

TECHBeat

Dedicated to Reporting Developments in Technology for
Law Enforcement, Corrections and Forensic Sciences

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NLECTC
National Law Enforcement and
Corrections Technology Center
A Program of the **NIJ**
National Institute of Justice

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ABOUT TECHBEAT

TechBeat is the quarterly newsmagazine of the National Law Enforcement and Corrections Technology Center System. Our goal is to keep you up to date on technologies for the public safety community and research efforts in government and private industry.

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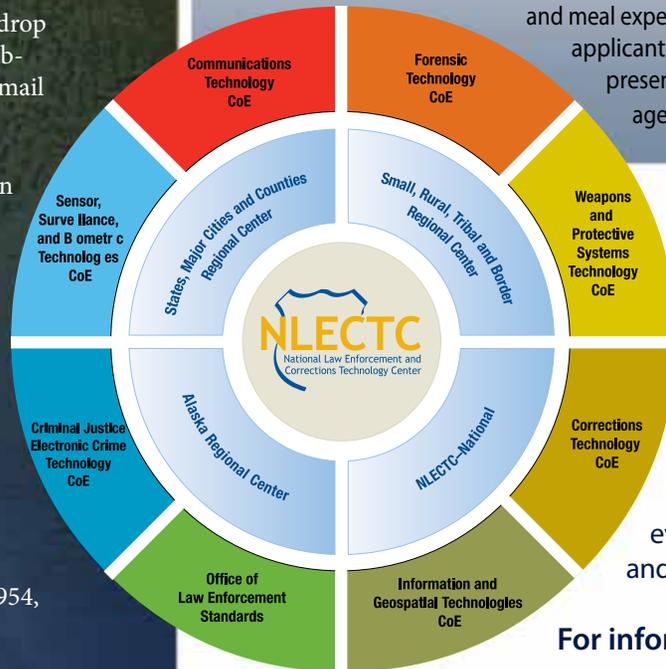
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NIJ TECHNOLOGY INSTITUTE for LAW ENFORCEMENT

Application Deadline: June 30, 2011

Agenda: The National Institute of Justice is sponsoring a Technology Institute for Law Enforcement. Participants will learn about and discuss technology initiatives and issues affecting the law enforcement community. Attendance is limited to 25 full-time, sworn, mid-grade state and local law enforcement officers who are actively involved in technology-related issues. Attendees receive and exchange information about existing and developing technologies.

Registration: To obtain an application, visit <http://www.justnet.org> or contact Bruce Blair at (800) 248-2742 or bblair@justnet.org. An agency may submit one application for consideration. Alumni from previous Institutes will not be considered. The application must be completely filled out in order to be considered. All travel, lodging and meal expenses for participants are paid by NIJ. Selected applicants will be required to present a 10 to 15 minute presentation on a technology challenge that their agency has solved or currently faces.



The NLECTC System

The National Law Enforcement and Corrections Technology Center (NLECTC) System is critical to the National Institute of Justice's mission to assist state, local, tribal and federal law enforcement, corrections and other criminal justice agencies address technology needs and challenges.

The NLECTC System is an integrated network of centers and Centers of Excellence that offer free criminal justice technology outreach, demonstration, testing and evaluation assistance to law enforcement, corrections, courts, crime laboratories and other criminal justice agencies.

For information, visit www.justnet.org or contact (800) 248-2742.



NCJRS is a federally funded resource offering justice and substance abuse information to support research, policy and program development worldwide.

For information, visit www.ncjrs.gov.

Sept. 18-23, 2011
Annapolis, Md.

"KEEPING TRACK"

Under Adverse Conditions

A trooper sets out on a snow machine across the Alaska wilderness, searching for signs of the illegal hunting reported in the area. Miles away from his starting point, he hits a buried rock and is thrown from his vehicle, knocked unconscious by the fall. When he fails to report in to his colleagues, his personal tracking device tells them exactly where to look.

The tracking device mentioned in the scenario above probably sounds like every law enforcement commander's dream come true with no basis in reality. However, thanks to the efforts of an extensive technology team (see sidebar, "A Team Effort") and assistance from Alaska law enforcement agencies coordinated by the Alaska Regional Center, that dream has moved closer to reality.

The Alaska center is part of the National Law Enforcement and Corrections Technology Center (NLECTC) System, a program of the Office of Justice Programs' National Institute of Justice (NIJ).

In July 2010, and again in October, the Alaska Regional Center and Savannah River National Laboratory (SRNL) worked together to coordinate an advanced wireless tagging, tracking and location technology demonstration in Seward and the surrounding area. Funded in part by NIJ and the U.S. Department of Energy, this developing technology could have applications for community corrections, special response teams and SWAT teams, in addition to its potential use for seamless remote tracking of personnel. The technical team put it through its paces in locations as varied as a six-floor parking garage in Anchorage, the highway between Anchorage and Seward, a simulated avalanche and a small boat off the state's coast. The results from these scenarios far surpassed those of existing commercial tracking technologies.

Major Matt Leveque of the Alaska State Troopers, who helped coordinate his agency's assistance, says the ability to carry a device that would provide near real-time, highly accurate data in Alaska and the nation's other remote areas would be "spectacular."

"Many law enforcement agencies have automatic location devices in their vehicles, but these require robust cellular or radio systems that cover an entire area," Leveque says. "In Alaska, that's just not physically possible. When the Alaska Regional Center asked us to help test this technology, we knew it would offer us many advantages."

"Currently," he says, "we try to maintain contact with satellite phones, but a trooper who is injured may not be able to get out the satellite phone. All we can do is hope we can follow their tracks. In Alaska, we've simply accepted that this is the way things work, so having this technology available would be a tremendous advantage."

With those possibilities in mind, Leveque was quick to respond when Alaska Regional Center Director Bob Griffiths started to assemble a law enforcement team to participate in the technology demonstration.

"Their jobs are often way out in remote areas, providing primary law enforcement and enforcing commercial fishing and hunting regulations. They work in some very rural areas," Griffiths says. "We knew there were issues surrounding the need to track officers in remote areas and to track commercial fishing vessels and suspected rogue hunters. When SRNL approached us for assistance, we knew this project was a perfect fit. "Todd Coleman and the rest of the SRNL team worked very closely with our task force to carefully define operational requirements for the different disciplines, then worked with their technology





Photos courtesy of Savannah River National Laboratory

partners to integrate all these needs into one device that could potentially resolve these challenges.”

