical Command during a ceremony held in San Antonio, Texas, June 8.

For Wayman, this MEDCOM win completes the "trifecta" of NCO of the Year competitions and signifies yet another milestone in the career of a very dedicated Soldier. Last fall, he captured the honor of Fort Detrick NCO of the Year, and this past April, he took home the same prestigious title for the U.S. Army Medical Research and Materiel Command.

Apparently, he has acquired these victories through a very straightforward philosophy.

"Every Soldier wants to be a 'Soldier' and wants to deploy and 'kick down doors' and do their job in a combat environment," said Wayman. "But as an NCO and Soldier, you have to be able to adapt to all situations, in and out of combat."

As the very first USAMRMC Soldier to be honored as MEDCOM NCO of the Year, Wayman had to battle the top contenders from MEDCOM's various subcommands. Having been deployed twice as a combat medic, he is quite familiar with conflict, and this experience has helped him develop exceptional tactical hands-on skills.

"Bar none, he is the type of Soldier that I would want to stand by me in combat, especially when adding in his medical skills on the battlefield," said Command Sgt. Major Kevin B. Stuart, USAMRMC command sergeant major.

"But aside from his outstanding soldiering skills, he is an excellent Army representative, using his personal time to volunteer in and around the Fort Detrick community," said Stuart.

"I can't think of any other Soldier who could represent the MRMC and MEDCOM any better."

Coming from a military family, the devoted staff sergeant enlisted more than 7 years ago with the primary intention of serving his country. He hopes to one day retire from the military after he completes at least three decades of service.

This fall, Wayman will represent MEDCOM in the prestigious all-Army NCO of the Year contest where he will face the best of the best NCOs throughout the Army's major commands.

"My prediction is Staff Sgt. Wayman will be the Army's next NCO of the Year," said Stuart.

Given his focused determination, intense dedication, and positive attitude, it is easy to believe that Wayman not only appreciates a good challenge, he longs for it.

"My message to all other NCOs and Soldiers is to stay passionate," Wayman said. "You should always be passionate about the Army and about our jobs and the mission here. Don't become complacent—keep that pride and passion."

Jeffrey Soares
USAMRMC Public Affairs

WRAIR Soldiers Earn Expert Field Medical Badge

Two noncommissioned officers from the Walter Reed Army Institute of Research were awarded the Expert Field Medical Badge after successfully completing all requirements at Camp Bullis, Texas, June 15. Recognized as one of the U.S. Army's top research facilities, WRAIR is a subcommand of the U.S. Army Medical Research and Materiel Command.

Following an intense competition involving both written and hands-on medical skills assessment, Sgt. Kelly McWhirter and Sgt. Michael Sandford each became recipients of the significant badge. Out of 87 candidates who attended the EFMB class, only 10 Soldiers completed all of the necessary requirements to earn the badge, resulting in an 11.5 percent pass rate.

McWhirter enlisted in the Army in July 2007, and his first duty assignment was at WRAIR where he has been since November 2008. He is currently serving as the noncommissioned officer-in-charge of the Department of Behavioral Biology in the Center for Military Psychiatry and Neuroscience Research where he is a neuroscience research assistant. He holds a bachelor's degree in exercise physiology from the University of Northern Colorado, and he is nearing completion of a master's degree in clinical research administration from Trident University. Upon earning his master's degree, McWhirter would like to attend the U.S. Army Airborne School en route to entering medical school in hopes of earning a commission as a physician in the U.S. Army Medical Corps.

Joining the Army in May 2007, Sandford has been a member of the WRAIR team since 2008. He has worked in the Division of Retrovirology, Headquarters Company, and the Entomology branch. Sandford currently serves as the Environmental Compliance and Chemical Hygiene officer for the Entomology branch and the NCOIC of the WRAIR Combatives program. In October 2009, he deployed with the 28th Combat Support Hospital in support of Operation Iraqi Freedom/Operation New Dawn. Sandford's career goals are to complete his bachelor's degree, attend the U.S. Army Airborne School, become an instructor, and eventually retire from the Army with the highest rank that he can achieve.

Sgt. Michael Sandford (left) and Sgt. Kelly McWhirter each received the Expert Field Medical Badge following a written and hands-on medical skills assessment at Camp Bullis, Texas, June 15.

The EFMB was established in June 1965 as a Department of the Army special skill award for the recognition of exceptional competence and outstanding performance by field medical personnel. In the nearly 50 years since its establishment, more than 100,000 Soldiers have attempted to earn the Army Medical Department's most prestigious peacetime badge. The overall EFMB pass rate for 2011 was 17 percent.

Jeffrey Soares
USAMRMC Public Affairs

USAMRMC 2012 Best Warrior

The U.S. Army Institute of Surgical Research hosted the U.S. Army Medical Research and Materiel Command 2012 Best Warrior of the Year competition at Camp Bullis Military Training Reservation April 1–5. Fourteen competitors from Maryland, Massachusetts, Alabama, Texas, and Germany participated. Soldiers and non-commissioned officers of the year for their commands were tested physically and mentally in several Army warrior tasks, including the Army physical fitness test, advanced day and night land navigation, an obstacle course, marksmanship exercises, a combative tournament, an essay contest, and an oral board. The demanding week's activities came to a close during an awards ceremony at Fort Sam Houston, Texas, where the warriors were recognized for their efforts.

Spc. Carlos Diaz-Rivera, assigned to the Walter Reed Army Institute of Research (Silver Spring, Md.), earned the title of USAMRMC Soldier of the Year, and Staff Sgt. Craig Wayman from the U.S. Army Medical Research Institute of Infectious Diseases (Fort Detrick, Md.) won the USAMRMC NCO of the Year title.

"We have the best Soldiers and NCOs in the MRMC here. These are amazing young men and women, and these competitions help make sure that we keep sharp between deployments," said Maj. Gen. James K. Gilman, USAMRMC commanding general. "They give us something to focus on. They make sure that we keep our head in the game and that we keep our training tough, which is really important for whatever the Army is going to ask us to do next year or the year after that."

During the ceremony, USAMRMC Command Sgt. Major Kevin Stuart also praised all of the warriors, saying that they all performed well. "Any one of them could represent this Command [at the U.S. Army Medical Command competition]," said Stuart. "I truly feel that the competitors that we have are going to take MEDCOM for the first time ever."

"I'm extremely excited to represent MRMC at the next level," said Wayman, who also told his competitors that it was an honor to have competed against them. "This is an incredible honor to have competed against NCOs at your caliber, and any day I would go into battle with you and serve next to you. I go on to compete at the next level for you."

Diaz-Rivera said that he learns more from his battle buddies during these competitions than anywhere else. "And that's how you develop yourself and improve yourself," he said. "I can take what I've learned back to my unit and pass it along so that they can compete and learn from the same process."

Wayman and Diaz-Rivera were presented with the Army Commendation Medal, a trophy, and several donated gifts from local businesses. Both warriors will go on to compete at the MEDCOM competition for a chance to represent MEDCOM at the Army's annual competition.

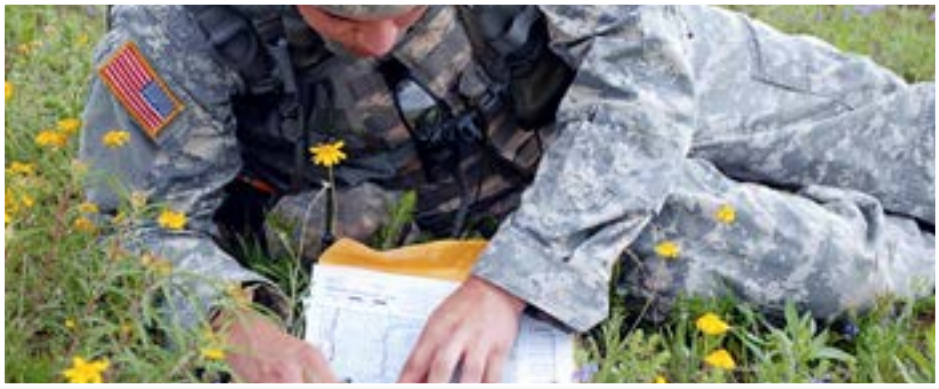
"And regardless of whether they take it or not, it's all about training, it's all about serving our country and being ready to fight any enemy," said Stuart. "I think that if anything else, they've got that confidence and competence, and certainly the conviction of the people of the United States."

Steven Galvan
USAISR Public Affairs

Photos by Staff Sgt. Jan Allende

Sgt. Hector Cortez, left, keeps a close eye on Cpl. Jason Roth (U.S. Army Medical Materiel Center, Europe, Pirmasens, Germany) as he does push-ups while taking the Army physical fitness test at the USAMRMC 2012 Best Warrior of the Year Competition.

of the Year Competition



Sgt. Jorge Cabriales (USAISR, Fort Sam Houston, Texas) prepares for the day land navigation exercise at the USAMRMC 2012 Best Warrior of the Year Competition.

Spc. Francisco Calderon (U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Md.), left, faces off with Spc. David Gonzales (U.S. Army Research Institute of Environmental Medicine, Natick, Mass.) as Sgt. 1st Class Brandon Chasteen referees the combative match at the USAMRMC 2012 Best Warrior of the Year Competition.

Spc. George Wagacha (USAISR, Fort Sam Houston, Texas) fills out an "expectation questionnaire" prior to the start of the USAMRMC 2012 Best Warrior of the Year Competition.

Staff Sgt. Craig Wayman (USAMRIID, Fort Detrick, Md.) plots coordinates during the night land navigation event of the USAMRMC 2012 Best Warrior of the Year Competition.

Malaria, Dengue, and *Leishmania* Rapid Detection Devices to Be Fielded in Medical Equipment Sets

Sgt. Michael Sandford, a laboratory technician at the Walter Reed Army Institute of Research, demonstrates how to use the Arthropod Vector Rapid Diagnostic kits.

Photo courtesy of WRAIR

The *Leishmania* assay, the third of a trio of arthropod vector rapid detection devices developed by the U.S. Army Medical Research and Materiel Command, received its individual National Stock Number June 4 after a recommendation submitted by the Armed Forces Pest Management Board.

These AV-RDDs, sometimes called "dipstick" assays, detect pathogens in mosquitoes and sand flies that cause malaria, dengue, and leishmaniasis. The NSN assignment to the latest dipstick assay to detect *Leishmania* in sand flies marked the availability of the three dipstick assays for purchase by preventive medicine personnel and units as needed.

"The *Leishmania*, malaria, and dengue dipstick assays will become part of entomological medical equipment sets," said Maj. Vanessa Melanson, chief of the Diagnostics and Laboratory Services Department in the Entomology Branch at the Walter Reed Army Institute of Research. "These kits will enhance and improve the ability of preventive medicine personnel to assess the risk of arthropod-borne diseases in a given area of operations."

