Sandia assists Navy in shaping future of aircraft carrier operations by gathering, analyzing data

Team visits USS Harry S. Truman to review systems

By Michael Padilla

Sandia is helping the US Navy create the next generation of aircraft carriers by reviewing and analyzing current Carrier Air Wing (CVW) flight operations, maintenance, and support functions. The primary goal of Sandia’s project is to assist the Navy in achieving manpower reductions of at least 10 to 30 percent while increasing the amount of technology on board an aircraft carrier to reduce the overall workload per sailor.

“We will be probing each of these areas to find ways to maintain or improve airwing performance while reducing personnel and making the remaining jobs more desirable,” says Jeff Brewer (6861), principal investigator. “This will be done while simultaneously improving the airwing staffing decision-making process.”

The first phase of the project is a four-month evaluation of current Navy air wing operations, structure, and improvement alternatives. The second is a six-month phase in which Sandia will conduct an in-depth analysis of the alternatives established during the evaluation.

Sandia is assisting with the Navy’s CVN 21 program to develop the next-generation aircraft carrier. The actual carrier that will result in FY 2013 or 2014 will be designated as the CVN 78, the Navy’s 78th aircraft carrier.

“ar idea is not to simply have fewer people on board who work harder than previous crews,” says Jeff, “but to enable organizational changes, technology improvements, and work practice changes to achieve the desired operational capability of the airwing and make jobs more desirable for the personnel in the system.”

The Sandia team will be reviewing Navy documentation for aircraft currently in use and those anticipated to be in service in 2020. The team will discuss how flight operations, maintenance, and other support operations are performed both in the Atlantic and Pacific fleets. Jeff says there are differences between documented procedures and actual practice revealed by subject matter experts within the two fleets.

Sandia will also be gathering raw data by observing flight operations, maintenance, and support tasks.

(Continued on page 4)
What's what

When I went on vacation last year, Larry Ferrine dusted off his trusty old Underwood, snapped on his green eyeshade, and in a retro edition of "This & That" — ol' Larry's a retro kinda guy — alleged that I was in the Caribbean "with a boat load of gin and tonic, looking for that special lucky woman." What could it be? Then he announced about year's end that he was retiring, and I figured he wouldn't have me to kick around any more. But then he changed his mind and decided to cut back to part-time (with apologies to Dorothy Parker, how can they?) and he told us.

Sure enough, he filled in again when I went away for a couple of weeks last month. And sure enough, he impugned me again, suggesting that my recent trip was awash in "indigenous liquid goods" and that I was "visiting a new lady friend." OK. OK. . . but I went back for a wedding, after all, and weddings have receptions, don't they? And the "lady friend?" Well, she'd like Larry, despite what he says about her. She's an antique dealer.

Before Ebay, about the only mass venue for selling stuff was the classified ad section of the newspaper. Your hundred-dozens or so in a narrow column of reeeeaally small type had to be masterful, and people who sold stuff there regularly were artists with description, short words, and abbreviations.

Cars, guns, books, being a ch. . . er. . . frugal bunch, have adopted that art form in the Lab News, peddling all sorts of stuff, some of which raises giggles or downright guffaws from the people who put the classified ad page together for each issue and the people who copyread and proofread it.

Like, maybe: "COMPOST FILE, all vegetable scraps, $6, will throw in slightly rusted chicken wire enclosure." Or: "FOUR TIRES, PB34-97, used but still serviceable, $2 each."

Some of the joking would go, would call about the first ad and ask how rusted is the chicken wire, or how big is the enclosure, or would the seller deliver it. The line of inquiry about the ad for tires might go something like: "Oh, would you take $7 for all four?" Or, "I know it's 9:30, but it's Saturday night, so we don't have to work tomorrow (hee-hee-hee); would you mind if I come by to have a look at 'em?"

And so the fun goes, fortynight — the Sandian trying to sell the remaining half bottle of cough medicine; seven bricks for $2.50, and only one has a chip off one corner; eight-track tape player with complete set of Slim Whitman campfire serenade tapes; and so forth.