“We were totally blown away by where it would work,” Griffiths adds. “We’ve been strapped by relying on existing technology for so long. Alaska is an interesting place because high mountains and other geography block signals, but the same problems exist in the rural areas of the Lower 48.”

Those signal-blocking mountains and other aspects of a difficult terrain led the SRNL team to select Alaska for this initial testing effort, which started with running the technology through a number of scenarios in the relatively good weather of July. Then, it was back to the lab for revisions, and back to Alaska in October for even more rigorous testing. Representatives of the various federal partners that provided project funding viewed the October demonstration and came away impressed, according to both Griffiths and Coleman. Depending on continued funding support, Coleman says he expects a prototype device to be available for field testing in the near future.

“At this point, we were only concerned with performance, not with packaging, so what we had was rather bulky and not portable,” Coleman says. “We need to get this into a small portable device that an officer can easily carry. We also plan to convene a focus group that will include not only representatives from our partner agencies in Alaska but also professionals from other parts of the country to help refine needs and requirements.”

In addition to the Alaska State Troopers, partner agencies included the Alaska Wildlife Troopers, the Alaska Department of Corrections, and the Seward Police Department, jail system, harbor master and

city administration. Representatives of those various agencies provided technical expertise and knowledge of local terrain, including Sgt. Marc Cloward of the Alaska Wildlife Troopers, who piloted both aircraft and watercraft in several of the scenarios.

“They wanted to test in both a snow cave, and one surrounded by rock,” Cloward explains. “In Alaska you’d think both were fairly easy to locate, but in reality, the geology/geography within the testing area did not provide for many cave options and the long days and warm weather in July did not make it that easy to find a snow cave either. Aside from that, I simply flew a Piper Super Cub for them on floats and Bushwheels. We also took my state trooper patrol vessel out on Resurrection Bay. I had the local knowledge and equipment they needed, but the technical team folks are the ones that did all the relevant work.”

“I was pleasantly surprised by how well it performed and I could certainly see its potential for us,” Cloward adds. “We have multiple outposts and we constantly deal with geographic challenges and unforgiving weather. When a trooper takes off in an airplane, vessel, ATV or snow machine for patrol and doesn’t show up when expected, it would be nice to pinpoint his exact location and whether he is stationary or moving. It would be awfully handy for a supervisor like myself to know where all of my troopers are at any given time when out of radio contact.”

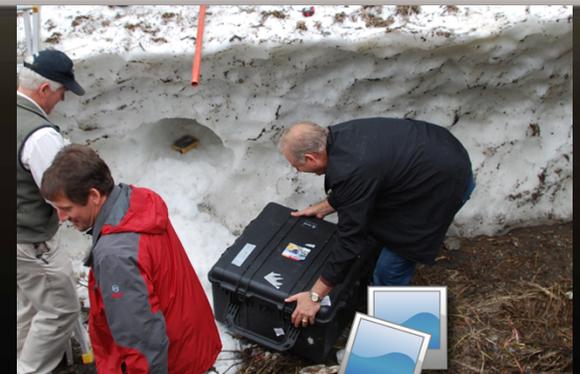
For more information on the projects of the NLECTC Alaska Regional Center, contact Director Bob Griffiths at (877) 870-2747, or e-mail NLECTC-AK@aacop.org. At NIJ, contact Mike O’Shea at (202) 305-7954 or michael.oshea@usdoj.gov.



video online



slide show online



slide show online



A Team Effort

The technology used in the demonstration held in Seward, Alaska, and coordinated by the NLECTC Alaska Regional Center is “a marriage of a lot of agencies’ efforts coming together to make a product,” says Todd Coleman of Savannah River National Laboratory. “We have highly leveraged other efforts.”

The technology’s basic requirements include the ability to:

- Operate independently of GPS as needed.
- Function without access to cell towers.
- Work without access to WiFi.
- Operate indoors, underground, in parking garages, in heavily wooded areas, in urban canyons and other similar areas in which GPS signals often become lost.

The device uses Iridium satellites, which achieve higher signal strength than GPS satellites. New satellites come into range every four minutes and encrypted data points are downloaded to a ground station and placed on a server, and its routers cover areas of approximately 17 miles in circumference.

“The important thing is that it does not rely solely on GPS, and it could communicate from remote areas and inside of buildings. Information was then tracked from a central location. Those were key,” says Bob Griffiths, Alaska Regional Center director.

Technology partners for the project included:

- Boeing, which supplied the Iridium-based tracking technology and satellite uplink modem with software.
- Argon ST/Boeing, which supplied an inertial measurement unit for three-dimensional indoor tracking.
- Cubic Defense Systems, which provided GPS trackers and software.
- Trimble, which provided a three-dimensional indoor tracking system based on radio frequency identification.
- On Ramp, which provided the short-range communication link for the Boeing, Argon ST, Cubic and Trimble devices.
- Fortress, which provided the ultra secure 802.11 communication link for data, voice and video.

Partners providing service and assistance included:

- Alaska State Troopers.
- Alaska Wildlife Troopers.
- Seward Police Department.

- City of Seward.
- Seward Harbor Master.
- U.S. Coast Guard Auxiliary.
- Alaska Association of Chiefs of Police.

Collaborating federal agencies included:

- U.S. Department of Energy, Office of Intelligence and Counterintelligence and Office of Packaging and Transportation.
- U.S. Department of Justice, National Institute of Justice.
- U.S. Drug Enforcement Administration, Federal Bureau of Investigation and U.S. Marshals Service.
- National Security Agency.
- U.S. Department of Homeland Security, Science and Technology Directorate, U.S. Coast Guard and U.S. Secret Service.
- U.S. Department of Defense, Defense Intelligence Agency.

PROACTIVE PLANNING FOR ACTIVE SHOOTER SITUATIONS



A Pennsylvania police department has crafted a program to educate community organizations such as schools and hospitals to prepare in the event the unthinkable happens: a gunman in their midst.

Salisbury Township, in Lehigh County, comprises 11 square miles with 14,000 residents. The township neighbors Allentown, the third largest city in the state, and is the home of Lehigh Valley Hospital-Cedar Crest, a regional trauma center.

Sgt. Kevin Soberick devised an active shooter training program for the police department and the community several years ago. Soberick attended training through the National Tactical Officers Association, and in turn passed his knowledge on to the police department, which has 20 sworn officers, and set up a program for schools and the hospital. He spoke about the program at the Office of Justice Programs' National Institute of Justice (NIJ) spring 2010 Rural Law Enforcement Technology Institute. The institute is hosted by the Small, Rural, Tribal and Border Regional Center, part of NIJ's National Law Enforcement and Corrections Technology Center System.