Mosquitoes and sand flies collected using standard surveillance techniques (e.g., the Centers for Disease Control and Prevention miniature light trap) can be tested for the presence of pathogens by simply grinding them with the tools provided in the dipstick assay kit and then using the dipstick for detection. The kits require little to no additional equipment to perform the test, and results are available in as little as 15 minutes.

"Real-time results allow preventive medicine personnel to more accurately determine where arthropods are infected with disease-causing pathogens in an area of operations. This enables them to make better decisions regarding implementation of control measures and to provide recommendations to decision makers regarding the use of personal protective measures," said Melanson.

Also available are the Rift Valley fever, West Nile, and St. Louis encephalitis virus dipstick assays, but they will not be included in the medical equipment sets.

The development and fielding of the dipstick assays were a collaborative effort among USAMRMC, WRAIR, the U.S. Army Medical Research Institute of Infectious Diseases, the U.S. Army Medical Research Unit-Kenya, and the U.S. Army Medical Materiel Development Activity with industry partner VecTOR Test Systems, Inc.

Carey Phillips
USAMMDA Public Affairs

Sagar Assumes Command of USAMRMC Headquarters Company

Capt. Aaron Northup relinquishes command of the USAMRMC Headquarters Company to Capt. Sumesh Sagar, May 11. Left to right, Sagar; Lt. Col. Bernadette Fobbs, deputy chief of staff for Personnel/Troop commander, USAMRMC; Sgt. 1st Class Amadeo Fuentes, detachment sergeant; and Northup.

Photo by Dave Rolls, Fort Detrick VI

The U.S. Army Medical Research and Materiel Command Headquarters Company held a Change of Command ceremony at Headquarters, Fort Detrick, Md. May 11. Lt. Col. Bernadette Fobbs, deputy chief of staff for Personnel/Troop commander, USAMRMC, oversaw the ceremony in which Capt. Aaron Northup relinquished command to Capt. Sumesh Sagar.

During Fobbs' speech, she commended Northup on a job well done during his 18 months in command. Northup is headed to Heidelberg, Germany, where he will serve as chief of logistics for the U.S. Army Hospital, Heidelberg.

"[Capt. Northup] reorganized all of the policies and procedures for the Headquarters Company, and that was itself a magnificent feat, considering he started from scratch, without even a note card to build from," said Fobbs. "Undaunted, he set about his mission and now leaves the Headquarters Company with a solid way ahead, all within regulations."

Fobbs then thanked the incoming commander, Sagar, for accepting the challenge of leading the Headquarters Company. She praised him for his dedication and focus while displaying a high regard for his previous accomplishments.

Fobbs said, "You were not selected because you were the closest or because you were the easiest to reach. You were selected because of your demonstrated leadership traits and your commitment to the ethos, 'I will always place the mission first.'"

Sagar has been with the U.S. Army for eight years, and his most recent assignment was serving as aide-de-camp to Maj. Gen. James K. Gilman, USAMRMC commanding general. He is a 2002 graduate of the University of Maryland, Baltimore County, where he earned a B.S. degree in biology. Upon completion of the Medical Service Corps Officer Basic Course at Fort Sam Houston, Texas, in 2004, Sagar's first assignment was with Division Support Command, 1st Cavalry, and he was deployed to Taji, Iraq, where he served as Medical Plans and Operations officer. In 2009, he joined the 6th Medical Logistics Management Center as its chief information management officer, and in 2011 he was selected to be Gilman's aide-de-camp.

As the sixth company commander since its establishment in 2005, Sagar remains very positive about the future of his company, which is tasked with providing command and control, readiness, administrative support, discipline, and morale and welfare support to Soldiers assigned/attached to the USAMRMC Headquarters Company.

"The Headquarters Company will continue to provide high-quality and responsive support that will allow the Soldiers and civilians to focus on the overall USAMRMC mission of protecting, treating, and optimizing Warfighter health and performance across the full spectrum of operations," said Sagar.

Jeffrey Soares
USAMRMC Public Affairs

Clinical Data Visualization, Improving EMR Delivery and Usage

A screenshot of a data visualization tool; the data points have been laid out in a visually appealing manner where the most important data are graphically relayed to the clinician.

In recent years, there has been an increase in electronic medical records, personal health records, home monitoring devices, and other digital devices that generate digital health-related information. The development of these novel technologies also requires new ways to visualize data so that they can be used to identify patterns in the health of individuals as well as the population.

Clinical data visualization includes the presentation of captured data as well as the user interface to access these data. Data are captured in an EMR by typing, speaking, scanning, or other input methods. Once data are captured, the presentation and representation of these data help to illuminate trends and patterns. These trends and patterns are then used by clinicians to take meaningful action to treat a patient.

Data stored in an EMR take on many forms, including text, numerical values, date ranges, wave forms, audio, video, and images. Patients, clinicians, administrators, and public health groups may require access to the information stored in an EMR. The interface used to access information is critical to the usability and acceptance of the EMR.

EMRs offer the potential to improve patient care and enhance the efficiency of clinicians by making more data available when and where they are needed. At first glance, it is tempting to think that more data is better. However, sometimes it is possible to have too much of a good thing. EMR systems, physiological monitors, and other medical devices generate large amounts of valuable data and make it possible to transmit these data to almost any clinician who needs it, anytime and anywhere. However, a clinician may only need a small subset of these data when caring for a particular patient. The challenge becomes to provide necessary data and to display them as clinical information that allows the clinician to make correct and efficient decisions.

Access to health care data is an important issue for military health beneficiaries and caregivers. The use of electronic record systems increases the complexity of accessing health data; therefore, a single, simplified user interface has the potential to improve the delivery of health care. Access to and interpretation of medical data are critical to understanding trends in data for improved diagnosis, better health care delivery, and understanding population health concerns.

The visualization of clinical data effort will help lay the foundation for clinical decision support tools by turning data into relevant clinical information.

This initiative will explore how to accomplish this in two ways; first, the information must be contextually relevant, and second, the information must be displayed in a way that is easy for the clinician to interpret. Contextually relevant means that the application understands pertinent characteristics about the clinician–patient interaction and retrieves information that is specifically relevant to that interaction. The relevant information is then displayed to the clinician so that the most important information is prominent and can be interpreted quickly and correctly.

Betty A. Levine, TATRC
Dave Schroeder, portfolio manager, JPC1

Slife Retires After Three Decades of Service

After three decades as an officer with the U.S. Army, Col. Harry F. Slife, Jr. retired from service during a retreat ceremony held in front of the U.S. Army Medical Research and Materiel Command Headquarters, Fort Detrick, Md. June 21.

Slife joined the U.S. Army Chemical Corps in 1982 after completing a Bachelor of Science degree from Youngstown (Ohio) State University via a Reserve Officers' Training Corps scholarship. After earning a Master of Science degree from the University of Maryland, he went on to complete a Ph.D. program in biochemistry from the Uniformed Services University of the Health Sciences in Bethesda, Md.

During his tenure, Slife held multiple positions as he escalated through the Army ranks. His lengthy resume includes service as both deputy commander and commander of the U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Md. His final assignment was serving as program manager for the Joint Trauma Analysis and Prevention of Injury in Combat Program of USAMRMC.

"That effort, and its importance, will be forever recognized by the United States Army—and you [Col. Slife] have a piece of that," said Maj. Gen. James K. Gilman, USAMRMC commander. "It's very important work, and we're grateful that you've done it."

Upon receiving numerous service awards by Gilman, Slife quickly stepped to the podium to address the audience, which included family, friends, and staff members.

Col. Harry F. Slife, Jr. addresses the audience during his retirement ceremony at USAMRMC Headquarters June 21.

Photo by Dave Rolls, Fort Detrick VI

"The only thing I really want to say is the one thing that I've been saying for years—and that is, I owe so very much to the Army," said Slife. "Where else could a kid growing up in northeastern Ohio, blue collar family, get a chance for three degrees, live all over the world, and work with some of the most extraordinary people in the world—most of whom are right here at the MRMC."

Reflecting upon his early days as an officer, Slife commented on a very influential Soldier who showed him "how to be an officer."

"My first NCOIC [noncommissioned officer-in-charge], Sgt. 1st Class Lewis, taught me … what it meant to be an officer," he said. "And I left the 2nd Armored Division as a better person because of Sgt. Lewis, and certainly a better officer."

Now that he will not have to "lace up the bootstraps daily," the retired colonel intends to spend more time with his wife and their three children.

Jeffrey Soares
USAMRMC Public Affairs

Postexposure Antibody Treatment Protects Against Ebola, Marburg Viruses

Scientists from the U.S. Army Medical Research Institute of Infectious Diseases have demonstrated, for the first time, that antibody-based therapies can successfully protect monkeys from the deadly Ebola and Marburg viruses. Furthermore, the animals were fully protected even when treatment was administered two days postinfection, an accomplishment unmatched by any experimental therapy for these viruses to date. The work appeared in the electronic edition of *Proceedings of the National Academy of Sciences* in March.

The filoviruses, Ebola and Marburg, cause hemorrhagic fever with human case fatality rates as high as 90 percent. They are a global health concern and are considered potential biological threat agents. Currently, there are no available vaccines or therapies approved for use in humans, making the development of such products a high priority.

In the article, John M. Dye, Andrew S. Herbert, William D. Pratt, and colleagues from USAMRIID describe using antibody from monkeys that had previously survived challenge with lethal doses of filoviruses under controlled laboratory conditions. These survivors had developed high levels of antibody to ward off disease. Investigators collected blood serum from these animals, purified it, and tested it for virus-neutralizing activity before commencing with their work.

In the first study, monkeys infected with Marburg virus were treated with antibody 15 to 30 minutes postexposure with additional treatments on days 4 and 8. The animals were completely protected with no signs of disease or detectable levels of virus in their bloodstreams. Furthermore, all of the monkeys generated an immune response to Marburg virus and survived subsequent rechallenge with the virus.

In the next set of studies, monkeys were infected with either Ebola or Marburg virus, and treatments were delayed 48 hours with additional treatments on days 4 and 8 postexposure. The delayed treatments protected both sets of animals from challenge. In each group, two of the three animals had no clinical signs of illness following treatment with the third developing mild symptoms followed by full recovery.

For nearly a decade, the filovirus research community has disregarded antibody-based therapies due to numerous failed attempts to protect monkeys against filovirus challenge, according to Dye.

"The use of antibodies as a treatment for infectious diseases is a well-established technology with multiple products having received approval from the [U.S.] Food and Drug Administration," said Dye. "With these findings, we have provided proof of concept that antibody-based therapies can indeed be used to effectively treat filovirus infections."

