

NLECTC System

Annual Report

2018





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EXECUTIVE SUMMARY

Bringing Programs to a Successful Conclusion

As NIJ prepares to take the Compliance Testing Program (CTP) in a new direction in 2019 with the creation of the new Criminal Justice Testing and Evaluation Consortium, several long-standing programs concluded, or are preparing to conclude, their efforts.

This metamorphosis of the overall program began as NIJ marked 50 years of service to the criminal justice community. You can read about how NIJ observed that anniversary on p. 5.

Justice Technology Information Center

In 2018, the Justice Technology Information Center continued to manage the JUSTNET, SchoolSafetyInfo.org and PoliceArmor.org websites, and produce monthly issues of *TechBeat*; all of these efforts will come to an end in 2019.



For 25 years, JTIC and its predecessor program, NLECTC-National, served as both the initial point of entry for criminal justice professionals and other interested parties, and the clearinghouse that disseminated information to those constituents. You can read about JTIC's 2018 efforts and its preparation for program conclusion in 2019 on p. 11; about its continued support of school safety and aviation on p. 21 and p. 40; and its operation of the CTP on p. 17.

Justice Innovation Center for Small, Rural, Tribal, and Border Agencies

The Justice Innovation Center for Small, Rural, Tribal, and Border Agencies (JIC) was charged by NIJ with identifying, evaluating and disseminating technology solutions that meet the operational challenges of small, rural, tribal and border law enforcement, courts and corrections agencies. JIC concluded this mission in December 2018. You can read more about JIC efforts on p. 45.

Criminal Justice Priority Technology Needs Initiative

The Criminal Justice Priority Technology Needs Initiative is carrying out a research effort to assess and prioritize technology needs across the criminal justice community. The fundamental goal is to enable innovation in the U.S. criminal justice community — from incremental changes in the way agencies do daily tasks by increasing their efficiencies and solving their current problems to transformational changes that make it possible for them to do entirely new things or accomplish objectives in new ways. You can read about the Center's activities on p. 47.

National Criminal Justice Technology, Research, Test and Evaluation Center

The National Criminal Justice Technology, Research, Test and Evaluation Center conducted focused research, testing and evaluation of non-forensic technologies intended to enhance the capabilities of state and local law enforcement and corrections agencies. These efforts ended in December 2018. You can read about the Center's activities on p. 55.



Forensics Technology Center of Excellence

The Forensics Technology Center of Excellence (FTCoE) improves the practice of forensic science and strengthens its impact through rigorous technology corroboration, evaluation and adoption, effective knowledge transfer and education, and comprehensive dissemination of best practices and guidelines to agencies dedicated to combating crime. You can read about several of its efforts starting on p. 63.



NIJ Marks 50 Years of Helping Criminal Justice Community

In 1968, police officers faced gunfire without wearing any kind of protective equipment; DNA might have been a vague, distant memory from high school biology; and the Department of Justice's new National Institute of Law Enforcement and Criminal Justice (NILECJ) awarded its first grants to the law enforcement community.

Fifty years later, officers commonly wear ballistic-resistant body armor certified by the renamed National Institute of Justice (NIJ), armor that has saved thousands of lives; DNA has become part of our everyday vocabulary; and NIJ awards result in rigorous research that helps inform and shape criminal justice policies and practices.

On July 10, members of the research and criminal justice communities, along with NIJ staff and contractors, gathered in-person and online to hear two former NIJ directors and two practitioners participate in a panel discussion on "NIJ's 50 Anniversary – Looking Back, Looking Forward," part of the agency's "Research for the Real World" series of webinars. The current NIJ director, Dr. David Muhlhausen, gave opening remarks and moderated a brief question-and-answer session



at the end of the discussion. In his opening presentation, Dr. Muhlhausen pointed out that 50 years ago, 9-1-1 didn't exist, no one had heard of license plate readers and no one was conducting rigorous research to help law enforcement. That began to change in 1967, when the President's Commission on Law Enforcement and Administration of Justice released a report calling for increased support to state and local police departments. In 1968, out of this effort came the Law Enforcement Assistance Administration (LEAA), an agency within DOJ that administered federal funding to state and local law enforcement agencies and also funded educational programs and research. NILECJ, which became NIJ, was part of LEAA; the name changed in December 1979.

NIJ Past

Both former directors talked about NIJ's accomplishments during their tenures while putting those retrospectives in context with today's work.

Mr. Stewart said that in 1982, policymakers had a poor view of social science. He saw that NIJ had great promise, but needed to demonstrate that rigorous research could help police and corrections agencies: "We were doing detailed surveys that no one in the field ever read unless they heard there were going to be questions on an exam about it."

THE PANELISTS

James "CHIPS" Stewart, presently Director of Public Safety and Senior Fellow for Law Enforcement with CNA Analysis & Solutions, served as NIJ director from 1982 to 1990, the longest-serving NIJ director. Stewart also served as Commander of the Oakland Police Department's Criminal Investigations Division and as a White House Fellow and Special Assistant to the U.S. Attorney General.

Chief Hank Stawinski, Prince George's County (Md.) Police, became chief in 2016 after serving 23 years with the department. His father was also a Prince George's police officer. He is a member of the Police Executive Research Forum (PERF).

John H. Laub, presently Distinguished University Professor in the Department of Criminology and Criminal Justice at the University of Maryland, College Park, served as NIJ director from July 22, 2010 to Jan. 4, 2013.

Chief Scott Thomson of the Camden County (N.J.) Police Department, is a native of Camden who emphasizes community policing. He has been chief since 2013, and previously was chief of the former Camden Police Department beginning in 2008. Chief Thomson began his law enforcement career in 1992. He serves as President of PERF.



One of the earliest projects that the agency took on during his tenure involved working with the police departments in Newark, N.J., and Houston on increasing people’s perception of safety. *Reducing Fear of Crime in Houston and Newark: A Summary Report* (<https://www.policefoundation.org/wp-content/uploads/2015/07/Pate-et-al.-1986-Reducing-Fear-of-Crime-in-Houston-and-Newark-Summary-Report-.pdf>) indicated that if officers spend more time talking with people, they can reduce the fear of crime and possibly, crime itself. This research, Mr. Stewart said, was a first step in shifting the focus from policy analysis to helping the real world. He also noted that during his tenure NIJ did work to make corrections facilities less formidable and more impenetrable, as well as advancing use of DNA as physical evidence and research on conducted energy weapons, what we term today as Conducted Energy Devices (CEDs).

Dr. Laub, who took over as head of the agency 20 years after Mr. Stewart’s departure, characterized NIJ’s mission as unique, and added: “Research must be rigorous, but it also must be really valued by practitioners. Given this, NIJ faces a two-fold challenge— generating rigorous knowledge, and disseminating relevant and usable knowledge to those practitioners.”

NIJ generates rigorous scientific research and disseminates relevant information, which helps translate research into policy and practice, Dr. Laub says, but it’s a two-way street, with the scientist developing new tools based on practitioner feedback about needs. During his tenure, Dr. Laub said that mass incarceration and crime rates declined, and NIJ funded new programs to combat human trafficking and continued partnering with NIST to further DNA research.

NIJ Present

The two law enforcement practitioners talked about their experiences working with NIJ, and how that collaboration helped their departments make sound policy decisions based on research results.

Chief Stawinski said that for too long, law enforcement agencies made decisions based on anecdotal evidence as opposed to applying sound research and scientific principles. In Prince George’s County, the department has achieved drastic reductions in crime rates by tossing out preconceived ideas about when and where crime was spiking, and using data to determine the actual times and places where the department needed to focus.



“Policing is not [only] about catching the criminal—it’s also about applying social science to fundamentally understand causation of crime,” said Chief Stawinski. “Safe people lead better lives. They lead a safer world into existence. I thank NIJ for their support in helping us work towards this future.”

Chief Stawinski also said he makes it a goal to try to get more practitioners involved in working with research efforts. Chief Thomson, in a similar vein, described himself as a professional reformer, saying that society is changing and policing needs to change with it. When he started taking help from others and actively enlisting help, good things began to happen. He also realized that change could not come unilaterally from the police department; it had to come from the community as a whole.

“A lot of the work with NIJ got us to a point where we understood the block and we actually started reducing crime. We knocked on doors and talked with people,” Thomson said. “I heard a woman say that her child used to be afraid of the police, now he wanted to be one. This change did not happen by accident. We applied what we learned from evidence-based studies and abandoned tradition.”

NIJ Future

Following the presentations, Dr. Muhlhausen and members of the audience asked the panelists questions. (Note: Another obligation caused Chief Stawinski to leave before the Q&A.) Highlighting that exchange were comments from the participants about what NIJ has been doing right and what needs to change in the future:

Mr. Stewart: I encourage you to be more responsive. It’s hard to wait 18 to 24 to 36 months for a report on what happened. Do more Research in Brief or other quick turnaround documents. The biggest challenge is to be more relevant. (Dr. Muhlhausen pointed out the new “Notes from the Field” series that focuses not on research, but on the experiences of a particular chief: <https://www.nij.gov/publications/Pages/notes-from-the-field.aspx>)

Dr. Laub: In order to supply the research, we need to know what the field needs to know. Also, NIJ has not done a good job of telling its story. Use this 50th anniversary as a springboard.



Chief Thomson: A lot of times practitioners have a hard time articulating what they need. The researchers need to get out in the field, the way Dr. Muhlhausen did with coming to Camden and riding along in a squad car.

At the end of the day, a quote from Mr. Stewart early in the event perhaps summed it up best: “This ‘Research for the Real World’ event is not only an important title, but an important motto. This is 50 years of improving justice and saving lives— the research done here has real impacts in saving people’s lives.”



JUSTICE TECHNOLOGY INFORMATION CENTER

Concluding 25 Years of Providing Assistance

During 2018, JTIC began completing tasks that will allow the Communications & Outreach portion of the program to come to an end in 2019. The Compliance Testing Program component of JTIC will continue as part of a new program, the Criminal Justice Testing and Evaluation Consortium (CJTEC).

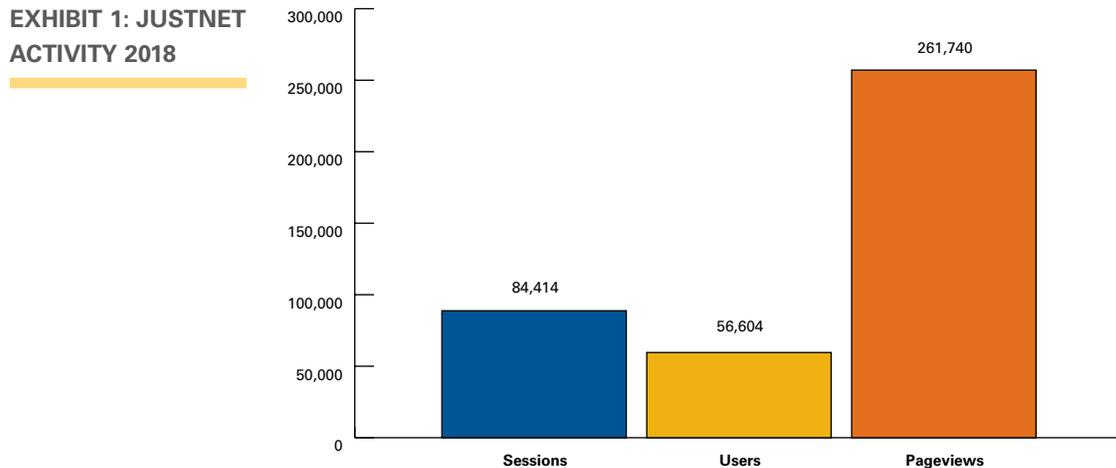
JTIC had its origin in the 1994 expansion of the original testing program, the Technology Assessment Program Information Center (TAPIC) into the National Law Enforcement Technology Center (NLETC). In 1995, the program began addressing the needs of corrections professionals as well with a name change to the National Law Enforcement and Corrections Technology Center (NLECTC), and expansion and change continued with the addition of various regional and specialty centers over time. The Center System roster continued to morph in response to changes in the needs of the criminal justice community, but throughout, one central center remained, first under the name of NLECTC-National, later as JTIC.

Now, as NIJ responds once again to the needs of the criminal justice community with the changeover to CJTEC, JTIC closes out efforts related to publication production, social media, video production and conferencing. Highlights from 2018 appear below.

Highlighted activities by JTIC staff include:

- Wrote several original articles published in external periodicals, including:
 - “Protection for Prayer,” *Sheriff & Deputy*, January/February 2018, p. 76.
 - “Look for the Label,” *Sheriff & Deputy*, March/April 2018, p. 78.
 - “FTCoE Report Provides Insights, Information on Portable Drug Testing Devices” (Document 647960), IACPNET, reprinted from June 2018 *TechBeat*.
 - “Justice Technology Information Center Launches Expanded Resources on Unmanned Aircraft Systems,” (Document 648427), IACPNET, reprinted from July/August 2018 *TechBeat*.