Although the township is a quiet community, its proximity to Allentown can pose big-city problems.

"If you are shot, burned or stabbed you are flown into Lehigh Valley Hospital," Soberick says, noting that gang-related violence could produce some particularly tense hospital situations. Distraught friends or relatives arrive at the hospital wanting to know the condition of the victim, or a rival gang member might come to the hospital to try and finish the job.

"We have to be ready to handle anything."

Soberick says the hospital needed training because of the number of people who come through the health complex; up to 25,000 people can be on the hospital campus during peak periods.

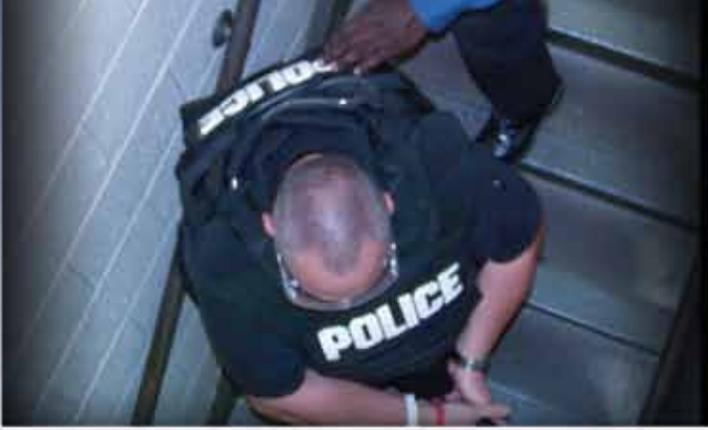
"The heart of it is to join partners with facilities in your jurisdiction that could be a potential target. Unless you have cooperation with facilities, you won't be successful," he says.

Police held a training drill adjacent to the hospital emergency room three years ago, following lengthy detailed discussion and planning.

Soberick says organizations can be resistant to training, and police departments need to emphasize its importance so that institutions know what to do in an active shooter situation and what to expect from police.

"It is not a pleasant subject, and an active shooter program is not touchy-feely. When we come into a school for a training drill, it's not going to be a nice day," he says. "But police need to make schools and organizations more aware of the reality."

"We'll go to any of our target facilities to explain how police would respond and evaluate an active shooter plan," he adds. "I am happy with what we accomplished at the hospital. We learned a lot and so did the hospital about why



Photos courtesy of Salisbury Township Police Department

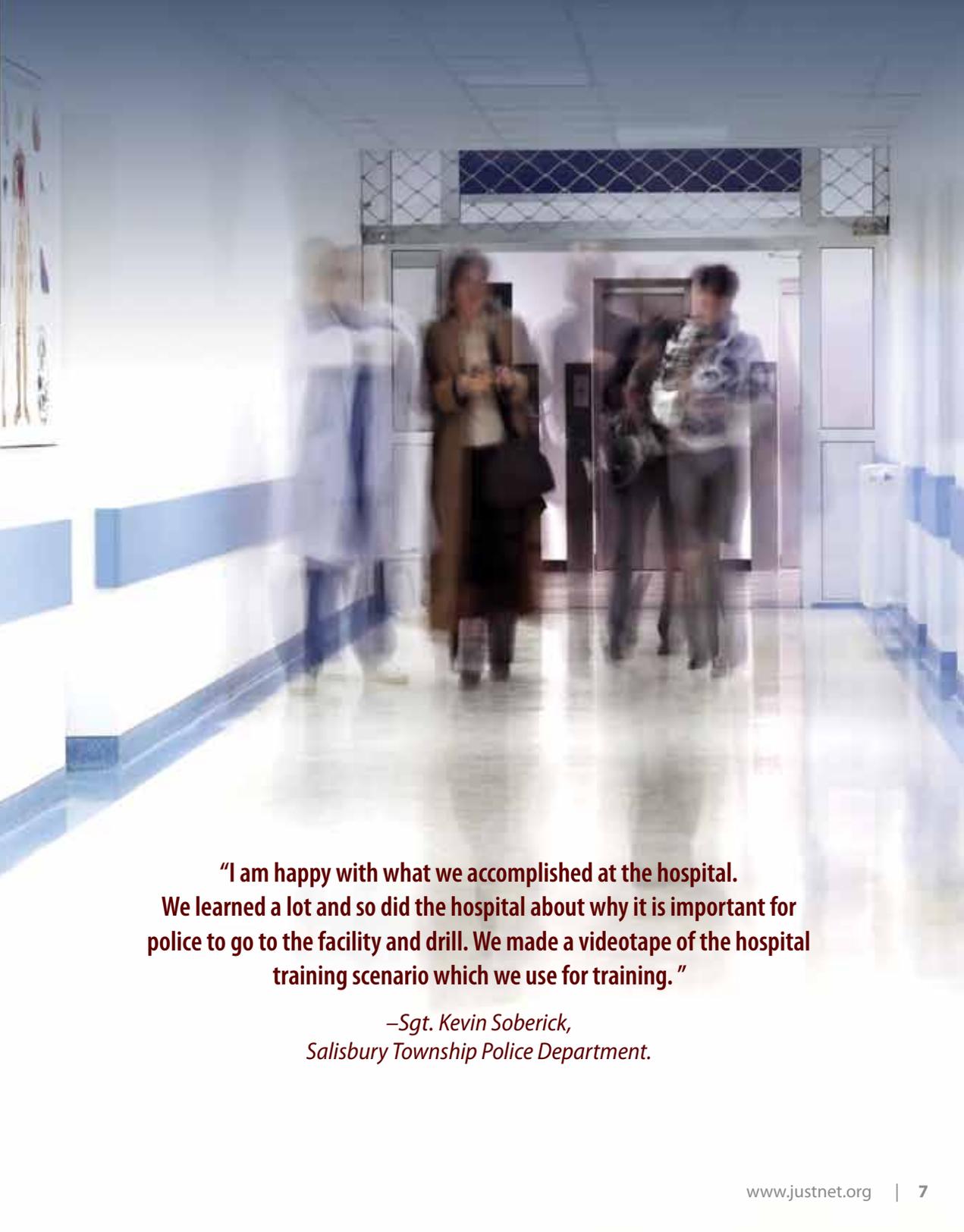
it is important for police to go to the facility and drill. We made a videotape of the hospital training scenario which we use for training. If anyone wants to contact me I am more than willing to tell people what we did.”