Dye said the USAMRIID team is hopeful that its work will open new avenues for development of filovirus therapies for human use.

Caree Vander Linden
USAMRIID Public Affairs

Dr. John M. Dye of USAMRIID has been conducting research on antibody-based therapies that may provide protection against the deadly Ebola and Marburg viruses.
Photo by Caree Vander Linden, USAMRIID

New Burn Center at USAISR Fully Operational

The U.S. Army Institute of Surgical Research began a new era in burn and combat casualty trauma care when the staff moved its patients into the burn intensive care unit and performed the first surgical procedure in one of two operating rooms of the new Burn Center in the San Antonio Military Medical Center consolidated tower at Fort Sam Houston, Texas. The completion of the move comes several weeks after the initial move of the burn rehabilitation center, the outpatient clinic, the administrative section, and the clinical studies branch.

As a subordinate command of the U.S. Army Medical Research and Materiel Command, USAISR's mission to "optimize combat casualty care" is accomplished by conducting science and clinical research in the fields of damage control resuscitation, hemostasis, engineering, and tissue regeneration affecting combat casualties, including burns.

"The long-anticipated occupation of the new Burn Center highlights the organization's enduring commitment to combat casualty care and research," said Col. Evan Renz, M.D., director. "The new Burn Center challenges us to use all that we have learned during the war and improve care for the benefit of all future burn patients admitted to our center."

Renz said that the move marks a monumental milestone for the only Department of Defense Burn Center for over half a century. The center provides specialized care for casualties with severe burns, inhalation injury, and complex soft-tissue trauma sustained in combat or accidents. In addition, it serves as the regional Burn Center for South Central Texas, providing care for hundreds of civilian emergency patients each year.

"Our role as a regional Burn Center is twofold," said chief nurse Lt. Col. Louis Stout. "The first is to provide a critical service. The second is the necessity to remain clinically proficient in times of peace so that we can assume our mission rapidly in times of conflict. These are perishable skills that are not easily, or quickly, mastered and must be maintained."

USAISR Burn Center chief of Anesthesia, Maj. Christopher V. Maani, M.D., views the first surgical patient's vital signs as the surgical team prepares for the first surgical procedure in one of two new operating rooms at the new Burn Center located at the consolidated tower of the San Antonio Military Medical Center in San Antonio, Texas, May 25.

Photo by Steven Galvan, USAISR

The Burn Center is located on the fourth floor of the new seven-story tower at SAMMC and is approximately 40 percent larger in size than the previous unit. Some of the new features include two operating rooms with cameras installed in the surgical lights to transmit live videos of surgical procedures to monitors in the operating rooms and nurses' stations and a conference room for educational purposes for medical students and staff. The new facility also combines two eight-bed burn intensive care units into one 16-bed unit where each BICU room utilizes a 360 degree design in which most of the vital equipment is attached to a ceiling-mounted boom, allowing the patient's bed to rotate completely around the room.

"The successful transition to the new Burn Center has validated the integral value of a multidisciplinary approach to patient care," said clinical nurse Maj. Trinity Peak, BICU officer-in-charge. "It also reaffirmed staff that they have the skills and knowledge to accomplish our mission anywhere and at anytime while never losing sight of the 'why'—the patient."

Since 2003, the Burn Center has cared for approximately 1,000 wounded warriors evacuated from Iraq and Afghanistan and 2,500 civilian patients from the South Central Texas region. The Burn Center employs approximately 300 staff members with multiple critical burn care skills from the Army, civil service, and contractors.

Steven Galvan
USAISR Public Affairs

The four USAMRICD Gold FEB winners are (from left to right) Dr. John McDonough, Spc. Leslie Greenway, Sgt. 1st Class John Evans (retired), and Lt. Col. Timothy Byrne
Photo by Darrell Jesonis, USAMRICD

Record Number of FEB Awards for USAMRICD Employees

A record number of employees of the U.S. Army Medical Research Institute of Chemical Defense were recognized by the Baltimore Federal Executive Board's 2012 Excellence in Federal Career Awards Program. Four employees were honored with gold awards, two individuals and two teams received silver awards, and five individuals were bronze award winners.

"The results confirm what we already know," said USAMRICD's commander, Col. Peter Schultheiss. "MRICD employees are the best in class. When it comes to performance, commitment to our mission, and dedication to each other, our employees are what make MRICD the Nation's Center of Excellence for Medical Chemical Defense."

Lt. Col. Timothy Byrne received a gold award in Category 1a, Outstanding Supervisor - GS13 and Above. Byrne, an Air Force liaison to USAMRICD, serves as the chief of Operations Branch and acting chief, Administration Branch, in the Chemical Casualty Care Division. His outstanding leadership in these branches ensured that more than 928 military and civilian medical professionals in the U.S. and from allied nations received unparalleled training in the care of casualties resulting from a chemical, biological, radiologic, nuclear, or explosives incident. It is evident from his nomination, submitted by Dr. Charles Hurst, chief of the CCCD, that Byrne, a caring and supportive supervisor, has fostered an atmosphere of mutual respect and cooperation with his teams.

"Because of his outstanding leadership/management style," wrote Hurst, "a culture of teamwork and trust enhances critical decisions that consistently make a difference when working with deadlines."

Additionally, even with a reduction in staff of about 30 percent, Byrne and his teams successfully supported an increased number of courses and a greater number of attendees. Hurst also noted that as a result of Byrne's leadership, the division was able to maximize the use of its training facilities, expanding the simultaneous use of its conference rooms for the Hospital Management-CBRNE course, "allowing the division to replicate five separate but interlinked mock-up medical centers that has handled 70-120 students at one time."

Recognizing a need within USAMRICD for an operations staff office, Sgt. 1st Class John Evans (retired) researched what was needed to stand up such an office, drafted a charter document, and gained approval through the Institute Executive Committee and the commander.

"He seamlessly assumed the roles and responsibilities of the deputy for this office...[and] built a highly functional operations team from inexperienced members who now serve over 380 military, civilian, and contractor employees," wrote Maj. Michael Berecz, in a nomination document that resulted in Evans' gold award for Outstanding Para-Professional (Non-Supervisory) Administrative Management Analyst, GS8 & Above, Category 3c.

"Sgt. 1st Class Evans demonstrated outstanding initiative by proactively standing up this much-needed staff office to serve as a centralized location for all training, operations and plans at the USAMRICD," wrote Berecz. "His experience and attention to detail made unprecedented positive change throughout all levels of the organization."

Berecz also credited Evans with initiating the use of the Enterprise Safety Applications Management System, a Department of the Navy software platform, to track and manage the training requirements of the entire staff and not

Silver FEB winners from USAMRICD are its Comparative Pathology Support Team, consisting of Tracey Hamilton, John Hengemihle, James Hughes, Kathy Holmes (back row), Erin Sarricks, Denise Kniffin, and Erin O'Keefe (front row); its IACUC team, consisting of Pauletta Adkins (left) and Robyn Lee; and Dr. David Lenz. Sarricks also won an individual silver for Rookie Employee of the Year. *Photos by Darrell Jesonis, USAMRICD*

just records related to safety, for which it had been designed.

Spc. Leslie Greenway, a medical laboratory technician assigned to USAMRICD's Research Support Division, won gold honors for Heroism, an Individual Heroic Act, Category 7a. Greenway came to the assistance of a co-worker seriously injured on the job. After helping the injured person to a safe location, she began administering appropriate first aid for the injuries, acting quickly and efficiently to control the bleeding and cleanse the skin wounds. Additionally, she called for emergency medical assistance, notified the appropriate supervisor, and provided support and reassurance to the injured co-worker.

"Throughout this difficult time, Spc. Greenway demonstrated remarkable attention to detail, strong composure, professionalism, compassion, and initiative while acting outside her normal job responsibilities," wrote her supervisor, Lt. Col. Shannon Stutler. "Her quick actions and calming influence played a significant, positive role in the assessment and care for this seriously wounded staff member."

Dr. John H. McDonough, a clinical psychologist, was the gold awardee in Category 2a, Outstanding Professional (Non-Supervisory) Technical, Scientific and Program Support. McDonough's nomination cited his contributions to understanding injury to the brain resulting from seizures induced by exposure to chemical warfare nerve agents; his international reputation as a subject matter expert; his scientific support for the advanced development of a new anticonvulsant treatment, midazolam; and his numerous peer-reviewed publications and citations of his work by other scientists. His nominating supervisor, Maj. Jose Pizzaro-Matos, chief of the Pharmacology Branch, also noted that in the past three years, McDonough has brought more than $14 million in funding to USAMRICD.

"His ability to secure funding," wrote Pizzaro-Matos, "shows that senior program management and major funding agencies respect and trust Dr. McDonough's ability to pioneer and complete studies on the most highly prioritized targets in medical chemical defense."

More than 40 years of service as "a scientist, manager, and representative of the U.S. Government" were recognized with Dr. David Lenz's receipt of a silver award in Category 9, Distinguished Public Service Career. Lenz, a research chemist, retired from USAMRICD last fall and was known particularly for "pioneering antidotes for chemical warfare poisoning, including the development of protein bioscavengers that reduce the medical consequences of nerve agent exposure," according to the nomination, which was submitted by his then branch chief, Capt. Robert Brodnick. Lenz was the principal investigator on a five-year, $14.5 million grant from the National Institutes of Health and the contracting officer's representative of an extramural research contract totaling more than $35 million. He also "led an integrated product team for pyridostigmine bromide prior to the U.S. Food and Drug Administration granting licensure for its use as a pretreatment to protect against soman poisoning [and] two additional projects for therapeutics that have been granted investigational new drug status." Lenz has authored more than 91 publications, nearly 150 meeting presentations, and 6 patents.

Tracey Hamilton, Denise Kniffin, James Hughes, Erin O'Keefe, Erin Sarricks, John Hengemihle, and Kathy Holmes make up USAMRICD's Comparative Pathology Support Team, which was honored with a silver award as the Outstanding Para-Professional (Non-Supervisory) Technical, Scientific and Program Support – Team, Category 3b. Stutler, chief, Research Support Division, cited the team's efficiency, dedication, communication, cross-training, and innovation and called them the most "finely tuned, technically proficient, customer-oriented, and cohesive team in our

continues next page

institute." In addition to supporting the USAMRICD research staff, the team provided histology support to the U.S. Army Public Health Command and electron microscopy support to the Edgewood Chemical Biological Center.