So, how creative are you? Make up a fake ad or two and send them to the e-mail address below. We'll have a contest . . . with appropriate prizes.

The following arrived in the e-mailbox, from retiree John Kirkland: "Sandia's name in odd spots has always been interesting, but Sandia as a personal name? The birth lists of Gregg County, Texas, for 1942 lists a Sandia Jane Collier. A misspelling in the official record? I wonder what Sandia translates to in this case? I don't think 1942 lists a Sandia Jane Collier. A misprint in the official record? I don't think so.

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Ron Detry, Sandia's chief security officer and VP of Integrated Security Division 4000, fielded some uncomfortable questions after the latest round of national laboratory security concerns.

“In this climate, there are no small security incidents,” Detry emphasized in a videotape presentation that kicked off the security awareness campaign at the Livermore site. “Any security incident reinforces the nation’s confidence in us. There are very few who can judge our technical work, but there are very, many who can judge how we operate as a business.”

detected eight representatives of Livermore or Pleasanton law enforcement and water agencies who attended the kick-off presentation.

Pat said she would prefer the awareness campaign motto (see box at lower right) to read, “Anywhere, anytime, it’s MY watch.”

Emphasizing that theme, the program was intended to remind everyone that they should make security a higher priority, both at home and at work. It featured recollections of responding to the 9/11 incident by Wesley Wong of the FBI’s New York office. An assistant special agent in charge, he currently heads the Special Support Branch, Counter-Inelligence Division.

Heading to work the morning of Sept. 11, 2001, Wong heard at his parking garage that a plane had hit the World Trade Center. He called the office to say he’d respond to see if any assistance were needed, thinking it was a small, private-plane accident that would require evacuating people and extinguishing a fire.

A firefighter on the scene sent him to a temporary command post in the lobby of the north tower. As he left, the firefighter called out to watch out for the falling bodies. Wong looked up and saw a business-suited man in his 30s falling through the air.

“It was just unreal, what I was seeing, until I realized what was actually going on,” Wong said. He ran inside before his hit, leaving “one less memory etched in my mind. . . . The most traumatic thing that morning was not watching the towers come down. It was watching those poor people leap to their death. You saw couples holding hands before they leapt, you saw people saying a prayer before they leapt.”

Arriving in the lobby, he saw workers from the Port Authority, mayor’s office, fire and police departments. Not being an expert in fire and rescue, he tried to stay out of the way.

“All of a sudden,” he said, “We heard a voice out of the darkness, ‘Is anybody down there?’ in unison, we yelled out, ‘Yes!’ Their rescuer instructed them to keep talking and come to his voice. Wong tripped on what he assumed was debris, then recognized a fire department coat. The firefighters crouched down and saw that it was their department chaplain, Michael Judge, injured but still breathing. Wong helped carry him out, eventually to an ambulance waiting at the corner.

Radioed to not go back in, Wong began to walk toward his car, but then changed his mind, turning back to see the top of the north tower turning back to see the top of the north tower starting to implode on itself. That was the second decision that kept him from harm’s way.

He ducked into a doorway just as a wave of smoke and debris came crashing by. “It was like day turned into night,” he said.

After making it back to the office and working all night, he returned to the site the next day. “I feel very grateful I didn’t have a role that day because I didn’t know if I could have handled it,” he said. “I completely broke down.” He surveyed a debris field 10 to 12 stories high where rescue workers were digging through the rubble with their hands.

Wong later learned that two-thirds of the people in the lobby that morning didn’t make it. He spent the fall working seven days a week and excused counseling, finally consulting with his priest after a shaky evening in which he found he couldn’t pick up his utensils to eat dinner.

The priest advised Wong to assume he was spared because God had another mission for him. Wong responded he hoped it would be easier than bringing out judge, the chaplain, and they both shared a good laugh.