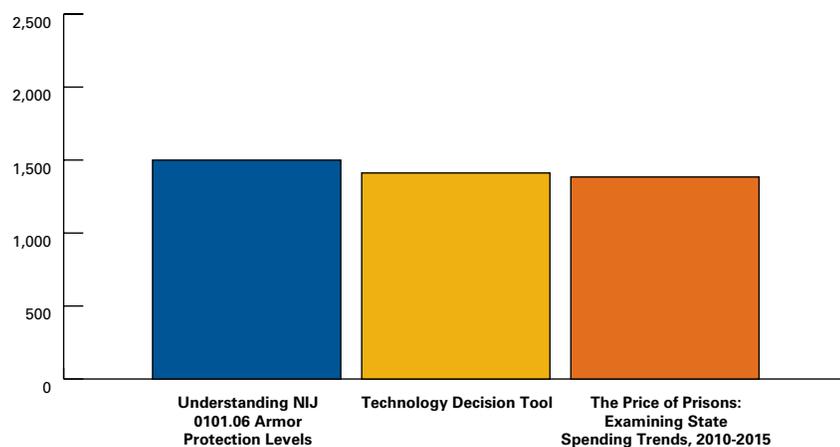
**EXHIBIT 1: JUSTNET
ACTIVITY 2018**





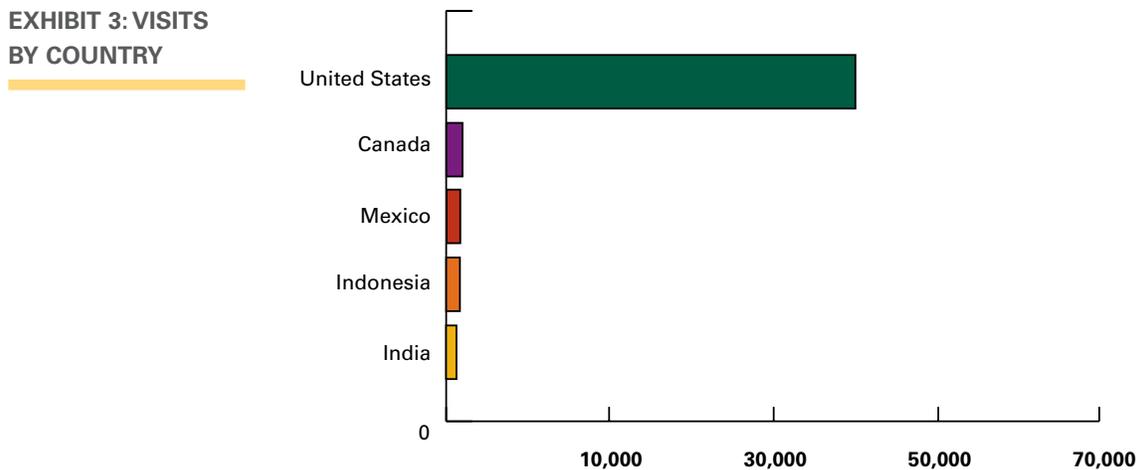
- “JTIC Releases Desktop Version of School Safe App,” PoliceOne.com (<https://www.policeone.com/police-products/police-technology/articles/479823006-JTIC-releases-desktop-version-of-School-Safe-app/>), reprinted from May 2018 *TechBeat*.
- Designed, wrote and produced 11 issues of *TechBeat* (combined issue was produced for July/August). At the end of 2018, *TechBeat* had 15,482 subscribers.
- Managed JUSTNET, the website of the NLECTC System, which had 84,414 sessions by 56,604 users and 261,740 pageviews.
- Processed five “asknlectc” email box external request referrals and 1,217 internal information request referrals, as well as 122 toll-free telephone internal information referrals and 30 external information referrals.
- Provided meeting coordination, subject-matter expertise and/or technical writing/editing support for two onsite Special Technical Committee meetings on ballistic-resistant body armor, three STC meetings on firearms and one focus group meeting on civil disturbance unit personal protective equipment.

EXHIBIT 2: TOP DOWNLOADS 2018



- Exhibited at 23 national law enforcement and corrections conferences, distributing 3,923 items from inventory. An additional 1,945 NLECTC System publications were distributed by other agencies at six additional conferences.
- Handled 20 non-conference-related requests for publications.
- Designed, edited and/or produced 42 publications.
- Recorded 2,452 contacts/transactions into CaptureNet.
- Processed one ASTM portal request (the portal ended April 1, 2018), 417 School Safe app requests and 346 SHOW app requests.
- Coordinated 253 total domestic and international (approved, rejected and new) requests for Field Search software. To date, 8,513 requests have been received and the software has been downloaded a total of 13,487 times. Certified Field Search instructors provided basic Field Search training to 355 criminal justice personnel, and staff approved 221 domestic and international requests for the Field Search software.
- Managed the Corrections Technology Resource Center, which had a total of 79 registered users as of Dec. 31, 2018. During 2018, JTIC transitioned its SharePoint Instance from

EXHIBIT 3: VISITS BY COUNTRY

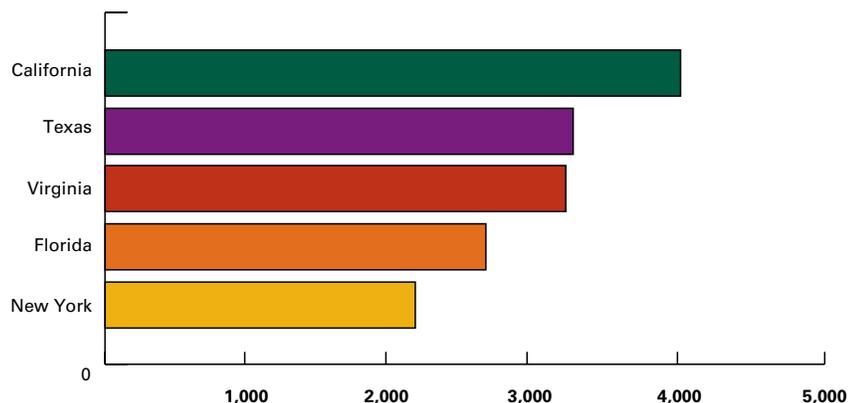




SharePoint 2013 to SharePoint Online. As part of the transition, staff conducted a review of user accounts and deactivated accounts showing a lack of access/activity for the previous six months. The knowledgebase contained 2,146 documents.

- Produced 50 issues of *JUSTNETNews*, a weekly summary of news from the NLECTC System, NIJ and other agencies within the U.S. Departments of Justice and Homeland Security; abstracts of mass media articles relating to criminal justice technology; and current funding opportunities and upcoming events. At the end of 2018, *JUSTNETNews* had 14,695 subscribers.
- Managed PoliceArmor.org, a subsite that provides overall information on both ballistic- and stab-resistant armor for field officers, and includes links to the CTP information on JUSTNET. PoliceArmor.org had 7,414 sessions by 5,294 users and 52,512 page views.
- Managed SchoolSafetyInfo.org, a website targeting school resource officers and school administrators that links to resources, a calendar of events, funding opportunities and original articles on free/low-cost school safety activities. Staff wrote 16 articles for the website and produced Volume 6 in the *Sharing Ideas and Resources To Keep Our Nation's School Safe!* series, which compiles one year's worth of articles posted to the site. SchoolSafetyInfo.org had 17,545 sessions by 14,698 users and 67,421 page views.

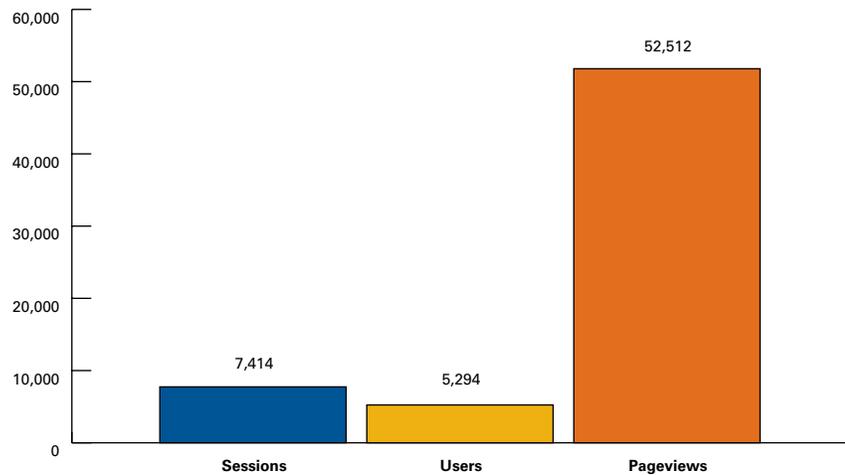
EXHIBIT 4: VISITS BY STATE



- Disseminated information to the criminal justice decision-maker community via JUSTNET's Facebook page (with 668 fans and 25,889 impressions) and Twitter feed (with 708 followers and 255,789 impressions) in 2018. JUSTNET's YouTube channel had 39.9K views with 127.1K minutes watched. Original videos produced during the year included *Safer Skies: How the FAA Helps Law Enforcement Respond to Reports of Improper Use of UAS* and a six-part series on *Examining Evidence-Based Policing Practices and Programs*.

For additional information on the Justice Technology Information Center, contact Mark Greene, NIJ Policy and Standards Director, at Mark.greene2@usdoj.gov.

**EXHIBIT 5:
POLICEARMOR.ORG**





STANDARDS AND TESTING

Revising NIJ Standards to Address Current Criminal Justice Needs

JTIC supports NIJ's standards development and implementation, and administers its Compliance Testing Program (CTP). Under the CTP, equipment is evaluated and subjected to a series of tests described in NIJ standards to determine if it meets minimum performance requirements. Both ballistic- and stab-resistant body armor models that comply with the standards are added to the Compliant Product List posted on JUSTNET. CTP staff also help NIJ develop and publish voluntary equipment standards that specifically address the needs of law enforcement, corrections and other criminal justice agencies by providing subject-matter expertise, editorial support and logistics assistance.

The goal of all NIJ standards is to ensure, to the degree possible, that equipment is safe, reliable and performs according to established



minimum requirements. Standards are developed through Special Technical Committees (STCs) consisting of active/serving law enforcement officers; subject-matter experts from federal, state and local criminal justice agencies; test laboratories; and individuals knowledgeable in standards development and product certification. Members meet to discuss criminal justice community needs, potential test methods and other related issues, and develop drafts that are released for public comment, revised in consideration of those comments, and eventually published and implemented. NIJ presently has four STCs working on developing standards that are in various stages of this process. Their efforts are described below.

Ballistic-resistant Body Armor. *Ballistic Resistance of Body Armor, NIJ Standard-0101.07* is the latest revision to the first standard developed and implemented by the Institute in 1972. The latest revision will be released sometime in 2019. The result of several years of STC discussions, changes in the 0101.07 version that impact law enforcement include:

- Development of a test protocol specific to female armors, devised over the past several years by convening several focus groups of female officers to provide input to help CTP staff engineers devise new and appropriate test methods.
- Based on the operational requirements identified by the STC, NIJ 0101.07 introduces new test threats, including the use of 7.62 x 39 mild steel core (MSC) and .223 (5.56mm) ammunition in hard armor plate testing. The ammunition specified in the current 0101.06 version represents a large gap between the two existing levels of hard armor protection, and bringing these two types of ammunition into the test matrix will help close that gap and provide a better base level of protection for officers.
- Retiring Level IIA, the lowest level of soft armor protection.
- Changing protection level names of both hard armor plates and soft armor vests, and introducing a third level of hard armor plate protection, with a goal of ensuring clarity through nomenclature that instantly identifies the type of protection offered.
- Reducing confusion caused by manufacturers, labs, practitioners and government agencies all using the same term to mean different things, or using different terms to describe the same thing, by including only a truncated section of definitions and additionally referencing the newly released ASTM E3005-15 Standard Terminology for Body Armor.



- Incorporating several other ASTM standards into the NIJ standard by reference in order to eliminate duplication of effort.

Stab-resistant Body Armor. Corrections officers face danger and challenges to their safety on the job. Inmates are creative and inventive in fashioning improvised stab weapons from everyday objects or materials – even objects as simple as toothbrushes. To help these officers obtain the protection they need against those threats, NIJ is updating *Stab Resistance of Personal Body Armor, NIJ Standard-0115.00*. A draft of version 0115.01 is expected to be released for public comment in 2019. The new standard will be more applicable to the environments in which many corrections officers work without burdening them with protection against non-applicable threats, and will also maintain the commercial threat protection level for officers who work in uncontrolled environments. The draft revision also adds testing specific to female body armor models.

Civil Disturbance Unit Personal Protective Equipment. NIJ is working with the DC region Council of Governments to establish an STC and oversee the development of performance standards for Civil Disturbance Unit (CDU) personal protective equipment. Law enforcement officers trained to respond to protests, demonstrations and civil disturbances, and facilitate and protect lawful, peaceful demonstrations need proper protective equipment. Purchasing suitable protective equipment is made more difficult by the lack of U.S. standards. Typical personal protective gear for a CDU officer includes flame-retardant coveralls/uniforms, protective footwear, protective and flame-retardant gloves, protective helmets, personal defense shields, blunt-trauma limb protectors and blunt-trauma torso protectors.

The group held its first meeting toward developing a standard in September 2018. In the interim, NIJ has identified either British *Standard 7971, Protective clothing and equipment for use in violent situations and in training*, or standards developed by the U.K. Home Office (i.e., HOSDB Blunt Trauma Protector Standard for UK Police (2007), PSDB Protective Headwear Standard for UK Police (2004), and HOSDB Flame Retardant Overalls Standard for UK Police (2008)) as performance standards that may meet agencies' needs.

Firearms. An NIJ effort is underway to update and revise the minimum performance standards, *Autoloading Pistols for Police Officers, NIJ Standard 0112.03 (Revision A)* and *12-Gauge Shotguns for Police Use, NIJ Standard 0113.00*, as well as to develop a new minimum performance standard for patrol rifles. This STC will articulate minimum performance



requirements that U.S. law enforcement should demand of their pistols, rifles and shotguns, and also describe how laboratories should test firearms to determine if they conform to the requirements. STC members will consider factors such as service life; exposure to environmental issues, including heat, cold, water and sand; trigger pull; and safety devices.

Program highlights include:

- Provided oversight and administration for the testing of 90 armors of ballistic-resistant body armor and 15 models of stab-resistant armor; also conducted follow-up inspection and testing of 251 models of ballistic-resistant body armor.
- In conjunction with the Michigan State Police, conducted evaluations of 2018 model year police vehicles that included 12 sedans and SUV's (including two hybrid powered vehicles) and 7 motorcycles from six manufacturers.

For additional information on the Compliance Testing Program, contact Mark Greene, NIJ Policy and Standards Director, at Mark.greene2@usdoj.gov.



SCHOOL SAFETY

JTIC Releases Desktop Version of School Safe

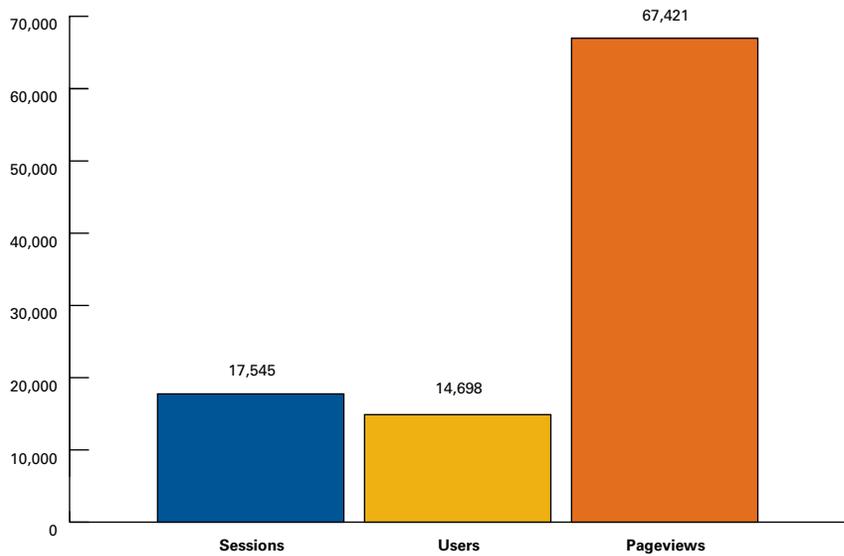
In May 2018, JTIC released a new desktop version of its popular free app, School Safe – JTIC’s Security and Safety Assessment App for Schools. Like the Android and iOS versions, the desktop version makes it easy to do a safety and security assessment of buildings and grounds by observing conditions and answering a series of simple questions. Desktop School Safe, available as a fillable PDF, also provides enhanced capability to write lengthy blocks of text – using all 10 fingers – and allows for easy file sharing among team members collaborating on an assessment. For security purposes, each download code issued by JTIC for mobile School Safe can be used on only one device, and although its final output can be exported as shareable PDF, the actual survey can be conducted on only one device. With the desktop version, the fillable PDF can be passed from one team member to another to work on different sections. The desktop version also includes enhanced capability for adding photos.