Team member Erin Sarricks also received a silver award in Category 10b, Rookie Employee of the Year–Technical Scientific and Program Support. Sarricks, a histology technician hired in July 2010, was nominated by O'Keefe, the comparative pathology laboratory manager. As a new employee, Sarricks immediately "assessed the current operations in the core histology laboratory and significantly increased laboratory efficiency by prioritizing workflow," clearing a seven-month backlog of work in only 44 days. The nomination also noted that in addition to providing superb histology support for USAMRICD research projects, Sarricks has the qualifications to support research for the U.S. Army Public Health Command at the Good Laboratory Practices level. Her initiative, technical expertise, and commitment "define her as a new young leader with unlimited potential and exemplify those characteristics so highly sought after in employees of any tenure," wrote O'Keefe.

Robyn Lee and Pauletta Adkins, the chairperson and coordinator, respectively, of USAMRICD's Institutional Animal Care and Use Committee, received a silver award in Category 4b, Outstanding Administrative Assistant/ Management Assistant – Work Group or Team. Nominator Stutler wrote, "the IACUC admin team led the way in identifying and implementing numerous business process improvements to enhance efficiency, accessibility, and responsiveness to facilitate research while maintaining regulatory compliance for this highly visible program." Among the initiatives that the team undertook were a first-ever IACUC training to educate the research staff, the planning and implementation of a Department of Defense IACUC forum for the exchange of information among DoD IACUC members, a reinvigorated in-house web site to provide optimal assistance to researchers, and the development of a post-approval monitoring program for research protocols.

Among the USAMRICD employees to receive bronze awards was Kathie L. King in Category 1b, Outstanding Supervisor - Grade 12 and Below. A supervisory animal facilities management specialist, King was nominated by Stutler for her contributions to the mission of the Research Support Division, her support of the institute's animal care and use program, and her outstanding supervisory skills, as demonstrated by her ability to perform the duties of each position under her supervisory control, and her willingness to do so when necessary.

Cristin C. Rothwell, a biologist, was nominated by Capt. Baishali Kanjilal, her branch chief in the Cellular and Molecular Biology Branch. Her bronze award for Outstanding Para-Professional (Non-Supervisory) Technical, Scientific and Program Support, Category 3a, was a result of her "dedication to our research mission" as "exemplified by her management of research budgets, laboratory ordering, and in conducting additional lab management duties during a time of transition for the laboratory."

In Category 4a, Outstanding Administrative Assistance/Management Assistant, Karen K. Clemens was nominated by Maj. Jose Pizarro-Matos. A support services assistant, Clemens demonstrated an "attention to detail and devotion to task completion" that, according to Pizarro-Matos, was instrumental in fostering "a better work environment for the [Research] division and has a tremendous impact on the success of the institute as a whole."

Louis Gizara, a maintenance worker in the Logistics Office, was described by his supervisor Denise Hott as "an extremely loyal and customer-focused employee" who "continually seeks improvements in laboratories and those areas that support the institute as a whole" in his nomination for Category 5, Outstanding Trades and Crafts (Non-Supervisory). Hott also noted that Gizara's "infectious enthusiasm has cultivated impeccable working relationships with a myriad of customers."

Lt. Col. Shannon Stutler received a bronze award in Category 8a, Volunteer Service – Individual. She was nominated by co-worker Maj. Venee Morthole, who cited Stutler's "tireless volunteer efforts to promote science education and the importance of biomedical research at the local and national levels." Much of Stutler's volunteer service is accomplished through her participation in several organizations. She is on the Board of Trustees for the American Association of Laboratory Animal Science, representing Washington, DC, Maryland, and Virginia, as well as an active council member for the National Capital Area Branch of the AALAS, for which she also served as chair of the Publicity Committee and as Learning Resources Center coordinator for the Program Committee. In addition, by request, Stutler served on the Legislative and Regulatory Advisory Committee and the Animal Welfare Committee for the American Society of Laboratory Animal Practitioners, as well as on the Council for Certified Professional Institutional Animal Care and Use Committee Administrators.

Cindy Kronman
USAMRICD Public Affairs

USAMRIID Senior Scientist Nominated for 2012 Service to America Medal

Dr. Arthur M. Friedlander, who has directed the development of new and promising vaccines for the nation's biodefense, was recently named as one of 33 finalists for the Samuel J. Heyman Service to America Medal.

The awards, sponsored by the nonprofit Partnership for Public Service, are given to outstanding federal employees who work behind the scenes to advance the health, safety, and well-being of Americans. Finalists were honored in Washington, D.C., May 9, as part of Public Service Recognition Week, and medal recipients will be announced on Sept. 13, according to the organization.

Sometimes called the "Oscars" of government service, the Service to America Medals are considered by many to be the most prestigious awards bestowed upon U.S. civil servants. Friedlander, a finalist in the Homeland Security category, has spent his 32-year career unraveling the mysteries of anthrax and plague infection and developing effective vaccines and therapies for these biological threats of national importance.

According to Col. Andrea Stahl, deputy commander for the U.S. Army Medical Research Institute of Infectious Diseases, Friedlander's contributions to the field began in the early 1980s. His work shed light on how anthrax toxins bind to and damage host cells and led to the development of a cellular and molecular model that is currently being used to evaluate new vaccines and therapies.

Beginning in 1990, Friedlander's research established the definitive evidence in animal models for effective postexposure antibiotic treatment to prevent inhalational anthrax. These studies had wide-ranging impact: They formed the basis for the Department of Defense's preventive medicine policy for managing potential aerosol anthrax exposures, led to adoption of the same management recommendations by the Centers for Disease Control and Prevention, and resulted in U.S. Food and Drug Administration approval of a new antibiotic for postexposure preventive treatment of the civilian community.

Friedlander also directed the USAMRIID research team that developed a new anthrax vaccine, which was shown to be highly protective in animal models of inhalational anthrax. That work led to the development of new anthrax vaccines that are currently in human clinical trials under the auspices of the National Institutes of Health. In addition, he led the research effort that culminated in the development of a new multicomponent plague vaccine at USAMRIID. This product, proven effective against pneumonic plague in animal models, also is currently in human clinical trials.

"Art continues to take an active role in biodefense research," Stahl commented. "Ordinarily, someone in his position would direct the research program but remain above day-to-day laboratory operations. Art works side by side with junior investigators to develop their skills while addressing complex scientific issues."

Friedlander earned his undergraduate degree from Harvard University and his M.D. from the University of Pittsburgh. He first became interested in microbiology during his college years and spent summers doing research. Later, while interning at an inner city hospital in Brooklyn, N.Y., he decided to make the study of infectious diseases his life's work. In 1979, he came to USAMRIID on active duty to work in the Army's infectious disease research program.

As an Army scientist, Friedlander was a strong leader and mentor for civilian and military investigators at USAMRIID. During his military career, he served as chief, Airborne Diseases; chief, Department of Pathobiology; and chief, Bacteriology. In his current role as senior scientist, Friedlander provides consultation and guidance to the USAMRIID commander, the U.S. Army Medical Research and Materiel Command leadership, and the DoD's Chemical and Biological Defense Program.

Friedlander is a Fellow of the Infectious Diseases Society of America and a recipient of the Department of the Army Research and Development Achievement Award and the Jay P. Sanford Award in Infectious Diseases from the Armed Forces Infectious Diseases Society. He also serves as adjunct professor of Medicine at the Uniformed Services University of the Health Sciences. He has published more than 130 research papers and book chapters, and is the most highly cited author in bioterrorism research for the period 1999–2008.

Caree Vander Linden
USAMRIID Public Affairs

U.S. Navy Captain Charts New Course

After nearly three decades of service, Capt. J. Christopher Daniel is "piped ashore" with his wife at the conclusion of his retirement ceremony at WRAIR June 19.

Photo by Phil Collins, WRAIR VI

After serving nearly three decades in the U.S. Navy, Capt. J. Christopher Daniel, deputy commander of the U.S. Army Medical Research and Materiel Command, retired from service during a ceremony held at Walter Reed Army Institute of Research, Silver Spring, Md. June 19.

A native of Elkins Park, Pa., Daniel graduated cum laude from Princeton University in 1980. He was commissioned as an ensign while attending Jefferson Medical College in Philadelphia, Pa., where he obtained his medical degree.

In attendance at the ceremony were 11 flag officers and Senior Executive Service personnel, including Lt. Gen. (Ret.) Eric B. Schoomaker, former U.S. Army Surgeon General; Dr. Ward Casscells, former Assistant Secretary of Defense for Health Affairs; Rear Adm. Michael H. Mittelman, U.S. Navy Deputy Surgeon General; and Maj. Gen. James K. Gilman, commanding general of the USAMRMC.

In August 2009, Daniel became the first Naval officer to serve as deputy commander of USAMRMC, a global organization of more than 6,500 military and civilian personnel tasked with managing and executing medical research, development, medical logistics, and acquisition for the U.S. Army to protect Warfighters and citizens around the world.

Reflecting upon his three years of service with Daniel within the USAMRMC, Gilman said, "Speaking personally, my regard for Chris transcends respect to a level of confidence that can best be described as ultimate trust. This level of trust and confidence is reserved for very few people, but Capt. Chris Daniel will always have a place of honor in that small group."

"We found common ground in those things which are most important in life," said Gilman. "Things like values, faith, and family."

While his assignment as USAMRMC deputy commander may be a "crowning jewel" in Daniel's storied military career, his list of national and international duty tours is rather long.

Included among the captain's early assignments are stints at the Naval Hospital San Diego, Naval Aerospace Medical Institute, and the Naval Hospital Subic Bay (Philippines) where he served as senior flight surgeon for NAS Cubi Point and director of Branch Medical Clinic Cubi Point. At the Naval Hospital at Camp Pendleton, Daniel served as family practice resident, and at the Naval Hospital Sigonella (Sicily), he founded and managed a Travel Medicine Clinic while also serving as head of its Family Practice department.

As an Adolescent Medicine fellow at the Naval Medical Center, San Diego, he achieved national recognition as an educator in preventive medicine services for adolescents, and as a researcher in the assessment of concussions sustained by adolescent athletes. During this particular tour, Daniel also served as chairman of the Society for Adolescent Medicine's international section of adolescent health professionals in training.

Although Daniel concluded his military service as part of an interagency collaboration serving within USAMRMC, his history is indeed as a naval officer, and this was no more

evident than in the words expressed by Mittelman.

"As Chris progressed through his career," said the admiral, "he ultimately assumed command of the Naval Medical Research Center … where he led and positively influenced Navy medicine's global enterprise with laboratories in Egypt, Peru, Indonesia, Ghana, and Cambodia. He enhanced the safety, readiness, and the performance of Navy and Marine Corps personnel."

"Through his interaction, both in direct health care and medical research," continued Mittelman, "Chris Daniel has had a positive impact on individual lives he's touched in clinical practice in the safety of both aviation and undersea warriors, how we deliver combat casualty and family-centric care, and potentially the health of millions in our military and around the world through his research initiatives."