Over the past few years, the police department has set up trainings and drills at the township’s public schools (a high school, middle school and two elementary schools). None of the trainings or drills involved students. Refresher training is held periodically.

“Even though it’s a simulation, it’s a stressful thing. It’s a good reality check for them,” he says. “It’s also good to have an outside agency like the police to come in an evaluate schools’ emergency action plans in general.”

Lehigh Valley Health Network has two other hospitals in the area, which have also been the site of trainings; Lehigh Valley Hospital-17th Street in Allentown and Lehigh Valley Hospital-Muhlenberg in Bethlehem. Emergency response teams from the Allentown Police Department, the Bethlehem Police Department and the Lehigh County Municipal Emergency have participated in trainings.

For more information, contact Sgt. Kevin Soberick of the Salisbury Township Police Department at (610) 797-1447 or ksoberick@salisburytownship.org. For information on future Rural Law Enforcement Technology Institutes, contact Dave Mather, executive director of the Small, Rural, Tribal and Border Regional Center, at dmather@srtbrc.org, or Mike O’Shea of NIJ at (202) 305-7954 or michael.oshea@usdoj.gov.



“I am happy with what we accomplished at the hospital. We learned a lot and so did the hospital about why it is important for police to go to the facility and drill. We made a videotape of the hospital training scenario which we use for training.”

*–Sgt. Kevin Soberick,
Salisbury Township Police Department.*

Spreading the Word About

FIELD SEARCH

Field Search, a suite of software products developed by the National Law Enforcement and Corrections Technology Center (NLECTC), is well-known in the criminal justice community for being easy to use and available at no charge. The software also has another distinguishing characteristic: its own group of ambassadors.

The NLECTC System is a program of the Office of Justice Programs' National Institute of Justice (NIJ). NLECTC-Rocky Mountain originally offered classes to train individuals on the use of Field Search, but in 2009, the Center switched to a wider approach, offering train-the-trainer classes that graduate Certified Field Search Instructors (CFSIs). These CFSIs in turn spread the training through teaching classes for other criminal justice professionals. As part of the recent reorganization of the NLECTC System, Field Search maintenance now falls under the Corrections Technology Center of Excellence (CoE), which continues to offer CFSI training.

"Basically the idea is that this growing group has become our ambassadors, or our training arm," says Joe Russo, Corrections Technology CoE director. "NIJ gets more 'bang for their buck' using this approach."

Field Search was designed specifically for use in the field by criminal justice professionals who are not trained in the

discipline of computer forensics. The software enables them to quickly and efficiently search target computers and creates a detailed report of findings. The software rapidly locates and reports on Internet histories, images, multimedia files and results from text searches.

Although Field Search was originally designed to assist probation and parole officers with sex offender management, criminal justice professionals, including law enforcement officers, have found it to be effective when examining computers for evidence of other crimes. Versions for both Macintosh and Windows are available for download from the NLECTC System website, JUSTNET (<http://www.justnet.org>).

Russo says that when the NLECTC System moved away from classes to train individuals on Field Search use, it implemented a two-pronged approach that includes a one-hour video training component available through JUSTNET, along with the CFSI program.

"We select experienced power users for a two-day training session," Russo explains. "They must pass a pretest to ensure they have skills needed during the CFSI training and they must agree to become the designated trainer for Field Search at their agency. Many of them also offer training classes to staff from other agencies as well."

Individuals who complete the training receive a sample curriculum and test cases they can use in offering training classes. The CoE offers two CFSI sessions each year, with up to 20 students per session; more details can be found on JUSTNET. The next training will take place Aug. 22-23, 2011, in Denver, Colo. Training is free, but students must pay their own travel and lodging expenses. Some individuals are so eager to take the training they pay the expenses out of their own pockets, and even use personal leave time, if their agencies are unable to fund the training, Russo says.

"Implementing CFSI training allowed us to far exceed what we could have accomplished in the same timeframe by continuing the previous approach. Many of these individuals have trained hundreds of other users," he adds.

One such individual is Erik J. McCauley of the Orange County (Calif.) probation department, who estimates he has trained 1,000 criminal justice professionals in the use of Field Search since December 2009. This includes 193 Orange County probation officers and private classes for other probation, parole and law enforcement officers throughout California. In a year's time, he taught 25 sessions. Although McCauley's job calls for him to do more thorough computer forensics in a laboratory setting, he became interested in Field Search because he also recognized the need for a tool that officers could use in the field. Nothing else compares to Field Search for ease of use, he says, and he has been able to expand its use to searching cellular phones, digital cameras and even GPS navigation systems.

"This has been all-consuming for me for the past year. I create custom thumb drives for my students, put together handouts, and give them a small laminated reference card for quick refreshes so they don't have to go back through the whole manual," McCauley says. "I constantly get creative and useful ideas from the students in my class too. They say, 'I used it for this' or 'Have you tried that?' Everyone benefits."

For more information on Field Search or to locate a Certified Field Search Instructor in your area, visit <http://www.justnet.org/Pages/fieldsearch.aspx>. At NIJ, contact Program Manager Jack Harne at (202) 616-2911 or jack.harne@usdoj.gov.



