RDECOM magazine

September 2005

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New explosive analysis technology now in Theater

By Chuck Sprague
Army Forward Support Brigade

Sgt. Amy Arneson, Aberdeen, S.D., deployed with the 295th Ordnance Company, prepares a sample of explosive granules for the Near Infrared Propellant Scanner now deployed to the Southwest Asia Theater. Instructor Louis Kansas, Picatinny Arsenal, N.J., shows Arneson how to place explosive granules into the sample box prior to analysis. (RDECOM photo)

Military and civilian ammunition specialists are training on two state-of-the-art battlefield devices to analyze Army explosive material for ordnance workers in Southwest Asia.

The test units were developed by the Defense Ammunition Center McAlister, Okla., with its partners, The Army Research and Development Engineering Command and Geo-Centers, Inc., to provide safety net to ammunition workers deployed in Iraq, Afghanistan and Kuwait, said Jim Medley. Medley was deployed to Camp Arifjan as a quality assurance specialist, ammunition surveillance, from the McAlister headquarters.

“Instead of having to pull samples, send them back to labs in the states, and wait for the results, which can take up to six weeks, we know in a matter of just a few minutes whether the explosive stabilizer in our munitions meet safety requirements,” Medley said.

The other unit now operating in theater scans explosive material and determines the type of explosive by analyzing the “light spectrum foot print” of the chemicals within the explosive, said Medley. A probe is placed on the test material. “It will tell you if the material is explosive or not, and what kind, such as TNT or RDX,” he said.

The field units are designed to test all Army and Coalition Forces munitions, identify old Iraqi munitions and assist ordnance disposal professionals to determine explosive hazards through the Army Materiel Command’s Army Forward Support Brigade, Southwest Asia.

(For more information contact Chuck Sprague, e-mail charles.sprague@arifjan.arcent.army.mil).

CERDEC demonstrates life-saving communications system

By Eddy Occhipinti
Communications - Electronics Research, Development and Engineering Center Public Affairs

The role of first responders and emergency services personnel has always been a vital component in keeping communities safe.

Their significance is even greater in today's world with the constant threat of terror and tragedy.

New technology, developed by engineers with the Communication-Electronics Research, Development and Engineering Center Space and Terrestrial Communications Directorate with input from Fort Monmouth firefighters and police, allows men and women of emergency services to go into hazardous situations with the best communications systems available.

"The idea for this system stemmed from the communications breakdowns on September 11 [2001]," said Sharon Mackey, the chief of S&TCD's Network Operations Branch. "Fire and police departments didn't know where their people were. The commanders didn't have the information they needed."

The "First Responder - Response Operations Center" can save lives during incidents such as terrorist attacks, natural disasters or building fires.

The suitcase-sized system allows federal, state and local agencies to communicate with one another and with emergency operations centers around the world.

It also provides commanders with the location and vital signs of their personnel; chemical, gas and biological agent monitoring and live, high-quality video.

Since the system was developed here by CERDEC, the first unit to have the new technology was the Fort Monmouth Department of Fire and Emergency Services.

For more than two years, there was communication between the engineers and the emergency services personnel to make sure the new system meets the requirements of rescue workers.

S&TCD Director Gary Blohm said the collaboration between CERDEC engineers and Fort Monmouth emergency services personnel was critical to the success of the system.

"The close relationship between our first responders and the engineers of Space & Terrestrial Communications Directorate has allowed us to develop solutions that truly address the first responder needs," Blohm said.

"We have the research and development center and a testbed to go with that. In this case, the testbed is the fire department," added John Erichsen, chief, Fort Monmouth Department of Fire and Emergency Services.

"We have been working closely with the engineers to develop something that will fit us. So often we see engineers develop products that they feel we need, but aren't necessary. Now we are working hand-in-hand with them to develop exactly what the first responder needs. We're testing it and giving feedback," he said.

Understanding the value of the new technology, Erichsen believes this is probably the most important advance that he's seen in the fire service within 30 years. He mentioned that technology often doesn't come the way of the fire service.

"We've been operating for 250 years with pretty much the same material. We still put out fires with water; we still use hoses, axes, ladders; and firefighters still don pretty much the same equipment," said Erichsen.

Erichsen also pointed out that the system isn't limited to the fire service, but all emergency personnel.

The system can save the lives of emergency personnel and civilians more efficiently, according to Erichsen.

"On a scale of one to 10, this is a '10' because the most important thing when responding to any emergency is scene management and communication," Erichsen said. "You can't mitigate an emergency without scene management, accountability and tactics and this gives us all of that."