Although he hadn’t read the 9/11 Commission report, Wong said he agreed with the finding that the FBI had a failure of imagination in contemplating the possibility of this attack. “Did we have bits and pieces?” he asked. “Sure, we had. But I don’t think it was enough.”

Wong often gives his talk to members of the military, once staying in the same suite the president had just vacated, an occasion he found remarkable as the child of parents who took a boat from China to become dishwashers. “For all the wrongs we do and all the ills we have,” he concluded, “I’ve always felt this is the greatest country in the world.”

Sandia CaliforniaNews

COMMUNITY EFFORT — Members of local law enforcement and water agencies were invited to the security awareness kick-off.

The security awareness campaign motto, “Anywhere, anytime, it’s your watch,” means, to Integrated Security Division Vice President Ron Detry (4000), “We are each a sentry assigned to guard the information entrusted to us by the nation. Like a sentry, we are never off-duty.”

The campaign has four Rs:

- The right information
- The right people
- The right time
- The right mechanisms

Organizers envision presenting different topics monthly, focusing this month, for instance, on Classified Removable Electronic Media. California Laboratory VP Ming John (8000) said Sandia has some 11,000 pieces that will be placed into a more facile accountability tracking system over the next 18 months throughout the Labs, a broader and more up-to-date version of the Livermore Administrative Document System that has been used at the California site. 
Carrier

(Continued from page 1)

Items of particular interest include the definitions and scope of the tasks and functions performed within individual jobs, and staffing levels for various types of jobs and tasks. This includes formal schooling, on-the-job training, self-study, testing of skills involved to prepare people for those jobs, and the tools and techniques used to execute these tasks.

In-depth analysis

Jeff says the actual execution methods for flight operations, support jobs, and the design of the spaces aboard current aircraft carriers where these tasks are performed will be analyzed. This knowledge will be combined with the designs envisioned for the next-generation aircraft carrier. The complexity of carrier flight operations and the associated support functions require an unusually high level of system understanding and computational modeling to achieve optimal combinations of personnel, equipment, and procedures.

"The concept of operations under which an aircraft carrier is asked to function can change rapidly," Jeff says. "There currently isn’t a detailed, rapid, and robust analytical tool for probing this particular complex system."

System of systems

Creating a "system of systems" analysis capability that enables greater quantitative understanding of the aircraft carrier environment is key to the project, says Jeff.

System of systems refers to a collection of systems that result in emergent behaviors that cannot be explained by individual system analysis. This includes monitoring system performance at a sufficient level of detail and enabling rapid "what if" or tradeoff analyses to aid in decision making by Navy leaders.

In this project, building a comprehensive system of systems capability to monitor and analyze carrier air wing operations may involve linking a number of computer models that have been developed independently. In addition, new models may be built where necessary, and merged into a computational architecture that becomes a system-wide model.

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Dirty bombs

(Continued from page 1)

Never intended as secure sites

The Lithuanians identified 300 sites they thought contained large quantities of radioactive materials, then culled the list down to 25 high-priority sites where radiation sources needed to be located and secured first. Included in the list were several hospitals where 5,000- to 6,000-curie cobalt-60 sources had been used.

"As hospitals they were never intended to be high security areas," says Bill. Former Soviet military bases, industrial processing sites, and one nuclear waste repository were also included.

Teams of Sandians, including Dan Lowe (6952), Keith Young (6952) and Scottie Walker (6952) have returned several times to advise the Lithuanian government and oversee security upgrades at some facilities, and to repackage and transport some sources to more secure locations. In addition, surplus Sandia radiation-measurement equipment has been donated to the Lithuanian government.

"Basically they needed modern diagnostic equipment to accomplish the objectives of the project," Bill says. "They did not have enough equipment for the RPG to monitor the whole country."

Lithuania was the first of four governments Sandia is now working with. Sandia personnel also have participated in visits to Tanzania and Greece, where contracts for security upgrades were negotiated. Fred Harper and Paul McConnel (6342) also provided training to Greek officials in preparation for the 2004 Summer Olympic Games.