SUCCESS COMES FAST WITH FIELD SEARCH

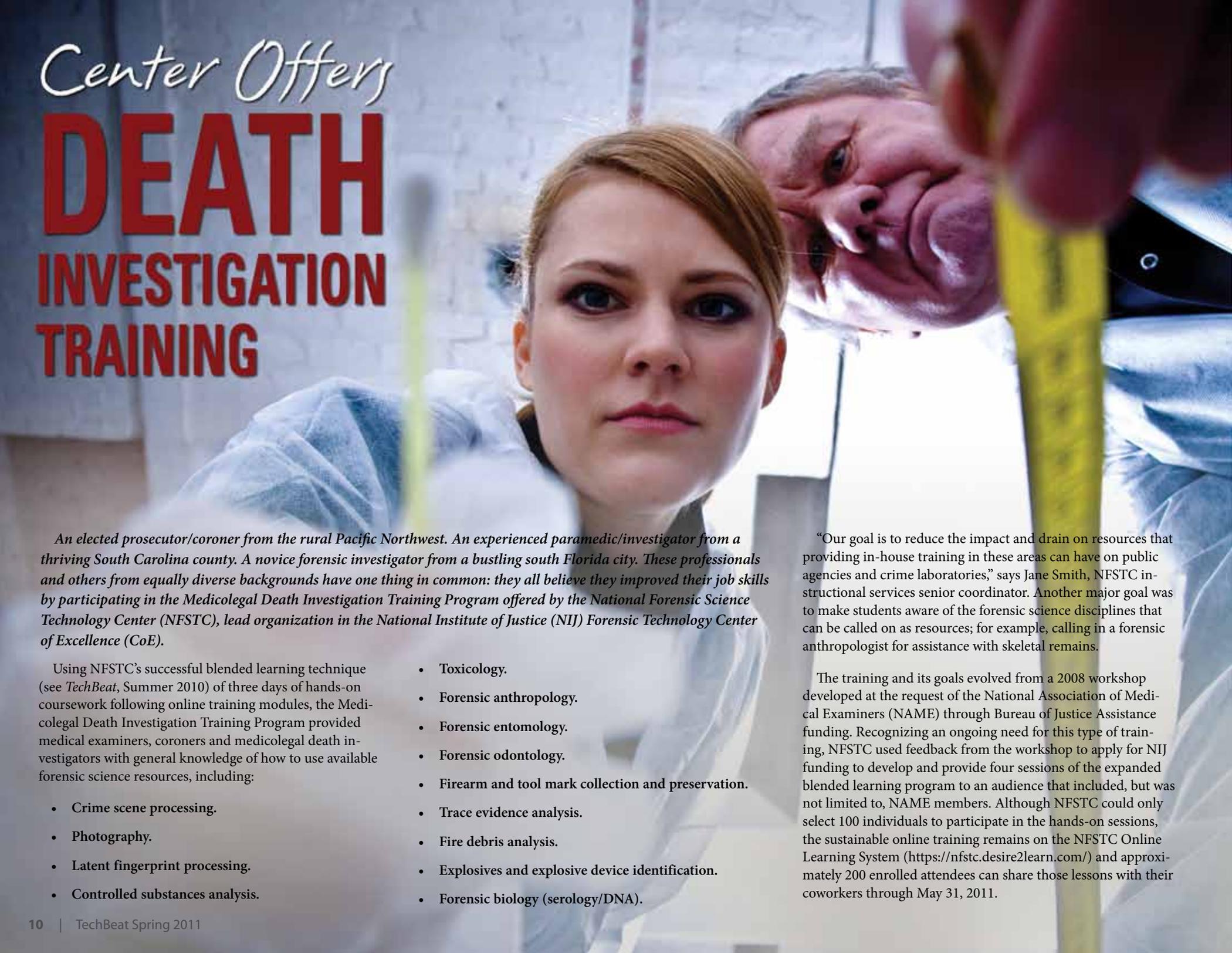
Erik McCauley of the Orange County Probation and Parole Department shared an "immediate" success story with Corrections Technology Center of Excellence Director Joe Russo in the following e-mail:

"[In December 2010] I taught a Field Search class at LA Clear in Los Angeles to a group of about 20 students: Many different folks, Federal Port Police, Riverside Sheriff, LA School police, Seal Beach PD and Federal Pre-trial Probation, who has been very active of late in pursuing our cyber criminals . . . anyway, the class was good, very engaged and most everyone got 95 or 100 on the test, again a great class. So I just got a call from someone who was in the class and is a Federal Probation PO. This is less than three hours after the course. He had one of his sex offenders in custody after going to his home and discovering he was in violation.

"He said that when he walked into the home, the probationer already had wiping software running on the computer. The officer noticed it and stopped the application, but then the computer "spontaneously" shut down. The probationer was reluctant to provide the username and password, and after providing multiple false possibilities, he offered that perhaps he could "do it better" by himself. So he entered the password and voila, it worked (strange eh?). So they got into the machine and noticed the guy had a detailed Internet history including various purchases of "cyber books" for the Kindle from Amazon. The officer then used a play straight from the . . . playbook to question the probationer based on the material he discovered. The probationer was not evasive when asked if he owned a Kindle, and when asked if he had read any good books lately, he said he had and named them. The names corresponded with Internet artifacts the officer had also obtained, indicating the probationer had accessed the Internet to purchase the e-books only a few days ago, in direct violation of the terms of his probation.

"When the officer called I could hear the excitement in his voice. The thrill of being able to hone one's professional skills while holding people accountable for their deviant and illegal behavior . . . again, only three hours after the class. Very cool.

"Gentlemen, I cannot thank you enough for being part of this project. I've trained more than 100 good men and women who now take that technology into the field to protect our communities . . . what an honor. I can only dream of the future as this technology continues to roll out across the nation. I just thought you would get a kick out of this story."



Center Offers **DEATH** INVESTIGATION TRAINING

An elected prosecutor/coroner from the rural Pacific Northwest. An experienced paramedic/investigator from a thriving South Carolina county. A novice forensic investigator from a bustling south Florida city. These professionals and others from equally diverse backgrounds have one thing in common: they all believe they improved their job skills by participating in the Medicolegal Death Investigation Training Program offered by the National Forensic Science Technology Center (NFSTC), lead organization in the National Institute of Justice (NIJ) Forensic Technology Center of Excellence (CoE).

Using NFSTC's successful blended learning technique (see *TechBeat*, Summer 2010) of three days of hands-on coursework following online training modules, the Medicolegal Death Investigation Training Program provided medical examiners, coroners and medicolegal death investigators with general knowledge of how to use available forensic science resources, including:

- Crime scene processing.
- Photography.
- Latent fingerprint processing.
- Controlled substances analysis.

- Toxicology.
- Forensic anthropology.
- Forensic entomology.
- Forensic odontology.
- Firearm and tool mark collection and preservation.
- Trace evidence analysis.
- Fire debris analysis.
- Explosives and explosive device identification.
- Forensic biology (serology/DNA).

“Our goal is to reduce the impact and drain on resources that providing in-house training in these areas can have on public agencies and crime laboratories,” says Jane Smith, NFSTC instructional services senior coordinator. Another major goal was to make students aware of the forensic science disciplines that can be called on as resources; for example, calling in a forensic anthropologist for assistance with skeletal remains.

The training and its goals evolved from a 2008 workshop developed at the request of the National Association of Medical Examiners (NAME) through Bureau of Justice Assistance funding. Recognizing an ongoing need for this type of training, NFSTC used feedback from the workshop to apply for NIJ funding to develop and provide four sessions of the expanded blended learning program to an audience that included, but was not limited to, NAME members. Although NFSTC could only select 100 individuals to participate in the hands-on sessions, the sustainable online training remains on the NFSTC Online Learning System (<https://nfstc.desire2learn.com/>) and approximately 200 enrolled attendees can share those lessons with their coworkers through May 31, 2011.

