NSSC This Mon

U.S. Army Garrison Natick Pu s Offi

CSM's Corner

Command Sgt. Maj. Erika M. Gholar
USAG Natick Command Sergeant Major

Flexible and Understanding

In today's "resource-constrained" environment, attention to detail seems to get lost in the shuffle of completing projects and assignments.

I ask the leaders and workforce of NSSC to be flexible and understanding when communicating directives from higher to obtain the desired results. As leaders, we owe our employees and military personnel clear and precise instructions.

I would like to highlight changes forthcoming with force reshaping, training opportunities and managing expectations across the Department of Defense and the military services.

DoD began reviewing its workforce and military populations in FY 2013 to streamline all of its organizations. The military forces have already begun to decrease in numbers to provide smaller and more agile, rapid-deploying forces.

Many service members will be released from service not due to lack of skills or a desire to serve, but because of Congressional mandates to reshape our forces, while providing the same technically and tactically competent forces across all services. Our military and civilian workforces must be prepared or afforded the opportunity to adequately equip themselves for exiting DoD and potentially entering corporate America.

NSSC teammates should take advantage of courses provided by our Army Community Service team in Building 38 on financial management, resume writing, relocation services; job opportunity listings (CPAC announcements); and literature on subject areas or agencies that can assist personnel leaving our ranks and workforces.

DoD has always provided great educational opportunities for its service members and employees to grow more technically sound. Leaders at every level are encouraged to send personnel to mandated training based on position requirements. Lack of initiative and interest is a failure to grow technically and professionally within DoD and to retain the best workforce or service members possible.

Leaders must ensure we're retaining and recruiting the best-trained, best-qualified and technically competent employees and service members.

As our nation's leaders impose tougher guidelines and priorities on DoD to reshape our forces, workforces and budgets, managing expectations at all levels has grown increasingly challenging. Our leaders must speak often with subordinate leaders and personnel when managing the expectations and maintaining healthy teams.

We have to teach our teams how to balance against stress by using resiliency and other skills while being flexible through changes put forth by our nation's leadership.

Lt. Gen. David D. Halverson, the IMCOM commanding general, said it best: "Your personal involvement sets the conditions for success."

Our personnel can accomplish any task we are given, but as leaders we must manage and provide clear understanding as our team is transforming.

Erika M. Gholar

Command Sgt. Maj. Erika M. Gholar
USAG Natick Command Sergeant Major

NSSC This Month

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An

On the morning of May 5, an assailant with an automatic weapon opened fire in the cafeteria of the Lord Community Center at Natick Soldier Systems Center, killing five people and wounding four others before being shot and killed by security personnel.

"Shots fired," a voice had crackled over the radio minutes earlier. "Building 32."

"Ten-four," came the reply. "We're responding."

Fortunately for all those involved, this was a simulated attack and part of a two-day, annual antiterrorism and emergency management full-scale exercise at NSSC that featured cooperation between installation security personnel and local first responders.

"We have a very good relationship with Natick Fire and Police, and not just fire and police, but all the first responders, as well as the medical examiner's office, (which) has been built over a number of these exercises," said Lt. Col. Brian Greata, U.S. Army Garrison Natick commander. "So we're very comfortable working with all of them."

In addition to the simulated shooting, the exercise's first day included a suspicious package found in the mailroom and a suspicious vehicle reported near Building 92. On the second day, a simulated bomb in that vehicle exploded.

Directorate of Emergency Services police had responded to the simulated shooting incident, killing the attacker. Personnel from the U.S. Army Research Institute of Environmental Medicine treated the victims at a casualty collection point less than 100 yards from the crime scene. They were then transported by ambulance to a local hospital.

The installation was placed on lockdown while DES and Town of Natick police searched for other possible shooters. The USAG Natick Crisis Management Action Team conducted operations at various lockdown locations until it was safe to report to the Emergency Operations Center.

A little more than an hour after the initial attack, the NSSC mailroom reported receiving the suspicious package. Again, base police responded and then called for an explosive ordnance disposal team. The package was detonated, and no one was injured.

The second-day simulated bombing brought first responders from the community, and a shelter-in-place order was issued to the installation. The wounded were treated and taken to a local hospital.

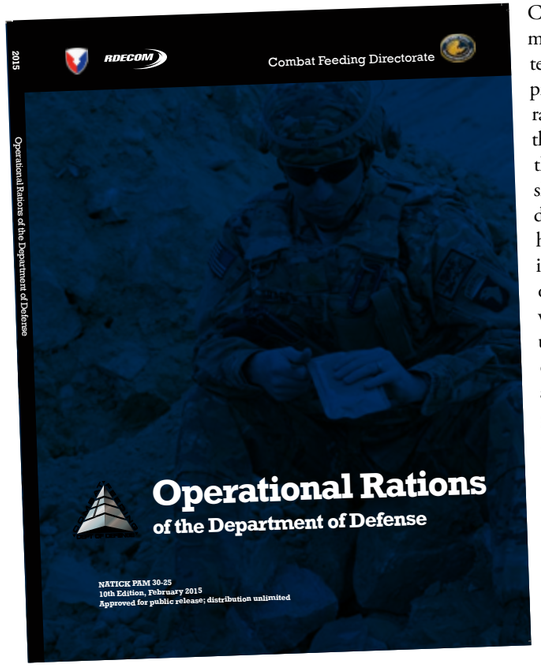
The simulated attacks resulted included 14 killed — including the active shooter — and 15 wounded. An Emergency Family Assistance Center was set up in downtown Natick to help those affected by the incident.

First responders from the installation and the town agreed that the exercise provided a valuable joint training opportunity.

"It's a collaboration that happens 12 months a year, all the little things that we do in preparation for anything that might occur out of the ordinary," said Lt. Brian Lauzon of the Natick Police Department. "It's very important that we stay connected."

Scott Woodward, a DES police officer, agreed with that assessment.

"I think the number one (thing) is consistently training with the community so we're all on the same page," Woodward said. "When we do this on a continuing basis, we feel more comfortable. It fosters and promotes … trust."



Combat Menu

Natick serves up new ration book

By Bob Reinert, USAG-Natick Public Affairs / NATICK, Mass. (May 12, 2015)

Let's call it the American military's latest combat menu.

That might be easier to swallow than its official name: "Operational Rations of the Department of Defense." Either way, it boils down to the offerings of the DoD Combat Feeding Directorate at the Natick Soldier Research, Development and Engineering Center.

In its generous serving of 72 pages, the 10th edition of Combat Feeding's ration book dishes out a history of combat rations and their present state. Maybe they are not four-star restaurant quality, but Combat Feeding's 24-menu options include everything from the familiar Meals, Ready-to-Eat, or MREs, to such special purpose rations as religious meals and those used in humanitarian situations.

"We want the warfighter to know what is out there and what's going to be coming their way," said Michael Stepien, Combat Feeding program marketing analyst. "Our team works very hard to provide a wide variety of rations to accommodate the diverse members of the military. This book showcases the amount of dedication our directorate has to constantly upgrading the variety and quality of rations available to the warfighter. We can also use the book for different outreach events to tell the story of the amazing work going on within Combat Feeding."

If, as Napoleon Bonaparte famously observed, an Army marches on its stomach, the ration book is a road map to the destination of satisfying a voracious organization that has been eating military rations since the American Revolutionary War. The book debuted in 1950 and was last published in 2012.

"Moving forward, the goal is to publish it annually as the menus change," said Stepien, pointing out that the 2015 version is currently available online.

The current ration book has compelling imagery and feature stories about Combat Feeding to accompany the usual information about available items. Philip Fujawa of NSRDEC Strategic Communications, who provided art direction for the publication, designed it to be easily digested.

"It ties in the work that goes on and how it applies to the menus," Stepien said. "There's an enormous amount of work that goes on behind the scenes here that most people aren't aware of. Our project officers deserve a great deal of credit for constantly focusing on innovative methods to improve our rations and increase the quality of life for our warfighters. Featuring highlights of their work helps tell the story of what it takes to build a combat ration."

Combat Feeding strives to give warfighters a taste of home in some of the most inhospitable places on Earth.

"Soldiers work in such harsh and extreme environments, and they require the right nutrition," Stepien said. "We wanted to make sure that this book discusses the nutrition aspect and we're able to convey through the imagery the challenges that our Soldiers face throughout their deployments and how we, as Combat Feeding, work to supply them with the rations they need to ensure they're able to continue to fight."

Toward that end, each new ration book contains new items craved by warfighters, and omits others that proved unpopular with them. Among notable additions to the Combat Feeding inventory are creamy spinach fettuccine and pasta and tomato sauce.