The Fire Department had the opportunity to use the new system, and they saw it works.

Tom Wieczerzak, Fort Monmouth firefighter, used the First Responder – Response Operations Center in simulated situations.

He said the best part is the communications since the radios used now are good, but have limitations.

Sometimes signals are lost which is devastating when reporting a missing firefighter, a victim or a change of conditions.

"What this system has done is give us the capability to repeat our signal to the incident commander by a flick of a switch. I'm able to activate a cell phone to the incident commander without dialing. It works the other way as well," Wieczerzak said. "This enhances our ability to relay any vital information to each other more clearly and concisely than before."

With the First Responder - Response Operations Center, it's unlikely emergency personnel will ever fear going into an unsafe environment again.

"This gear will not only help to save our lives, but the lives of the people that we're serving," Wieczerzak said. "All this technology was once a dream; now it's a reality."

"This is the biggest innovation in firefighting technology since thermal imaging and wearable air," Erichsen added. "The amount of lives this system will save in the future is countless."

ECBC expands abilities of the M256A1 Chemical Agent Detection Kit

Edgewood Chemical Biological Center Public Affairs Office

M256A1 Chemical Agent Detection Kit

Since its introduction into the military in 1978, the M256A1 Chemical Agent Detector Kit has proven to be a reliable and commonly accepted method for chemical warfare agent detection. This easy to use detection kit can identify agent classifications, and verify results from other methods of detection and reporting.

The M256A1 Kit is made up of a wet chemistry vapor-sampler and M8 Chemical Agent Detection Paper for liquids is used to test for the presence of hazardous concentration levels of CWAs in both the vapor and liquid form. Test results are used, along with test results received from other CWA detection equipment, to determine if personnel can remove their protective posture clothing and equipment.

To ensure the continued integrity of the M256A1 Kit, recent efforts have been made by the Edgewood Chemical Biological Center to maintain or improve this kit. ECBC conducted a study to improve the heater used in the blister portion of the vapor-sampler test. This modification changed the configuration of the heater allowing for more consistent and reliable test results in all environmental conditions.

In addition, the M256A1 Kit currently utilizes a sole-source specialized sampler paper for which there is no known replacement. When the current manufacturer decided to discontinue the paper, ECBC requested and assisted in re-starting the production line to produce a one-time limited-quantity run of acceptable paper to meet the government's immediate needs while continuing to work on a permanent replacement.

ECBC has since conducted testing on a few paper replacement candidates and will also complete qualification testing on the best possible replacement. These actions will help ensure that M256A1 Kits can continue to be produced and made available to the warfighter for as long as necessary with the reliability and accuracy required on the modern battlefield.

Another study currently under way is the development of the Low Volatility Hazard Kit, which is a product improvement to the M256A1 Kit. The LVH Kit uses a unique sampling method and analysis product for enhancing the detection capabilities of the currently fielded M256A1 Kit through use of a novel Sample Heater Assembly.

The addition of this clip-on SHA will allow low volatility liquids and granular-solids to now be detected by the vapor-sampler portion of the M256A1 Kit, which was initially developed to detect a variety of chemical warfare vapors or gases.

ECBC's efforts and improvements will ensure the historically proven M256A1 Chemical Agent Detector Kit will continue to play a vital role in protecting the warfighter against CWAs. With the potential for additional uses in secondary systems, support of homeland defense, and the capabilities already demonstrated in the past, the M256A1 Kit looks to continue service for many years to come.

ECBC develops better sporicidal test method U.S. Army Soldier Systems Center

Edgewood Chemical and Biological Center Public Affairs Office

A search for a better sporicidal test initiated by the Edgewood Chemical Biological Center has led to the approval of a new American Society for Testing and Materials International standard Test Method for Quantitative Sporicidal Three-Step Method to determine Sporicidal efficacy of liquids and vapor or gases on contaminated carrier surfaces. This new standard was approved by the ASTM Committee on Homeland Security Applications.

The new standard has several advantages over other past and current sporicidal methods. These advantages include:

Rapid. Results are read after overnight incubation, instead of a 30-day wait.

Economical. Used carrier surfaces are inexpensive enough to be disposable.

Flexible. The test is mainly intended to evaluate decontaminating or sporicidal agents, but it can also compare the sensitivity of different microbes or the effect of different surfaces or materials

*Environmentally friendly.*Because it is a micro method that uses small volumes, the test produces much less biological waste than other methods.