At the Naval Medical Clinic in Annapolis, Daniel was responsible for the delivery of primary health care services to the Brigade of Midshipmen and other active duty forces. As chief of the Medical Staff and Optimization Champion, he also spearheaded a major transformation of health care delivery to all clinic beneficiaries.

Daniel is a Fellow of the American Academy of Family Physicians and is board certified by the American Board of Family Medicine. He received a graduate certificate in the Business of Medicine Program from Johns Hopkins University in 2002 and an MBA from Yale University in 2007 as a charter member of its Leadership in Healthcare Program.

His personal decorations include the Legion of Merit, Meritorious Service Medal (two awards), Navy Commendation Medal (five awards), Army Achievement Medal, Order of Military Medical Merit, and various unit awards and service medals.

Capt. J. Christopher Daniel, center, poses with family members during his retirement ceremony June 19.

Photo by Phil Collins, WRAIR VI

During his farewell speech, Daniel was very grateful to family, friends, and "shipmates" who came together for the ceremony. Above all, however, he highlighted the dedication shown by his wife throughout his military service.

"I would like to offer a special acknowledgement to the beautiful young lady in the front row who, 19 years ago today, became my wife," said Daniel. "I am so pleased that you agreed to say 'I do' on that day, and I'm also extremely thankful that you agreed to have this ceremony on our anniversary since I couldn't think of a better way to demonstrate that it is our whole family that has served, and it's our whole family that is completing our service."

Preparing to conclude his "watch" of more than 28 years, Daniel offered a final passage for the audience.

"It is so wonderful to share this day with all of you because I count all of you as very special friends," he said. "You remind me of how blessed I have been with every single one of my tours."

"I offer each of you a salute and a huge debt of gratitude," proclaimed the captain.

Upon his retirement, Daniel is looking forward to spending more time with his wife and two children and will continue to practice golf with his daughter who plays for her high school team.

Jeffrey Soares
USAMRMC Public Affairs

USAMRIID Study: DNA Vaccine, Duck Eggs Protect Against Hantavirus Disease

Along with other scientists at USAMRIID, Dr. Jay W. Hooper has been conducting research on a postexposure preventive treatment for hantavirus pulmonary syndrome, which has a case fatality rate of 35–40 percent.

Photo by Caree Vander Linden, USAMRIID

Scientists from the U.S. Army Medical Research Institute of Infectious Diseases along with industry collaborators have successfully protected laboratory animals from lethal hantavirus disease using a novel approach that combines DNA vaccines and duck eggs. The work appears in a recent edition of the online scientific journal *PLoS ONE*, published by the Public Library of Science.

According to senior author Jay W. Hooper of USAMRIID, this is the first time that the DNA vaccine/duck egg system has been shown to produce an antiviral product capable of protecting against hantavirus disease.

Hantavirus causes a condition known as hantavirus pulmonary syndrome, which has a case fatality rate of 35–40 percent. Currently, there are no vaccines, prophylactics, or therapeutics to prevent or treat this highly pathogenic disease.

In this study, the research team used a hamster model of Andes virus, which is the predominant cause of HPS in South America and the only hantavirus known to be transmitted person-to-person. Infection of Syrian hamsters with Andes virus, as demonstrated in earlier studies at USAMRIID, results in a disease that closely mimics human HPS in incubation time, symptoms of respiratory distress, and disease pathology. This makes it an ideal system for evaluating the feasibility of postexposure protection strategies.

Collaborating with Aldevron of Fargo, N.D., and the Universidad del Desarrollo in Santiago, Chile, Hooper and his team first evaluated a natural product, human polyclonal antibody, which was obtained as fresh frozen plasma from a patient who survived HPS. Their results indicate that FFP shows promise as a postexposure preventive treatment for HPS.

The team then vaccinated ducks with a DNA vaccine against Andes virus. This vaccine, initially developed and tested at USAMRIID, uses genetic material, or DNA, that encodes a specific hantavirus gene to elicit an immune response in the recipient.

Next, they purified an antibody called IgY from the yolks of the duck eggs. This purified IgY, as well as a similar version produced in duck eggs, was capable of neutralizing Andes virus when tested in cell culture. More importantly, it also protected Syrian hamsters from lethal HPS—even

when administered as a single injection several days after the hamsters had been exposed to a lethal dose of virus.

The work demonstrates the feasibility of using DNA vaccine technology, coupled with the duck/egg system, to manufacture a product that could supplement or replace FFP. Furthermore, the new approach can be scaled as needed, and it eliminates the necessity of using blood products from HPS survivors, which may be in limited supply.

According to Hooper, another advantage of this technique is that duck IgY naturally loses a part of the antibody that has been associated with "serum sickness" when animal antibodies have been used in humans, making the product potentially less reactogenic.

"This antiviral product, if fully developed and manufactured, has the potential to be used in future outbreak situations," Hooper said. "It also could be used to treat health care workers and others who have close contact with HPS patients."

In addition, the authors suggest that the flexibility of the DNA vaccine/duck egg system could be applied to the production of antibodies against other infectious agents and toxins.

Caree Vander Linden
USAMRIID Public Affairs

Col. William M. Stubbs relinquished command of the USAMMCE to Col. Thomas C. Slade June 27. Left to right: Stubbs, Maj. Gen. James K. Gilman, USAMRMC commanding general, and Slade.
Photo courtesy of USAMMCE

USAMMCE Holds Change of Command Ceremony

Col. William M. Stubbs handed over the U.S. Army Medical Materiel Center, Europe, colors and the USAMMCE mission to his successor, Col. Thomas C. Slade, during a ceremony held at Husterhoeh Kaserne in Pirmasens, Germany June 27.

"Col. Stubbs was an outstanding commander, and with him in command, I never had to worry about USAMMCE," said Maj. Gen. James K. Gilman, commanding general of the U.S. Army Medical Research and Materiel Command.

Gilman stated that with Slade at the helm, USAMMCE is in equally capable hands. The general is very familiar with both commanders; he knows Stubbs from his time at USAMMCE, and Slade has worked under Gilman at USAMRMC.

More than 200 guests and USAMMCE personnel said farewell to Stubbs as he was preparing to move on to become a full-time student at the U.S. Army War College in Carlisle, Pa.

The outgoing commander thanked his family, friends, and co-workers and vowed someday to come back to Germany. He said that he will miss his "hometown" of Weselberg, Germany, and all of his friends and neighbors there as well as everyone at USAMMCE. At the end of his speech, Stubbs quoted the late president John F. Kennedy by saying, "Ich bin ein Weselberger" (I am a Weselberger).

Incoming commander Slade was welcomed with open arms. Although he has never been stationed in Germany, Slade said he knows USAMMCE from a customer's perspective and is very excited to be its new commander.

The Soldiers of the 8th Medical Logistics Company, the 212th Combat Support Hospital, the Color Guard from the Landstuhl Regional Medical Center, and the German Soldiers of Paratrooper Battalion 263 joined USAMMCE Soldiers on the parade field. Music was provided by the U.S. Army Europe band.

Doris Crittenden
USAMMCE Public Affairs

Treating Hypotension Using Intrathoracic Pressure Regulation Therapy

Annually there are more than 11 million diagnoses of hypotension in the U.S. alone. These cases result from a variety of clinical conditions, including cardiac arrest, traumatic injury, head trauma, septic shock, and post-operative complications. Hypotension and shock resulting from hemorrhage account for 87 percent of the "potentially survivable" casualties among Warfighters, and another 12 percent of those who have traumatic brain injury result in elevated intracranial pressure.

In light of these statistics, the U.S. Army Medical Research and Materiel Command tasked its Combat Casualty Care Research Program at Fort Detrick, Md., with seeking out ways to lower the casualty figures related to conditions associated with hypotension/hemorrhagic shock. Eliminating or reducing hypotension and elevated ICP as quickly as possible has a life-saving impact on patient outcomes, and USAMRMC has partnered with Advanced Circulatory Systems, Inc. to solve this problem.

The result of this joint effort is intrathoracic pressure regulation technology. "IPR technology provides a simple, inexpensive, and noninvasive approach for the treatment of several clinical conditions that are common to both military and civilian medical emergencies," said Dr. Sylvain Cardin, portfolio manager for Forward Surgical/Intensive Critical Care within the CCCRP.

ResQVent: The ResQVent Intrathoracic Pressure Regulator.

Courtesy photo

"IPR therapy focuses on creating a vacuum inside the chest cavity to enhance circulation, increase blood pressure, and lower intracranial pressure," he said. "The vacuum pulls more blood back to the heart from the extremities, resulting in more blood being circulated, and this is actually a huge change from the traditional approach."

Dr. Vic Convertino, a senior scientist at the U.S. Army Institute of Surgical Research located at Fort Sam Houston, Texas, said, "This approach of enhancing circulation to the brain, heart, and other organs by using a small amount of resistance during inspiration to decrease pressure within the thorax is particularly eloquent because it takes advantage of a fundamental relationship between breathing and circulation that naturally exists."

Maintaining a long-standing, successful partnership with the Department of Defense and National Institutes of Health programs, ASCI has been built around a robust product research and development pipeline with both DoD and NIH Small Business Innovation Research funding through 10 Phase I awards and eight Phase II awards. The result of this research has been the development of three medical devices designed to enhance circulation to the heart, brain, and other vital organs: (1) ResQPOD® for nonspontaneously breathing cardiac arrest patients, (2) ResQGARD® for spontaneously breathing individuals suffering from severe hypotension, and (3) ResQVent™ for patients requiring assisted ventilation.

Launched in 2005, the ResQPOD has been shown to increase neurologically intact survival to hospital discharge rates by 53 percent in out-of-hospital cardiac arrest patients in combination with ACSI's CardioPump®. No other technology has had such a transformative and disruptive impact in the field of cardiopulmonary resuscitation, including a shift in American Heart Association doctrine of training for basic life support from airway-breathing-circulation to the current paradigm of emphasis on circulation through the teaching of circulation-airway-breathing.

"With regard to its military application, the ResQPOD has been placed on every emergency 'crash cart' at Brooke Army Medical Center and in the medical kits at the Battalion Aid Stations and air ambulances in the Operation Enduring Freedom theater," said Cardin. "This device has been shown to save more lives both inside and outside the hospital when used with high-quality CPR."

Released in 2009, the ResQGARD Impedance Threshold Device is an operationally useful and effective device designed to counteract the effects of severe hypotension and avoid the development of hemorrhagic shock, heat shock, and dehydration in combat casualties until more definitive treatment is available. Historically, more than

50 percent of all battlefield deaths and 87 percent of potentially preventable deaths are the result of hemorrhage and subsequent circulatory shock.