Eliminated items include spicy penne pasta and ratatouille.

The hope is to offer something for every palate. The best way to accomplish that is to regularly survey warfighters in the field to obtain their preferences.

"The feedback from Soldiers certainly demonstrates that our continuous product improvement program has been effective," Stepien said. "It's very rare that you find a Soldier saying anything really negative about the rations.

"We have been able to identify entrees that warfighters aren't particularly fond of, and we've been able to remove them and replace them with rations that have received high ratings from field tests."

As Stepien pointed out, Combat Feeding's job extends beyond the taste buds to nutritional value.

"The taste of the MREs is very good," Stepien said. "It's important to us now to build upon that flavor of the MRE and incorporate more things into it … to make the Soldier perform more effectively on the battlefield, whatever we can do to ensure that the Soldier has a decisive advantage."

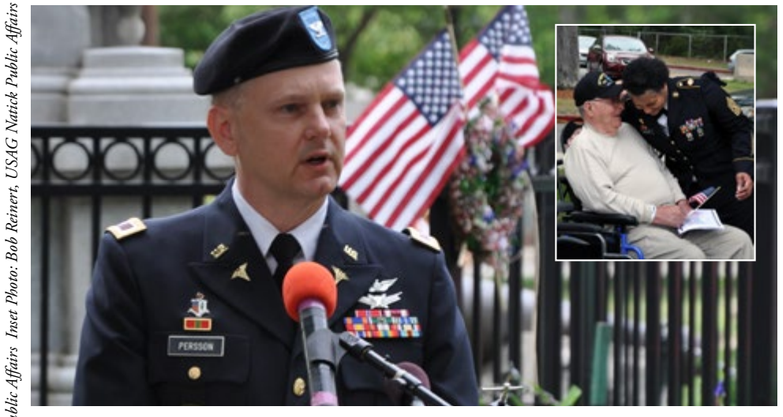


Photo: John Harlow, USAG Natick Public Affairs Inset Photo: Bob Reinert, USAG Natick Public Affairs

Natick Soldiers speak on Memorial Day

By USAG Natick Public Affairs / BEDFORD, Mass. (May 26, 2015)

Just a matter of miles up the road from the American Army's birthplace, the U.S. Army Garrison Natick command sergeant major observed Memorial Day on May 25 with a group of veterans, their families and other guests.

Speaking at Edith Nourse Rogers Memorial Veterans Hospital, Command Sgt. Maj. Erika M. Gholar reminded the audience that Americans first died in battle in nearby Lexington, where the first shots of the Revolutionary War rang out.

"In the words of Henry Ward Beecher, 'They hover as a cloud of witnesses above this Nation,'" Gholar recalled. "It is our duty to honor their sacrifice and that their lives be not lost in vain."

Meanwhile, Col. James Persson, medical director of the U.S. Army Research Institute of Environmental Medicine, spoke at the Town of Natick Memorial Day service.

"The sacrifices we remember on Memorial Day are hard for us … for anyone … to comprehend," Persson said. "Despite being in the service, Memorial Day was still just an opportunity to start the summer with a bang."

Persson went on to reflect on the sacrifice the military has made on behalf of our nation.

"Within the military, understanding the numbers of service members who have died in our wars is difficult even for us," Persson said. "At a recent retirement ceremony, the retiring senior officer described the amount of time it would take to read the names of over one million service members who have died during our nation's wars. I could not get past that number … over one million. Surely, he must have had the number wrong. That number seemed way too high. That number was equivalent to the population of some Midwestern states.

"Later that day, I checked into it. Sure enough, he was right and I was humbled, not knowing the sheer magnitude of the previous sacrifice of my own brothers and sisters in arms throughout the generations. Suddenly, I was a part of that majority that I had wrongly accused of not knowing more about sacrifice. One million lives: lives of fathers, brothers, mothers, daughters lost in order to keep our country free."

Persson talked about his time as a family physician in the Army, where he would deliver babies and be the first person to hold the children, even before the parents. He also noted that he would sometimes be the last person with those sons and daughters on their dying days.

"Whether a child, young adult or elderly parent, I would try to help the family understand the death of their loved one, often in the prime of their life … Why now? Why this way? For what reason?" Persson said. "From this experience, to know that this family grieving process was repeated one million times for the lives lost in service is difficult to comprehend.

"Memorial Day should not be just for remembering the fallen with observances in the present day. It should be about charting a path into the future based on the foundation of these sacrifices. They laid the foundation of freedom for us to build a future. It is now up to us to continue on. How much effort should we apply to this future path? The answer is easy: over one million lives worth."

As she looked out upon the veterans in attendance at the VA chapel, Gholar acknowledged their own considerable sacrifices.

"It is truly an honor to be here, surrounded by heroes," Gholar said. "Thank you for your service to our great nation, whether you are in or out of the service. You are still part of the team."

Gholar, who comes from a military family, has been in the Army Signal Corps for 29 years. She has served in Germany, Korea and Afghanistan.

"When you and I raised our right hands … we took the oath and swore to protect and defend the United States against all enemies, foreign and domestic," said Gholar, who added how much she enjoys talking to and learning from veterans.

Gholar pointed out how much she enjoys talking to and learning from veterans.

"I take every moment that I spend with them and I treasure it, because I learn something every time," Gholar said. "I treasure hearing how different things were for you and comparing them to how things are for me as I continue to serve. I use these lessons as a tool so I can serve honorably and teach other service members how to serve honorably and carry on with the standards and the traditions of each of our branches for the next generation."

All were on hand at the VA to remember those of their brothers and sisters in arms who made the ultimate sacrifice for their country in past and present conflicts.

"We recall their valor and their sacrifices," Gholar said. "We remember and honor those who gave their lives that others might live."

Gholar asked those in attendance to also keep current warriors in their thoughts on this solemn day.

"While you're enjoying your day today, remember there are still service members serving in harm's way who aren't with their families," Gholar said. "Please say a prayer for their safety, for their families who are missing their Soldier."

Physical Demands

USARIEM researchers continue study

By Kelly Field, USARIEM Public Affairs / NATICK, Mass.
(May 22, 2015)

Photo Credit: Spc. Canaan Radcliffe

Researchers from the U.S. Army Research Institute of Environmental Medicine, or USARIEM, traveled to Fort Carson, Colorado, three times this year as they continue to collect data for the Physical Demands Study.

USARIEM is working with the U.S. Army Training and Doctrine Command as part of the comprehensive Soldier 2020 initiative. The purpose of the Physical Demands Study, or PDS, is to provide valid, reliable and accurate predictive tests to select Soldiers for accession into physically-demanding occupations.

USARIEM's role in this initiative is to examine the physical performance requirement of the specified combat arms occupations and to develop predictive physical tests that will apply uniformly to every Soldier being recruited for these military occupational specialties, or MOSs, regardless of gender, age or ethnicity.

"The Army's scientific approach for evaluating and validating MOS-specific standards aids leadership in selecting the best-qualified Soldiers for each job within the Army profession," said Jack Myers, a planner in the Training and Doctrine Command's, or TRADOC's, G-3/5/7 section. "This will ensure force capability and readiness."

Over the past two years, USARIEM researchers have traveled thousands of miles, conducted several stages of testing, and spoken with hundreds of Soldiers at all levels.

"First, the physically demanding tasks for each combat arms MOS were defined by branch commandants and command sergeants major," Myers said. "We then vetted this through commanders and CSMs [command sergeant majors] from the operational force. The tasks were approved by [TRADOC] and then reviewed by SMA-hosted [sergeant major of the Army-hosted] board of directors."

Subject matter experts, within each branch, identified 31 physically demanding occupational requirements necessary to be successful in combat MOSs. Once the tasks were identified and verified, TRADOC conducted the first phase of testing to verify tasks, conditions and standards across the operational force.

The 31 tasks were validated by having more than 500 Soldiers from eight brigades - heavy and light units - throughout five installations perform the tasks. While the task validation events were conducted by TRADOC, USARIEM researchers were able to observe the Soldiers in action.

"During each verification, we learned a lot about the tasks while making measurements related to task standards, such as weight lifted, number of repetitions, and distances walked," said Marilyn Sharp, the study's principal investigator from USARIEM.

The first action taken by USARIEM, for the PDS, was to conduct focus group interviews with junior and senior enlisted Soldiers to obtain feedback on the accuracy and completeness of the tasks identified for their respective MOSs. By and large, Soldiers in the focus groups confirmed that the tasks, conditions and standards were appropriate.