TSM testing has been done in connection with the anthrax mail attacks and military operations in Afghanistan and Iraq. The TSM has been used to evaluate decontaminant agents and their potential use for DoD. In particular, the TSM has direct application to test microbicidal agent against the most resistant and dangerous organisms known. Decontaminant agents were subjected to testing for potential use on military equipment returning from the battlefield. Samples were tested on sections of military hummers, glass, and masks.

In addition, the three-step method has applications for the commercial segment that needs testing and evaluation of decontaminant, sporicidal and sterilant agents for defense, food processing and medical applications, as well as for bactericidal soaps, lotions, cleaners, paints and many other products for household and commercial use that can involve microbicidal activity.

Currently the EPA is conducting an extensive validation of TSM. In the future, ECBC and DoD would like to pursue TSM as an international standard to assist foreign vendors.

Robotics prove to be 'just so cool'

Desiree DiAngelo
CERDEC Public Affairs

It is no bigger than a remote control car, however a little more high tech with its liquid crystal display screen and digital compass. It lacks the aesthetic component, but it none the less is able to zoom around the room, carefully moving through its plotted course, pivoting and even dodging a box of priority mail.

The "it" isn't a toy; however the Mark 3 robot is just as cool. Equipped with proximity, light and infrared sensors, two wheels and a gobble of colorful wires, this and several other robots have become the summer projects for two Monmouth County high school students.

Their summer job has been everything but bland. In a room no bigger than a classroom, Zakaraya Ashour and Nate McKinnon could be found glued to a monitor, plotting the movements of their tiny creations. This is where military robotics begins; in a small Army research lab in the Myer Center, here

The students are part of Fort Monmouth's eight week Science and Engineering Apprenticeship Program, which encourages participants to actively assist in projects, including testing and researching.

"It is amazing the kind of work these students are doing," remarked Rex Howe, chief of Command and Control's Battle Command Applications Division. "Robots have real world applications, and the work these students have been doing is very important. Experiences like these are great opportunities to expose students to what the Army does," he added.

Rex Howe, chief of C2Ds Battle Command Applications Division looks on as a student sets up his robot during an event at the 5th annual Robot Madness Day.
(Photo by Michael Allison)

Ashour and McKinnon have spent their summer working with the Mark 3 and several other robots, experimenting with setting up road blocks, adding light and heat sensors and monitoring the data sensory feedback.

"My experience has been rewarding. I have learned to program language, was introduced to robotics and electronics and began to learn the real world practicality of my work," Ashour said.

"Zak and I learned together, we would team up and work on the software and brainstorm on how to improve the robots," added McKinnon. Ashour and McKinnon will also have the opportunity to showcase their research during a student exhibit at George Washington University, in Washington D.C. later this summer.

High school electronics teacher and robotics enthusiast David Peins seemed excited about SEAP. He seemed pleased to see the Army actively involved with such programs and is thrilled about students collaborating with such viable sources as the military.

"These two young men [Ashour and McKinnon] are working on real world, cutting edge technology that is inevitably helping the nation. They are assisting in developing concrete solutions to real issues," Peins remarked. "Robotics is the future, it is fun and educational and it can and will save lives," he added.

TARDEC Develops Soldier Life-Saving M939 Solutions

By Ashley John
U.S. Army Tank-Automotive Research, Development and Engineering Center

For most high school students, summer is a welcome opportunity to sleep in or hang out at the beach.

But for the 10 participants of Fort Monmouth's Science and Engineering Apprenticeship Program, eight weeks of their summer was devoted toward learning about things their peers probably couldn't fathom, even if they tried.

Currently stationed in the Communications - Electronics Research, Development and Engineering Center's Intelligence and Information Warfare Directorate Command and Control Directorate and the Space and Terrestrial Communications Directorate, the Science and Engineering Apprentice Program students actively assist in projects ranging from testing communications systems to researching about improvised explosive devices —matters that concern them and their nation.

Isra Shaikh tests communications systems that will be outfitted on HMMWVs (photo by Carmen Torrise)

"We're working on satellite systems for the humvees," Daniel Vorsky said. Vorsky, 17 years old, will be a senior at Old Bridge High School in the fall. Isra Shaikh, also 17, Taphenese Brown, 16, and Vinny Buccigrossi, 17, also work alongside Vorsky in I2WD. The three enumerated experiences putting together communications boxes that provide soldiers with secure internet and telephone connections.

"We learned things on the job," said Buccigrossi, pointing to a spectrum analyzer where his mentors taught him that waves in the shape of a "Bart Simpson head" on the screen indicated satellite frequencies.