“Earlier this year, in response to requests from the field we had received about our Safeguarding Houses of Worship (SHOW) app, we created a fillable PDF desktop version,” says JTIC Deputy Director Ron Pierce. “The desktop version of SHOW became so popular so quickly that we realized there was a similar unmet need for a PDF version of School Safe.”

Pierce notes that the mobile version allows SROs and administrators to walk around and look at facilities while answering the questions, and “it’s a little hard to do that carrying a laptop. Users might want to print out a blank copy and carry it on a clipboard, making quick notes they can expand on later.”

The ability to easily expand on those brief notes is the most significant advantage that desktop School Safe offers, he says: “This new version is so much easier to use if you have extensive notes or comments regarding what you saw while surveying the facility. The result is a thorough, professional-looking assessment that can be shared electronically or as printed hard copies.”

EXHIBIT 6:
SCHOOLSAFETYINFO.ORG





That final output can also easily be submitted to district or state offices that may require schools to submit a security assessment, a requirement implemented by a number of jurisdictions in the wake of the Feb. 14, 2018 shooting at Marjory Stoneman Douglas High School in Parkland, Fla.

Access to versions of School Safe is free, but is limited to qualified criminal justice professionals and school administrators.

JTIC staff also added 19 new articles to SchoolSafetyInfo.org and kept resources, funding opportunities and calendar of events listings current. The site registered 10,992 sessions by 8,662 users and 44,962 page views.

For additional information on school safety, contact Mark Greene, NIJ Policy and Standards Director, at Mark.greene2@usdoj.gov.



OUTREACH

Creating Tools to Help the Most Vulnerable

Beginning with the release of School Safe – JTIC’s Safety and Security Assessment Tool for Schools in October 2015, continuing with the release of SHOW in October 2016, and most recently adding desktop versions of both apps in early 2018, JTIC has created tools to help some of the nation’s most vulnerable facilities develop plans to keep those who them safe and secure. But JTIC didn’t stop with just creating the apps: throughout 2018, staff members promoted the apps through networking and presentations at a number of training events.

SHOW App. In addition to in-person promotion, staff conducted on-camera interviews with the presenters at an NIJ-sponsored panel on house of worship safety at the International Association of Chiefs of Police Conference in Orlando, Fla., in October. This footage will become a YouTube video that can be accessed by HOW leaders and administrators throughout the nation and the world. Release is expected in early 2019. JTIC also partnered with the Federal Emergency Management Agency Center for Faith-Based & Neighborhood Partnerships by providing copies of the SHOW desktop version for distribution at several conferences, including the



International Pastors & Leadership Conference April 17-21 in Dallas, Texas. FEMA introduced the app during the opening general session, and distributed the PDF desktop version to all of the approximately 7,000 faith leaders attending.

Staff also networked in person at the following events:

- **Workshop and Seminar for Clergy and Lay Leaders.** This event allowed clergy and lay leaders to learn more about how to plan, activate, respond and deal with consequences from safety- and security-related events. The event, held in Augusta, Ga., on March 20, focused on how worship leaders can better plan, prepare and respond to a complete spectrum of safety- and security-related issues unique to the campus of a house of worship. Presenters included national, state and local representatives from assistance organizations and from agencies that have experienced critical incidents in their jurisdictions. Attendees also participated in breakout sessions where presenters and other agency representatives worked one-on-one to answer more specific questions about their topical areas. The JTIC houses of worship subject-matter expert hosted a breakout session on the app and each of the 103 attendees received a copy of the desktop version of the app.
- **Baltimore Archdiocese Church Shooting Training.** JTIC staff presented on SHOW at a training seminar for employees of the Baltimore Archdiocese on May 3. The presentation was well received and as a result, all churches within the Archdiocese of Baltimore now are required to download the SHOW app and complete an assessment.
- **Civilian Response to an Active Shooter Event Training.** On June 20, a JTIC staff member attended a session of CRASE training jointly sponsored by Calvary United Methodist Church of Mt. Airy, Md., and the Mt. Airy Police Department. Representatives from more than 40 houses of worship located throughout central Maryland attended the event. First Sgt. Jonathan Hill of the Maryland State Police presented the training, which focused on the Avoid-Deny-Defend strategy for dealing with an active threat. The JTIC staff member networked with local HOW leaders, representatives from the Mt. Airy Police Department and Sgt. Hill, and distributed copies of the desktop version of SHOW along with information on School Safe and Field Search.



- **Houses of Worship Safety Training.** A JTIC staff member attended a Houses of Worship safety training in Damascus, Md., on Sept. 27. Montgomery County Community Policing Officer Marcus Dixon presented on the Avoid-Deny-Defend strategy to approximately 50 representatives of local houses of worship. The staff member networked with Officer Dixon and gave him information on the SHOW app, the School Safe app and Field Search.
- **Central Maryland House of Worship – Interfaith Safety & Security Evening.** On Nov. 4, the JTIC deputy director gave a presentation on the NIJ SHOW app developed by JTIC at the Central Maryland House of Worship - Interfaith Safety & Security Evening in Fulton, Md. The Department of Homeland Security sponsored the event. The presentation and materials were well received, and approximately 75 copies of the app/toolkit were distributed to church administrators and local law enforcement.

School Safe App. In addition to distributing school safety information at all general law enforcement conferences, JTIC attended four conferences that target school safety professionals to distribute information on School Safe and the *Sharing Ideas and Resources To Keep Our Nation’s Schools Safe!* series of publications:

- **National Association of School Resource Officers Annual Conference.** JTIC staff exhibited at the NASRO Conference in Reno, Nev., from June 23-27. Staff promoted JTIC school safety resources, with emphasis on the School Safe app, Field Search software and volume 6 of the *Sharing Ideas & Resources to Keep Our Schools Safe!* series. The book and app were very well received.
- **Campus Safety East Conference.** JTIC staff attended the Campus Safety East conference in Herndon, Va., July 19-20. Staff attended to help gauge the current climate of school safety around the country and determine how JTIC can assist agencies with school safety technologies. Several contacts requested the School Safe app. Staff also approached several speakers about having them add School Safe to their presentations as a free school safety resource.
- **National School Safety Conference.** JTIC staff exhibited at the National School Safety Conference sponsored by the School Safety Advocacy Council in Orlando, Fla., from July 23-24. Attendees expressed interest in the School Safe app and in the SchoolSafetyInfo.org website.

- **Maryland School Safety Conference.** Staff participated in various sessions at the Maryland School Safety Conference, held Aug. 13-14 in Annapolis, Md. Although the event did not feature an exhibit hall, staff were able to distribute packets of school safety promotional cards and school safety USB drives to 80 attendees.
- **Association of Independent Maryland Schools School Safety Conference.** JTIC staff exhibited at the Association of Independent Maryland Schools School Safety Conference Oct. 10-11 in Silver Spring, Md. Attendees included administrative and security staff from private schools throughout Maryland. Staff promoted the School Safe app, Field Search and the *Sharing Ideas and Resources* series. During one of the breakout sessions, JTIC staff gave a presentation on the School Safe app.

January

Fifth Joint Meeting of Society of Forensic Toxicologists and International Association of Toxicologists. The fifth joint SOFT-TIAFT meeting took place Jan. 6-12 in Boca Raton, Fla. Forensic professionals gathered from around the world to discuss the latest research, technologies and policies related to forensic toxicology. The FTCoE participated in a variety of ways, including booth operation, outreach and dissemination; two workshops; two oral presentations; two poster presentations; facilitation of a discussion session at an evening forum; and leading opening ceremonies. Additionally, staff developed a flyer detailing recent and upcoming FTCoE activities of interest for forensic toxicologists and other professionals attending the meeting for distribution at the booth.

Impression, Pattern and Trace Evidence Symposium. The FTCoE hosted IPTES on Jan. 22-25 in Arlington, Va. This symposium brought together more than 600 practitioners and researchers to enhance information sharing and promote collaboration among the law enforcement, legal, and impression, pattern, and trace evidence communities. During the beginning of the week, participants attended 13 interactive workshops spanning several topics, including firearm and toolmark examinations, probabilities and likelihood ratios in pattern evidence, and applied polarized light microscopy. For the remainder of the week, participants engaged in a variety of content, including keynote addresses, panel discussions, and poster and scientific sessions. The FTCoE team sent out daily updates to its 24,000 newsletter subscribers, which included symposium highlights, a photo of the day and details about



upcoming IPTES sessions. Several workshop in-brief reports and related Just Science podcast episodes will be released in upcoming months.

American Correctional Association Conference. The JTIC corrections subject-matter expert participated in the ACA Conference on Jan. 5-10 in Orlando, Fla. The SME made a presentation on the Prison of the Future and interacted with technology vendors.

International Conference and Expo on Advanced Ceramics and Composites. On Jan. 21-24, 2018, the JTIC CTP Senior Staff Materials Scientist and Engineer attended the International Conference and Expo on Advanced Ceramics and Composites held in Daytona Beach, Fla. He followed the S4: Armor Ceramics sequence of presentations that dealt with new processing techniques and formulations of advanced armor ceramics and characterization techniques used in studying these ceramics. Insights provided will keep the CTP better informed when dealing with ceramics used in stopping armor-piercing threats.

SHOT Show. On Jan. 23-25, Compliance Testing program (CTP) staff attended the SHOT Show in Las Vegas, Nev. The SHOT Show, an event sponsored by the National Shooting Sports Foundation, is industry's largest dedicated exhibit for firearms, protective equipment and tactical accessories to service law enforcement, armed forces, SWAT and private security, with more than 1,600 total exhibits. As manufacturers of the products (ballistic- and stab-resistant body armor, helmets and firearms) evaluated through the CTP attend this event, it is one of the primary ways staff conducts face-to-face interactions. CTP staff had more than 25 meetings scheduled during the event with various manufacturers. Additionally, the JTIC Standards Coordinator also attended the event to inform manufacturers of the impending release of the draft *NIJ Standard-0101.07 Ballistic Resistance of Body Armor* for public comment.

February

Medicolegal Death Investigation Stakeholders' Meeting. The FTCoE hosted the Medicolegal Death Investigation Stakeholders' Meeting on Feb. 5-6 in Washington, D.C. This meeting provided an opportunity for an open discussion about needs and challenges in the MDI practitioner community. More than 50 MDI professionals, representing 40 agencies/organizations, joined together to gather information and feedback on NIJ programs specifically dedicated to medical examiner and coroner offices and their laboratory support services.



Federal Forensic Science Research Programs Stakeholders' Meeting. The FTCoE hosted the Federal Forensic Science Research Programs Stakeholders' Meeting on Feb. 12 in Washington, D.C. This meeting brought together 68 forensic professionals across 29 organizations to discuss forensic science research programs. The purposes of this stakeholders' meeting were to provide an opportunity for federal agencies that either conduct or support forensic science research to understand the various efforts taking place at other federal agencies; facilitate greater understanding of the various forensic science research efforts to mitigate duplication; create greater understanding of the vast efforts in forensic science R&D and identify potential opportunities for federal agencies to partner and leverage each other's strengths; and coordinate all federal forensic science R&D efforts and possibly begin an annual exchange of information.

National Sheriffs Association Winter Conference. JTIC staff exhibited at the Winter 2018 National Sheriffs Association Conference in Washington, D.C., on Feb. 11-12, 2018. Visitors to the booth expressed interest in the SHOW app and the upcoming release of the draft ballistic-resistant body armor standard.

American Academy of Forensic Sciences 70th Annual Meeting. The AAFS Annual Meeting took place Feb. 19-24 in Seattle, Wash. Approximately 5,000 forensic professionals gathered from around the world to discuss the latest research, technologies and policies in their fields. The theme, "Science Matters," focused on research, diversity and communication. The FTCoE participated in a variety of ways, including booth operation, outreach and dissemination; distributing materials on FTCoE projects and activities; and participation in a seminar, "The Making of an Opioid Crisis in America? Why Research, Policy, and Practice Matter."

NIJ Forensic Science Research & Development Symposium. The FTCoE hosted the annual NIJ Forensic Science R&D Symposium on Feb. 2 in conjunction with the American Academy of Forensic Sciences meeting in Seattle, Wash. This symposium brought together several hundred forensic professionals both in-person and online to learn about NIJ-supported research across a variety of forensic science areas. The symposium included 18 presenters and their researcher partners representing 16 NIJ awards received during a four-year period (2013–2016). The morning sessions covered Forensic Anthropology and Controlled Substances and Toxicology; the afternoon sessions covered Trace Microbiome and Forensic Biology/DNA. The FTCoE hosted an online audience of 112 attendees.



North Carolina Crime Analysis Symposium. FTCoE representatives attended the North Carolina Crime Analysis Symposium, hosted by RTI International, on Feb. 23. This symposium brought together 100 participants from agencies across North and South Carolina to discuss challenges and collaborate around topics focused on victim-centered responses for sexual assault and domestic violence. The event included a keynote address by North Carolina Attorney General Josh Stein that featured policies and programs his office is pursuing to help fight human trafficking, sexual assault and intimate partner violence. Themes throughout the day included the importance of a multidisciplinary approach and offender focus as well as considerations for vulnerable populations. The symposium closed with how communities can use surveys to obtain a comprehensive understanding of crime, perceived community safety and law enforcement relations.