USARIEM then observed and measured small groups of male and female Soldiers performing each of the 31 critical tasks in a controlled laboratory environment. This enabled researchers to take measurements to examine the physiological demands of each task. Measurements included heart rate, respiration, oxygen consumption, perceived exertion and time to completion for each individual Soldier.

"We then observed these same tasks in a more controlled lab experiment, with Soldiers performing tasks to standard in combat gear," Sharp said. "This allowed us to compare measurements like heart rate, oxygen consumption, and the Soldier's perception of how hard they were working."

Sharp said that these measurements were very controlled and that all participants had to complete the task the same way.

Researchers then compared physiological requirements of tasks, skill, equipment, perception of difficulty and importance to MOS.

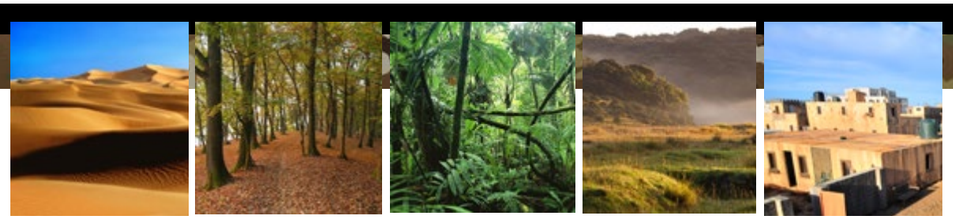
"We categorized each task by the type of movement needed - lift, carry, pull, et cetera, - and the physical demands, the muscle strength, power, muscular endurance and aerobic endurance, and then ranked the tasks by difficulty level," Sharp said. "The tasks with the highest physical demands were selected as representative of that MOS.

"We reported the critical tasks selected to each schoolhouse and got their concurrence that these would serve as the basis from which we would build the predictive models."

The tasks with the highest physical demands were then simplified into task simulation tests. These simulations captured the physically-demanding aspects, but they removed the highly-skilled portions of the tasks.

The first trip to Fort Carson was used to determine the reliability of the task simulations. Soldiers performed the tasks four times over a two-week period to identify learning effects and to ensure that a Soldier scored similarly over the course of each test. If the test was not reliable or a similar score was not obtained from test to test, the simulation was unsuitable.

Continued on pg. 25



Pattern Emerges

Army to field latest camouflage July 1

By Bob Reinert, USAG Natick Public Affairs / NATICK, Mass. (June 1, 2015)

If you can't see it, you can't attack it.

Since the conflicts of the 18th century, that's been the thinking behind military camouflage. Today, when it's applied to their uniforms, it can save Soldiers lives. That fact has driven the Army's decades-long efforts to improve its camouflage patterns.

The next step toward greater Soldier protection comes July 1, when the Army begins to make the Operational Camouflage Pattern available for the Army Combat Uniform in select Military Clothing Sales Stores. The pattern will replace the current Universal Camouflage Pattern. The UCP has been used for the past decade.

The transition period for the pattern will extend from July 1, 2015 to Sept. 30, 2019. The entire Army will be in the Operational Camouflage Pattern by Oct. 1, 2019. New Soldiers will receive ACUs with the pattern beginning in January 2016.

The Operational Camouflage Pattern will be made available to the National Guard, Army Reserve and Senior Reserve Officer Training Corps in summer 2016.

Prompted by Soldier feedback about the UCP, the Army in 2010 began providing the Operation Enduring Freedom Camouflage Pattern, or OEFCP, to Soldiers deploying to Afghanistan. During this period, the Natick Soldier Research, Development and Engineering Center also began developing the pattern that was later named the Operational Camouflage Pattern.

The Operational Camouflage Pattern testing and evaluation effort has been described as the most comprehensive ever conducted by the Army. Different camouflage patterns were evaluated for effectiveness in different operating environments with varied terrain, vegetation, seasons, and times of day.

The latest version of the ACU will come in the Operational Camouflage Pattern and will also incorporate changes resulting from Soldier feedback. These include modifications to the collar, pockets, knee and elbow patches, and trouser waistband. Instead of the current sand color, the Operational Camouflage Pattern will be worn with a tan 499 T-shirt and belt, and coyote brown boots.

The introduction of the ACU in Operational Camouflage Pattern is being phased in to reduce the cost to both Soldiers and the U.S. taxpayer. During this four-year period, Soldiers will also be permitted to wear uniforms and equipment in OEFCP.

The phase-in allows Soldiers to use their annual uniform replacement allowance to gradually replace current uniforms as they wear out. It also allows the Army to use existing stocks of uniforms and other camouflage-printed gear, such as backpacks.

The change is viewed as fiscally responsible. The Operational Camouflage Pattern ACU is expected to have a similar cost to the UCP ACU.

"All enlisted Soldiers receive an annual stipend for the purchase of uniforms and accessories," said Sergeant Major of the Army Daniel Dailey. "I myself will wait until I am issued my clothing allowance before purchasing a uniform with the Operational Camouflage Pattern.

"I encourage all Soldiers and leaders to do the same by budgeting for a new uniform, belt, boots and T-shirts as you receive your clothing allowance over the next two to three years."

During the transition period, Soldiers may mix and match items with either the OEFCP or the Operational Camouflage Pattern. They can also wear OEFCP Flame Resistant ACUs during that time.

"Presenting a professional appearance is very important to Soldiers, but we will not inconvenience or burden our troops," Dailey said. "We will still be the most lethal fighting force the world has ever known, even if our belts don't match for the next few years."

"Presenting a professional appearance is very important to Soldiers, but we will not inconvenience or burden our troops."

Sergeant Major of the Army Daniel Dailey

Photo: PEO Soldier

Top Expert

Army appoints new senior research scientist from NSRDEC

By Jeff Sisto, NSRDEC Public Affairs / NATICK, Mass. (May 26, 2015)

The Secretary of the Army announced the appointment of Dr. Ramanathan Nagarajan, a senior scientist and research chemical engineer at the U.S. Army Natick Soldier Research, Development and Engineering Center, to the position of Senior Research Scientist Soldier Nanomaterials.

As a senior research scientist, or ST, Nagarajan joins a select group of only 30 other Army STs charged with guiding new science and engineering programs across the Army S&T Enterprise, serving as scientific reviewers and advisors to Department of Defense S&T leadership, engaging key stakeholder support, and mentoring young scientists and engineers.

In this role, Nagarajan will serve as the Army's top expert in nanomaterials-based technologies, advising leadership on their potential application within Soldier-domain areas affecting the individual warfighter, small units, and future Soldier systems.

Having a resident expert in nanomaterials reinforces NSRDEC's Soldier-centric mission and positions Nagarajan's research at the forefront of Army S&T innovation — an opportunity he relishes.

"It's an exciting position and field to serve in," said Nagarajan. "I anticipate most new material solutions to future Soldier-domain challenges will come from nanomaterials research.

"Nanomaterials, including bionanomaterials, represent the most active development in current materials research, and I believe they will dominate all materials applications throughout this century."

Nagarajan's goals in the new position include leading and maintaining excellence in nanomaterials research, providing advice and consultation to the Army at all levels, and mentoring young researchers at NSRDEC. He also hopes to organize symposia and workshops on Soldier nanomaterials in order to foster collaboration among academia, industry and Army researchers, and monitor and disseminate international developments in nanomaterials research — especially those with long-range implications.

"It is my responsibility to align these broad goals and facilitate opportunities to make NSRDEC even better at addressing Soldier-domain issues," Nagarajan said.

In addition to his ST functions, Nagarajan will continue his research for NSRDEC, focusing on the development and integration of polymeric, biological, inorganic and carbon nanomaterials into Soldier protective clothing and equipment for chemical, biological, flame, ballistic and environmental protection.

"I remain committed to NSRDEC's mission to protect, empower and unburden the individual Soldier," said Nagarajan. "By emphasizing a systems approach to the Soldier-domain, we address the whole instead of the parts.

"I will continue to provide expertise in colloids, polymers and nanomaterials science to warfighter-related, fundamental and early applied research problems."

That expertise made Nagarajan an internationally recognized expert on molecular self-assembly and nanomaterials even before he became an Army civilian scientist.

Nagarajan received his doctoral degree in chemical engineering from the State University of New York at Buffalo in 1979. He received his bachelor's and master's degrees in chemical engineering from the Indian Institute of Technology, Madras, and the Indian Institute of Technology, Kanpur, respectively.

He went on to serve as a faculty member at Pennsylvania State University for 26 years, retiring in 2005 as Emeritus Professor of Chemical Engineering.