Michael Vieten, 18, who is a freshman in the Fu School of Engineering and Science at Columbia University, N.Y. this year, used Microsoft Access and compiled information about IEDs. Vieten said his experience at Fort Monmouth this summer would help further his interest in becoming an electrical engineer.

Chloe Webb and Brandon Jenkins, both 15, use 3ds max, a software animation program, to create three-dimensional objects that will be used in a simulation of a hazardous chemicals spill. The simulation will be used to demonstrate to government decision-makers the usefulness of the Hazardous Materials robot, a robot that could take the physical place of firemen journeying to hazardous sites. The firemen could, from a safe location, control the Hazmat robot, and still save lives while mitigating risks to their own.

Jenkins expressed enthusiasm for the work he's been doing this summer. "We're helping to make the demo and a tutorial on how to use the Hazmat." Both he and Webb said that the Hazmat could be a valuable innovation.

SEAP is an eight-week nationwide program initiated in 1980 by the DoD to give high school students the opportunity to gain hands-on lab experience and a student-mentor relationship during the summer. The program, currently funded by the Department of the Army and administered by George Washington University, awards each participant a stipend at the close of the eight weeks.

Though SEAP undoubtedly provides students with a great learning experience, Dr. Constella Zimmerman of ICON (Integrated Community Outreach Network), manager for the Fort Monmouth CERDEC apprenticeships, is concerned about the stringent stipulations that student participants must agree to.

"SEAP started this year on June 20," Zimmerman said. At this mandatory starting date, "most students [here] were still in school." Special permission had to be obtained in order for those finishing their school year to even be admitted to the program. Even then, all absences will have to be made up by working additional days after the eight-week program has officially ended.

The SEAP agreement is mainly drawn up by Walter Reed affiliates, members of another Army institution that help enroll students in SEAP. Zimmerman feels that the needs of SEAP programs in the South, where schools break for summer earlier in the year, are often accommodated at the expense of SEAP students in New Jersey. She said SEAP is valuable to young people, and she will continue striving to create more suitable arrangements with the SEAP policy-makers.

The future of these issues doesn't worry SEAP student Isra Shaikh, though, who is just grateful to be in the program.

"This is great—it looks good for college applications," Shaikh said, who entered this fall as a senior at the Academy of Allied Science and Health. "It's a good job. It's better than anything else I could have done in the summer."

At the completion of the eight week program, the SEAP students submit written reports detailing their work experience and create visuals to go along with oral presentations they will give in Washington D.C. to Department of the Army government officials.

Senator honors Kauai student's achievement in science, math, technology

By Thomas Moyer
Research, Development and Engineering Command Public Communications

U.S. Senator Daniel Inouye honored six middle school students' achievements in a national science, math and technology competition at an awards presentation on the island of Kauai August 12.

Representatives from the U.S. Army-sponsored eCYBERMISSION competition presented two student teams from Chiefess Kamakahelei Middle School with awards and savings bonds to recognize these accomplishments.

eCYBERMISSION, a web-based science, math and technology competition, allows students in grades six through nine to compete for regional and national awards, while working to solve problems in their community.

Tyler Navarro, (eCybermission Hurricanes Hawaii eight grade team) presents a lei to U.S. Senator Daniel K. Inouye at the Hurricanes' savings bonds presentation. Sgt. Maj. Enoch L. Godbolt, Army Research Lab, sergeant major, Mayor of Kauai, Bryan Baptiste and a fellow eCybermission student look on. (Photo by Thomas Moyer)

"We are extremely proud of the great representation of students from Hawaii who competed in eCYBERMISSION this year," said Kelly Stratchko, eCYBERMISSION program manager. "The winning projects were quite impressive and continue to have an impact in communities across the nation. The U.S. Army is committed to continuing to inspire future leaders in these fields."

"Flame Ignitions Ruin Everything (F.I.R.E.)," from Chiefess Kamakahelei Middle School in Lihue, Hawaii, were recognized as National Finalists in the competition. The team, comprised of eighth graders, Kelan R. Adachi, Daniel Victor, and Kelsey Gaetjens, and Team Advisor Leah Aiwohi, developed a web site to educate the community on fire prevention and preparedness at home. Each member of the team received a $3,500 EE savings bond, in addition to a $3,000 EE savings bond each received for selection as a regional winner.