March

Second Annual UAS Conference. JTIC staff attended and presented at the Second Annual UAS Conference March 5-7 in Crozet, Va., sponsored by the Virginia Emergency Management Agency and Piedmont Virginia Community College. Representatives from public safety agencies across the United States and overseas, including Canada and Israel, attended the event. Members of the JTIC UAS Focus Group, which consists of practitioners from law enforcement and corrections agencies from around the country, also attended. JTIC staff presented on what NIJ is doing in the area of UAS, as well as on other JTIC center functions. The attendance of the focus group members benefitted other attendees, as JTIC staff could direct conference attendees to specific group members who were doing similar UAS work or who would be able to answer specific questions. The conference sponsor also mentioned JTIC and the booth during the opening remarks, which helped drive traffic to the exhibit. Attendees expressed great interest in JTIC products and services, making the conference very successful from an outreach perspective.

Evidence Management Steering Committee Meeting. NIJ and NIST kicked off their joint Evidence Management Project with the project's first Executive Steering Committee Meeting on March 6-8 in Gaithersburg, Md. This meeting brought together stakeholders to discuss best practices for evidence management for the purpose of strengthening the U.S. criminal justice system. The Executive Steering Committee will identify best practices for evidence management, revise current standards to reflect those best practices and facilitate community awareness of the many challenges and solutions related to evidence management. The



associate director of the FTCoE and a staff forensic scientist participated in the meeting as members of the survey subcommittee. This subcommittee is tasked with the development, dissemination and analysis of a survey to gain insight into current evidence management practices throughout the United States.

Whiskey in the Courtroom: Evolving Trends in Forensic Science. Duke University Law School hosted the Fourth Annual Whiskey in the Courtroom Symposium on March 9 in Durham, N.C. This symposium focuses on evolving trends in forensic science, and this year's theme was Fires, Liars, and More. Presentations focused on fire investigations, coerced confessions and case studies. Three FTCoE scientists attended the symposium to present posters and participate in a panel discussion. The first poster highlighted black box studies and error rates. The second poster highlighted noble cause and the need for leadership training for forensic scientists.

Human Factors Sourcebook Working Group Meeting. The FTCoE hosted a three-day working group meeting in support of the Human Factors in Forensic Science Sourcebook project at RTI International on March 14-16. The goal of this sourcebook is to find areas in which human factors knowledge can be used to improve laboratory practice and to bridge the gap between existing knowledge and operational implementation. During this meeting, working group members discussed their progress on chapter drafts.

National Sexual Assault Kit Initiative Grantees Meeting. The Third Annual National SAKI Grantees Meeting took place on March 27-28 in Arlington, Va. This event provided all Bureau of Justice Assistance SAKI and New York County District Attorney's Office awardees the opportunity for information sharing with their peers and deriving policies for sustainable, national sexual assault reform. The FTCoE associate director presented on FTCoE sexual assault initiatives and held office hours for attendees wanting more information about the FTCoE.

April

First Responders Resource Group Meeting. On April 16, the outreach coordinator participated in a U.S. Department of Homeland Security Science and Technology Directorate FRRG meeting in Houston, Texas. Meeting participants help identify high-priority technology gaps that will eventually lead to the development, testing and transitioning of critical



technologies to aid first responders. These technologies will allow responders to do their jobs more safely, efficiently and effectively.

May

Western States Joint Conference of the International Association for Identification. The first-ever Western States Joint Conference of the IAI took place April 30-May 4 in Las Vegas, Nev. This conference served as the 2018 training seminar for IAI’s California, Pacific Northwest, Rocky Mountain, Utah, Nevada and Arizona divisions. An FTCoE scientist gave two talks and a workshop. The talks were titled “Understanding and Calculating Error Rates in Pattern Evidence” and “Twice Bitten — The Lecture!

Latent Print Perspectives on the PCAST Report,” and the workshop, “Latent Print Testimony: How to be Transparent Without Feeling Naked.”

Association of Unmanned Vehicle Systems, International Annual Conference. The JTIC standards coordinator attended AUVSI in Denver, Colo. on April 30-May 3. Approximately 8,500 individuals attended this annual event, which featured more than 725 vendors and the latest emerging technology in the field of UAS. The coordinator attended education sessions in four unique tracks (Policy, Technology, Business Solutions and Trending Topics) and gained information on ways UAS are used outside the law enforcement arena.

TacOps West Conference. JTIC staff exhibited at the TacOps West Conference in Las Vegas, Nev., on May 8-11. Staff spoke with local police department SWAT team members and body armor manufacturers about the NIJ CTP, as well as the forthcoming NIJ body ballistic-resistant body armor standard.

National Police Week Conference. JTIC staff exhibited at the Concerns of Police Survivors’ National Police Week Conference in Alexandria, Va., May 14-16, and distributed 200 SHOW promotional cards and 100 JTIC promotional cards.

American Society of Crime Laboratory Directors 45th Annual Symposium. The ASCLD 45th Annual Symposium took place on May 20-24 in Atlanta, Ga. This year’s symposium focused on “Leading Forensic Advancement,” including emerging issues, personnel performance and laboratory operations. The FTCoE participated in a variety of ways, including presentations, booth operation, and outreach and dissemination. The FTCoE director



presented on the FTCoE Leadership Series and a forensic scientist presented on the 2017 Rapid DNA Technology Forum. Additionally, staff distributed a flyer highlighting the mission and accomplishments of the FTCoE and a collection of postcards detailing FTCoE activities.

June

National Sheriffs Association Annual Conference. JTIC staff exhibited at the NSA conference in New Orleans, La., from June 17-19, placing special emphasis on UAS technologies. A representative of the Aventura (Fla.) Police Department assisted in the booth; Aventura PD tested NIJ-funded UAS systems indoors, and he discussed his findings with conference attendees. His report will help inform a JTIC report on the indoor use of drones.

Gordon Research Seminar/Conference on Forensic Analysis of Human DNA. The second Gordon Research Conference on Forensic Analysis of Human DNA took place on June 17-22 at Sunday River in Newry, Maine. The GRC creates an international forum that fosters open discussion of cutting-edge topics at the forefront of human identification research. Topics presented and discussed by leading researchers included probabilistic genotyping, molecular methods for body fluid identification, DNA sequence variation, DNA deposition and transfer, advances in microfluidics for rapid DNA analysis and the relationship between genotype and phenotype as it relates to pigmentation and craniofacial formation. Two FTCoE scientists attended the GRC to stay informed of advances in the field and discuss potential collaboration efforts with forensic DNA experts. The two days prior to the GRC, several graduate students, post-docs, and other scientists with comparable levels of education and experience gathered to share new and unpublished innovative scientific research. The FTCoE provided travel sponsorships to seven early-career researchers to attend both the GRS and the GRC. All individuals presented posters at the GRC and will further disseminate their research through FTCoE webinars in the upcoming months.

New Jersey Police Chiefs Conference and Police Security Expo. JTIC staff exhibited at the Police Security Expo in Atlantic City, N.J., from June 25-27. The event drew nearly 7,000 rank-and-file law enforcement officers from New Jersey, New York, Pennsylvania and other states to the Atlantic City Convention Center. Visitors to JTIC's booth were primarily interested in information regarding body armor and equipment-related standards. Many asked about school safety technologies and strategies, and picked up *Sharing Ideas and Resources to Keep Our Nation's Schools Safe!* Volume 6. A number of attendees also asked about UAS technology.



Most attendees were interested in getting updated, impartial information about purchasing reliable equipment to help them do their jobs.

July

International Association of Coroners and Medical Examiners Annual Training

Symposium. The IACME 2018 annual training symposium took place July 22-26 in Las Vegas, Nev. IACME is committed to advancing the medicolegal death investigation discipline through science, medicine and the law, and has more than 80 years of experience in the presentation of education seminars. The FTCoE participated in the symposium in a variety of ways. IACME partnered with the FTCoE this year to provide a portion of the symposium to an online audience, including a presentation titled “Census and Surveillance Efforts – Insight into the U.S. Medicolegal Death Investigation (MDI) System Process, Infrastructure, Trends and Challenges.” This presentation shared MDI efforts, including how the FTCoE is committed to advancing the field and providing valuable resources for the community. Additionally, an FTCoE scientist connected with professionals in the field in the exhibitor hall, disseminating postcards that detail past FTCoE activities of interest for coroners, medical examiners and other professionals attending the symposium.

International Association for Identification. The annual IAI Forensic Educational Conference took place July 29-Aug. 4 in San Antonio, Texas. IAI is the oldest and largest forensic professional organization in the world, and the IAI Conference is the leading educational experience for forensic physical evidence professionals. The FTCoE participated in the conference in a variety of ways, including booth operation and outreach and dissemination. Additionally, a staff member led a workshop on latent print testimony titled “Latent Print Testimony: How to be Transparent Without Feeling Naked.” The workshop considered some of the tough concepts that come up in court, including error rate, discriminability, certainty, variability, bias, uniqueness and the identification decision. Additionally, staff disseminated a flyer highlighting the mission and accomplishments of the FTCoE to conference attendees at the booth.

Campus Safety East Conference. JTIC staff attended the Campus Safety East conference in Herndon, Va., July 19-20. Staff attended to help gauge the current climate of school safety around the country and how JTIC can assist agencies with school safety technologies. Several

contacts requested the School Safe app. Staff also approached several speakers about having them add School Safe to their presentations as a free school safety resource.

Sheriffs Association of Texas Annual Conference. JTIC staff exhibited at the Sheriffs Association of Texas Annual Conference July 21-24 in Grapevine, Texas. Aside from various JTIC publications, staff also placed special emphasis on UAS technologies. Sgt. Neal Landfield from the neighboring Arlington Police Department also staffed the booth. Sgt. Landfield's agency has used drones for some time and served as a local resource for conference attendees. He also promoted the NIJ UAS focus group. Several requests for the UAS model policy were received after the conference.

August

American Corrections Association Annual Conference. JTIC staff exhibited at the American Corrections Association Annual Conference in Minneapolis, Minn. from Aug. 5-7. The corrections subject-matter expert assisted with the JTIC exhibit booth, participated in the ACA Technology Committee meeting and interacted with technology vendors. Attendees were especially interested in information about UAS technology.

Midwest Security/Police Conference and Expo. JTIC staff exhibited at the Midwest Security & Police Conference/Expo in Tinley Park, Ill., Aug. 14-15. This event serves as the exhibit hall for the Illinois Association of Chiefs of Police Annual Conference. Attendees included command staff from northern and western Indiana as well as Illinois. JTIC staff placed special emphasis on UAS and related JTIC UAS publications. Staff also promoted the School Safe and SHOW apps.

September

International Symposium on Human Identification. ISHI took place Sept. 24-27 in Phoenix, Ariz. The largest conference in the world that focuses on DNA analysis for human identification had forensic professionals gathering to discuss the latest research, technologies and policies. The FTCoE participated in a variety of ways, including a poster presentation, booth operation,



and outreach and dissemination. A staff forensic scientist presented on an in-process study titled “A Landscape Report on the Standard Operating Procedures to Collect and Process Arrestee and Convicted Offender DNA Samples.” Staff also distributed a flyer highlighting the mission and accomplishments of the FTCoE and a collection of postcards detailing FTCoE activities at the booth.

National Forensic Science Week. National Forensic Science Week recognizes the contribution that forensic science makes to the criminal justice system. This year, National Forensic Science Week occurred on Sept. 16-22. Focusing on a target audience of early career scientists, the FTCoE engaged with the community through online webinars, daily news e-blasts and social media events, including a forensic photo contest and digital awards. Other events included short webinar presentations given by new investigators on novel research in forensic DNA analysis and forensic chemistry, and a live panel of forensic decision makers discussing the challenges facing forensic science today. The panel provided advice for entry-level practitioners on skills needed to succeed as a forensic scientist.

Maryland Chiefs of Police Association/Maryland Sheriffs Association Annual Training Seminar. Staff exhibited at the Maryland Chiefs/Sheriffs Association annual conference Sept. 9-12 in Ocean City. Staff placed emphasis on the School Safe and SHOW apps.

Virginia Chiefs of Police Annual Conference. JTIC staff exhibited at the Virginia Chiefs of Police Annual Conference in Roanoke, Va., on Sept. 10-11. Attendees included chiefs of police and command staff from various Virginia police departments and sheriff’s offices. Staff placed special emphasis on UAS and the related JTIC UAS publications, and also promoted the School Safe and SHOW apps, the draft revisions to the ballistic-resistant body armor standard and upcoming guidance on civil disturbance unit equipment.

District of Columbia Department of Corrections Staff Career & Professional Development Fair. JTIC staff exhibited at the District of Columbia Department of Corrections Staff Career & Professional Development Fair on Sept. 18, in Washington, D.C. Staff distributed JTIC and NIJ corrections publications to staff members ranging from administrative personnel to the warden.



Minnesota Association of Community Corrections Counties Conference. The JTIC corrections subject-matter expert participated in the Minnesota Association of Community Corrections Counties Conference on Sept. 26-27, 2018, in Nissaw. He delivered presentations on emerging technologies for community corrections.

October

Forensic Laboratory Needs Technology Working Group Meeting. NIJ, in partnership with the FTCoe, hosted the Forensic Laboratory Needs Technology Working Group on Oct. 2-3 in Washington, D.C. This meeting brought together 17 crime laboratory directors and senior laboratory managers – as well as five academic researchers – to assess the forensic technology needs of federal, state, local and tribal law enforcement agencies. The FLN-TWG also discussed how to develop a research agenda that incorporates the operational requirements and readiness of forensic laboratories and the need for new and improved technologies, methods and practices. The meeting consisted of presentations from various federal agencies highlighting initiatives that may benefit state and local crime laboratories, presentations from academic researchers highlighting groundbreaking research, and presentations from the forensic community highlighting technology needs within forensic disciplines.

Airborne Public Safety Association UAS Expo. JTIC staff exhibited at the Airborne Public Safety Association UAS Expo Oct. 2-4 in Reno, Nev. NIJ UAS focus group member Mike Russell, a deputy with the York Poquoson Sheriff's Office in Virginia, helped staff in the booth with promoting JTIC and NIJ UAS publications. Attendees showed a great deal of interest in the UAS model policy/SOP specifically, as well as the Federal Aviation Administration (FAA) drone card. Deputy Russell spoke with attendees about his agency's program, the JTIC publications and the focus group.

School Safety Advisory Council Active Shooter Conference. JTIC sent 370 items for dissemination at the School Safety Advisory Council Active School Shooter conference Oct. 4-5 in Orlando, Fla.