"In my academic career at Penn State, I collaborated with many faculty members, both in chemical engineering and in other related disciplines such as polymer science, food science, petroleum engineering and materials science and engineering," said Nagarajan. "This experience has allowed me to initiate a number of new collaborations as an Army civilian."

In 2006, he made the jump from academia to government service as a civilian scientist.

"Before I came here, I was not aware of the existence of Natick Labs," he recalled. "That is something I've worked hard to change and will continue to do so."

Since joining NSRDEC, in 2006, Nagarajan has served as the organization's representative to RDECOM's Nanotechnology Knowledge Center and as the program chair of the American Chemical Society's Division of Colloid and Surface Chemistry, which presented him with an Outstanding Service Award the same year.

As a chemical engineer for NSRDEC's Molecular Sciences and Engineering Team, Nagarajan has submitted more than 40 research proposals to external agencies for support of Soldier-related research. He has published four books on nanomaterials and self-assembly, 13 papers in scientific journals, written five book chapters, organized and held two symposium proceedings, and presented at 15 invited seminars and 29 professional society meetings, among a myriad of other professional achievements.

Nagarajan has also established collaborative research agreements with faculty from prominent institutions such as Clarkson University, Purdue University, Worcester Polytechnic Institute, UMass Lowell, University of South Carolina, University of California at Santa Barbara, University of Georgia, Boston University and Massachusetts Institute of Technology, or MIT.

"I want to help strengthen our place within the broader scientific community," Nagarajan said.

The ability to develop such research partnerships, garner support of key stakeholders for buy-in and funding, while managing both internal and external collaboration on nanomaterials, is an essential part of his new job.

"Interactions with industry, academic researchers and the international research community has given me the opportunity to represent Army technical interests to the international colloid, surface, and nanomaterials research community and to connect Army researchers to this community," he said. "My goal is to establish, expand, and leverage global resources — not just within the metro-Boston area, but around the world."

One of Nagarajan's most significant impacts at NSRDEC has been though his role as a mentor to promising undergraduate students, post-doctorate students and young NSRDEC researchers across many different scientific disciplines.

"More than 30 undergraduate students from various institutions such as Northeastern University, MIT, Worcester Polytechnic Institute, University of Connecticut, Johns Hopkins University, Assumption College, University of Massachusetts at Amherst, and University of Notre Dame have worked on a variety of experimental or computational projects in my laboratory," Nagarajan said.

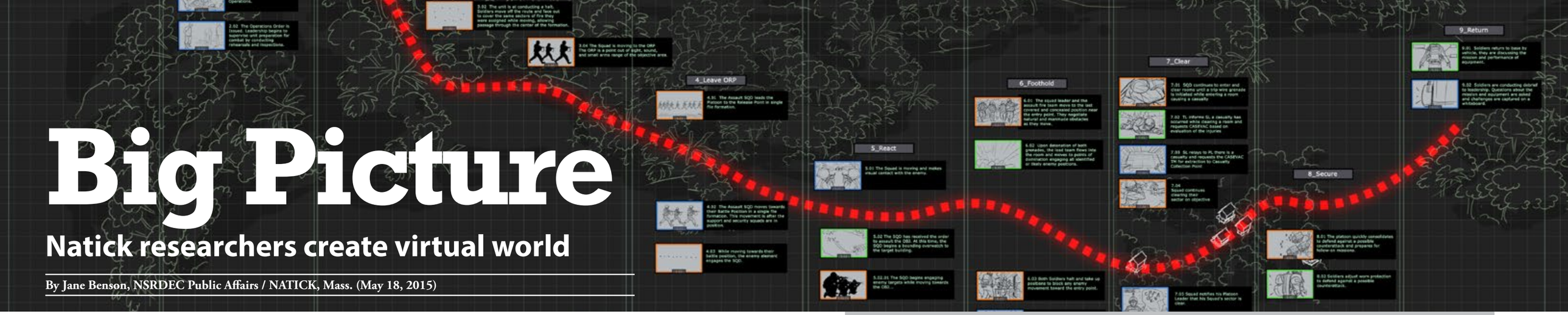
According to Nagarajan, working with these students has been his "most satisfying and stimulating experience" at NSRDEC.

At his May 19 promotion ceremony, presided over by Jyuji Hewitt, the executive deputy to the commanding general of the U.S. Army Research, Development and Engineering Command, Nagarajan received The Senior Scientist Pin, which displays a stylized keystone symbolizing the center stone that holds all the stones of an arch in place.

The promotion also celebrates Nagarajan's reaching the highest level of government service in his field.

"It is a rare opportunity to do something you love," he said. "It is even rarer to do something you love while serving Soldiers. I am really glad I am doing that here."

"My goal is to establish, expand, and leverage global resources — not just within the metro-Boston area, but around the world."



Big Picture

Natick researchers create virtual world

By Jane Benson, NSRDEC Public Affairs / NATICK, Mass. (May 18, 2015)

Natick researchers are creating a virtual world to provide an accurate, instant and interactive snapshot of the Soldier and his or her equipment.

With optimal performance in mind, Rick Haddad and the Soldier Capabilities Integration Team from the U.S. Army Natick Soldier Research, Development and Engineering Center are working to ensure the Soldier and equipment work together in concert.

"We developed a likely task scenario environment that a Soldier or squad would be operating in and took every protection project and found where it most likely would have value to the warfighter within the scenario," Haddad said. "We created a visual where people could see how their project fits in the operational environment and how it works with other products."

The team created a virtual demonstration of 77 projects. In the long-term, Haddad said he hopes the virtual demonstration will spark the development of a web-based interactive tool that will extend across Army Science and Technology to make products for the Soldier more compatible and enhance Soldier performance.

By making subject matter experts aware of this novel demonstration methodology, researchers hope others within the Army S&T community will get involved and provide information about their own projects.

The virtual demonstrator increases SME awareness of where Soldier products fall in the big scheme of things, where a product lies in the execution of a Soldier's mission, and how different components need to work together.

Scientists, engineers and other subject matter experts will ultimately be the users who will interface with a data architectural environment, so getting their input now is crucial. The virtual demonstrator is part of a much larger, Army-wide, Soldier System Engineering Architecture effort.

Natick's focus areas include the Combat Feeding Directorate, Warfighter Directorate, Aerial Delivery Directorate and the Expeditionary Basing and Collective Protection Directorate, which Haddad said makes NSRDEC a good starting point for the virtual demonstration. Each area has a role spanning across warfighter missions, from the base camp to the complex area of operation.

"We are the Soldier domain," said Mary Giacalone, an NSRDEC program analyst who is working with Haddad on early deliverables. "We're here to support the needs and requirements of the Soldier."

When looking at the Soldier as a system, experts at NSRDEC recognize that not only is the sum greater than all the parts, the parts need to work together seamlessly in order for the nation's warfighters to be at their very best.

Currently, Army scientists and engineers develop Soldier equipment to enable Soldiers to reach optimal performance. Sometimes, it is hard to know what researchers in other areas have developed, and this can lead to unforeseen compatibility problems or to the Soldier's load becoming too heavy, Haddad said.

"Even a pound, when multiplied over the course of a mission, can have a tremendous impact on Soldier performance, depending on the task he or she is asked to execute," he said.

The team is working to make information accessible, sortable and leverageable. The demonstrator features clickable panels to navigate a mission and the necessary technologies to support that portion of the mission. Down the road, this information will be available via website.