Future projects include work in Russia, Egypt, and additional countries of the former Soviet Union.
Landscaping

(Continued from page 1)

tors have redesigned the landscaping.

Computerized irrigation

For example, Facilities is in the final stages of installing a new computerized central irrigation control system that can detect when winds are high, when it’s raining, or when a leak has developed in the system. In times of high winds, the system will stop irrigation until the wind reduces to three mph. When it senses rain, it will reduce irrigation time. It can detect a leak within the first two minutes and, within three seconds, will shut the system down.

“Under the old system if a leak developed it would run at the rate of 200 gallons a minute and would not shut down until someone manually turned it off. That was a lot of wasted water,” Robert says.

In addition, the old system had 80 irrigation controlling devices in all the tech areas. Under the new system, that number has been reduced to 27. Instead of several people servicing the system, only one is needed now.

Robert says before installing the new computerized irrigation system, he looked for ideas and systems at the University of New Mexico, Kirtland Air Force Base, in Denver, and in Phoenix. Now, places like those are studying Sandia’s modern system.

Saving trees

Saving trees has been one of the gardening team’s favorite activities for the new landscaping efforts. As new construction gets underway (MESA, Weapons Integration Facility, ECIM), it means that some mature and beautiful trees have to be moved. To pull them up and destroy them would be a shame, Robert says.

This started the endeavor to save trees, scheduled for the chainsaw, including some 30 trees from the area surrounding Bldgs. 858, 897, and the Exterior Communications Infrastructure Modernization (ECIM) project that were moved to Bldgs. 825, 960, and 962. Each tree was valued at about $2,000 — resulting in a cost saving of $60,000.

Another 25 trees — valued at between $600 to $1,200 each — would have been destroyed as part of communication cable upgrade, but Robert and his crew found new homes for them.

“A lot of planning goes into moving trees,” Robert says. “The time frame for moving them is very short — December, January, February, and the first two weeks of March.”

In addition while moving trees, the crew has to be aware of birds that make the trees their habitats, even migrating birds. Last year they came upon a hummingbird nest, which had to be relocated.

Xeriscaping

Much of their work involves xeriscaping. At Bldg. 825 grass was removed and replaced with drought-tolerant plants and trees, rocks, and a patio area.

The team has found another way to be inventive with xeriscaping. They have saved thousands of dollars by recycling old rocks. When they got a bid of $14,000 to put gravel down in the west parking lot in Area 4, Robert knew he could do better. Robert was contacted by Danny Baca (10848-2), roofing inspector, and was able to obtain 120 yards of used roofing gravel that was headed for the dump. Robert had it cleaned and laid out, for a cost of about $2,000.

It used to be that construction material like gravel that was headed for the dump. Robert had it cleaned and laid out, for a cost of about $2,000.

Landscaping is a good field; I have a passion for landscaping. The only things we have to worry about are prairie dogs, bee stings, and rattlesnakes.”

Sandia Peak Challenge set for Saturday

THE FOURTH ANNUAL Sandia Peak Challenge will take place Saturday, Aug. 21, at the Sandia Peak Ski Area. Proceeds from the event support the Cystic Fibrosis Foundation. Competitive events include a 4.1- and a 7.2-mile trail run and an 8.2-mile mountain bike race. Noncompetitive events include a 4.2-mile mountain bike ride and a 2-mile fun run/hike. The event will also feature a live band, a kids’ jumper, and a rock climbing wall. Sandian Lori Dotson (6874), seen here, won the women’s 7.2-mile run at the event’s first year (2001). Register at REI on Thursday or Friday at the Sandia Peak Ski Area on Saturday, Aug. 21, at 7:30 a.m.

“The past, trees and other vegetation around the new buildings were selected by the building contractors,” says Robert. “Drought-tolerant trees and plants were typically not a consideration. Today, teaming with Facilities’ architectural engineers, gardeners assist in the selection process.”