As with the ResQPODs, ResQGARDs have been placed in medical kits and air ambulances. This technology has proven life-saving benefits as demonstrated by a case of an intervention with this device at a Combat Support Hospital in Iraq with a combat casualty's life-threatening gunshot wound to the pelvis. Events such as this attest to the immediate impact that the ResQGARD has had on addressing important military needs—made possible with the support of military funding.

In 2012, ACSI will launch its next-generation device, the ResQVent, to deliver IPR therapy to the clinical and market segment not served by its existing products, specifically nonbreathing patients with TBI or shock in the military and emergency medical services markets. Developed under a DoD SBIR grant and an add-on commercialization pilot program contract, this device lowers elevated ICP in patients with head injury and increases circulation and blood pressure in patients with severe hypotension due to multiple causes, including blood loss, sepsis, and cardiac arrest. The ResQVent builds upon the physiological breakthroughs achieved with the ResQPOD and ResQGARD by harnessing the changes in pressure in the thorax to enhance circulation to the vital organs and lower ICP. It also functions as a lightweight, battlefield-ready, positive-pressure ventilator and continuous positive airway pressure device.

A primary use of the ResQVent is for treating one of the most important determinants of outcome from severe head injury, the degree and duration of elevated ICP, which reduces cerebral perfusion pressure and cerebral blood flow. Traumatic head and neck injuries account for 16–33 percent of all war-related injuries and are a leading cause of mortality upon evacuation to a definitive care setting.

The currently available models of the noninvasive circulatory enhancer technology can be carried and used by multilevel civilian emergency care and military personnel to treat low blood pressure secondary to: (1) hemorrhage, (2) heat shock, (3) dehydration, (4) orthostatic hypotension, and (5) cardiac arrest. The device can also be used by a combat medic to begin resuscitative efforts in situations where establishing intravenous therapy is not possible or practical and to increase blood pressure to facilitate establishment of intravenous therapy.

"The use of this technical innovation by the U.S. Army on the battlefield, by NASA for post-space flight care, and by personnel in the civilian EMS and acute care markets clearly demonstrates how cooperation between different federal government agencies and private citizens' investment can produce a deliverable product than can make a significant difference in combat theater," said Cardin.

This IPR technology has been recognized nationally with numerous awards, including the 2012 U.S. Army Small Business Innovation Research Achievement Award for "use on the battlefield and during transport for Soldiers with traumatic brain injuries and/or hypotensive emergencies."

"The development of ResQPOD, ResQGARD, and ResQVent is truly a SBIR success story," said Convertino. "No other technology in the history of the Army SBIR program has received two independent SBIR Achievement Awards for two different life-saving applications."

"It is nice to see what can be accomplished when many agencies come together in a synergistic manner to create a simple, yet very timely and useful, medical device for combat casualty care," said Cardin. "It also shows how basic physiology still has a place in today's high technology world."

Jeffrey Soares
USAMRMC Public Affairs

ResQPOD: The ResQPOD and CardioPump being used on a patient simulating cardiac arrest.

ResQGARD: The ResQGARD being used on a patient during low blood pressure.

Courtesy photos

Taking the Stress Out of Stress Management

Although the overall stress level for Americans continues to drop, this level still remains high and exceeds what most citizens consider to be healthy. Add in the factors of a military life, such as deployment, redeployment, and combat, and one can only conclude that our men and women Soldiers are most likely burdened with additional stressors unknown to the typical civilian.

The U.S. Army Medical Research and Materiel Command manages an active portfolio of Department of Defense- and U.S. Army-funded research that aims to develop and scientifically test different techniques to enhance an individual's ability to deal with stress effectively. Approaches that are currently under investigation include mindfulness-based methods, yoga, and mind-body approaches, along with other techniques such as stress inoculation, which may be beneficial across various settings.

"Stress is one of the leading contributors to preventable disease," said Dr. Deborah Morrone of the Frederick (Md.) Chiropractic Wellness Center. "It doubles the rate of heart and cardiovascular problems, substance abuse, and infectious diseases, and it may increase the average rate of some cancers by up to five times."

Morrone visited the Soldiers and civilians at Fort Detrick, Md., to present a seminar on proper stress management techniques. Not only did she provide facts regarding the impact of stress, but Morrone offered a number of suggestions to alleviate its negative effects.

"When you experience stress, your body responds by increasing the release of hormones such as cortisol and adrenaline so that your body goes into a state of 'fight or flight,'" said Morrone. "Too many people are stuck in this mode, and their stress response stays in high gear, which leads to chronic health problems."

She also said this fight or flight condition typically increases blood pressure, decreases digestion, and decreases the immune function for most people.

"Most people don't consider that these various symptoms might be all parts of the same problem," said Morrone. "The body functions as a whole integrated unit. By focusing on treating just the symptoms, the big picture often gets overlooked."

While these statistics may be alarming to many, Morrone says that a little self-care can go a long way. And the mantra she advocates is simple: Eat well, move well, think well.

Eat well

As the saying goes, we are what we eat, and this is critical when trying to fend off the negative effects of stress on one's body. A consistent intake of proper nutrients is important in helping the body to refuel in order to function and heal. A varied diet of whole, natural, unprocessed foods (100% whole grains, fruits and vegetables, meats and fish, nuts and legumes, and dairy products) is best. However, good-quality, food-based nutritional supplements are sometimes necessary and important to fill in the gaps of a less-than-perfect diet or for those with specific health challenges. Synthetic vitamins like those usually found in your average over-the-counter supplements may not work as well since the body will not absorb or use them as well as the combination of nutrients found in whole foods.

Morrone said chemical-laden processed "food-like" substances only add to the strain on the body by creating inflammation. Eating whole and minimally processed foods provides greater benefit to the digestive system and allows for greater absorption of nutrients. One should also be aware of undetected food sensitivities and allergies, as these keep the immune system and stress hormones running on "high," leading to chronic fatigue, digestive problems, and depression, among other things. As some of these symptoms may also be triggered by certain medications and drugs, typically listed among the side effects, one should be very careful when taking either prescription or nonprescription products.

Move well

"Physical activity works better than medication for depression," said Morrone. "It increases endorphins, which are your body's natural painkillers, improves lung capacity and heart function, and improves digestion by helping with movement of the digestive tract."

In her presentation, Morrone states 90% of the stimulation of and nutrition to the brain is generated by the spine. In light of this, one can see how important movement and proper posture are to common processes of the brain. As a chiropractor, Morrone specifically helps with these issues by identifying and correcting abnormal motion and strain in the spine, which in turns reduces abnormal stress and strain on the entire nervous system.

As nerve and joint function improves, overall stress levels in the entire body begin to improve.

The doctor also says forward head posture, or slouching, results in as much as a 30% loss of vital capacity of the lungs, and this shortness of breath can lead to heart and vascular disease. It should be quite clear that proper, full breathing is critical in maintaining good physical health.

"One of the biggest problems I see often in people dealing with stress is that they just don't breathe or move normally," said Morrone. "Their shoulders are hunched up tight and they forget they have to breathe! You can clearly see the tension in their body posture."

Think well

Morrone says there are basically two types of problems: those you can do something about and those you cannot do anything about. She suggests making a list of all of the stressors in one's life without thinking too much about each. Her advice is to just sit down and start writing and, once the list is compiled, take a look at what is on the paper.

"When you see the list of items, one by one, in black and white," said Morrone, "then you have to ask yourself, 'What is really important? Will this problem matter 10 minutes from now, 10 days from now, 10 months from now, or 10 years from now?' If not, let it go and move on to the next problem, and soon you'll see that most of the things troubling you aren't really major problems at all."

As the crux of Morrone's advice is to "chunk it down" to the next simplest step, she recognizes some problems need to be faced and resolved before one can move forward. Her best advice for this task is to establish firm guidelines to address these problems within a reasonable time frame.

The main questions to ask are: When will you do it, what resources will you need, and where can you find these resources? For example, if your finances are a cause of stress, a good accountant or financial planner can help you to get organized and set goals and priorities. If you are having health issues, resources can and should include health care professionals who are willing and able to look beyond treating the obvious symptoms to help you effectively address the underlying problems.

If problems can be addressed one at a time, the success rate for resolution should be high while the anxiety generated by each task should be lessened. This remains the primary goal of stress management: taking away, one at a time, each factor that increases one's level of anxiety. For many, often this is easier said than done, but a focused, sincere effort is usually all that is needed to bridge the gap between saying and doing.

And when it comes to managing stress, "doing" is the most important part. As Morrone says, no one is actually forced to be a "stress mess." Stress is not what happens to you, it is how you choose to respond to what happens to you. Ultimately, you control the amount of stress in your life. This means that the stress and tension you feel each day is not everyone else's fault. It's your choice.

One should keep this simple advice in mind the next time stress levels begin to rise. Instead of viewing the anxiety as an overwhelming rollercoaster ride rushing you along, think of it as a children's ride that you can get off of at any time. Just like being at an amusement park, you can hop on whichever rides you like, at any time. The choice is up to you.

Jeffrey Soares
USAMRMC Public Affairs

While various factors can influence the amount of stress one may experience, proper management techniques can help control the negative effects of stress.

Photo courtesy of DVIDS

A Change of Responsibility ceremony took place at USAMMCE April 17 as Sgt. 1st Class Robert White assumed charge from Staff Sgt. Jose Martinez.
Photo courtesy of USAMMCE

USAMMCE HHD Conducts Change of Responsibility Ceremony

The U.S. Army Medical Materiel Center, Europe, Headquarters and Headquarters Detachment conducted a Change of Responsibility ceremony April 17. Soldiers, officers, family members, friends, and co-workers came out to watch as the non-commissioned officer sword was passed from Staff Sgt. Jose Martinez to Sgt. 1st Class Robert White. Although the NCO sword is no longer part of an NCO's equipment, it is used in ceremonies to symbolize the transfer of responsibility for the unit's Soldiers to new hands. It reminds the Soldiers that the new detachment sergeant is responsible for order and discipline in the unit, and it reminds the sergeant of his responsibility to care for his troops.

In his farewell speech, Martinez said that it saddened him to leave the unit where he found many friends and mentors both American and German over the four years he was assigned to USAMMCE. Martinez moves on to his new assignment at Brooke Army Medical Center, Fort Sam Houston, Texas, to work as an optical laboratory specialist.

Doris Crittenden
USAMMCE Public Affairs

Lt. Col. Shon-Neil W. Severns, outgoing commander of USAMMC-K, accepts the flag from Maj. Gen. James K. Gilman, USAMRMC commander, as he prepares to relinquish command to Lt. Col. Kevin E. Cooper during a ceremony at Camp Carroll, South Korea, June 1.