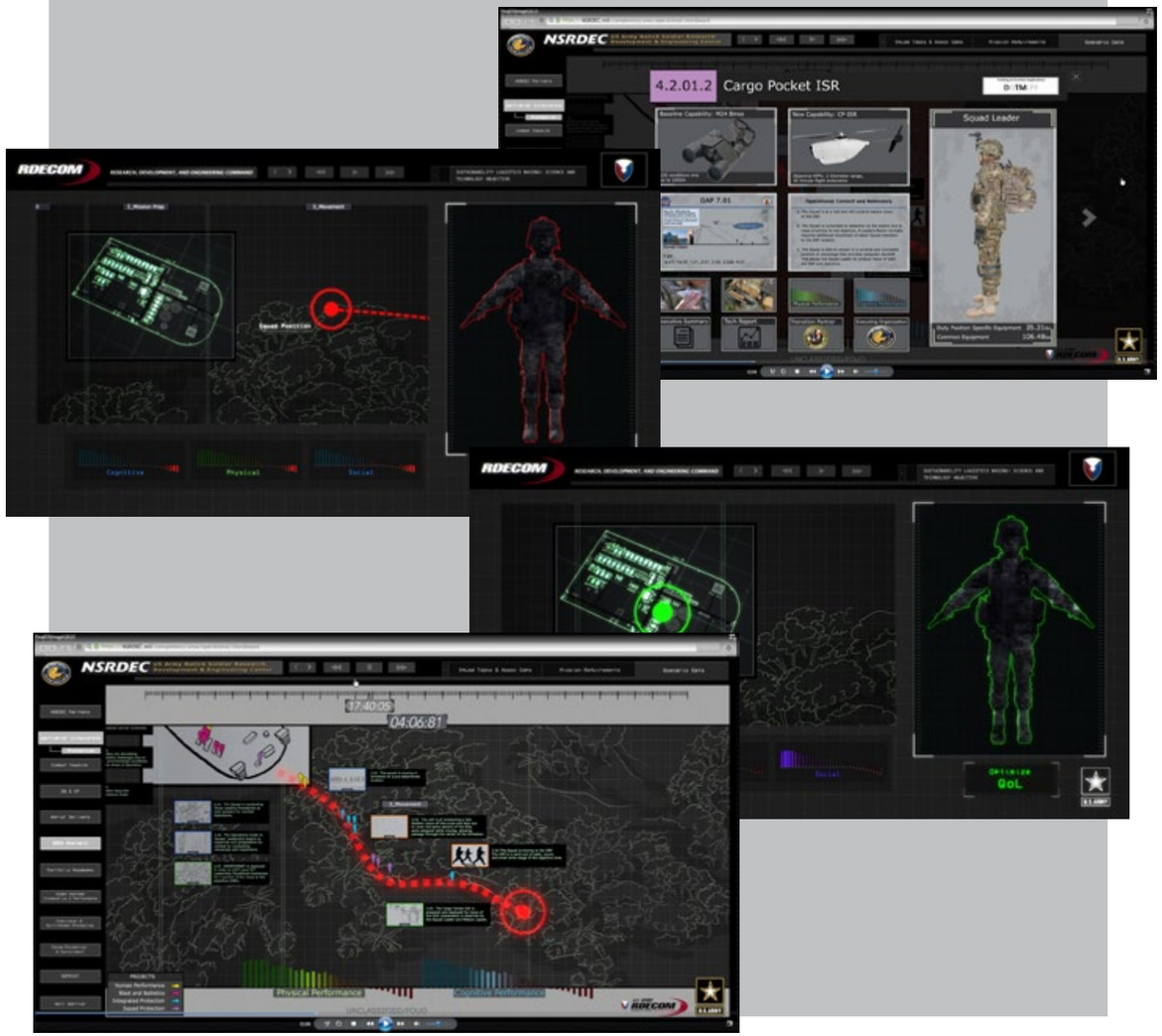
"It's an integrated approach," Haddad said. "We need to develop tools that enable consideration of the Soldier, the equipment and the task."

The goal is to see projects laid out from the base-camp-planning phase to the mission-execution phase and every step in between.

"Operational context is important," he said. "Good science doesn't always equal good outcome. This project will help our scientists, engineers and user community partners become more aware of the operational impact of our proposed capabilities that we want to deliver to the warfighter. We want to get people onboard with shaping their future computing environment, their future database experience.

"If we have their input, we will have a better user interface. We want it to get to the point where someone can type in, for example, 'protection for the torso,' and several material and nonmaterial solutions that need to be taken into consideration will pop up," he said. "That's where we hope to get to."

Haddad and Jaclyn Fontecchio are co-leads for the Force Protection, Soldier and Small Unit, Science and Technology Objective Demonstration.



Sharpening Skills

USARIEM Soldiers train at Devens

By Tazanyia L. Mouton, USAG Natick Public Affairs / FORT DEVENS, Mass. (April 30, 2015)

Soldiers of the U.S. Army Research Institute of Environmental Medicine took to the woods of Fort Devens April 24 to brush up on their Soldier skills.

Most people may be familiar with obstacle courses being used to familiarize Soldiers with combat tactical movements, physical training, problem solving, and building teamwork.

Not only were USARIEM Soldiers able to accomplish these tasks, but they were able to tailor the training to best fit their needs.

As medical unit Soldiers, it was only appropriate for them to navigate the course while also tending to casualties on the "battlefield."

Some of the obstacles Soldiers completed were the high wall, tangle foot, log maze and grenade throw.

Upon arriving at some of the stations, Soldiers came across a "casualty," whom they had to medically assess, secure and then transport through the obstacle.

"We took this traditional obstacle course, and we incorporated a lot of what we do with medic training," said Capt. Melissa Kottke, a research physiologist with USARIEM. "We modified the course to include obstacles that had litter carries. We had full-size dummies that they had to strap into litters, triage, and then put in 9-line (MEDEVAC requests) for."

The Soldiers were expected not only to do the normal physical component of the training, but to fully execute their duties as combat medics.

"The teams are doing great," said Kottke. "The morning iteration was an introduction for them so they could get used to the different tasks that are required."

The afternoon iteration made the training a little more interesting, with additional pressure added from cadre and other guests participating.

Kottke said having the Soldiers alternate as leaders gave them an opportunity to get their feet wet on the various areas of the exercise.

The Soldiers are no strangers to training.

Each week, some type of refresher training is performed to make sure Soldiers are up-to-date on current issues and Army policies, such as sexual harassment and assault response prevention, and Soldier resiliency.

"At least once a month, especially during nice weather months, we typically will go out into the field and do an M-16 range, (or) we'll do obstacle courses or leadership reaction courses," said Kottke. "We also do a large-scale field exercise for three days at Fort Washington (in Cambridge, Massachusetts)."

> **"Anytime that you can get boots on the ground, it's really important. There are certain things that you can't simulate in the classroom."**
>
> Spc. Alvin Korus, USARIEM medical lab technician

Spc. Alvin Korus, a medical lab technician with USARIEM, said getting close to any real-world situation is good for troops.

"Anytime that you can get boots on the ground, it's really important," said Korus. "There are certain things that you can't simulate in the classroom."

Overall, training like this is organized to make sure all members of the team are able to clear obstacles.

"Some Soldiers are going to be physically capable, but others may not," said Kottke. "It's the creativity aspect of it that's requiring them to think outside the box to make sure they can accomplish a mission.

"All Soldiers require an Army to raise them. It's not just one group."

Photos: Tazanyia L. Mouton, USAG Natick Public Affairs

Photo: Marshall Wolff, MetroWest Daily News

Soldier Show

Army entertainers perform at Natick

By Tazanyia L. Mouton, USAG-Natick Public Affairs (May 27, 2015)

The 2015 U.S. Army Soldier Show performed at Natick High School May 22, as a part of their yearly tour.

The high-energy, live musical production showcases the talents of Soldiers who are selected by audition from throughout the Army. These amateur artists are able to show their artistic passions through music, dance and performing.

The first Army Soldier Show, titled "Yip Yip Yiphank," appeared on Broadway in 1918, and it was later reinvented during World War II.

Sgt. Irving Berlin established the motto, mission and philosophy of the show, "Entertainment for the Soldier, by the Soldier." The modern version of the U.S. Army Soldier Show, created in 1983, was due to the outgrowth of several shows across various Army commands.

This year's cast of 18 performers offered some new talent to incorporate into the show.

"We have two ballet dancers, an opera singer, and we have somebody that raps," said Sgt. Quentin Dorn, a stage manager with the Soldier Show who was also a performer during last year's show.

Once the cast is chosen, the production team begins the process of seeing what material is available, and begins building the show from scratch.

"It's 100 percent based on who we have and what they're able to do," said Dorn.

The team usually begins with a general framework based on any important messages and the needs of the Army.

The tour, which kicked off April 17, takes audiences on an educational journey through different styles of music, such as rhythm and blues, rap, opera, rock and roll, country, Latin and musical theatre. This year's production, "We Serve," explores the beginning elements of what it means to serve, whether someone is in or out of the uniform, and how our country serves those who are serving.

Although the Natick show was abbreviated, the production still touched on important areas, such as casualty notifications, survivor outreach services, sexual harassment prevention, and the Soldier for Life initiative.

"It's too easy to tell a Soldier, 'This is what's right, this is what's wrong,'" said 1st Lt. Derrick Bishop, a performer with the show. "But if you can get their morale up, motivate and entertain them and still send that message at the same time, you'll get people to retain that message, and I think that's the importance of the Soldier Show."

Bishop said he's aware that the Soldier Show is still very much unknown around the Army.

"If any commanders, officers or sergeants major who know what the message is, know that their units will need to hear this message, I would advise to push it out to the lowest level possible," said Bishop.