Robert started out at Sandia as a mechanical technician apprentice. After participating in a five-year apprenticeship program and working as a mechanical craftsman for eight years, he joined the Roads and Grounds Services Team as a Team Lead. He works for Ernie Nevada, Manager of Structural and Ground Services Dept. 10843, who remembers his own days as a Team Lead on grounds in 1981, when the water hose was the only means to water plants. Today, Robert and his crew have put the word professional in gardening and have taken Sandia’s landscape to a new level for all Sandians to enjoy.

“Landscaping is a good field; I have a passion for landscaping,” he says. “The only things we have to worry about are prairie dogs, bee stings, and rattlesnakes.”
Global Nuclear Future offers comprehensive energy vision

The Vision: 1,000 years of stability

This description of a future with global nuclear power is adapted from a joint statement issued by Russian and US lab directors in Vienna, Austria, last month and from other sources.

The US and Russia, archfoes of the nuclear era, have accumulated experience in solving scientific and technical problems around nuclear energy. The two countries are now reaching out to other major nuclear power nations with a vision of plentiful electricity, transportation fuel, and potable water for the world in the 21st century.

In fact, all of the current or imminent deplorable energy technologies, nuclear power (so meat to meet world demands of energy, water, and hydrogen (for transportation).

To achieve this vision, scientists have called for adoption of a new more “holy” fuel cycle, with more complete use of uranium and materials generated in weapons development. Also, uranium, there are also abundant supplies of thorium.

This general capability could be shared with developing countries through reactor license agreements that would not require the developing nations to “own” nuclear materials. Russian scientists have designed safe, smaller reactors that could be brought by the world to reduce nuclear materials from those of non-Russian product material left over from the Cold War.

Medical, industrial, space, and other applications would benefit from the ability of engineers to manage fuel rods, to squeeze even more useful life from them.

An efficient new generation of high-temperature reactors would fuel the creation of hydrogen — a key interaction of nuclear and transportation fuels for the future, and power derailment plants to make rail-water useful for a variety of purposes.

Paul Robinson: Sandia can help provide systems solution for 21st century energy challenges

SANDIA LAB NEWS • August 20, 2004 • Page 7

By Will Keener

The US needs a systemic approach to the problems of providing energy for the world in the 21st century, says Sandia President C. Paul Robinson, and Sandia can help.

The nuclear energy is a part of that solution. It can offer economic growth for developing countries that threaten from greenhouse gases and water scarcity, and provide political stability by removing the dangers of nuclear proliferation.

But nuclear power has to be done right — and gaining acceptance for global nuclear power is a tough sell, he concedes. Last spring Paul accepted the position of chair of the US delegation of ten national laboratory directors, who met in Vienna, Austria, with nine Russian laboratory directors to discuss issues around nuclear power (Lab News, Aug 4). The directors issued a joint statement on sustainable energy for th century and agreed to pursue the cause with their respective governments.

Paul and the US laboratory directors are working closely with DOE, where Kyle McCarron, deputy energy secretary, has been a major supporter of their work. With elections coming up, policy is now taking a back seat to political thinking in Washington and elsewhere, but Paul recognizes the importance of working with other parties.

“ Our aim is to provide the right technical answers to which party is in power,” he says. “We are setting goals and moving ahead.”

The global nuclear future concept got a big boost from an earlier Bush-Putin summit in Moscow, Paul notes. It makes sense for US and Russian scientists to have technology answers available at a future summit, following the elections.

US laboratory directors are also working with industry, says Paul. At a Decision-Makers Forum held during the conference, held in Crystal City, Va., industry executives weighed in on the issues.

Eventually, using advanced techniques, “we can extend the electricity available from our initial fuel estimates of 100 to 500 years up to 1,000 years.”

“It was very well attended by key manufacturing and energy supply companies,” says Paul. The large nuclear plant vendors of the 20th century are now largely gone, he notes. Many have moved into other energy generating areas. “A key question now is where will the manufacturing be done?” says Paul.