International Association of Chiefs of Police Annual Conference. JTIC staff exhibited at the IACP Annual Conference Oct. 7-9 in Orlando, Fla. Personnel from the FAA, Arlington (Tex.) Police Department, Alameda County (Calif.) Sheriff's Office, the Columbia County (Ga.) Sheriff's



Office and the Aventura (Fla.) Police Department all assisted in the booth, promoting JTIC and NIJ UAS publications, including the UAS model policy/SOP and the FAA drone cards. CTP staff met with approximately 10 participants in the program to discuss various topics such as the revision of the ballistic-resistant body armor standard, current testing-related issues, the revision of the stab-resistant body armor standard and armor submission questions. The Columbia County (Ga.) Sheriff's Office assisted with promoting the SHOW app, and deputies from the Frederick County (Md.) Sheriff's Office and church leaders from Frederick County held a panel discussion on ways to protect houses of worship, including use of the SHOW app. The discussion resulted in numerous requests for the app. Booth traffic from the 18,285 attendees remained steady. Among the attendees, 80 percent had a role in purchasing products and services for their agencies, with more than 50 percent having approval authority. Four FTCoE scientists attended the conference to stay informed of advances in the field and strengthen the FTCoE's presence in the law enforcement community.

Society of Forensic Toxicologists Annual Meeting. The SOFT Annual Meeting took place Oct. 7-12 in Minneapolis, Minn. Forensic professionals gathered from around the world to discuss the latest research, technologies and policies related to forensic toxicology. The FTCoE participated in a variety of ways, including a presentation, booth operation, and outreach and dissemination. Staff presented on "The Hidden Costs of the Opioid Crisis and the Implications for Financial Management for Forensic Laboratories – How Does a Laboratory Document its Economic Impact?" Additionally, staff distributed a flyer highlighting the mission and accomplishments of the FTCoE and a collection of postcards detailing FTCoE activities.

National Association of Medical Examiners Annual Meeting. The NAME Annual Meeting took place Oct. 12-16 in West Palm Beach, Fla. This meeting provides a forum for medicolegal death investigation professionals to discuss advances and challenges in the field. Staff connected with professionals in the field while disseminating outreach materials at the RTI International booth in the exhibitor hall. Specifically, staff disseminated flyers detailing recent FTCoE activities of interest for coroners, medical examiners and other professionals attending the meeting.

Rapid DNA Crime Scene Task Force Meeting. The FTCoE hosted the Rapid DNA Crime Scene Task Force Meeting at RTI International on Oct. 23-24. The Rapid DNA Crime Scene Task Force, established by the FBI, is essential to the continued dissemination of Rapid DNA technologies into the criminal justice community. This meeting brought together Rapid DNA



technology stakeholders from across the country to discuss practical plans and implications of Rapid DNA technologies in booking stations and crime scene investigation. Additionally, stakeholders worked together to develop best practices and future dissemination efforts to reduce crime and advance justice at the state and local levels.

November

American Society of Criminology Annual Meeting. The ASC Annual Meeting took place Nov. 14-17 in Atlanta, Fla. The ASC is an international, multidisciplinary organization of criminal justice and criminology professionals that concern themselves with the latest research, policies and issues related to crime and delinquency. The theme for this year's meeting was "Institutions, Cultures and Crime." A staff member attended the conference to strengthen the FTCoE's presence in the criminal justice community.

Department of Homeland Security Body Worn Camera Perception Summit. JTIC staff attended the DHS Body Worn Camera Perception Summit on Nov. 7 in Laurel, Md., at the Johns Hopkins Applied Physics Laboratory. The meeting focused on a discussion of the findings of a DHS research gap analysis and the need to prioritize future DHS studies to fill one or more of those gaps.



UNMANNED AIRCRAFT SYSTEMS

JTIC Launches Expanded Resources on UAS

Agencies looking for information on law enforcement use of unmanned aircraft systems (UAS) have a new resource: JTIC has added an expanded subsite specific to UAS to JUSTNET.

“Law enforcement interest in using small UAS for accident reconstruction, search and rescue, and other emergencies continues to increase, and that made us realize that JUSTNET needed to offer a more complete set of well-organized pages to respond to that need,” says Ron Pierce, JTIC deputy director.

During 2017 and 2018, approximately one-third of all requests for information fielded by JTIC through its asknlectc@justnet.org mailbox and (800) 248-2742 telephone number were related to UAS, and from its release in October 2017 through June 2018, JTIC processed 335 requests for information for the law-enforcement sensitive document, *A Template for Standard Operating Policy (SOP) Guidance for Law Enforcement Use of Small Unmanned Aircraft Systems (sUAS)*.



The creation of the UAS-specific subsite (<https://justnet.org/uas/index.html>) follows body armor and school safety, two other important topics in the NLECTC portfolio. JTIC staff designed the UAS home page to showcase video content and provide direct links to a new page of agency success stories, frequently asked questions about public safety and UAS, and information on how an agency can start a UAS program. The new subsite also features an updated collection of resource materials and publications, including the NIJ report, *Considerations and Recommendations for Implementing an Unmanned Aircraft Systems (UAS) Program* (<https://www.ncjrs.gov/pdffiles1/nij/250283.pdf>) and JTIC's white paper *Law Enforcement Guidance Concerning Suspected Unauthorized UAS Operations* (https://www.justnet.org/pdf/UAS-LEA-Guidance-White-Paper-7_8_16.pdf). The new design ensures that the subsite's functionality is retained when viewed on mobile devices.

"We've updated the navigation menu to help you find what you're looking for more quickly and easily, including adding a topic-based search in the reference section," Pierce says. "Before we created the UAS subsite, you had to scroll through a lot of information on JUSTNET to find the information you needed on UAS. Now you can see what's there at a glance and go straight to the information you need."

That information includes the success stories, which feature programs that have gained recognition for their use of UAS. NIJ funding, through JTIC, has provided several agencies with small UAS for testing during indoor tactical operations, and plans call for the production of a publication featuring lessons learned from that testing in the future.

The UAS home page also has links to more videos, accessed through a link to the JUSTNET YouTube channel. These new products, including one featuring guidance from the Federal Aviation Administration (FAA) on how agencies can cope with unauthorized use of UAS by members of the general public, will join *Eyes in the Sky: How Law Enforcement Uses Unmanned Aircraft Systems*, which consistently ranks as the most-watched video on the NLECTC YouTube channel. And the subsite may be just as popular, having registered more than 100 page visits in the first five days after the June 4, 2018 soft launch.



“We’ve added many features that are attractive graphically and also serve as functional improvements,” Pierce says. “Unmanned aircraft systems have the potential to be a useful public safety tool, and law enforcement agencies thinking about standing up a program have a lot to consider. Our new subsite is here to help them find the information they need to make informed decisions.”

sUAS Capacity Building. David Morton, a retired aviation safety inspector and former manager of the FAA’s Flight Standards UAS Integration Office, Strategic Flight Operations branch, who is now a subcontractor for JTIC supporting aviation outreach, created and field testing a training package that agencies can use to train their staff. This course provides requisite sUAS regulatory, aeronautical and operational knowledge to law enforcement, fire and other first responder agencies to self-certify their remote pilots and observers equivalent to the FAA part 107 curriculum.

For more information on UAS and NIJ’s Aviation portfolio, contact Joe Heaps at (202) 305-1554, email joseph.heaps@usdoj.gov.



JUSTICE INNOVATION CENTER FOR SMALL, RURAL, TRIBAL, AND BORDER AGENCIES

Mission Completed

The Justice Innovation Center for Small, Rural, Tribal, and Border Agencies concluded its efforts on Dec. 31, 2018. JIC identified, evaluated and disseminated technology solutions to the operational challenges of small, rural, tribal and border law enforcement, courts and corrections agencies.

During its four years of existence, JIC conducted monthly surveys of practitioners and field studies evaluating the use of technologies. Staff also visited agencies across the country to see first-hand the technology solutions they chose and implemented, and wrote success stories to share those experiences.

JIC's work can be located at <https://www.justnet.org/about/jic-center.html>.



CRIMINAL JUSTICE PRIORITY TECHNOLOGY NEEDS INITIATIVE

Addressing Practitioner Needs With Assistance From the Field

The Criminal Justice Priority Technology Needs Initiative is a partnership between the RAND Corporation, the Police Executive Research Forum, the University of Denver and RTI International to identify technology, policy and practice needs for the criminal justice community on behalf of NIJ. The partnership identifies and discusses the needs and priorities of the criminal justice community in order to foster greater innovation and foresight on issues surrounding introduction or integration of new, transformational technology within the system.

As of November 2018, the Initiative has released 18 branded products, which have been downloaded more than 46,000 times since the inception of the effort. The Initiative released a number of new products during 2018. Brief summaries of each follow in the subsequent sections.

Addressing the Effects of Electronic Devices and Communication on the Right to a Fair Trial Findings

Strategies to Mitigate the Impact of Electronic Communication and Electronic Devices on the Right to a Fair Trial focused on concerns



raised in previous Initiative efforts regarding the effects of mobile electronic devices and their use in court – both by jurors and members of the public with an interest in the process – on the fairness of trial outcomes.

Key findings included:

- Legislation may help mitigate some of the problems introduced by electronic communication, but judges need discretion in their own courtrooms.
- Judges and attorneys need flexibility in engaging with jurors, who are accustomed to being electronically connected to other people and sources of information throughout the day, but must be limited during trial proceedings.
- Continuing education is also needed for the judiciary and court practitioners on evolving modes of electronic communication.

The Initiative identified a number of research recommendations, including development of better methods to assess the effect of juror “outside research” on trial outcomes, approaches to limit that research and ways to address the use of social media by jurors, defendants and others to address concerns about its influencing judicial processes.

Assessing Needs Related to Access to Remotely Stored Digital Data

Building on previous Initiative findings related to how jurisdictional issues and technical limits could get in the way of law enforcement access to digital evidence during investigations, *Identifying Law Enforcement Needs for Access to Digital Evidence in Remote Data Centers* described a set of policy, practice and technical needs identified by a practitioner panel that examined the issues in depth.

High-priority needs identified during the workshop included:

- Create a portal or database for sharing information to facilitate ease of access to contact information for specialists and training for investigators on the creation and appropriate bounding of requests to providers for data.



- Provide better standards for the creation of, and compliance with, data requests served to providers. This would clarify the expectations of law enforcement and providers, remove ambiguity in the appropriate process or response, and mitigate investigative delays or unnecessary compliance burdens.
- Research methodologies for collecting digital evidence. Methodologies for digital evidence collection are constantly changing and there is a need to keep the knowledge base current. Greater incentives, such as targeted grants and conferences dedicated to the subject, could be provided for research in this area.
- Improve communication between law enforcement and service providers. Investigators need to know who to talk to, what data they have and what information should be included in requests to service providers to make those requests as simple as possible.
- Improve the MLAT process. A first step would be researching the bottlenecks that should be targeted for improvement. Other needs touched on better training for foreign liaisons who handle requests, portals to provide stakeholders with visibility into the state of requests and fixing gaps in the system where countries have no legal means to share evidence.
- Improve interstate data requests. Participants found there to be ambiguous legal authority and insufficient training for requesting data from other states. They suggested published standards and “how-to” guides to clarify the authority for these requests.

Responding to Corrections Workforce Concerns

The Initiative held a workshop in March 2017 that examined corrections staffing issues. The report documented the results of the workshop and explored issues regarding corrections workforce recruitment, selection, on-boarding, retention, leadership development, misconduct, and health and safety concerns. The paper, *Building a High-Quality Correctional Workforce: Identifying Challenges and Needs*, described a range of challenges encountered by correctional administrators and leaders, and identified a range of needs associated with the following recommendations:

- **Clarify the mission of the sector.** A shift in orientation might be key to reversing the long-standing difficulties the sector has faced in recruiting talent for corrections officer



positions. Panelists called for research to determine whether a shift toward an increased human services role, along with a corresponding change in the competencies sought, would help the sector recruit a broader base of new talent.

- **Improve staff competencies.** The panelists called for the reevaluation of existing competency standards or the creation of new standards for correctional positions.
- **Increase staff preparation.** The level of funding dedicated to training is insufficient, particularly compared with that in other criminal justice professions. The panelists suggested an assessment of the relationship between funding levels, substandard training and key outcomes. The panel also identified the need to assess and validate training approaches and to develop national curriculum standards for corrections education.
- **Improve the work environment and conditions.** Validated workload standards and ratios — and strategies to allow agencies to meet them — are needed to ensure that staff can function in a safe environment with adequate bandwidth and without undue stress. The panel also called for the development of best practices for pushing decision-making authority down to the lowest possible levels.
- **Develop future leaders.** The panel recommended the creation and promotion of best practices for leadership development and recommended assessments of the adequacy of training for new supervisors, development of strategies for improvement and compilation of best practices for leadership development.

Exploring Law Enforcement Use of Social Media Data and Social Network Analysis

The ubiquity of social media use in society and the use of such technologies among offenders and in the commitment of online crime has led to their becoming a key source of information on both threatened and actual criminal activity. After high-profile incidents, investigators have sometimes found what appear to have been indicators or “warning signs” that potentially could have been detected and provided an opportunity to prevent damaging incidents. The field of social network analysis, which studies the relationships between people and assets and can, among other things, identify those with “central” roles in criminal networks, naturally provides methods for analyzing social media data for investigative purposes. However, given concerns about protecting individual rights and effects on personal privacy, access and use of social



media data and its analysis by law enforcement is a sensitive issue. To examine this use, the Initiative held a panel of practitioners, technologists and civil society organizations to identify needs and concerns.

The panel characterized business cases for employing social media and social network analysis in law enforcement, including monitoring for short-term safety threats in postings; identifying those at high risk of involvement in violence, either acutely or chronically; and investigating specific crimes and organized crime networks. The panel also specified a core action **not** to take: monitoring of First Amendment-protected activity for vague purposes.

The document presenting the results of the discussion, *Using Social Media and Social Network Analysis in Law Enforcement: Creating a Research Agenda, Including Business Cases, Protections, and Technology Needs*, described an innovation agenda for social media data use and analysis in law enforcement including four central parts:

- The first part of the expert panel’s innovation agenda supports working with communities to develop policies and strategies for using social media and social network analysis.
- The second part is technical research on law enforcement-specific social media and social network analysis.
- The third part supports law enforcement-specific training on social media and social network analysis.
- The final part is creation of a help desk to assist law enforcement agencies with navigating requests to social media companies.