One of those important messages, sexual harassment prevention, was woven into the show's production.

Within the first month of taking the job, Sgt. Maj. of the Army Dan Dailey created a new grassroots campaign with the goal of empowering noncommissioned officers with the right tools to combat sexual assault throughout the ranks: "Not in my squad. Not in our Army. We are trusted professionals."

Through this initiative, first-line leaders are tasked with taking care of their Soldiers, on and off duty.

"Our intent is to impact the lives of Soldiers, civilians and families, through our messaging and through the performances," said Dorn.

Bishop said that through it all, being a part of the show is very rewarding.

"Proud is a minuscule word," said Bishop. "It's different when you have hard work and your end state doesn't give you as much as this gives you.

"You're always motivated to work hard."

The New Sixty

Technologies developed to cut convoys to forward operating bases

By C. Todd Lopez, Army News Service / WASHINGTON, D.C. (May 15, 2015)

Army research to reduce the use of fuel and water, and to reduce waste output at forward operating bases, or FOBs, promises to dramatically reduce the number of convoys and hours Soldiers are exposed to threats.

About 60 new technologies are being tested as part of a sustainability project that was on display at the Pentagon, May 14, at the first "DOD Lab Day" there. Dozens of Army researchers and scientists from Army labs around the nation put their most interesting research projects on display for viewing by Pentagon officials and the press.

Ben Campbell of U.S. Army Natick Soldier Research, Development, & Engineering Center, is the lead systems engineer of the Army's Sustainability Logistics Basing - Science and Technology Objective Demonstration.

In the courtyard of the Pentagon, he had a small model of an Army base camp, one that would house about 50 Soldiers, labeled to indicate where several of the technologies his team is evaluating for the Army might be put to use. Included among those was a system that pulls drinking water from the air, a nanogrid power management system, bidirectional on-board vehicle power systems and shading systems to reduce the amount of power needed to cool shelters.

Campbell said Army goals for the research he leads is to reduce fuel resupply to such installations by 25 percent, reduce water resupply by 75 percent, and reduce waste generation and waste backhaul — the need to remove waste material — by 50 percent.

The 60 technologies being developed are meant to support these goals, Campbell said, and his team put them into realistic scenarios, such as at a recent demonstration at Fort Leonard Wood, Missouri, in April — where they outfitted a 1,000-man base camp with such technology.

At Fort Leonard Wood, they evaluated a new kitchen concept that feeds 80 Soldiers three meals a day. The new kitchen, he said, is more energy efficient — it puts more heat into the food rather than into the kitchen environment where it not only makes Soldiers working there uncomfortable, but also wastes energy, he said.

His team's technologies have proven successful in one of the Army's most primary goals — keeping Soldiers out of harms' way, Campbell said.

"Our initial analysis in one base camp scenario we had set up was almost a half a million Soldier threat exposure hours we are able to eliminate in a 180-day base camp scenario," Campbell said.

One goal of water-saving, energy-saving and waste-reduction technology is to reduce the need for Soldiers to bring those things to a forward operating base via convoy.

If an Army FOB can implement technology that allows it to use a quarter of the fuel it might otherwise use, or reduce the fresh water it needs delivered by 75 percent, then it will reduce the need to have convoys to deliver those supplies. For every four fuel convoys it might have needed before, it now only needs three. And it might need only one water convoy where before it needed four. That means fewer Soldiers on the road in convoys, where they are exposed to improvised explosive devices and other threats.

Another benefit, Campbell said, is that by reducing the logistical support requirements for an installation, it can be moved farther away from a logistics supply base. A FOB could be moved father out, closer to the fight.

"Resupply by air drop becomes more economically feasible and things of that nature," he said. "If you only need resupply every seven days instead of three days, then maybe you can have the base more forward deployed."

With more energy- and water-efficient installations, fewer Soldiers on a FOB are involved in sustainment, Campbell said.

"The more self-sufficient you can make the base camp, the more independent they can be," he said. "That means more Soldiers doing the mission rather than supporting the base camp."

Among the technologies that Campbell said are being evaluated by his team are those that recycle waste water, those that burn trash to create energy, and one that allows a tactical vehicle to be used to provide power to an installation until generators can be brought in.

Campbell also said that while working toward the water, energy and waste goals are important, equally important is sustaining quality of life for Soldiers — something he said has to be maintained.

"The base camp is a platform to support Soldier readiness," he said. "A Soldier comes here to rest, reset, and launch missions off of. So we conduct evaluations to understand the impact of these technologies in generating quality of life support for the base camp."

Campbell's team is planning another evaluation at Fort Devens, Massachusetts, in July. There they will outfit one of two 150-person base camps with their technology to evaluate its effectiveness.

Ben Campbell, of U.S. Army Natick Soldier Research, Development, & Engineering Center, is the lead systems engineer of the Army's Sustainability Logistics Basing - Science and Technology Objective Demonstration.

"The more self-sufficient you can make the base camp, the more independent they can be. That means more Soldiers doing the mission rather than supporting the base camp."

Ben Campbell, NSRDEC

Photo: C. Todd Lopez

Combined Resolve IV

RDECOM participates in exercise

By Sgt. Juanita Philip / HOHENFELS, Germany (May 21, 2015)

Exercise Combined Resolve IV kicked off its two-week combat-training phase at Hohenfels Training Area, May 18-29, with more than 4,700 participants from 13 NATO ally and partner nations.

One group, which came to observe the technology used during this exercise, is a U.S. Army Research, Development and Engineering Command, or RDECOM, team. The team is comprised of active-duty, Reserve Soldiers, and civilian personnel.

RDECOM centers research and develops engineering technologies in its laboratories. It also integrates technologies developed in partnership with an extensive network of academic, industry, and international partners.

This team will observe training, not to assess the Soldiers, but to primarily assess the technology used by the different units and countries involved.

"Our mission here is to provide science and technology advisors to assist commanders and staffs, to help identify gaps that they have so we can insert technology to fulfill those gaps," said Lt. Col. James D. Nelson Jr., a senior research officer at RDECOM.

"We understand that the priority [during this exercise] is interoperability and mission command systems," Nelson said. "That is what we're emphasizing when we make our rounds and talk to Soldiers in the field."

"We're here to observe what everyone is bringing to the mission, to understand what equipment and technology is coming so we can understand the roots of the problems that are encountered," said Col. Keith Hirschman, commander of the RDECOM Forward Command Element.

"This exercise has a communication and situational awareness bend to it. Those are the types of problems we're looking for, because that's what the commands have been talking to us about for over a year," Hirschman said.

"We circulate through the field, and talk and interview, trying to find problems Soldiers may be having," he said.

Nelson said when the team comes across an issue that requires further research or development, a request for further information, or RFI, is sent back to RDECOM. They, in-turn, forward the RFI tracking sheet to one of the seven laboratories.

The team hopes to receive a response to each RFI before they the exercise concludes. Communicating a solution back to the organization or unit involved in the training is crucial. In major exercises, like this, interoperability and communication go hand-in-hand.

"This is a training environment; we have to train as we're going to fight. We want to shape how we're training so that it can mirror how we see ourselves fighting. Communication is the major part of being able to do that." said Maj. Angela Smoot, Army Europe science advisor, from Wiesbaden, Germany.

"In today's modern world, you have voice data, emails, Blue Force Tracking, FM radios, all of this stuff has to be able to interlink, somehow. This is more or less the beginning steps in moving forward. Exercises like this offer the opportunity to do better, and use what we have to solve problems."

The RDECOM team wants to solve the problems identified by the training units.

"What we're doing is not an assessment in the traditional sense, it's a question of what do we see as the gap and how can we do it better? Our assessments are 'Why is this radio not talking to that radio?' We're here to assess the technology," said Maj. Aaron Vandiver, a team advisor.

"Just like the Army operating concept, we're trying to perceive the unknown; we're trying to help the units that come here by giving them solutions with science and technology."

Exercise Combined Resolve IV will take place from May to June at the 7th Army Joint Multinational Training Command, or JMTC. More than 4,700 participants from 13 NATO and partner countries are training in the exercise. The Combined Resolve series of exercises incorporates the U.S. Army's Regionally Aligned Force with the European Activity Set to train with European Allies and partners.

The 7th Army JMTC is the only training command outside the continental United States, providing realistic and relevant training to U.S. Army, Joint Service, NATO, allied and multinational forces. It is a regular venue for some of the largest training exercises in Europe.