Recognizing that only nuclear power is capable of meeting the growing world demands for safe, clean, plentiful electricity, fresh water, and hydrogen for the critical transportation segment, the directors have outlined a plan to provide 30 to 40 percent of world electricity by 2050.

Using advanced reactor designs and fuel cycle concepts capable of also burning “surplus nuclear materials” from weapons work “we can extend the electricity available from our initial fuel estimates of 100 to 500 years up to 1,000 years,” says Paul. This approach would require a change in US policy to use certain military materials, plutonium, for example.

Russian scientists have been doing a sampling amount of research on reactor designs and fuel cycles, with a variety of cooling systems, says Paul. “Their nuclear engineering capability is very highly developed.”

The role for US labs in supporting this new policy involves “experiences in improving plant reliability, reactor control systems, and efficiencies to get the most electricity for the investment’s dollar,” says Paul.

“At this country we improved our reactors at the point where they are now operating so much better in producing electricity that we have created the equivalent of 27 additional plants to the grid,” Paul told the Lab News.

That is important because no new nuclear plants have actually been built in the US since the Palo Verde nuclear plant in Arizona in the 1970s (although a number of plants started earlier and work stopped in the 1970s have now been completed).

Sandia’s modeling and simulation capabilities can be valuable in predicting reliability of new plant designs. “We can build them and test them in cyber-space, and when we’re sure a design has the required reliability we can build it,” says Paul. "The Russians are keenly interested in this capability.”

Spreading the cause beyond the US and Russia is another goal of the consortium of laboratory directors. France, a major nuclear power player, has expressed an interest and will discuss the concepts with US representatives, says Paul. Russia has committed to approaching Japan, another key player.

To make this nuclear dream a reality, the US government may have to intercede, as it did in the first nuclear era, to build some pilot plants to demonstrate the effectiveness of the new designs, says Paul. “Sandia’s job will be system integration.” We need to keep the consortium of labs with us,” said Paul. “We need to have a voice in moving forward.”

We are doing our homework as a system of national laboratories to predict reliability and address safety concerns. We are addressing proliferation concerns as a centerpiece of the effort. This is a huge research task, but as a system of labs we can accomplish it.”
Bright students and cutting-edge technology displayed at Annual Student Intern Symposium

By Matthew Stackpole

Q: The imminent closing of the Coronado Club creates concerns about the continuing degradation of benefits or "rewards" that have been historically very high at the Labs. I began working here in 1979 and was told that any change to our benefit package has always been positive for the employee and for many years that seemed to be true. But the last 10 years or so has seen a drastic reduction in the value of the Coronado Club and was a facility developed primarily for the recreation and social needs of the Albuquerque community. It has provided many social and recreational opportunities for employees and families since the 1950s. As the Albuquerque community has developed, many new options have appeared on the horizon. Accordingly, the utilization of the Coronado Club has changed dramatically since its inception nearly 50 years ago.

The Coronado Club continues to provide valuable services to families, particularly with the sum-mer program, and periodically throughout the year with special programs. The facility housing the Coronado Club additionally supports conference facilities for a variety of Sandia organizations, food service to complement the cafeteria and other local facilities, and finally space to support a variety of club and retiree activities. The building is really quite cold; a recent review has indicated that to bring this building to contemporary standards, it would require at least $5,000,000. Also, in its current form, an annual subsidy is additionally required to maintain current services. The activities of the Coronado Club have been carefully reviewed in context of the multiple other programs needed by the Laboratory, particularly for the technical business of the Laboratory. In the end, a decision was made to invest the $5,000,000 in other endeavors that were directly related to Sandia mission needs, and to look for other alternatives to support the myriad of activities currently supported by the Coronado Club. I too acknowledge a sense of loss with this change, but there is a very strong intent to try and meet the diverse needs currently supported by the facility.