In addition to F.I.R.E, four other teams from Hawaii were honored with awards from eCYBERMISSION this week: "Hurricanes_HI," also from Kamakahelei Middle School, "Road 2 Fame," and "ice cream," from Moanalua High School, "The Dumpsters," from Wheeler Middle School, and the "warriors," from Pearl Harbor Kai Elementary School.

Registration for the 2005-2006 eCYBERMISSION competition opened Sept. 1, and runs through Dec. 12, 2005. The eCYBERMISSION competition is open to all students in grades six through nine across the United States and to students enrolled in Department of Defense Education Activity schools throughout the world. For more information on RDECOM educational outreach programs go to www.rdecom.army.mil and click on educational outreach programs.

NSC, UMass extend partnership

Natick Soldier Center Public Affairs Office

Successes shared by the Natick Soldier Center and University of Massachusetts will have a chance to continue and grow under the Memorandum of Understanding signed at the Conference Center Aug. 4.

Philip Brandler, NSC director and Jack Wilson, UMass president, signed the MOU that extends the agreement for a cooperative working relationship in areas of mutual interest for another three years.

NSC has the mission to conduct research, development, testing and engineering relating to technologies for the individual warfighter system and support systems that sustain them in the field.

UMass provides education and conducts research and development in multiple fields, including textiles and food processing that corresponds to many of the goals and objectives of the NSC.

Under the agreement, NSC and UMass will work together to identify, evaluate, qualify, research, develop and commercialize appropriate concepts, technologies and products related to the individual warfighter and civilian equivalent engaged in high-risk occupations.

"I was looking over the summary of products of the MOU, and sometimes you enter a relationship for the public relations value. This is not that kind of relationship," Brandler said.

In just the last five years, the NSC has hired 20 UMass students, and has worked with students on senior capstone projects and master theses programs. Several NSC scientists have served as visiting scientists/adjunct professors.

UMass and NSC have worked together on ballistics materials, fibers, polymer science and biomechanics research. The Combat Feeding Directorate and UMass are getting closer to developing an alternative packaging to reduce ration wrapper waste.

Photovoltaic research shared by the two groups has led to products that can power electrical accessories in tents and recharge batteries. Collaborative research at the UMass-Dartmouth and Supporting Science and Technology Directorate are exploring a biosensor to detect botulinum neurotoxins.

Another new program is investigating what's being hailed as a promising new class of anti-cancer polymers. Patented new technology by NSC and UMass-Lowell inventors could lead to new classes of anti-cancer drugs.

"Whatever we have accomplished from the MOU will be expanded and increased," Brandler said.

Wilson called the NSC a "tremendous resource" and said he was "happy to see the fruits of our collaboration."

A new nanotechnology center inn Amherst is expected to join the existing center in Lowell, together forming what Wilson said he believes will be the nanotechnology capital of the world.

"We believe in partnerships. You can see the relationship with UMass and the Natick Soldier Center is strong," Wilson said. "If it plays even a small part in strengthening the Natick Labs, we are delighted."

For more information about the Soldier Systems Center or the Natick Soldier Center, please visit our website at: www.natick.army.mil.

Aspiring engineers take over the hallways of TARDEC

By Ashley John
Tank Automotive Research, Development and Engineering Center

Michael Rose explains the IHMEE AR project to a TARDEC employee during the Summer Hire Expo.
(RDECOM photo)

The hallways of the U.S. Army Tank Automotive Research, Development and Engineering Center were a happening place during the 5th Annual Summer Hire Expo this August. This year marked the fifth consecutive year that TARDEC has sponsored the high school and college student Summer Hire Program, totaling 83 students with multiple educational backgrounds from all over the Detroit Metropolitan area.

"This is a chance for the summer hire teams to display what they have been working on throughout the summer," explained Kaitlyn Harbour, summer hire student and Expo Coordinator. "Students have the opportunity showcase what they have learned and experienced during the three month program." Harbour has been a summer hire student for the past five years, and plans to attend George Washington University.

"Participating in the TARDEC Summer Hire Program has led me to the educational move that I have made. I want to study government affairs and one day I would like to work overseas supporting the U.S. Department of Defense."

This program exposes aspiring engineers to the multiple technological possibilities that TARDEC houses. The overall purpose of the program is to show these individuals what science and engineering can offer as a career, while highlighting the many benefits TARDEC has to offer.

As a part of the Summer Hire program, the student experienced working on a technical project as a civilian for the U.S. Army. They also got to experience technology that could ultimately lead to enhancing the future forces, ensuring that our Soldiers are an agile, lethal and survival force.