Forthcoming Products and Ongoing Activities

In addition to efforts completed during the 2018 project year, the Initiative has a number of continuing efforts and forthcoming products, described below.

Managing Serious Mental Health Concerns in an Institutional Corrections Environment.

In June 2017, the Initiative held a topical workshop on critical needs for addressing institutional corrections management of individuals suffering from serious mental health conditions. The effort assembled a panel of health and corrections professionals from a range of organizations



and correctional systems, and identified a set of needs to improve mental health care provision to individuals in custody. The report from this workshop is forthcoming.

Law Enforcement Video Analytics and Sensor Fusion Needs. Recent years have seen a surge in the number of cameras in the field. Displays of Internet-enabled security cameras can readily be seen when walking into a technology store, as can displays of UAS with cameras. From a law enforcement perspective, there have been several decades of departments installing and manually monitoring closed-circuit television cameras. In this workshop, the Initiative brought together a representative, highly experienced group of professionals to develop a roadmap for innovation in video analytics and sensor fusion technologies in support of public safety. The road-mapping effort included developing key business cases for employing video analytics and sensor fusion in public safety; core cyber security, privacy and civil rights protections; and needs for innovation. The report from this workshop is forthcoming.

Law Enforcement Investigative Needs for Crime Involving the Dark Web. In this December 2017 workshop, the Initiative assembled a panel of law enforcement practitioners, prosecutors, investigators and civil liberties experts to examine issues related to investigation of crimes with a nexus to the Dark Web – the portion of the Internet protected by encryption and anonymization technologies that plays a prominent part in some types of crime, including drug, weapons, human and other contraband trafficking. The workshop identified needs for addressing key challenges in carrying out Dark Web-involved investigations, legal issues and concerns surrounding those efforts, technical concerns, and civil rights and liberties issues associated with investigative efforts. The report from this workshop is forthcoming.

Emerging Threats to Correctional Institution Security. In March 2018, the Initiative held a workshop focusing on the ways that changes in technology and society could pose challenges to maintaining security of corrections institutions. Based on feedback by the panelists on a wide range of potential future threats to institutional security, discussion systematically explored five main areas: staffing (including insufficient staffing representing a security risk and also compromise of staff), security threat groups and targeted violence, contraband being brought into facilities through various paths, facility infrastructure challenges for maintaining security and external threats (ranging from cyber-attack, disease, natural disasters or attempts to physically breach facility perimeter security from outside).



Identifying Needs to Support Prosecutors. Also in March 2018, the Initiative convened a group of prosecutors from across the country to explore specific issues related to their role in the court system. The workshop built on Initiative efforts to examine the overall needs in the court system, and was designed to define potential technological or other innovative solutions to issues facing prosecutors and to recommend priorities for future court- and prosecution-related research and development goals at NIJ. The discussion was structured around prosecutorial functions and tasks, specifically case screening and investigation, case prosecution, staff resource allocation and outcome evaluation.

Leveraging Technology to Improve Community Supervision. In May 2018, the Initiative organized a workshop specifically focused on identifying technological opportunities and issues related to achieving the goals of community supervision systems. The discussion was organized around a set of core goals for corrections that had been drawn from previous Initiative efforts: facilitating positive behavioral change by supervised individuals, protecting the public, holding offenders accountable, improving correctional system staff competencies and seeking efficiencies in the community corrections system. Attendees were identified across a range of corrections agencies from around the country, including federal, state and local entities. The discussion identified a range of needs where research could contribute with reorienting the community corrections system to both increase effectiveness and focus resources to achieve desired outcomes.

Police Executive Workshop: Identifying and Prioritizing Top Law Enforcement Needs. In August 2018, the Initiative held a capstone workshop that sought to bring together previous law enforcement-focused work and identify a small number of top needs from the law enforcement sector. The workshop participants were police executives from across the country, and the discussion took as its starting point high-priority needs that had been identified in earlier Initiative events. The discussion focused on six issue areas:

- Learning About, Acquiring, and Leveraging New Technologies and Dealing with Technological Change in Society.
- Protecting Officers, Including Both Line of Duty Safety and Officer Physical/Mental Health.
- Strengthening Police Community Relations and Building Trust.
- Addressing Training, Development, Resource and Management Issues.

- Balancing the Drive to Keep and Share Data With Potential Information Overload.
- Navigating the Boundary Between Public and Private Sectors, Particularly With Respect to Technology Concerns.

Fighting the Opioid Crisis: Convening Police Leaders and Researchers to Learn Promising Practices and to Inform a Research Agenda. In September 2018, the Initiative organized a large-scale conference hosted by NIJ that addressed law enforcement response to the opioid epidemic. Then-U.S. Attorney General Jeff Sessions delivered the conference's keynote address. Principal Deputy Assistant Attorney General Matt Dummermuth and NIJ Director David Muhlhausen also addressed attendees. Panel discussions focused on law enforcement roles as part of first-response activities, including the use of naloxone to treat overdoses, and in facilitating treatment access, partnerships and data sharing among police and health agencies. Panelists also explored topics related to officer and analyst safety and challenges to forensics laboratories from the scale of analysis demands. The conference concluded with a prioritization exercise to identify specific barriers to implementing responses to the crisis, and ways NIJ research could contribute to addressing those barriers.

Court Appearance Through Telepresence. In October 2018, the Initiative held a topical workshop focusing on concerns related to the use of telepresence technologies in court proceedings. This workshop built on needs identified in previous years and was designed to solicit input from experts from across the nation on the most pressing concerns regarding court appearances through telepresence, innovative solutions to address those concerns and priorities for future research on telepresence. The discussion systematically examined issues through different stages of court activity, from pre-trial through trial and sentencing.

Assessing the Systemic Impact of Meeting Criminal Justice Needs. The Initiative is involved in an effort to develop a model of the criminal justice system to explore the potential cascading effects of meeting criminal justice needs identified in other elements of the project. Staff completed a prototype version of the model during 2018 and began documenting the results of exploratory analysis.

For more information on the Criminal Justice Priority Needs Initiative, contact Program Manager Steve Schuetz at (202) 514-7663 or by email at Steven.Schuetz@usdoj.gov.



NATIONAL CRIMINAL JUSTICE TECHNOLOGY RESEARCH, TEST, AND EVALUATION CENTER

Enhancing the Capabilities of Criminal Justice Agencies

The National Criminal Justice Technology Research, Test and Evaluation Center (RT&E Center) conducted focused research, testing and evaluations of non-forensic technologies intended to enhance the capabilities of state and local law enforcement and corrections agencies. Working closely with practitioners, the RT&E Center strove to inform the field concerning technology and related issues in an innovative, sustainable, efficient and effective manner. It conducted market surveys, determined technical performance of selected technologies, and conducted operational assessments and impact assessments to determine practical outcomes for practitioners of NIJ-funded R&D programs and other technology developments. RT&E Center efforts spanned areas as diverse as digital evidence management and facial recognition.

The Johns Hopkins University Applied Physics Laboratory (JHU/ APL, www.jhuapl.edu), in partnership with the JHU Division of Public Safety Leadership (<http://psl.jhu.edu/>), managed the RT&E Center, which also supported NIJ's efforts to develop and share knowledge with practitioners, policymakers and researchers regarding technologies or



technology-related issues for the purposes of improving criminal justice policy and practice. Activities varied from year to year depending on the needs of NIJ's science and technology RT&E efforts. It conducted multiple concurrent projects using a core management team and project-specific scientists and engineers working in coordination with criminal justice end users and additional subject-matter experts.

The RT&E Center had eight active projects in 2018.

Projects Completed in 2018

15-5: Market Survey for Early Intervention Systems (EIS) for Law Enforcement. The RT&E Center completed this project in April 2018. The study identified eight vendors of EIS technologies, five of which agreed to participate. It consulted widely with law enforcement experts and agencies to learn about technologies in use. The principal finding was that, despite the occurrence of “early” in the name, interventions based on system outputs generally occur only after unacceptable behaviors have already been identified. The RT&E Center presented a paper titled *Early Intervention Systems – Are They Possible?*, which documented those findings, at the September 2017 conference of the Society of Police and Criminal Psychologists, before completing the final report in April 2018.

15-7: Evaluation of DFORC2 Digital Evidence Management System. The Digital Forensics Compute Cluster is a prototype system for managing digital evidence in a forensically sound manner for potential use in prosecutions. The prototype received from the previous NIJ awardee was intended to support Cloud services such as Amazon Web Services (AWS). The RT&E Center project team worked to get the DFORC2 prototype running as an independent, with the initial purpose of validating test results reported by the developer. The team deployed DFORC2 as a local single-server instance and documented a set of corresponding high-level requirements in support of the previous developer testing. The Center investigated additional systems (commercial and open source), specifically AccessData's Forensic Toolkit, Guidance Software's EnCase and the open source tool Turbinia. The RT&E Center documented a detailed test plan for functionality. Staff halted the Turbinia investigation after determining it was insufficiently mature to support an evaluation and lacked multiprocessing capability. AccessData provided license keys for an evaluation instance at no cost to NIJ or JHU/APL.



The project team could not deploy DFORC2 software in the AWS environment despite technical support from the developer. It is likely that the AWS environment has evolved since completion of the prototype, and its failure to operate properly in the current AWS environment likely was due to changes in AWS not reflected in the documentation or source code for the delivered prototype. The RT&E Center terminated further effort toward deploying DFORC2 in the Cloud environment as being beyond the scope and budget of the evaluation project. The Center documented all attempts and failures in detail in the DFORC2 Evaluation Project final report.

16-1: Social Network Analysis (SNA) Technologies (for Criminal Justice Applications).

Tasked with conducting a technology foraging project to identify suitable Social Network Analysis (SNA) tools for criminal justice agencies, the RT&E Center took a three-pronged approach: (1) perform a literature review of SNA and SNA tool use in the law enforcement community; (2) conduct interviews with subject-matter experts (SMEs) in the law enforcement community; and (3) conduct a technology foraging activity to gather standardized information about SNA software referenced either in the literature review or by SMEs during interviews. This report provides background on SNA and its relevance to law enforcement, the NIJ RT&E Center's methodology for developing the review and findings from the review.

SNA has been applied to the study of crime, criminal organizations, terrorism and other threats for more than 25 years (Sparrow, 1991). It can be used to understand the roles and importance of individual members of a criminal enterprise and can map the overall structure of a criminal organization or group and measure its robustness. SNA can also identify weak points in the criminal network and help illuminate optimal ways to disrupt it based on its structure.

The project conducted a case study of the Blackbird Social Network, a criminal conspiracy for cannabis cultivation. It revealed a great deal about the relationships among criminal enterprise members, categorizing their relationships by gender, criminal ties, ties of affection and ties of kinship. It proved especially informative about participation by women in the organization, which had not been part of the investigation before analysis of the social network using graph-based tools.

Key findings include the following:

- *SNA is broadly useful.* In a law enforcement and public safety context, SNA – the study of patterns of connections between people – can be used to help prevent criminal behavior, provide indications and warnings, support criminal investigations and strengthen community relationships.
- *SNA is applicable to many law enforcement organizations.* Departments serving large metropolitan areas, smaller communities and campuses with forces ranging from thousands of officers to dozens have deployed SNA.
- *SNA is relevant to many types of crimes and interventions.* Departments have implemented SNA-based initiatives against a host of serious crimes, including homicides, gun trafficking, drug trafficking and gang activities. They also have used SNA in focused deterrence and community-oriented policing and outreach.
- *SNA can help improve community relations.* Focused deterrence, violence reduction efforts and other types of community engagements can benefit from SNA's ability to highlight the right individuals within the community for intervention. Police departments may be able to reduce their emphasis on enforcement actions while increasing their positive interactions with the community and improving public safety.
- *Partnering can improve SNA.* Networks of criminal activity do not follow jurisdictional boundaries. Partnering across traditional jurisdictional boundaries and across every aspect of the criminal justice system contributes to success.

Practical considerations include the following:

- *Data for SNA often already exists.* Although SNA is a data-intensive activity, existing law enforcement data can be mined for social network information. This includes data contained in local records management systems or field intelligence observations, as well as federal information such as that found in the National Integrated Ballistic Information Network. Depending on the goals, departments may not need to launch an intensive new data-gathering effort.



- *Support for implementing SNA is available.* For most departments, starting an SNA initiative puts them in unfamiliar territory. Departments wishing to implement SNA may be able to draw on programs and initiatives for leveraging existing expertise in SNA for law enforcement, rather than developing an approach on their own. Groups such as the Violence Reduction Network and the National Network for Safe Communities have provided SNA training and expert guidance to law enforcement personnel and agencies. The Bureau of Justice Assistance has also supported some SNA initiatives.
- *Multiple choices for SNA tools.* Many SNA tools exist, including free and low-cost options and tools specifically developed for law enforcement. Departments can select the tools that fit their needs and budget and that will best help them work with SMEs or other partners effectively.

Challenges identified include the following:

- Education and outreach are essential. Few departments already possess a cadre of trained analysts ready to conduct SNA and a leadership well versed in how to maximize its utility. Training on SNA will be needed, and command buy-in and support are critical to long-term success.
- Departments may need to improve their information systems and technology, and to make other changes. Many departments cope with information systems that are outdated and ineffective. Improvements to existing information systems and technology may help their SNA, and all other data-driven activities, function more smoothly and effectively. In some cases, departments may need to improve their practices for collecting data, including training officers in the field to increase their proficiency.
- Addressing community concerns about privacy, civil rights and civil liberties is essential. Working transparently with the community and avoiding backlash for perceived (or actual) misuse of personal data in SNA is paramount for any initiative intended to improve public safety and preserve police-community relationships. Departments must be careful to rigorously follow applicable laws, rules and regulations, and consult with their privacy officers or legal counsel as appropriate, particularly when dealing with any non-law enforcement data. The Office of Justice Programs has been developing guidelines that may assist in this process.



The RT&E Center delivered the final report to NIJ in June 2018.

16-3: 360-Degree Camera System for Law Enforcement Vehicle Deployment Test and Evaluation. The RT&E Center conducted a test and evaluation of 360-degree camera systems to determine their suitability for law enforcement use, both in patrol cars and in interview settings. The report documents considerations for determining system requirements for acquisition, based on elicitation of the concepts of operations for their use through practitioner discussions, literature review and technology foraging.

The RT&E Center delivered a two-part report, *360-Degree Camera Technology Primer* and *360-Degree Camera Performance and Operational Evaluation*, in January and April 2018. The Primer focuses on the intended uses and considerations mentioned previously and is most suitable for front-line end users. The more technically focused Performance and Operational Evaluation is best suited for determination of whether a given camera system meets technical claims and expectations.