Photo: Spc. Brian Chaney

A U.S. Soldier, assigned to Headquarters Battery, 1st Battalion, 41st Field Artillery Regiment, 1st Armored Brigade Combat Team, 3rd Infantry Division, provides security while conducting radar operations during Exercise Combined Resolve IV at the U.S. Army Joint Multinational Readiness Center in Hohenfels, Germany, May 19, 2015.

Photo: Tazanyia L. Mouton, USAG Natick Public Affairs

Pvt. 2 Topher Cheney, a human research volunteer with the Natick Soldier Research, Development and Engineering Center, stands in front of a trunk load of donations being delivered to Veterans Inc. in Worcester, Mass., May 28. The issue of veteran homelessness is close to Cheney as he was once homeless before he joined the Army.

Clothing Homeless Vets

NSSC holds spring drive

By Tazanyia Mouton, USAG Natick Public Affairs/NATICK, Mass. (May 29, 2015)

Although there has been an eight-percent reduction in the homeless veteran population between January 2012 and January 2013, there is still a long way to go to eliminate the problem.

According to a 2013 Housing and Urban Development study, on any given night in January of that year, there were an estimated 58,000 homeless veterans on the streets, a 24 percent decline since 2010. With this in mind, the Natick Soldier Systems Center community banded together to do their part during the spring veteran clothing drive.

The event organizer, Sarah Ross, a Human Research Volunteer coordinator with the Natick Soldier Research, Development and Engineering Center, has committed herself to this cause. As with other clothing drives, Ross made sure she had everything in place, and bins were ready to be filled when the clothing drive began on April 27. There was only one issue.

Four days before the clothing drive was slated to begin, Ross was notified that she was to go on temporary duty during the week of the clothing drive.

"Even though this is not my job, this is a priority," said Ross.

Ross said that as much as the clothing drive is near her heart, she didn't have much time to ponder about the progress of the drive because she was in the field recruiting Soldiers to become a part of the HRV program. Plus, she had enlisted the help of one of the HRVs, Pvt. 2 Topher Cheney, for the drive.

"I just happened to be coming into the (Doriot Climatic) Chambers to sign in one day, and she was talking about it and asked me if I could do anything to help her out," said Cheney.

Cheney said whenever there's an opportunity for him to help, he's all in.

"Actually, I used to be homeless a couple of years ago," said Cheney, "so stuff like that really hits home for me."

Cheney said when he was younger, he found himself going down a bad a road and eventually was kicked out of his house at age 18. Cheney lived with friends for a time, but he soon found himself on the streets.

"I was sleeping under bridges and eating out of dumpsters, and one day it finally clicked like, 'Man, this is stupid,' and then I started working again and worked my way out of poverty," Cheney said.

Cheney also said part of his motivation to get off the streets was thinking about his father, a former Marine drill instructor.

"I remember my Dad and just how ashamed he would have been of me," said Cheney.

Cheney's father passed away when he was 18, a few months before getting kicked out of his house, and he said that was part of his spiral out of control, which ultimately landed him on the streets.

"He and I were the exact same person, so we butted heads about everything," said Cheney. "And we didn't speak to each other for almost a year before he died."

Cheney said his father's death hit him hard.

"That's when everything got worse and I just lost it," said Cheney.

While on the streets, Cheney said he would frequent Interfaith-Good Samaritan, an establishment that helps men, women, children and families during emergency situations. Being at Interfaith-Good Samaritan guaranteed that Cheney would know where his next meal was coming from.

"They helped me out a lot," said Cheney. "When I'm back home, I grab food and I'll donate to them."

In Cheney's eyes, this was a way for him to pay it forward.

By working two jobs, Cheney was able to get off the streets, find an apartment, and begin moving on with his life. After deciding to enlist in the Army as an aircraft electrician, Cheney has remained on the right road to becoming a leader.

"My entire life was military discipline over and over, and how to be a leader," said Cheney. "After it finally clicked that I needed to get it together, the leader started coming out."

Ross said she's happy that Cheney stepped up to the plate when he was needed.

"That's why the Soldiers are so great in helping, because I think it's wonderful that they can see that as a Soldier, they are making a difference for Soldiers before them," said Ross, "and the reason they can serve in the capacity that they do is because of Soldiers who served before them."

The spring clothing drive brought in more than 1,500 pounds of clothing and personal hygiene products that will assist homeless veterans and their families. The next clothing drive will be in November.

Continued from pg. 9

Once the reliability of the task simulations was established, a suite of predictive tests was selected by subject matter experts.

The predictive tests are physical-fitness-type tests. The same Soldiers performed the task simulations and the predictor tests to develop a test battery to predict performance on the task simulations. This aspect of testing is called the test validation phase and involved field artillery, armor and infantry task simulations.

Two more field studies will be conducted during the summer on Fort Stewart and Fort Riley. This will complete the data collection for the predictive test validation phase. The data will be analyzed, and recommended courses of action will be presented to TRADOC.

"It's very deliberate and it's very scientifically based," said Gen. David G. Perkins, TRADOC commanding general, of the study. "One (advantage) of it is it's giving us really concrete data that's quantifiable and measurable. It's really giving us insight even beyond what it originally was chartered for."

Perkins lauded USARIEM's work on the study.

"It's invaluable, really, because for one thing, they're extremely responsive," Perkins said. "The fact that you can do it all in house … we're much more innovative. We can adapt more quickly to rising insights. You really can innovate and adapt much quicker."

Sharp said that developing valid, reliable and accurate predictive tests to be used to select Soldiers to serve in the physically demanding occupations is essentially what these past couple years have been all about for her and her team. While the study still has a few more months to go before being wrapped up and all the data are analyzed, Sharp is excited about the results.

"We want a battery of four to seven predictive tests that will give us a good idea if a Soldier has the potential to be successful in that MOS when they are called upon to perform the physically demanding tasks expected of them," Sharp said. "We are looking for tests that could be used early in a recruit's career and be safe and cost-effective.

"They must also use little equipment, require little training and experience, and most importantly, be representative of the most physically-demanding aspect of a military occupation. The goal is to help find the right Soldier for the right job."