“The fact that you can lift fingerprints off skin is so valuable on domestic violence cases,” Dalzell says. “Learning that investigators could get fingerprints off a victim’s skin, for instance if a woman reports someone tried to choke her, was awesome. I showed our officers how to do it in the lab and they were really impressed.”

–Juelie Dalzell, Retired Prosecutor, Jefferson County, Wash.

One of those attendees, Don McCown, an appointed deputy coroner for Anderson County, S.C., brought 35 years of experience as a paramedic and 15 years as an investigator into the training, yet still found plenty to take away from the class.

“The training was fantastic,” McCown says. “The most useful part was the actual hands-on, such as the actual processing of fingerprints. All of the instructors were extremely knowledgeable and took a personal approach to helping every one of us.”

The investigators in McCown’s office investigate approximately 1,600 deaths in Anderson County each year, and he has trained his coworkers using the online portion of the class. “I’ve never been a big supporter of online training, but I truly enjoyed this. It’s extremely important that I can go back and review things that I don’t do that often.”

McCown also appreciated that the training took all aspects of death investigation into account, rather than focusing on homicides, because the vast majority of this type of investigation involve natural or accidental deaths.

Juelie Dalzell, recently retired prosecutor for Jefferson County, Wash., who also acts as coroner, also appreciated the lack of focus on homicide investigation, as her office has dealt with only six homicides in the past 10 years. She appreciated instead learning about how to handle a bombing investigation and acquiring the invaluable information that fingerprints can be lifted from human skin.

“The fact that you can lift fingerprints off skin is so valuable on domestic violence cases,” Dalzell says. “Learning that investigators could get fingerprints off a victim’s skin, for instance if a woman reports someone tried to choke her,

was awesome. I showed our officers how to do it in the lab and they were really impressed.”

And like McCown, Dalzell found value in the online portion of the training.

“I was intrigued by the fact that they did an online session first,” she says. “It not only allowed them (the instructors) to see how well we did, it also allowed the participants to see what the class was going to be like.”

“We’re in a very small rural community that is far away from everything,” Dalzell adds. “The nearest city is Seattle and that’s two hours away, so we don’t have any colleagues nearby to talk to and we’re really on our own. Getting together with people who are in the same field is so valuable, you learn so much that way. The networking is way up there when it comes to takeaway value.”

Colin Sollinger, a forensic investigator in Ft. Myers, Fla., who has less than a year’s experience, also appreciated the opportunity to network with and learn from his peers.

“It was a great opportunity to meet other people in the field. I want to form good habits now and get as much exposure as possible to different techniques so I can distill what works best for our agency,” Sollinger says.

He adds, “My background is more in forensics and crime scene and my medical background is not as strong. I learned a lot about talking with doctors and nurses. The toxicology instructor was really strong and the photography portion was important too.”

For more information on the training classes offered through the National Forensic Science Technology Center, visit <http://www.nfstc.org>. At NIJ, contact Brigid O’Brien at (202) 305-1983 or brigid.obrien@usdoj.gov.



INNOVATIVE TECHNOLOGIES FOR CORRECTIONS CONFERENCE

June 12-14, 2011
JW Marriott, Indianapolis, IN

Workshops are organized in two tracks, Institutional Corrections and Community Corrections, and will spotlight technologies that assist agencies perform their mission in a safer, more effective and more efficient manner.

Tentative Topics Include:

Monitoring Offender Computer Use
Development of Offender Tracking Standards
Green Technologies for Institutions

Cell Phone Detection & Defeat
Location and Tracking Technology
Advanced Contraband Detection Systems

For more information, visit:
www.justnet.org/Pages/ITCC_2011.aspx

Hosted by NLECTC Corrections Technology Center of Excellence,
a program of the National Institute of Justice



CAMERA SYSTEM STEMS PRISON VIOLENCE, SAVES \$\$

A high-definition camera system installed in the Oklahoma County Detention Center appears to have dramatically reduced prison violence, has provided concrete evidence in cases involving inmates, and could save the county millions of dollars.

Spurred by a U.S. Department of Justice directive to improve security by hiring an additional 200 detention officers, the county sheriff's office instead researched less-costly alternatives. As a result, in late 2009, the office installed 138 Avigilon one-megapixel or five-megapixel cameras in the detention center in Oklahoma City, according to Capt. David Baisden.

"Adding 200 detention officers to our existing 450 officers would have cost \$10 million per year in salary and benefits," Baisden explains.

The detention center, with 13 floors housing about 2,700 inmates, had only a pan/tilt/zoom analog camera system that did not provide adequate surveillance. The cameras were constantly moving and scanning, so inmates bent on mischief could wait for the camera to point in another direction to avoid being caught on video.

Baisden was tasked by Sheriff John Whetsel to find and use technology to secure the facility instead of hiring the additional 200 detention officers. With the help of the National Law Enforcement and Corrections Technology Center (NLECTC), Baisden researched and assessed what type of surveillance equipment would best suit the detention center, and Baisden then searched for a vendor. NLECTC is a program of the Office of Justice Programs' National

Institute of Justice (NIJ). Baisden discussed the camera system at NIJ's 2010 Technology Institute for Corrections.

"We wanted high-definition megapixel cameras that could effectively cover the entire facility, and chose a system in which one camera could replace up to 50 conventional cameras," Baisden says.

To save money, in-house technicians installed the new system. The total cost of the project was \$384,000 including cameras, lenses, servers, switches and 252 terabytes of digital storage, about 90 days worth of storage space. Officers monitor the cameras from a central camera operations control room.

"The old legacy system was never in the right place at the right time," Baisden notes. "We now have fixed cameras and can digitally zoom in and you still capture everything."

Because of lack of adequate video surveillance and poor quality of the legacy camera images, the office had never used video evidence to document inmate altercations in cases referred to the district attorney. After activating the new system on Jan. 1, 2010, "We immediately began seeing results," Baisden says.

"In the first 30 days of using the new camera system, we took more than 30 cases to the DA's office on video," Baisden says. "Investigations used to take us days or weeks and were inconclusive. The video cut our investigation time to minutes and was irrefutable."



Photos courtesy of Oklahoma County Sheriff's Office

Use of the high-definition camera system also has significantly reduced the number of altercations within the prison.