Featured was an Interim High Mobility Engineering Excavator Armor Kit Installation Instructions Manual using Augmented Reality. AR is a system that superimposes graphics or text into the objects of your environment via optical or video systems. TARDEC is looked at the feasibility of implementing AR systems for future Add on Armor kit installations.

"This type of system has the potential to improve the installation process for the Soldier by making it quicker and easier to use; you will be able to see where the armor is supposed to fit on the vehicle" explained Michael Rose, IHMEE summer hire. The IHMEE armor kit is being tested at Aberdeen Test Center, while concurrently undergoing thermal property testing at TARDEC. The armor kit should be expected to arrive in theater this month.

"This experience was great. I am studying computer engineering, and I don't get the opportunity to look at a lot of mechanical engineering applications. The summer hire experience at TARDEC let me broaden my engineering horizons," Christopher Mikulski, IHMEE summer hire said.

"This experience has been a great opportunity for me to get my hands dirty on relevant projects that are affecting Soldiers in theater," added Rose. Both Rose and Mikulski are students at the University of Michigan and are studying Mechanical Engineering and Chemical engineering, respectively.

Dr. Richard McClelland, director of TARDEC, made visiting the expo a priority every year, "This is a great opportunity for TARDEC to reach out to future engineers. Exposing and enlightening talented young individuals to the critical role

TARDEC plays for the Soldier and the Global War of Terror will influence them to pursue an education within the engineering and scientific fields. Upon their college graduation, we hope these students keep TARDEC in the forefront of their ultimate career choice," McClelland said.

The students are assigned to projects that are developed by experienced and established TARDEC Senior Engineers. The projects are selected for the Summer Hire program based on how beneficial they will be to existing TARDEC programs, while providing the students an opportunity to apply their own knowledge and skills in a professional working environment.

Serving as team leaders for the project team are TARDEC Junior Engineers, which mainly consisted of engineering interns or college engineering co-ops. The Junior Engineers have an opportunity to receive first hand experience in project management and team leadership, a trait that could be crucial to long-term management success.

The Junior Engineers, along with their summer hire teammates, were responsible for regularly reporting project status and accomplishments to their respective Senior Engineers. This year, TARDEC was successful in converting five of our summer hires into co-ops, and two of our summer hires converted into the Student Temporary Employment Program.

Stealing the expo was the 2D to 3D Conversion team. This six-man team, which consisted of four college student summer hires and two high school summer hires, received first hand experience on how to teach and learn about different software programs from peers.

By looking at the increasing usage of 3D files, TARDEC needed to develop an efficient method for converting the 15,000 2D AutoCAD files into the 3D Pro/Engineer file format. Designing parts through the use of 3D modeling is more proficient than traditional methods because it uses fewer materials and is cost effective.

As a solution, TARDEC began using a program called Flexi Design, a partially automated plug-in for Pro/E that converts 2D AutoCAD files into Pro/E 3D parametric files. "The whole process becomes automated, and there is little effort made to covert a part," said Brent Wilson, 2D to 3D summer hire.

"There is a decreased time in building computer generated parts for vehicles; the 3D model can be generated within minutes." The process of converting to 3D files is more efficient due to the great increase in speed. By using Flexi Design, it now takes minutes to complete what used to take a few hours.

This application has been used for the past few months and more than 200 parts have been converted using this process.

"TARDEC's Mobile Parts Hospital builds parts from the file that we [2D to 3D Conversion Team] have created and saved; we are directly supporting the Soldier. It feels good to know that I am assisting [Soldiers] when they need it the most," Wilson said., 2D to 3D summer hire also felt that, "It was really cool that the different things [part drawings] we did are being used in combat situations," said Jeffrey Wyatt, 2D to 3D summer hire.

This project was not just a successful technology demonstration; it was also an opportunity for the summer hires to learn different software applications from each other. "There are two main programs that you [engineers] need to learn: AutoCAD and Pro/E. I was a pro at the AutoCAD program, but I needed to learn Pro/E applications. I learned everything that I needed to know about Pro/E from my team," Wilson said.

"I was just the opposite," Wyatt added, "I needed to learn all about AutoCAD and Brent [Wilson] taught me everything I needed to know. We helped each other out and taught each other a lot during this experience."

"It has been extremely motivating as an aspiring engineer to see where our efforts are being used; we know that we are impacting [Soldiers] and that's what inspired me throughout my experience at TARDEC," Wilson added.