Your commentary about Sandia Benefits merits an additional comment because Sandia's benefits have continued to evolve and change with the stated intent of trying to meet the needs of employees, current employees, their families, and retirees. On a periodic basis, the collection of benefits is compared to other companies that are in the business with DOE facilities, and Sandia's benefits, in aggregate, continue to rank in the top three across this community. It is sometimes a reflection of the rapidly escalating health care costs and the need to use multiple avenues of funding for these expenses. Sandia's current approach is significantly lower than most other companies against whom we compare. In any case, our intent is to continue providing benefits that are very appealing to employees, particularly in the benefits design perspective, as well as support services for our employees.

— Larry Cleverg (3500)

Reader asks: Why are we not entitled to a viable C-Club?

If it is true that an organization is best evaluated by first examining the opportunities afforded to its youngest members, then Sandia is well represented at the Annual Student Intern Symposium. The symposium brings together interns, technical staff, mentors, management, and representatives from industries and academia to present the technical work done by the interns. Roberta Rivera (5535), who runs the symposium, says that the current set-up is a beneficial endeavor for all parties involved.

"Students get the opportunity to see what other interns are doing at Sandia and get the exposure to the recruiters, managers are able to get a finished product from the student, and Sandia gets the opportunity to show why our internship program is the best in the nation."

Indeed, the students who participate would agree. In fact, though managers can require their student to enter, participants seemed honored to have been part of the symposium.

Intern Letitia Stan (9514) of Information Systems says, "The symposium presents an occasion to perform a proverbial wide-angle lens of the Labs. I think the symposium is very beneficial," she says, "because it gives me an opportunity to understand the context in which my work fits." Letitia's presentation was on her effort to "Improve Access to Business Information" by eliminating superfluous database applications.

The symposium does not focus solely on any one area of Sandia's technology. The students present on topics representing all the fields of study at the Labs. Some presentations were on projects that were near completion, such as Justin Dubois' (9512) presentation "Effectively Creating Automated Scripts for Performance Regression Testing." Other interns focused on ideas that were yet to materialize, such as Leslie Fuerschbach's (5500) "Solving the Healthcare Crisis by Redefining Traditional Roles with Modern Technology."

Akinbayowa (Bayo) Falase (6151) says the symposium "gives you a chance to present and display your talent to the world and get exposure to graduate schools you may not have otherwise even considered," as he references the Purdue and Lockheed Martin.

SANDIA INTERN Bayo Falase (6151) uses his posterboard titled "Laboratory Investigation of the Performance of Trace-Explosives Detectors" to explain his research to fellow intern Brian Sinar (5516). The two were among 230 presenters and 800 attendees at the Annual Student Intern Symposium.

The symposium forces the students to hone their communication skills, meet deadlines, see their place in the big picture of Sandia — all while being exposed to graduate schools and companies they may not have otherwise even considered — it meets a lofty purpose: instilling self-confidence. Aswan moderator Gregory Wys (4145) says, "The symposium forces the students to think about what they did."

[Mathew Stackpole is an intern in Media Relations and Communications Dept. 12640]
Through one man’s eyes

“I love you,” says an Iraqi little girl just big enough to talk, as she and other young children were given some Tootsie Rolls by Sandian Wes Martin (4135). For Wes, who recently returned to Sandia after eight months in Iraq, they are words he won’t readily forget.

“Children are what this war is all about,” says Wes. “Iraqis want to raise their families in peace, with sufficient food, clothing, and shelter. They want their children to grow up in an environment free from horror. In this respect, they are no different from American parents.”

“The fighting makes orphans of little children. On one of my trips I spotted some young children going to school. As they were passing around a Bradley Fighting Vehicle, they were laughing and playing. Meanwhile, the vehicle was manned by a team of soldiers ready to deal with anyone who tried to harm them.”