“Using the old legacy analog system, we averaged 300 detention officer-on-inmate altercations and 200 inmate-on-inmate altercations a month, and now we currently average 30 officer-on-inmate altercations and between 20 and 25 inmate-on-inmate altercations per month, for a reduction of 90 percent,” Baisden says.

The cameras also protect correctional officers from the consequences of false claims of excessive force and have reduced the number of lawsuits filed against the county.

“It has changed our lives on how we do business,” Baisden says. “Not only have we filed criminal charges on inmates, we have also filed charges on officers for various reasons. Also, the

number of lawsuits filed against the county has dropped. It will save us millions of dollars over the course of the next few years in personnel costs and lawsuits.”

“We have had many officers in situations that could have been a ‘he said she said’ situation and that were refuted by the video. It’s just amazing,” he says.

For the camera project, the sheriff’s office received the 2010 Government Security News Homeland Security award for the Most Effective Municipal/County Security Program, Project or Agency.

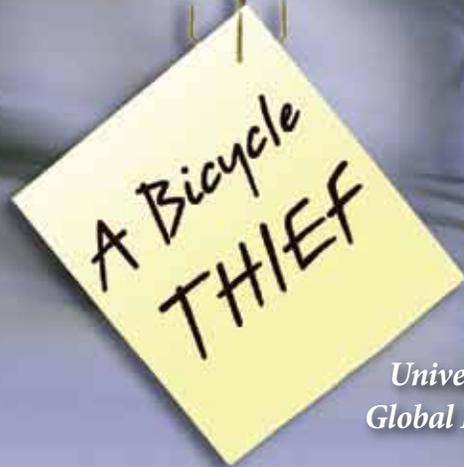
“Every detention center needs to take a look at this because it will cut down on violence in the facility,” Baisden adds.

Since the prison installed the digital cameras, Baisden says three public schools in Oklahoma County have installed similar systems and are pleased with the results. The school camera systems were funded through the Office of Community Oriented Policing Secure Our Schools grants. Baisden notes that agencies need to protect agency and taxpayer dollars and not spend them on old technology. Agencies can obtain the newer technology for virtually the same cost.

For more information, contact Capt. David Baisden of the Oklahoma County Sheriff's Office at (405) 615-0242 or sodavbai@oklahomacounty.org. For information on NIJ's sensors and surveillance portfolio, contact Dr. Frances Scott at (202) 305-9950 or frances.scott@usdoj.gov.



BAITING



University of California Santa Barbara (UCSB) police are deploying a bait bike fitted with Global Positioning System (GPS) technology to deter and apprehend bicycle thieves on campus.

Bicycle theft is the most frequent campus crime, according to UCSB police Sgt. Matthew Bowman, who outlined the program during the Office of Justice Programs' National Institute of Justice (NIJ) fall 2010 Rural Law Enforcement Technology Institute. The institute is hosted by the Small, Rural, Tribal and Border Regional Center, part of NIJ's National Law Enforcement and Corrections Technology Center System.

UCSB police estimate that about 20,000 bikes are on the campus at any given time.

"It runs the gamut as to how bikes or why bikes are stolen," Bowman says. "Historically there is not a gang of bicycle thieves; often people take a bike for convenience and leave it somewhere else. Old bikes, new bikes, it doesn't matter, all kinds get stolen. Intoxicated people relocate bikes for the fun of it. Thefts occur for so many reasons, and in so many ways, that we really struggled to combat it."

The police department worked with the UCSB Associated Students Bike Committee to devise a solution and identified a vendor with a GPS small enough to be hidden on a bike. The device cost about \$400, plus a \$40 per month service fee. Campus police began

using the bait bike in late summer 2010 to coincide with the new school term.

The police department's analysis revealed that most bicycle thefts occurred on Thursdays in the afternoon and evening. "By analyzing the statistical data, we could focus on peak times and on where the thefts are most likely to occur, so we specifically put the bike out at those locations and times," Bowman says.

The technology sets up a geo-fence boundary. If the bike and GPS unit are taken, officers are notified electronically as to its location with updates every 10 seconds. It's too early to tell whether publicity about the bait bike has deterred thefts.

"My belief is that it is having an effect. Unfortunately, our statistical data to date does not prove anything either way," Bowman explains. "More people are reporting their bikes stolen than in the past, so any net gain of deterrence due to the presence of the bait bike may be masked by more people being aware that they are far more likely to get their bike recovered if they report it stolen."

The department requires bikes ridden on campus to be registered with the make, model and serial number. Police affix a

tamperproof sticker on the bike. Police estimate that registered stolen bikes have a recovery rate of 30 percent, compared to 5 percent for unregistered ones.

Police plan to incorporate a camera into the bait bike system to monitor it and catch a thief in the act. As of early 2011, no would-be thieves had nibbled at the bait. "We have tested the bike. The only piece missing so far is the criminal," Bowman says.

The University of Wisconsin-Madison Police Department has been using bait bikes on campus since May 2008, with positive results. According to Sgt. Aaron Chapin, between January 2007 and May 2008, police received reports of 100 bikes stolen, and made one arrest. In 2008, 85 bikes were stolen, and police made 28 arrests, all for bait bike theft. In 2009, there were 55 bikes reported stolen and nine arrests for bait bike theft. Data for 2010 is incomplete.

For more information, contact Sgt. Matt Bowman at matt.bowman@police.ucsb.edu or (805) 218-5745. For information on future Rural Law Enforcement Technology Institutes, contact Dave Mather, executive director of the Small, Rural, Tribal and Border Regional Center, at dmather@srtbrc.org, or Mike O'Shea of NIJ at (202) 305-7954 or michael.oshea@usdoj.gov.

TECH shorts

Technology News Summary

TECHshorts is a sampling of the technology projects, programs and initiatives being conducted by the Office of Justice Programs' National Institute of Justice (NIJ) and the centers and criminal justice technology Centers of Excellence (CoEs) that constitute its National Law Enforcement and Corrections Technology Center (NLECTC) System. If you would like additional information concerning any of the following TECHshorts, please refer to the specific point-of-contact information that is included at the end of each entry.

In addition to TECHshorts, an online, biweekly technology news summary containing articles relating to technology developments in public safety that have appeared in newspapers, newsmagazines and trade and professional journals is available through the NLECTC System's website, JUSTNET, at <http://www.justnet.org>. This service, the Law Enforcement and Corrections Technology News Summary, also is available through an electronic e-mail list, JUSTNETNews. Every other week, subscribers to JUSTNETNews receive the news summary directly via e-mail. To subscribe to JUSTNETNews, e-mail your request to asknlectc@justnet.org or call (800) 248-2742.