For the performance and operational evaluation, the RT&E Center developed scenarios for field testing of selected 360-degree video systems of various types, including vehicle-mounted cameras and interview room systems. Laboratory testing validated vendor specifications and other parameters: field of view, resolving power, dynamic range, aspect ratio and color fidelity. For field testing, study participants acted out the scenarios and other activities while being recorded with the selected systems.

16-5: Wireless Power Transfer for Patrol Vehicles. Law enforcement officers and other first responders depend on rechargeable devices for communications and other critical tasks. This project determined the capabilities of wireless power transfer technologies, whether currently available or under development, to see if devices could be charged without officers' needing to plug them in or, ideally, not even removing them from holders or pockets. The RT&E Center identified available technologies and tested selected systems in detail.

15-FR: CMU Face Detection, Recognition and Reconstruction. The RT&E Center is testing three distinct algorithms developed by Carnegie Mellon University for face detection. The algorithms were tested individually, with the facial detection testing completed using the "Challenge Set 3" dataset acquired from the Intelligence Advanced Research Projects



Activity (IARPA) and applying the associated protocols. Other facial recognition algorithms that have scored highly in competitive assessments were tested as well to provide comparative benchmarking in the style of the IARP Janus Program. For broader investigation of the algorithms' capabilities, open source datasets recommended by the facial recognition community and associated datasets were included in the testing.

The Center completed all data collection and analysis for the three algorithms, which were documented and delivered to NIJ individually in July (one) and November (two and three). The three-phase set, all in one document, was delivered in December.

15-WA IV&V of WARDEN Digital Evidence Tool. NIJ asked the RT&E Center to test a prototype system delivered to NIJ by Assured Information Security, Inc. The prototype Wide-Scale Agentless and Rapid collection of Digital Evidence (WARDEN) supports data collection, normalization and analysis of collected data. Designed for rapid deployment of custom scripts while using native system interfaces, WARDEN can extract information from selected hosts without the use of an agent by gaining remote access to the computer using one of its transports.

An important criterion for testing the WARDEN system was to determine whether it preserved the forensic value and admissibility as it collected digital evidence. Early technical exploration of WARDEN revealed that it takes inadequate measures to preserve the chain of custody. For that reason, the RT&E Center contracted with a digital evidence expert for a legal opinion on rules of evidence and court precedent on the admissibility of digital evidence.

The RT&E Center report contains the technical details on WARDEN's data collection and auditing shortcomings, and discusses the criteria met by commercial digital management systems that have been successfully used in prosecutions. The report documents this information in an overview form, with the full legal opinion provided as an appendix. The Center delivered *Technical Evaluation and Legal Opinion of WARDEN: A Network Forensics Tool* to NIJ in October 2018.



Ongoing Projects

16-2: Testing of Video Conferencing Technology for Pretrial Hearings. The objective is to determine the effects of video quality on viewers of simulated pretrial hearing imagery using remotely conducted video conference technologies. Researchers inserted simulated degradations into the network paths for the transmitted video streams and measured their effects using volunteer subjects. (The JHU Institutional Review Board determined that it did not rise to human subjects research.) More information will be available on completion of the final report, anticipated in January 2019.

For additional information on the RT&E Center, contact Bill Ford, NIJ Research Division Director, at William.Ford@usdoj.gov.



FORENSICS TECHNOLOGY CENTER OF EXCELLENCE

Using New Approaches to Keep the Field Informed

During 2018, the Forensic Technology Center of Excellence continued its commitment to finding new and innovative ways – including an app, webinars and more – to bring information about innovations in forensics to the field.

There’s an App for That...And a Glossary...And Several Other FTCoE Sexual Assault Investigation Products (Reprinted from April 2018 *TechBeat*)

Criminal justice professionals working in the area of sexual assault might want to begin making room on their crowded devices for a new app: The Multidisciplinary Sexual Assault Kit Best Practices app, coming soon from the National Institute of Justice’s Forensic Technology Center of Excellence. The app, currently in beta testing, is just one of a number of products the FTCoE offers as part of its special initiative on sexual assault reform.

“We have had this special initiative since 2012 and we will continue to focus work in the area of sexual assault investigations in the future. I



believe we are now reaching the point where many of our efforts have become widely accepted and used,” says FTCoE Director Jeri Roper-Miller.

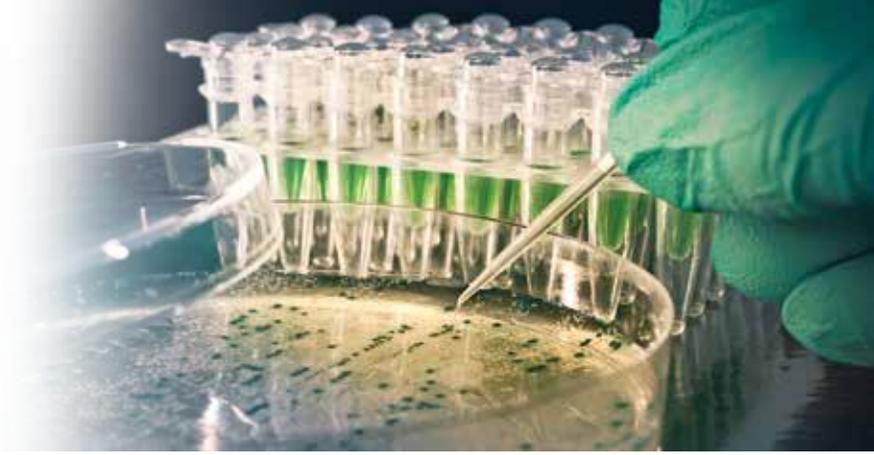
Read on for more information on several of those efforts, including the app.

App. Available in both iOS and Android versions, the *Multidisciplinary Sexual Assault Kit Best Practices* app is based on the NIJ report, *National Best Practices for Sexual Assault Kits: A Multidisciplinary Approach*. In addition to providing access to recommendations and guidance from the Sexual Assault Forensic Evidence Reporting (SAFER) Act working group, it also incorporates additional resources and links to external sites.

“Practitioners need to have dynamic information about how to best approach kits and trauma-informed sexual assault cases in general, and the mobile app will allow them to consume this information in a familiar format. It’s more realistic to think they will use an app in the field as they do their work rather than their taking the time to sit down and look at information on a desktop computer or a printed publication,” says Paige Presler-Jur, RTI international Research Scientist.

The free app, developed through a partnership with AB Castner Technologies, allows users to go directly to information related to any one of the 35 recommendations in the NIJ report. For example, law enforcement practitioners might want to check out Recommendation 22, which states “All law enforcement personnel involved in sexual assault investigations should receive training in the neurobiology of trauma and specialized skills for interviewing sexual assault victims.” Presler-Jur says that recommendation includes information that’s important for anyone who works with victims of sexual assault.

“There are so many facets to how the trauma of sexual assault affects a person. Receiving training in the neurobiology of trauma and in interviewing victims of sexual assault is really critical to achieving a trauma-informed approach that will both help a victim on the way to recovery and ensure that the case is going to be able to go through the criminal justice system,” she says. “We feel the NIJ report has a lot of crucial information that will help jurisdictions implement victim-centered approaches for sexual assault cases and it will make that information available in a format that people can access quickly, which is a benefit to the community.”



The app features an interactive table of contents that takes the user directly to specific chapters of the report, provides direct access to the recommendations, and links to external resources that include another FTCoE product, the Multidisciplinary Sexual Assault Glossary. This gateway to the glossary makes the app a “two-fer;” that is, it provides mobile access to the glossary without requiring practitioners to download a second app.

Glossary. In partnership with the Center for Nursing Excellence (CFNE) International, the FTCoE launched the Multidisciplinary Sexual Assault Glossary (<https://forensiccoe.org/sexual-assault/>) in November 2016. The database includes more than 3,500 terms and averages more than 4,000 visitors each month. During 2017, the Center worked on expanding the glossary to include terms in the areas of general sexual assault, human trafficking, child exploitation, child pornography, elder sexual assault, LGBTQ and death investigations involving sexual assault.

“When we started the project, we really focused on sexual assault investigations. As we have continued to build out the glossary, we have tried to go into other areas where there is overlap between law enforcement, labs and courts,” Ropero-Miller says. The FTCoE efforts have gotten a boost from an increased focus on the need to standardize language and terminology from the National Forensic Science Commission, the Office of Sexual Assault Prevention and Deputy Attorney General Rod Rosenstein, the latter in a presentation to the American Academy of Forensic Sciences.

FTCoE Report Provides Insights, Information on Portable Drug Testing Devices (Reprinted from June 2018 TechBeat)

Heroin. Fentanyl. Carfentanil. Synthetic cannabinoids.

Mass spectrometry. Ion mobility spectrometry. Raman spectroscopy. Infrared spectrometry.

Officers in the field encounter a confusing number of street drugs, and administrators looking to purchase portable drug testing technology may find the choices equally confusing. A new landscape report from the Forensic Technology Center of Excellence – Landscape Study of Field Portable Devices for Presumptive Drug Testing – can help clear up that confusion.



Like the other landscape reports produced by the National Institute of Justice's FTCoE, *Field Portable Devices* offers a discussion of the benefits, limitations and implementation considerations for the various technologies; a comparison of how they work; agency case studies spotlighting their use; a glossary; information on emerging technologies; and an extensive side-by-side comparison of product features.

"We want the users to see themselves in all of our landscape reports," says the FTCoE's Rebecca Shute. "We lay out important purchasing considerations and provide examples of successful implementation to help the forensic and law enforcement communities implement the right technology for them."

The opioid epidemic and the rise in novel psychoactive substances (NPSs) hitting the street supplied the impetus for developing this particular landscape study, as officers not only face an increasing number of substances carried by suspects, but also a greater danger from possible deadly exposure to powerful opioid drugs.

"Safely identifying unknown chemicals in the field is important topic to all law enforcement agencies," Shute says. "Many agencies are pushing to eliminate field testing for officer safety reasons. This report shows them that there are a variety of technology alternatives in addition to the option of eliminating field testing altogether."

The FTCoE's Megan Grabenauer adds that safety concerns have caused many agencies to eliminate the well-known color-change kits carried in the past. Portable field testing devices in general tend to be more sensitive, and in some cases can take accurate readings through packaging. She does caution the capability varies according to the technology and the substance being tested. Color-based tests also often have multiple steps and can be difficult to interpret in the field, especially in low light. Portable drug testing devices provide a clear, objective output not subject to an officer's interpretation.

"Without field testing, officers must use their judgment as to whether to make an arrest. If they have a test that says indications are this is a controlled substance, it gives them backup that they really like to have," Grabenauer says.

"Preliminary testing can provide important investigative leads through establishing probable cause to arrest an individual suspected of possessing illicit drugs. The results of these tests



may lead to plea deals, which may reduce the burden on the court system,” Shute says. “It helps officers make informed decisions in the field.”

Grabenauer notes that from a strict legal perspective, some NPSs are not unlawful, and being able to use a portable device to determine something is not a controlled substance is an important feature. Many devices come with a library that is revised on a regular basis through firmware updates or Internet downloads, a key way of keeping tabs on emerging NPSs. This leads to another advantage portable field devices have over traditional color-based testing, because no one knows how those tests would react with one of the new materials: “We know that baking soda doesn’t react to the test for cocaine, but we have no idea how a new synthetic cannabinoid might react.”

Shute agrees, saying: “New drug analogues are being created at a rapid rate, and it’s hard to keep up with the pace of development. It takes a long time to develop a new color test, and when multiple NPSs hit the street in a month, there’s no way to develop tests for all of them. Conversely, these portable devices can detect these new compounds through quick library updates. ”

Another significant difference between the portable devices and color-based testing is cost, with pricing on the miniaturized versions of lab instruments starting at around \$25,000 and going up from there. (Traditional color-based test kits cost relatively little.)

“Agencies told us they could buy a new cruiser for that kind of money, but if you compare the cost over time, particularly in areas that have a lot of drug activity, a case can be made that they do pay for themselves. The cost structure is different, however, and funding request justifications should address this,” Shute says.

“Budget requests need to demonstrate long-term cost savings vs. the up-front expense to support the challenging approval process,” Grabenauer says. “Awareness is key. I’ve done ride-alongs to help learn how officers perform drug testing in the field, and many patrol officers don’t even know the newer technologies exist. It’s the top of the chain-of-command that makes the decisions, but front-line officers can influence that decision by sharing their experiences and making technology requests based on their knowledge. It’s just a question of getting the information out to them.”

Download *Landscape Study of Field Portable Devices for Presumptive Drug Testing* from <https://forensiccoe.org/landscape-study-of-field-portable-devices-for-presumptive-drug-testing/>.

FTCoE Success Stories Promote New Products and Developments (Reprinted from July 2018 TechBeat)

Question: What do a new way to determine the time of a person's death, detection canines and a new database that could make it easier to identify missing persons have in common?

Answer: All three have been profiled in the Forensic Technology Center of Excellence (FTCoE) Success Story series during 2018.

Success Stories use a simple, two-page format to highlight NIJ-funded research that has impacted the forensics and law enforcement community, framing the problem addressed by the research, key findings, impact and future directions. Spanning topics as varied as the three listed above and more, the Success Stories page on the FTCoE website (<https://forensiccoe.org/category/nij-success-stories/>) represents a good starting point if you're looking for information on almost any type of recent forensic development.

"NIJ funds research and development grants across a wide variety of disciplines, with a goal of supporting development of technologies that improve forensic capabilities. Success Stories highlight technology that isn't just a concept or a prototype, but rather has been implemented or provided impact to stakeholders such as law enforcement or forensic labs," says the FTCoE's Rebecca Shute. "This could include a technology or technique used in actual casework, or dissemination of tools or information such as open-source software."

The publications serve the dual purposes of allowing NIJ to communicate the success of its research and development program and helping the grantees obtain visibility for their results. In addition to their availability on the FTCoE website, new success stories are pushed out to the nearly 30,000 subscribers to the Center's listserv, giving law enforcement agencies and forensic service providers two ways to learn about new products and developments.

The FTCoE uses an ongoing process to identify grants with tangible, real-world impact, then works with the principal investigator of the project to develop the publication: "Choosing these success stories is just one step in our disciplined portfolio management process, which



captures all of the R&D grants and supports grantees throughout the stages of their work. While the FTCoE writes these pieces, we work closely with the PIs to help them tell their story,” Shute says.