Wes, an Army Reserve Colonel, served as Anti-Terrorism/Force Protection Officer for Combined Joint Task Force 7. His job included security enhancement of all bases, implementation of technical solutions, creation of a nationwide badging program, and the assessment of vulnerabilities. He was instrumental in creating a Team Chief Working Group composed of all coalition chiefs. When he returned home he was supervising assessments of Coalition bases, police stations, embassies, government buildings, dignitaries, and shrines throughout the country. Wes served under Lt. Gen. Ricardo Sanchez, a man he calls a “great leader.”

“Iraq is a country about the size of the state of California,” says Wes. “It is varied, with its tree-covered mountains, desert, and rich soil. Riding in a helicopter, you can see the forest of palm trees stretching as far as you can see in all directions. Toward Al Kut, the wheat fields remind you of Kansas.”

“When I got there, Saddam was still at large. My main concern was attacks coming from my follow- ers. By the time I left,” says Wes, “the threats shifted to external terrorists and religious insurgents.

“Because I was on the move, I got to see a lot of the country,” he says. “The destruction of structures created by war is nothing compared to the destruction of humanity created by Saddam.”

Iraq is a very depressed country, but changes continue to occur. Satellite dishes, once forbidden by Saddam, are all over the place. The people have new freedom to communicate with the outside world.

“When the men tried to push through the writing of the new constitution per Islamic law, the women pushed back. When that happened, I knew we were making major progress.”

“In Wes’s close-out evaluation he was cited for successfully outmaneuvering Al Qaeda operatives in An Najaf, preventing massive attacks during the holiday period, and for averting the bombing of a doctor’s convention in Baghdad. In averting the attack in An Najaf, Wes had 36 hours to develop and execute a defensive plan. He was awarded the Bronze Star for his service. Of his family’s concern during his absence, Wes says, “They know I have duties and responsibilities. They know I am an American soldier.” He and his stepson were in Iraq at the same time, but they did not see each other. His stepson is still there.

“Being in Iraq gave me an even greater appreciation for our country,” says Wes. “I have long admired George Washington. He gave of himself to build a nation centered on the people. Saddam instead took from the people to build an empire centered on himself. In my opinion, today Washington is remembered with the greatest of honor; Saddam was pulled out of a hole.”

Story by Iris Aboytes

‘Rollercoasters have nothing on Blackhawks,’ says Sandian Wes Martin after tour of duty in liberated Iraq

According to Ann Murphy (3332), 21 Sandians have returned from active duty (several have served more than one tour). There are currently 12 employees on military duty and an additional eight who anticipate receiving orders. Because of privacy issues, a list of Sandians involved cannot be furnished.
Retired Senior Mentor Tom Schultheis receives Korean War Service Medal 50 years in the making

By Matthew Stackpole

In the winter of 1994 Tom Schultheis retired from Sandia after completing 37 years of service, including three years at Los Alamos. In 1997 he became a Senior Mentor to the Weapons Intern Program at Sandia where he works to train a generation of scientists whose sole experience with nuclear weapons is books and simulators.

"Most of them [the students] had experience with weapon systems but had no experience with the weapons themselves," he says regarding the trainees. He says it was gratifying "to be able to pass on our experience to these students." Was the actual process of acquiring real-world experience with nuclear weapons ever a trepidatious endeavor? He conceded that at times testing nuclear weapons in the Pacific could be "a little scary," but says his experience in the Air Force prepared him well.

"I flew with SAC [Strategic Air Command] and flew the B-36 as a crewman." The B-36 could carry two of the Mark-17s, as Tom received an application from Congressmen every year in the making: Tom received an application from Congressmen every year. In 1997 he received an application from Congressmen and the Department of Defense. - - 

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If you have specific concerns regarding your calculations, please contact the Payroll Department.

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Like many Sandians, I use a commercial software package (TurboTax) to prepare my Federal and State income tax returns. In recent years, they have introduced a feature that allows users to download financial information from participating banks, mutual funds, etc. (1099-INT, 1099-DIV, 1099-B forms) and employers (W-2 forms) from the Web and import that information directly into their return. Individual passwords and secure encryption are used to assure privacy.

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