This year Belinda VanNoy, manager of the TARDEC Summer Hire Program, initiated a Partnership with Focus: HOPE Center for Advanced Technologies. The CAT, which opened in 1993, integrates hands-on manufacturing training and academic learning within their state-of-the-art production setting.

"The CAT is also responsible for educating advanced manufacturing engineers at world-competitive levels, and houses the nation's largest African-American enrollment and graduates in manufacturing engineering. This year TARDEC had several students: Benjamin Eichhorn, Nichole Gilbert and Tina Butler, all of whom attended the CAT. These individuals demonstrated their technical competence on the California Motors Car Assembly Project.

"I feel I make the world a better place by motivating and inspiring these young students," VanNoy said. She continued, "During my 20 years of service I've done many exciting and rewarding things, but managing for the Summer Hire Program is most rewarding. I love my students. They are our future leaders. They are response, relevant and ready. I look forward to retiring and knowing that I helped shaped the workforce through the Summer Hire Program. I feel it's my responsibility to share life lessons with my students, hoping that one day they will reflect upon them. I want to make a difference in their lives."

For more information on TARDEC's Summer Hire Program, please contact Belinda VanNoy at (586) 574-8588 or VanNoyB@tacom.army.mil.

CERDEC Soldier visits students upon his return from Iraq

By Laura Fong
Communications - Electronics Research, Development and Engineering Center Public Affairs

Pérez gives his lucky cap away to a student as a token of his appreciation. (RDECOM Photo)

Master Sgt. Javier Pérez teared up when recalling the heartfelt cards he received from schoolchildren while he was deployed in Iraq.

“It’s hard to explain the feeling,” Pérez said. Until recently, he served as the sergeant major for the Communications - Electronics Research, Development and Engineering Center.

“It’s the kind of support you don’t expect, but it means a lot. The kids were saying ‘We thank you for what you do for the country,’ and it touches you.”

The children in Karen O’Regan’s class in the Swimming River Elementary School of Tinton Falls, N. J., sent well-wishing sentiments to Pérez and his soldiers last February for Valentine’s Day.

The gesture, Pérez said, caused an emotional reaction from every soldier there with him.

“When you’re over there, you think about your family, your loved ones, and you know they think about you too. But when these kids sent us something, it was like, ‘wow.’ It was the sweetest thing. All the soldiers felt that way.”

Pérez distributed the cards to his men, keeping one for himself.

“I still have it,” he said. “I would never throw it out.”

When Pérez came back to the United States, he arranged to meet the students of O’Regan’s class, to personally express his gratitude to the children.

“I went over there to speak to the class, and all the kids had lots of questions about what I do,” Pérez said.

The best part for Pérez, though, was meeting the little boy who had written him the Valentine’s Day card, and being able to give him a personal token of his appreciation.

“I gave him my hat, my lucky hat,” said Pérez. It was the hat Pérez had worn while facing indescribable dangers in Iraq. “I wanted him to have it because [the hat] meant something to me, and what he did meant something to me, too.”

Given what Pérez and his soldiers faced, as part of the Field Assistance in Science and Technology or FAST team in Iraq, traveling to “more places in four months than most [deployed] soldiers travel in two years,” it’s no wonder that Pérez counts his lucky hats, and cherishes a certain Valentine’s Day card as a reminder of why he does what he does for his country.

“It’s lucky--I’m really lucky. Nothing happened to me. I came back [with] not even a scratch,” he said.

Pérez, who has worked at Fort Monmouth as the senior advisor for the Military Deputy and Director of CERDEC for two years, will be reassigned to Scott Air Force Base in Illinois, where he will work for the Defense Information Systems Agency.

Army Officer makes significant contributions deployed, at home

By Amanda Gauthier and Thomas Moyer
Research Development and Engineering Command Public Communications

Lt. Col. Wayne A. Wolverton poses aboard a military aircraft on his way home from Iraq. (File photo)

While serving his country abroad as a public communications officer for an information management network in Baghdad, Iraq, Lt. Col. Wayne A. Wolverton, also made time to support his country's youth at home as a volunteer to the Army's eCYBERMISSION program.

eCYBERMISSION is a web-based science, math and technology competition sponsored by the U.S. Army that allows students in grades six through nine to compete for regional and national awards, while working to solve problems in their community.

Serving in the Army for 27 years, Wolverton has three children at home, ranging in ages from 8 to 17. After reading about eCYBERMISSION a few years ago, he thought the competition seemed interesting and rewarding to students. Wolverton has been involved ever since, participating as both an online CyberGuide and an Ambassador in the program.