Photo courtesy of USAMMC-K

USAMMC-K Welcomes Its Second Commander

The U.S. Army Medical Materiel Center, Korea, held a change of command ceremony on post at Camp Carroll, South Korea, June 1. Overseeing the official ceremony was Maj. Gen. James K. Gilman, commander of the U.S. Army Medical Research and Materiel Command.

Chosen as the first commander of USAMMC-K in October 2009, Lt. Col. Shon-Neil W. Severns relinquished his command to Lt. Col. Kevin E. Cooper in front of family, friends, staff, and Soldiers.

Arriving from an assignment as executive director of the 6th Medical Logistics Management Center, Fort Detrick, Md., Cooper and his family are actually returning to Camp Carroll as he previously served as executive officer for the 16th Medical Logistics Battalion between 2005 and 2007. Cooper's other assignments include chief of Plans and Operations for the U.S. Army Medical Materiel Agency, Fort Detrick, and commander of the U.S. Army Medical Materiel Center – Southwest Asia in Doha, Qatar. The incoming commander is the recipient of numerous military awards and decorations, including the Bronze Star Medal.

Severns and his family will now head to Warren, Mich., where he will serve as program executive officer for Combat Support Services for the U.S. Army Tank Automotive Command Life Cycle Management Command.

Jeffrey Soares
USAMRMC Public Affairs

A Family: Five Years After Adoption

Karen and Sophia sharing an embrace as mother and daughter.

Photo courtesy of Karen Sellers-Myers

The Merriam-Webster dictionary defines the word "adopt" as "to take by choice into a relationship; especially: to take voluntarily (a child of other parents) as one's own child."

For Karen Sellers-Myers, safety monitor for Clinical Services Support Division of the U.S. Army Medical Materiel Development Activity, adoption was the only choice after meeting a special little girl in the Republic of Georgia five years ago. This adoption story is different, however, because this particular little girl was born with a disability, a cleft lip and palate.

While working as a nurse in the Medical Division of the U.S. Army Medical Research Institute of Infectious Diseases in 2004, Sellers-Myers made several trips to the Republic of Georgia, located at the crossroads of Western Asia and Eastern Europe. During one trip, she visited a local orphanage after learning of a child with facial deformities. The description she received of this child sounded like a double cleft palate, which Sellers-Myers knows about all too well, having herself been born with the same deformity.

"When I met this little girl, we immediately formed a connection and I knew that I had to help this child in some way," said Sellers-Myers.

When a medical adoption, which covers all medical expenses while the child stays in her native country, could not work out, it seemed that adopting the child into her family as her own was the only option. On Christmas Eve 2007, Sellers-Myers traveled once more to the Republic of Georgia—this time to pick up her new four-year-old daughter whom she named Sophia.

"The most rewarding part of adoption has been having a front row seat to a miracle. She humbles me daily with her zest for life and her compassion and care for others," said Sellers-Myers.

Sophia will be nine years old on June 12, and is enjoying being a part of a family. For the past five years her family has embraced her as one of their own. Sophia has come into a family with three grown sisters, three nieces, and one nephew.

According to Sellers-Myers, "She has an open understanding that family is not only those that 'come out of your belly.' She asks every day, 'who is coming over?' We have a wall chart that she lists out not only the by blood family but those that are family of the heart."

"Sophia has memories of a time that was not so pleasant, and she chooses to be happy with the most basic of

life in the U.S. Sophia likes to say, 'I have family.'"

Sophia was living in an orphanage in a third-world country with no hope for medical assistance for her condition. The orphanage did not have the means to care for a special needs child, and all it would take is one cold or sinus infection that could have killed her. Today, she has the advantage of living in the Washington, DC/Baltimore metro suburbs with some of the best physicians in the country to care for her. Sophia has undergone 13 surgeries to date to help correct her double cleft palate. It has been a major process for such a young child to go through and something that would not have been possible while living in the Republic of Georgia.

"She will have several years now until her next major series of surgeries, once it is determined that her facial bones have matured and she has stopped growing," said Sellers-Myers.

At that time she will have several surgeries that will include placing spacers a little more than an inch long in the upper jaw. Four to six weeks later, the spacers will be removed and bone from her hip will be inserted to 'grow' her upper jaw, which will give her face a more normal look and will improve her speech and chewing. In addition, bone will be harvested from her nose (she will get a nice nose job) and then more oral surgery for implanted teeth.

Sellers-Myers hopes to travel to the Republic of Georgia soon and continue a friendship for Sophia that was started last year with a little girl named Gvantsa, who traveled from the Republic of Georgia to stay with them at their home in Pennsylvania for 10 days.

"We hope to foster an international friendship between [the United States and Republic of Georgia] so that Sophia may have positive memories about her birth country," explained Sellers-Myers.

Along with the everyday changes for Sophia, she has gained a wealth of knowledge by the educational advantages for a child living in the United States.

According to Sellers-Myers, Sophia has attended several schools as she has progressed with her learning. Most recently, she attended Scotland Elementary in Chambersburg, Penn., utilizing the hearing-impaired whole language classroom.

"Sophia's favorite class is gym or computer. Library is her least favorite because she has to sit still and listen, hard for her as she is a girl on the move with constant questions."

In fall 2012 Sophia will begin third grade at Shalom Christian Academy in Chambersburg.

Sophia plans to become a doctor when she grows up so that she can help other people the way so many doctors have helped her. The health care field seems to run in the family, as all three of her adult sisters and her mother are nurses. There is something beautiful about this particular family not just professionally helping others but truly making a difference in the world and certainly a world of difference for Sophia.

Erin Bolling
USAMMDA marketing assistant

[Editor's Note: This story referenced "'She Wakes with a Smile' Girl Finds New Home, Better Life with Nurse" by Caree Vander-Linden, USAMRIID Public Affairs, and published Thursday, March 13, 2008.]

Sophia before her adoption in 2007. *Photo courtesy of Karen Sellers-Myers*

USARIEM Researcher Awarded Top White House Award for Scientific Excellence

A young researcher from the U.S. Army Research Institute of Environmental Medicine has received top honors for scientific excellence.

Dr. Maria Urso will receive the Presidential Early Career Award for Scientists and Engineers at the Smithsonian Museum of Natural History July 31. She will also go on a White House tour and meet the President as part of the whirlwind honors of this award.

Urso will be among nearly 100 other budding scientists and engineers who receive this year's award based on scientific merit as well as involvement in the community. The PECASE is the highest honor bestowed by the U.S. Government on science and engineering professionals in the early stages of their independent research careers.

"Discoveries in science and technology not only strengthen our economy, they inspire us as a people," President Obama said. "The impressive accomplishments of today's awardees so early in their careers promise even greater advances in the years ahead."

Urso, who has worked in USARIEM's Military Performance Division at Natick Soldier Systems Center in Natick, Mass., since 2006, received the award for her scientific contributions in the area of cellular mechanisms of musculoskeletal injury and repair and for her incredible service to both military and civilian communities.

"Getting this award is the greatest thing to happen to me," Urso said. "To be recognized for the work you are doing, the work you plan to do, and the contributions you have made to the community. There is no greater honor at this point in my career. I still cannot grasp the fact that I was selected."

After receiving a bachelor of science and a master of science in kinesiology from University of Rhode Island in Kingston, R.I., in 1997 and 2000, respectively, Urso followed that up with a doctor of philosophy in kinesiology from the University of Massachusetts in Amherst, Mass., in 2006. Urso was then commissioned and served four years in the Army as a captain at USARIEM and has stayed on as a civilian since 2010.

Her work at USARIEM includes conducting basic science research in skeletal muscle cell signaling physiology. Her focus is on the discovery and evaluation of novel therapeutics in mitigating skeletal muscle injury in response to damaging exercise, ischemia reperfusion (use of tourniquets and surgical procedures), and blunt-force trauma and blast injury.

Urso is incredibly involved in mentoring and serving the community. Her lengthy list of community outreach includes co-chair of the American College of Sports Medicine Cellular and Molecular Biology Interest group, a Fellow of the ACSM, program committee member for the ACSM, and committee member for the Women in Physiology group of the American Physiological Society.

An avid teacher, Urso also serves as a mentor for two full-time Oak Ridge Institute for Science and Education students in her laboratory, is a research advisor for a doctoral student at the University of Massachusetts

Amherst, and volunteers to speak several times a semester at various universities to students about career opportunities in research.

With all that, Urso still has the energy to run marathons. She is a member of the All Army Women's Marathon team and competed with the team for three years. She will compete again this year as a reservist.

Her vast service to both the military and civilian communities and drive for scientific excellence led to her nomination for this award, first by her boss then the institution, both to whom she is very grateful.

"Without the continued support, encouragement, trust, resources, and opportunities given to me by everyone at USARIEM, not one accomplishment on my vitae would have been possible," Urso said. "The prestige associated with this award puts USARIEM on the same ground as other research and academic institutions that are at the forefront of innovative scientific discovery."

USARIEM provides solutions to optimize Warfighter health and performance through medical research. USARIEM is recognized by many Department of Defense organizations as the trusted leader in medical research for Warfighter health and performance.

As for Urso, she plans to keep reaching for the stars.

"I am working on three exciting projects right now that range from product development for muscle injury diagnostics to therapeutic interventions to minimize muscle injury and facilitate time to recovery," Urso said. "I plan to keep up the innovation and pace of this research so that we can reduce costs to the military and provide important musculoskeletal treatment measures."

Kelly Souza
USARIEM Public Affairs

Dr. Maria Urso, a researcher from the U.S. Army Research Institute of Environmental Medicine at Natick Soldier Systems Center in Natick, Mass., will receive the Presidential Early Career Award for Scientists and Engineers at the Baird Auditorium at the Smithsonian Museum of Natural History July 31.