Note: The mentioning of specific manufacturers or products in TECHshorts does not constitute the endorsement of the U.S. Department of Justice, NIJ or the NLECTC System.

NIJ Launches Corrections Technology Center of Excellence

Corrections Technology CoE

On Oct. 1, 2010, NIJ established the Corrections Technology Center of Excellence (CoE) as part of the NLECTC System, with a primary mission of helping NIJ transition technology from the laboratory into the correctional field.

"We've been working on creating this Center for several years," says NIJ Corrections Program Manager Jack Harne. "It basically gives NIJ the ability to do specialized technical assessments in the field on technologies that are specific to corrections."

Operated by the University of Denver (DU), the Corrections Technology CoE facilitates the Offender Tracking Standard Special Technical Committee and two Technology Working Groups, one on institutional corrections and one on community corrections. The CoE leverages a wide array of multi-disciplinary research units from within DU to help it support NIJ's research, development, test and evaluation activities.

"We're currently developing and expanding our program plan, which will include several projects to do research and development on specific technologies, and the production of a guide

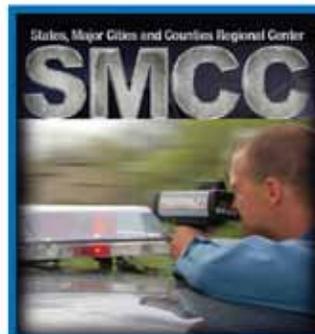
on green technologies for corrections," Harne says. The CoE already provides access to Field Search (see "Field Search," *TechBeat* Winter 2009) and the secure Electronic Monitoring Research Center, and sponsors NIJ's Innovative Technologies for Corrections Conference and the annual Institute for Corrections Technology.

To learn more about the Corrections Technology Center of Excellence, visit http://www.justnet.org/corrections_coe/Pages/home.aspx.

SMCC Hosts State Association Leaders

States, Major Cities and Counties Regional Center

States, cities and counties have a growing list of challenges. Funding is number one. Keeping up with trends and identifying funding for the technology needs of criminal justice agencies are high on the list. The States, Major Cities and Counties (SMCC) Regional Center matched resources with people at a symposium held in Annapolis, Md., in early December 2010. The resources (technology, funding opportunities, test results, equipment and standards) came via NIJ and NLECTC. The people were the nearly 40 state criminal justice association directors in attendance.



NIJ Deputy Director and keynote speaker Ellen Scrivner discussed the value of partnerships for local jurisdictions. By identifying appropriate partners, local jurisdictions can get more bang for their buck and access new sources of funding and technology.

Ellen Scrivner said, "They [smaller departments] get up and running much faster and then the evaluation can take place a lot faster."

In addition to the speakers, the symposium offered a mini tech fair that allowed attendees to see technology in action. Among the products on display were a low-cost firearms simulator, a license plate reader, an unmanned aircraft system, Field Search software, a live acquisition triage tool and human image detection software.

Attendees exchanged information and formed some budding partnerships during the two-day event. SMCC's Troy Krenning said the feedback from the associations representing state chiefs of police and corrections agencies was positive. He looks forward to keeping the dialogue going.

For more information, contact Mike O'Shea of NIJ at (202) 305-7954 or michael.oshea@usdoj.gov.

New Center of Excellence Supports Sensors and Biometrics Program

Sensor, Surveillance, and Biometric Technologies Center of Excellence

In October 2010, NIJ launched the new Sensor, Surveillance, and Biometric Technologies Center of Excellence (SSB-CoE), dedicated to supporting sensor, surveillance and biometric technology projects. The Center, operated



by ManTech International Corporation, focuses on concealed weapons detection, through-the-wall surveillance, novel sensors, video surveillance, mobile biometric devices and biometric information technologies. The SSB-CoE provides research and development program support, testing and evaluation services, and outreach support to NIJ to help meet the challenges faced by law enforcement and corrections agencies nationwide. One of the primary roles of the CoE is to provide testing and evaluation of technology projects through NIJ research and development projects. For example, in the coming year the CoE will test and evaluate innovative R&D products funded by NIJ such as binoculars capable of performing facial recognition and identification at a distance and a radar device capable of detecting living beings within a structure at a distance of 30 feet. Ultimately, the research, development, testing and evaluation process seeks to transition innovative criminal justice technologies from the laboratory into practice by first adopters.

For more information, contact Dr. Frances Scott of NIJ at (202) 305-9950, frances.scott@usdoj.gov or Dr. Mark Green of NIJ at (202) 307-3384, mark.green@usdoj.gov.

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JUSTNETNews. JUSTNETNews includes article abstracts on law enforcement, corrections and forensics technologies that have appeared in major newspapers, magazines and periodicals and on national and international wire services and websites.

Testing Results. Up-to-date listing of public safety equipment evaluated through NIJ's testing program. Includes ballistic- and stab-resistant armor, patrol vehicles and tires, protection gloves, handcuffs and more.

Publications. Publications from NIJ and NLECTC that you can view or download to your system, including printer friendly versions of *TechBeat* articles and features.

Calendar of Events. Calendar of Events lists upcoming meetings, seminars and training.

Links. Various links take you to other important law enforcement and corrections websites.

The poster for "The NIJ CONFERENCE 2011" features a background of overlapping, curved, light-colored paper strips. The text "The NIJ" is in a large, blue, serif font, and "CONFERENCE 2011" is in a large, white, sans-serif font. Below the title, the text "WHO SHOULD ATTEND?" is in a bold, white, sans-serif font. Underneath, it says "Researchers, practitioners, policymakers, and students interested in the following criminal justice topics should attend:" followed by a list of topics. At the bottom, the dates "JUNE 20-22, 2011" and the location "MARRIOTT CRYSTAL GATEWAY, ARLINGTON, VA" are listed, along with the registration website "WWW.OJP.USDOJ.GOV/NIJ".

The NIJ
CONFERENCE 2011

WHO SHOULD ATTEND?
Researchers, practitioners, policymakers, and students interested in the following criminal justice topics should attend:

- Corrections
- Courts
- Crime prevention
- Forensics
- Law enforcement
- Science and technology
- Victim advocacy

JUNE 20-22, 2011
MARRIOTT CRYSTAL GATEWAY, ARLINGTON, VA
REGISTER AT WWW.OJP.USDOJ.GOV/NIJ



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