"Through eCYBERMISSION, I have had the opportunity to work with some sharp, ingenious kids with great ideas for helping the community," said Wolverton. "When I was deployed to Iraq, I still wanted to be involved and I knew I could do so as a CyberGuide."

An essential component to eCYBERMISSION's success is a committed and diverse pool of volunteers. CyberGuides and Ambassadors are predominately Army civilian and military volunteers with active security clearances. CyberGuides provide on-line assistance to eCYBERMISSION teams while Ambassadors promote the competition throughout the country by visiting schools and distributing promotional materials to students. Additional volunteer roles include Installation Points of Contact and civilian and military Virtual Judges.

Wolverton said it was worthwhile to volunteer as a CyberGuide while in Iraq. He dedicated two evenings per week as a CyberGuide to view students' on-line postings, answer their questions about science, math and technology, and provide guidance on their projects. The time difference between Iraq and the United States was ideal for Wolverton's role; when he logged in as a CyberGuide in the evenings, he was able to chat on-line with eCYBERMISSION students who were working on their projects during the school day.

Wolverton also noted that using "CGBaghdad" as his screen name proved to be a good icebreaker between himself and the students, and he was pleasantly surprised by the students' genuine interest in the Soldiers' presence in Iraq.

"The most rewarding part of the competition for me was to see that the kids were appreciative of what our Soldiers and Marines are doing in Iraq. The students were informed and extremely supportive, which made my job even more gratifying," Wolverton said.

Wolverton has already committed to serve as a CyberGuide again this year, and encourages all civilian and military personnel to participate.

"Volunteers seem to be such an untapped resource. eCYBERMISSION volunteers can lend their enthusiasm and creativity in helping these students help the community. It is a truly rewarding experience for the kids as well as the volunteers," Wolverton said.

Registration for eCYBERMISSION volunteers is ongoing. For additional information about the competition and volunteer opportunities, visit www.ecybermission.com.

ECBC chemist honored by Army Materiel Command

Edgewood Biological Chemical Command Public Affairs Office

Famini (right) is presented the Outstanding AMC Personnel of the Year Award from Jim Zarzycki, ECBC technical director. (RDECOM photo)

Dr. George Famini, International Programs Division Chief of the Edgewood Chemical Biological Center was honored by the U.S. Army Materiel Command and named one of the10 Outstanding AMC Personnel of the Year. Famini received the award in a ceremony held July 25 at ECBC's offices on Aberdeen Proving Ground, Edgewood, Md.

Famini was recognized for his role involving directing, developing, and overseeing international cooperative activities. Famini has been instrumental in establishing formal laboratory-to-laboratory collaborations with key allies in Asia, North America, and Europe.

Famini has actively supported cooperative initiatives within NATO by engaging key allies through bilateral discussions and exchanges. In particular, a new formal relationship has been established with Norway and another reestablished with Poland. ECBC was the first Army laboratory to hold formal exchanges with Poland; this extension represents a successful 10 year relationship.

Famini's renowned knowledge and outstanding management skills have ensured the success of several multinational standardizations and cooperative research and development programs. He had dedicated himself to keeping Army research labs integrated into the global chemical and biological defense community to ensure that our warfighters have access to the very best technologies available worldwide.

Combat Feeding spearheads RFID policy

Two members of the Combat Feeding Directorate were awarded for their contributions to the introduction of Radio Frequency Identification to the Department of Defense.

Gerald Darsch, Combat Feeding director, and Kathy Evangelos, Combat Feeding program integrator, were presented with the Office of the Secretary of Defense Award for Excellence by Alan Estevez, assistant deputy Undersecretary of Defense for Supply Chain Integration, in Washington, D.C., recently.

“Your vision played a critical role in the adoption of this technology. DoD would not be where it is today if it were not for your dedication and perservance in brining this to the highest levels of DoD,” Estevez said to the honorees.

RFID provides automated, real-time logistics and information on Class 1 and other classes of supply for the DoD.

For more information about the U.S. Army Soldier Systems Center go to http://www.natick.army.mil.

TARDEC's tests engines, transmissions to support Forces

TARDEC's Mobility Technology Area, along with the TACOM Life Cycle Management Center, is testing engines and transmissions in support of the Army's Current Force. Testing will be conducted on the Bradley Fighting Vehicle transmission, the M1 Abrams engine, the HWMWV engine and chassis plus various Auxiliary Power Units. The testing will help resolve problems, provide information for source selection boards and enhance technological advantages and offerings for the Army.