USAARL

Legion of Merit
Col. Jeffrey L. Weaver

Meritorious Service Medal
Lt. Col. Kristen L. Casto
Capt. Nicholas R. Spangler
Sgt. 1st Class George E. Spann

Army Achievement Medal
Capt. Michael Dretsch

Soldier of the Quarter
Spc. Sarah Red

Command Sergeant Major Coin
Stacey Brunson
Sgt. Kathleen Caplinger
Spc. Brian Laskowski
Staff Sgt. David Lopez
Pfc. Monica Manalo
Spc. Sarah Red

Command Sergeant Major Hustle Award
Maj. Tim Cho

Superior Civilian Service Award
Debbie Cain

Certificate of Appreciation
Staff Sgt. David Lopez

Achievement Medal for Civilian Service
Dr. Ben Lawson
Dr. Angus Rupert

Commander's Award for Civilian Service
Dr. Heber Jones
Dr. Amanda Kelley
Elizabeth Stokes
Catherine Webb

Coin from AMEDD Civilian Corps Chief
Dr. Heber Jones

30 Years of Government Service
Elmaree Gordon

20 Years of Government Service
Leslie Wills

10 Years of Government Service
Alan Roddy

Certificate of Achievement
Vicky Anderson
Alex Austermann
Kevin Baugher
Lt. Col. Kristen Casto
Jim Chiaramonte
Sgt. Ebony Grant
Spc. Brian Laskowski
Steve Martin
Spc. Stanslaus Simiyu
Spc. Josue Sosa
Robert Williams

Promotions

March
Maj. Jonathan Deeter

May
Spc. Yesenia Contreras

July
Maj. Antonio D. Blue

AFRIMS

Meritorious Service Medal
Lt. Col. Joseph Novak

6MLMC

Meritorious Service Medal
Lt. Col. Kevin Cooper

USAMRAA

Army Commendation Medal
Maj. Bryan K. Preer

USAMRIID

Meritorious Service Medal
Col. Terry Besch
Capt. Deann M. Callan
Capt. Andre C. Chance
Maj. Mark G. Chappell
Sgt. 1st Class Sabrina Goshay
Capt. Monique S. Jesiononwski
Staff Sgt. Daniel B. Jones
Sgt. 1st Class Jesse A. Kaplan
Lt. Col. Jennifer Kishimori
Maj. Charles Marchand
Lt. Col. Douglas Stratton
Capt. Rebecca Sutphen
Staff Sgt. Anita Teadt
Lt. Col. Nicholas J. Vietri

Promotions

April
Sgt. Marcy Rubin Henkemeyer
Spc. Leleah Melissa Hopkins
Sgt. Chase Allen Miles
Sgt. Jesse Tiernan Shiflet
Sgt. Olga Maria Tunoa Scanlan

May
Maj. Amy Field
Spc. Justine Melgoza Lopez
Sgt. 1st Class Luis A. Santiago

June
Maj. Jaspal Ahluwalia
Maj. Deann Marie Callanan
Spc. Shaunna Leeann Davis
Spc. Vu Nguyen Khuong
Spc. Brian Joseph Pyles

July
Maj. Darci R. Smith

USAMRMC

Legion of Merit
Lt. Col. Judith Buchanan
Col. Alec S. Hail
Col. Ronald Poropatich
Col. Thomas C. Slade
Col. Harry F. Slife

Meritorious Service Medal
Capt. William J. Cook
Maj. Yun H. Fan
Maj. Cynthya A. Hammer
Lt. Col. David G. Heath
Col. James F. Koterski
Col. Julia A. Lynch
Maj. Denise M. Milhorn
Lt. Col. Shannon Morningstar
Capt. Aaron Northup
Master Sgt. Lucille L. Yancey

Army Commendation Medal
Capt. Alexeis F. Carter
Sgt. 1st Class Tearle Wright

Promotions

April
Col. John Michael Scherer

May
Sgt. 1st Class Chad Alexander Dyches

June
Maj. Parnell Coleman
Col. Sang Joon Pak

USAMMC-K

Legion of Merit
Lt. Col. Shonneil Severns

USARIEM

Legion of Merit
Col. Gaston Bathalon

Meritorious Service Medal
Capt. John T. Lavoie
Maj. Kathleen E. Yancosek

WRAIR

Legion of Merit
Col. Arthur Brown

Meritorious Service Medal
Lt. Col. John D. Belew
Sgt. 1st Class Maria Bowser
Maj. Michelle Colacicco-Mayhugh
Maj. Song Gotiangco
Capt. Richard Heipertz
Maj. Jacob D. Johnson
Capt. Sheila M. Johnson
Col. Michael P. Kozar
Lt. Col. Louis R. Macareo
Maj. Jittawadee Murphy
Col. David W. Niebuhr
Lt. Col. Sandi K. Parriott
Maj. Adam J. Peters
Sgt. 1st Class Michael Roane
Lt. Col. Maurice L. Sipos
Capt. Brett Swierczewski
Lt. Col. Jeffrey Thomas
Capt. Richard Wood
Col. In-Kyu Yoon

Promotions

April
Maj. Silas Andrew Davidson
Maj. Vanessa R. Melanson
Pfc. Zachary David Stewart

May
Sgt. Carlos Javier Diazrivera
Lt. Col. David Lawrence Saunders
Sgt. Jennifer Dawn Wright

June
Spc. Robert Anthony Catalano III
Spc. Jerry Vonzell Frink, Jr.
Col. Mitchell Scott Meyers
Lt. Col. James E. Moon
Sgt. 1st Class Javier Lorenzo Najera
Maj. Jeff Tzeng

USAMMA

Legion of Merit
Col. Christopher Harrington
Col. Gregory Evans

Meritorious Service Medal
Staff Sgt. Leeaudrey L. Armstead
Staff Sgt. Juan F. Buitragoquijano
Master Sgt. Tomothy L. Dess
Lt. Col. Kim J. Hilliard
Master Sgt. Burchell Stephen

Promotions

May
Sgt. Matthew James Dulniawka
Staff Sgt. Josue Riverarosado

June
Maj. Francisco Marchesegonzalez
Staff Sgt. Leah Sherri Walker

USAMMCE

Legion of Merit
Col. William M. Stubbs

Meritorious Service Medal
Staff Sgt. Jose J. Martinez
Chief Warrant Officer 4 Wendell Johnson

Promotions

April
Sgt. Grady Clark, Jr.
Sgt. Justina Leigh Cuevas
PV2 Dominque Robert Williams

May
Sgt. Jason Timothy Roth

June
Staff Sgt. Rene Javier Levy

USAMRICD

Legion of Merit
Col. Peter Schultheiss
Lt. Col. Shannon Stutler

Meritorious Service Medal
Capt. Doug Cline
Capt. Jennifer Evans
Capt. Sang Ho Lee
Lt. Col. Lee Lefkowitz
Lt. Col. Jason Nelson
Staff Sgt. Melinda Rodriguez
Col. Deborah Whitmer

Army Commendation Medal
Sgt. 1st Class John Evans
Sgt. 1st Class James Mitchell
Staff Sgt. Adam Peterson
Maj. Jose Pizarro

Military Outstanding Volunteer Service Medal
Sgt. 1st Class John Evans
Sgt. 1st Class Timothy Frock

Army Achievement Medal
Spc. Francisco Calderon
Sgt. Darren LaChausse
Sgt. Zachary Phillips
Spc. Yiashira Vega-Conde

Good Conduct
Spc. Danielle Vaughn

30 Years of Service
Offie Clark
Fred Oviatt

15 Years of Service
Greg Smith

10 Years of Service
James Dillman
Lucille Lange

5 Years of Service
Karen Clemens
Donald Mathis
Chris Newton

Commander's Award for Civilian Service
Angela Adkins
Billy Jo Benjamin
Betty Benton
Devona Davis
John Graham
Dick Heitzer
Denise Hott
Charles Hurst
Deborah Lee
Megan Lyman
Melanie Murrow
Marian Nelson
Chris Newton
Sherwin Sapasap
Greg Smith
Ken Snyder
Joyce Twitty

Achievement Medal for Civilian Service
Pat Adams
Andrea Ashe
Daniel Boehm
Jovon Harris
Thomas Hott
Melissa Johnson
Suaquita Perry
Diana Phillips
Wanda Waldon
Rachel Whisman

Promotions

May
Sgt. Darren LaChausse

July
Sgt. Francisco Vaca

USACEHR

Promotion

June

Col. Richard Peter Duncan

USAISR

Legion of Merit

Lt. Col. Kevin Armstrong
Col. Lorne Blackbourne

Meritorious Service Medal

Capt. Norma R. Alaniz
Maj. David A. Allen
Lt. Col. Lynn Blanke
Lt. Col. Kevin K. Chung
Lt. Col. Vernell R. Flood
Lt. Col. Lisa M. Johnson
Sgt. 1st Class Harrison Jules
Staff Sgt. Tony E. Hill
Maj. Kimberly F. Lairet
Maj. Jonathan Lundy
Capt. Christina L. Moore
Staff Sgt. Oscar Moreno
Lt. Col. Keith C. Palm
Staff Sgt. Michael Plunkett
Sgt. Glen M. Rossman
Capt. Patricia M. Schmidt
Staff Sgt. Danielle M. Smith
Capt. Darci R. Smith
Lt. Col. Christopher White
Lt. Col. Richard Williams

Promotions

April

Sgt. Cedric Stephon Mason

May

Spc. Lorincio Remedio Bacus, Jr.
Sgt. 1st Class Russell Dean Gilmore
Staff Sgt. Tirana Demond Ward

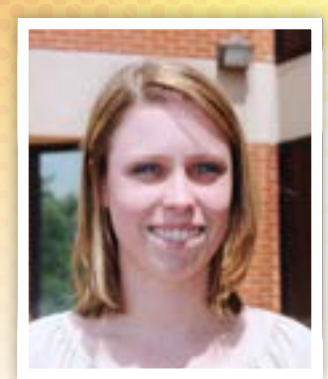
June

Maj. Jacob Joseph Hansen
Staff Sgt. Erick William Pisauro

USAG

Meritorious Service Medal

Command Sgt. Maj. Federico Boyce



USAMRMC Student Spotlight

Catherine Davis, U.S. Army Aeromedical Research Laboratory

Catherine Davis is a student at Troy University, working as USAARL's public affairs specialist.

How long have you been working at USAARL?

I have been working at USAARL since May 2009 while attending Troy University, pursuing a bachelor's degree in business with a concentration in marketing.

What do you think of USAARL after being here for 3 years?

USAARL is a great place to work. USAARL personnel include Department of the Army civilians, contractors, and military members who are more than willing to help in retrieving information. I have met brilliant scientists and very helpful mentors, and I am grateful to USAARL and those who have helped me gain experience and knowledge.

How did you get interested in public affairs?

I have always enjoyed contributing to marketing efforts throughout my career. I wanted to expand my knowledge and learn about public relations in the Army.

What's the best thing about working at USAARL?

The best thing about working at USAARL is that I am able to learn about Army research and gain experience in the public affairs field.

What do you hope to do after graduation?

Upon graduation in July 2012, I will be transitioning into a DA civilian position through the Student Career Educational Program. I will also begin a basic public affairs specialist course through the Defense Information School in July 2012. This course will allow me to gain an exponential amount of knowledge about Army public affairs in 28 weeks.

Are you interested in remaining with USAARL or moving into the private sector?

Since I will be transitioning into a DA position (public affairs specialist), I will remain a part of the USAARL family.

Are there any final thoughts you would like to share?

USAARL is an amazing place to work with intelligent and helpful personnel.