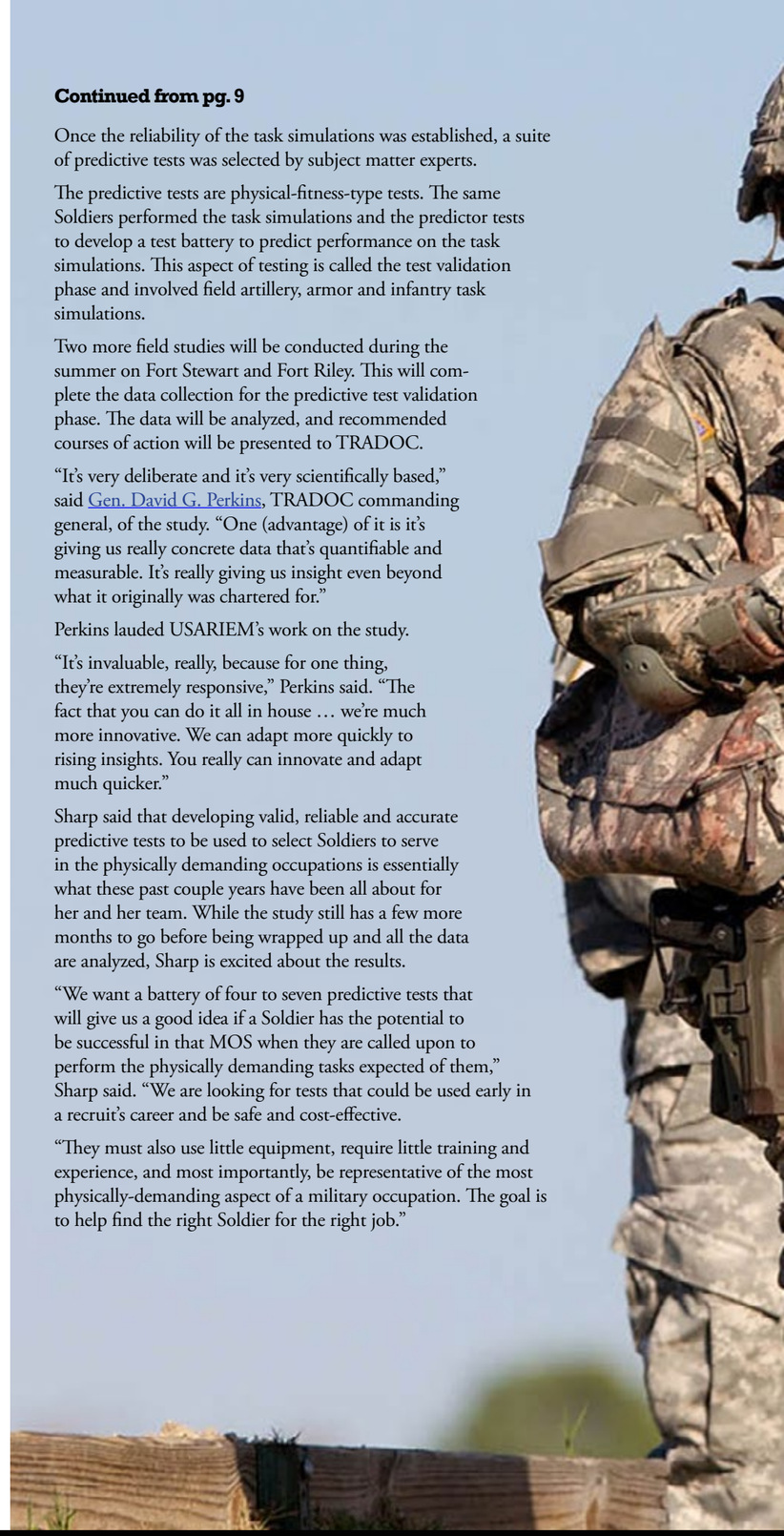


Photo: John Harlow, USAG Natick Public Affairs

Photo: John Harlow, USAG Natick Public Affairs

Law Day

Natick command judge advocate visits school

By John Harlow, USAG Natick Public Affairs / NATICK, Mass. (May 29, 2015)

Capt. Briana Tellado, command judge advocate at the Natick Soldier Systems Center, speaks to sixth-graders at Kennedy Middle School on "Law Day."

If the students of the Kennedy Middle School were the jury in 1692 when Sarah Good was charged with committing acts of witchcraft, her fate would have been much different. Good was executed in 1692, but was acquitted recently by a jury of middle school students.

Capt. Briana Tellado, the command judge advocate for the Natick Soldier Systems Center, worked with Kennedy sixth-grade teacher Chris Forrest to bring the law into the classroom on Law Day.

The sixth-graders acted as the judge, prosecutor, defense attorney, defendant, witness and jury in the mock trial.

The prosecution in the case called Abigail Williams, who said Sarah Good pinched and bit her when she was playing in the town square with her friend, Elizabeth. The prosecutor asked her what happened to her after meeting the defendant, Sarah Good.

"It was the strangest thing," said Laini Schneider, who portrayed Williams. "I started shaking and screaming uncontrollably. My mother and father could not get me to stop. I would go into these weird trances where I was almost unconscious for minutes at a time. It was so frightening."

In cross examination, the defense counsel, played by Kate Connolly, asked the witness if anyone ever found any marks of these alleged pinches and bites. Williams responded that there weren't any.

"Everyone on our jury thought she was not guilty," said jury foreman Brendan O'Donnell. "There was no evidence of a bite or scratch, and anyone can be born with a birth mark, and going into the trance was pretty convenient."

O'Donnell reflected on his time as a jury foreperson.

"Being on a jury is tough," said O'Donnell. "If you don't pay attention, it could be the difference of an innocent person being found guilty. We would be sad if we made the wrong decision."

The sixth-graders had studied the Salem Witch Trials in fifth grade and reviewed them earlier in this school year.

"We were hoping to provide an opportunity for them to learn more about the judicial system," said Forrest. "Anytime you get hands-on learning in the classroom, it is much more valuable.

"It was fantastic to see the kids focused and interested and see how they deliberated and studied the evidence that was presented. This is the type of learning we like to see in the classroom."

Tellado said that she was impressed by the students who put on the mock trial.

"They had great insight into the jury deliberation process and how our jury system can be more fair — or sometimes less fair — than a trial by a judge," Tellado said. "A lot of the students had studied the Salem Witch Trials in their history classes, so they had more knowledge about the case than the other students. Some students wanted to use what they had already knew from the other class in their deliberative process.

"Just like a juror in real life, the students found it challenging to put aside what they already knew about the case and only consider the evidence that was presented to them in the courtroom. Playing jurors also showed the students how important the job of the jury is, because in the witch trials, and in some trials today, if the jury convicts someone of a crime, that person can be sentenced to death."

Sarah Good was executed by hanging on July 29, 1692. If she had the 12 middle school students from Natick as her jury, she would have lived to see her children, Dorothy and Mercy, grow up.

U.S. Army Publishes Energy Security and Sustainability Strategy

By Dennis K. Bohannon, ASA (IE&E) / WASHINGTON, D.C. (June 1, 2015)

The U.S. Army has published and released its strategic roadmap to future energy security and sustainability.

The Energy Security and Sustainability (ES2) Strategy will foster a more adaptable and resilient force, prepared for a future defined by complexity, uncertainty and rapid change.

"This strategy represents a turning point," Under Secretary of the Army, Brad R. Carson, and Army Vice Chief of Staff, Gen. Daniel B. Allyn, said in a letter to Army leaders. They explain, "The Army is evolving from a historic framework that viewed resource considerations as constraints on operational effectiveness - to a perspective that considers the critical role of energy, water, and land resources as mission enablers. Such an integrated perspective requires balanced decisions to achieve the greatest military benefit while keeping faith with civilian communities."

"We must be able to accomplish our missions in a world defined by uncertain, adverse, and dynamic conditions. Maintaining our tactical and strategic edge heavily depends upon the wise use of our resources — energy, water, and land — to preserve future choices through superior knowledge, technologies, and execution," they said.

With this perspective in mind, the ES2 Strategy positions the Army to enhance its current and future capabilities, readiness, and performance by building upon its ability to employ resources effectively to support all aspects of operations through effective system design and integration of resource considerations into behaviors and decision processes.

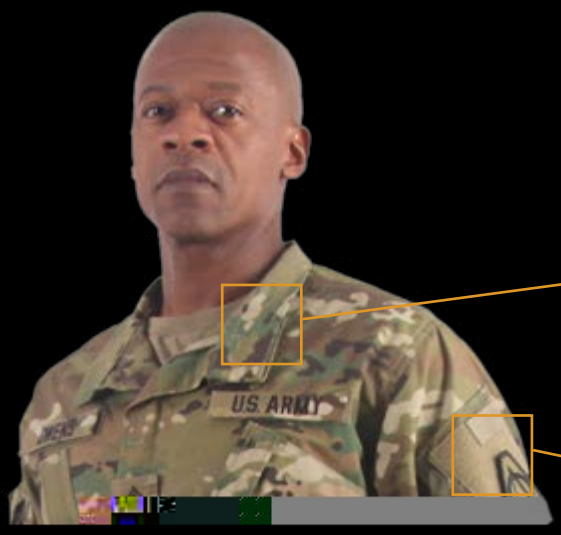
The strategy outlines five goals, which will be achieved through steady progress across the Army enterprise — materiel, readiness, human capital, services and infrastructure — with targeted measures and metrics as guides. These goals are Inform Decisions, Optimize Use, Assure Access, Build Resiliency and Drive Innovation.

The ES2 Strategy expands on and replaces the 2009 Army Energy Security Implementation Strategy by including operational energy and sustainability while strengthening the focus on resource management for the Army.

The document complements the Office of the Assistant Secretary of the Army Installations, Energy and Environment Strategy 2025 and the Army Strategy for the Environment by emphasizing energy and including recognition of water and land as equally essential resources.

The ES2 Strategy is being electronically distributed throughout the Army.

The next step will be to implement the strategy across all Commands, operations, and installations. In their letter, Under Secretary Carson and Gen. Allyn point out, "Measuring performance is vital to evaluating Army achievement. Headquarters, Department of the Army organizations and Army Commands will develop metrics to monitor progress in their areas of responsibility.



Operational Camouflage Pattern

Army Combat Uniform Design Changes

Mandarin Collar
Remove hook and loop closure
Remove mandarin collar flap extension
Replace with fold down collar design

Upper Sleeve Pocket
Increase pocket length by one inch
Remove hook and loop closure
Add zipper closure
Change Friend or Foe cover

Elbow Patch
Remove internal elbow pads
Remove hook and loop from elbow patches
Retain double fabric reinforcement at elbow

Sleeve Pen Pocket
Reduce pen pocket channels from three to two

Trouser Waistband
Remove drawstring (ACU)

Cargo Pocket
Remove cord and barrel lock

Knee Patch
Remove internal knee pads
Remove hook and loop from knee patches
Retain double fabric reinforcement at knee

Lower Leg Pocket Flap
Remove hook and loop closure
Add one button closure