As of June 2018, the FTCoE website includes 17 success stories, with more on the way. Here’s a closer look at the three mentioned above:

- **NIJ and Multi-Institute Academic Team: Establishing a “Microbial Clock” to Improve Time of Death Prediction.** Determining the postmortem interval (PMI), or the time elapsed since a person’s death, may help investigators recreate a timeline and the victim’s movements, support or disprove a suspect’s alibi, or corroborate evidence collected from autopsies. There are several well-known ways to do this immediately following a death, but accurately determining PMI when an individual died days or weeks previously can be challenging. The technology described in this publication uses microbial communities to accurately determine PMI up to 48 days since death, with an average error of about three days. It relates “universal” microbial markers for determining PMI, despite the environment; identifies environmental conditions, such as temperature, location and season that can affect microbial communities’ composition; and demonstrates the potential for microbial signatures to identify clandestine gravesites.
- **NIJ and the American Registry of Pathology: Maximizing the Use of Mitochondrial DNA in Identifying Remains and Aiding Missing Persons Casework.** Mitochondrial DNA is valuable in situations where scientists cannot use traditional nuclear DNA testing, such as when testing aged bones, fingernails or hair when nuclear DNA has become degraded. This makes it a valuable tool in missing persons casework. Research outlined in this success story focused on how complete sequencing of the mitochondrial genome provides for a more effective way of using mitochondrial DNA. The team developed a robust no-cost reference population database that improved the understanding of genetic mtDNA rarity between individuals, enabled continuous improvement of the data and ensured incorporation of high-quality population data through quality control of submitted data.
- **NIJ and Florida International University: NIST’s Dogs and Sensor Subcommittee Builds on Achievements by SWGDOG.** A lack of peer-reviewed research combined with recent media coverage of dog detection failures have raised concerns about the effectiveness of dog-based detection and its admissibility in court. Also, the widespread



application of dog detector teams makes the standardization of protocols difficult; many national canine organizations have developed standards, but only for their respective programs. The Scientific Working Group for Dog and Orthogonal Detector Guidelines (SWGDOG), a group of 55 experts from academia, law enforcement, military and canine organizations, developed 39 consensus-based best practice guidelines for dog detector teams. SWGDOG served as the foundation for the National Institute of Standards and Technology's (NIST) Dogs and Sensor Subcommittee, which is currently developing SWGDOG's best practices into scientifically validated standards.

"The FTCoE really sees the value in communicating success stories like these and the others on the website to the forensic community, and writing more of them will remain a priority," Shute says.

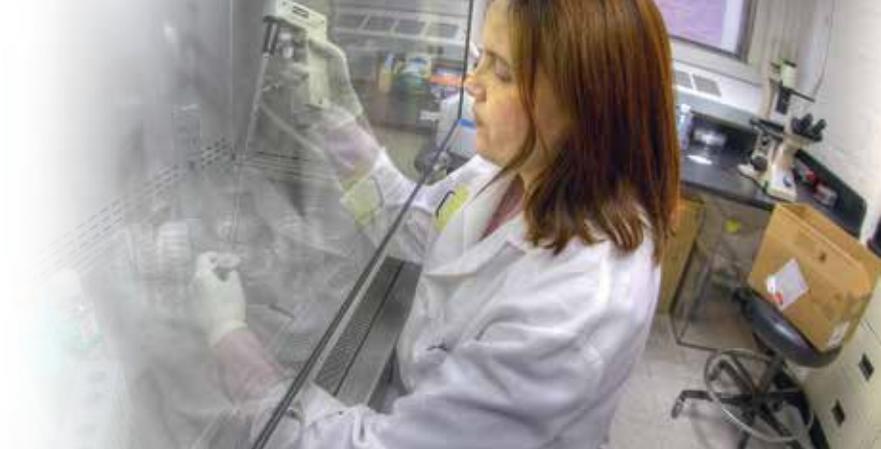
Leadership Series Addresses Challenges in the Forensics Field (Reprinted from September 2018 TechBeat)

Some people say that there are leaders, and there are followers. But according to the Forensic Technology Center of Excellence (FTCoE) Leadership Series, everyone's a leader.

Visit <https://forensiccoe.org/leadership-series>, which provides an overview of and access to the 12-module series, and in addition to learning that "every forensic scientist is a leader," you'll be able to watch a promotional video, read about the philosophy behind the series and gain access to the modules themselves, instructor bios and additional resources.

Developed to complement the American Society of Crime Lab Directors (ASCLD) Leadership Academy, the FTCoE Leadership Series "introduces leadership concepts to the forensic scientist." John Morgan, FTCoE director, explains forensic scientists often receive promotions due to their excellent technical skills, but seldom receive management training. The result is placement in supervisory positions where they face operational challenges for which they have not been trained. The self-paced, stand-alone modules provide introductory-level information on a variety of topics – specifically from the viewpoint of a forensic scientist.

"A lot of leadership training is very broad. You could take it and then go to work anywhere from a restaurant to a government agency," Morgan says. "We felt it was important to develop something that spoke to forensic scientists and the specific challenges they face."



In order to decide what those specific topics would be, the FTCoE worked directly with leaders in the forensic lab community, five of whom serve as instructors for the series. The topics selected for the series were the consensus choice from these experts, and the FTCoE adapted the materials from relevant content originally developed for law enforcement use.

“The Leadership Series addresses emotional intelligence, communications and other topics not addressed in depth by the ASCLD academy, which focuses more on operational aspects related to forensic science. The two can work together to give someone a solid grounding,” Morgan says. “In fact, many of the topics are of relevance to the bench scientist as well as managers and supervisors.”

The 12 topics in which participants get a solid grounding are as follow:

- **Generations:** Addresses the differences among various age cohorts in the workplace and how they relate to work expectations, attitudes toward authority, loyalty and more.
- **Cultural Diversity:** Looks at how different cultures, traditions and races have widely varying ways of looking at the world, and this diversity can be used to challenge assumptions and promote professional growth.
- **Personal Leadership:** Gives perspective on what kind of leader to strive to be and provides examples of strong leadership traits.
- **Moral Compass:** To be worthy of the trust placed in them by the community, forensic scientists must strive to serve their communities through the equitable administration of justice. Provides a comprehensive summary of the book “Moral Compass for Law Enforcement Professionals.”
- **Leadership and Ethics:** Covers how to approach ethical problems in the forensic laboratory, including historical and hypothetical examples.
- **Leadership and Change:** Forensic laboratories resist change for many reasons, including a reluctance to bring new ideas or techniques into practice that might lead to mistakes. Gives perspective on how change can benefit organizations and also cautions against making changes just for the sake of change.

- Leadership Principles and Concepts: Covers the foundation of what leadership means, what is expected of a leader, types of leaders and how a leader influences others.
- Leadership and Power: Explains power may derive from a position held or from knowledge and skills. Be aware of the sources of power in a situation so that you can use them wisely to promote a positive work environment.
- Leadership Theories and DiSC: Gives a clear distinction between leading and managing, as well as introducing the DiSC Profile Behavior Pattern Assessment.
- First Line & Mid-Level Supervisor: Looks at the transitional challenges often faced by first-line supervisors in the forensic laboratory as they take on their new roles and responsibilities.
- Founding Fathers: Examines the challenges that the American founding fathers faced as they began the process of establishing a new government and the teamwork they displayed in order to accomplish their goals in very trying times.
- Emotional Intelligence: The forensic laboratory is a human organization with relationships and emotions and the joys and frustrations of managing people. Explains how emotional intelligence helps with navigating those relationships and emotions.

“The modules are not just one big webinar broken down into parts. Each module stands on its own and should take 45 minutes to an hour to complete,” Morgan says. “We issue a certificate of completion of any module an individual completes, which they may be able to use to meet their organization’s training requirements. We encourage people to take all 12 modules, but if some are of more interest than others, that’s okay too.”

In addition, the FTCoE produced a special season of its “Just Science” podcast series to complement the materials, “Just So You Know: Leadership Series:”

- Special Release Season: Just Guidance Leadership
- Special Release Season: Just Motivational Leadership
- Special Release Season: Just Strategic Leadership



■ Special Release Season: Just Servant Leadership

And that statement on the website that every forensic scientist is a leader?

“Every scientist is a leader who makes very important decisions related to criminal justice. It’s important for all forensic scientists to recognize that they are in a unique position of trust,” Morgan says. “Forensic science is the one place in the criminal justice system where professionals are trusted to make objective assessments based on the evidence at hand, all the time. That’s a critical part of the leadership series and an important concept to impress on every forensic scientist.”

FTCoE Online Workshop Series Focuses on Synthetic Drug Epidemic (Reprinted from September 2018 TechBeat)

In the first six months of 2016, paramedics in the city of Akron, Ohio, responded to 320 drug overdose calls. In the first 26 days of July, they responded to 236. Carfentanil, it appeared, had come to town.¹

The impact of that spike is just one of many aspects of the synthetic drug epidemic affecting this country discussed in “Best Practices Guidance for Advancing Research Initiatives and Combatting the Synthetic Drug Epidemic,” a three-part online workshop series produced by the Forensic Technology Center of Excellence (FTCoE). Working in partnership with the Center for Forensic Science Research and Education (CSFRE) – a 501(c) (3) non-profit organization that provides forensic education at the high school, college and professional level – the FTCoE brought together a number of leading experts in the area of novel psychoactive substances (NPS) for 10.5 hours of presentations and discussions spread out over three days in July 2018. Those who could not attend the online webinar series when it was presented live, or who want to review it, can access the archival content at <https://forensiccoe.org/webinar/best-practices-synthetic-drug-epidemic>.

¹ Nick Glunt, “Overdoses continue spiking in Akron, surpass 200 in less than a month,” *Akron Beacon-Journal*, 7/26/2016, <https://www.ohio.com/akron/writers/overdoses-continue-spiking-in-akron-surpass-200-in-less-than-a-month>.



“After we produced a very successful 13-part webinar series in 2017, we began working with CFSRE and its executive director, Dr. Barry Logan, to prepare a more in-depth crime scene and analytical series. This series helped practitioners to better understand and prepare themselves for what we are facing with this synthetic drug epidemic, creating this series to address this national and critical need,” says Jeri Roper-Miller, FTCoE chief scientist. (See TechBeat November 2017, <https://techbeat.justnet.org/november-2017/>).

“Any time we have Dr. Logan as a presenter, he’s a big draw,” says the FTCoE’s Josh Vickers, who produced the series. Logan served for 19 years as State Toxicologist, overseeing Washington State’s forensic alcohol and drug testing programs, and in addition to private work, serves as executive director of CFSRE. “His knowledge and expertise always bring participants in.”

Logan started off Session 1: The Synthetic Drug Crisis – Identifying NPS in Forensics with an overview of the synthetic drug crisis as a whole and how it affects everyone who deals with these drugs, from law enforcement to lab professionals to coroners and medical examiners. It focuses on the importance of sharing information among stakeholders in developing ways of combatting the epidemic. A presentation by Eric Lavins of the Cuyahoga County (Ohio) Regional Forensic Science Laboratory and Cuyahoga County Medical Examiner’s Office, the location hit by the introduction of carfentanyl referenced above, wrapped up Session 2: Analysis of NPS – Practical Considerations.

“Law enforcement professionals will likely get the most overall benefit from Day 3 (Interpretative Toxicology for NPS in Forensic Casework),” says Vickers. “The presenters focused on synthetic drugs as a public health crisis and concern. There was good information on fentanyl and the crime scene, and how law enforcement has to handle crime scenes involving “white powder” differently than in the past.”

Other presentation topics from Session 3 included:

- Recommendations for drug-impaired driving cases and motor vehicle fatalities.
- Crime scene and autopsy findings in medicolegal death investigations.
- Fentanyl and its analogs as a major public health concern, and the misconception that these drugs are heroin vs. fentanyl analogs.



- Synthetic cannabinoids and how compounds associated with these drugs can have extremely adverse effects on the community.

Because the FTCoE interface gives users complete on-demand control of the webinar archives, individuals can access only the presentations that interest them, listen to the entire content in one lengthy session and anything in between. A total of 593 unique individuals registered in advance of the series, with 378 attending some portion of the live presentations. Others have already signed on to review the archives, and the original registrants retain their access as well. As with all FTCoE online offerings, participants received a certificate of completion that they can use for documentation of professional continuing education.

“The advantage of doing everything online is we can touch a worldwide audience and for the participant, it’s all free. When an individual comes to a conference to hear a presentation, by the time you add up transportation, car rental, hotel and other expenses, the total can be cost-prohibitive,” Vickers says. “Every bit of information the FTCoE puts out through its NIJ grant is free to anyone in the world. In addition to lab professionals, we have law enforcement officers, professors and students who join our webinars. We have a lot of people from different professions and different backgrounds.”

Although individuals who view the archival presentations don’t have the advantage of participating in the live question-and-answer sessions, they still can access every word of the original content.

“We know it’s especially hard for people to stop in the middle of their workday and watch, and this gives them the opportunity to go in as their schedule permits. They can even pull it up on their tablets or smartphones if they want,” he adds.

FTCoE Takes New Approach to Informing Stakeholders (Reprinted from November 2018 TechBeat)

Webinars. Podcasts. A conference report. Links to articles and workshop presentations. A new topical focus on a redesigned website. All of these are elements in the Forensic Technology Center of Excellence’s promotion of educational materials related to pathology and medicolegal death investigations (MDI).



The wide array of materials on this topic isn't a one-off effort, but rather the start of a new approach by the FTCoE, according to the FTCoE's Rebecca Shute: "We're trying to focus on themes that are very timely and we're taking an approach that involves several different types of deliverables. Using this multi-pronged approach will help us reach as many users as we possibly can."

While pathology and MDI is the first topic to benefit from the new approach, the Center has plans to emphasize at least a half-dozen more topics in the same way during 2019.

"Everybody processes information differently; some people are visual and some would rather hear it. I work on a lot of landscape reports, but sometimes people just don't want to sift through that much information," Shute says. "They would rather listen to a podcast while they're running errands, or watch a webinar during lunch."

For those who prefer the latter two methods, the FTCoE offers a four-episode special series of its Just Science podcast program, touching on topics such as the difference between coroners and medical examiners and how both types of officers work, and several webinars on related topics, including two fall 2018 webinars related to entomology and determining postmortem interval, or time of death.

"We're focusing on MDI now because these pathology and MDI resources align with the subject matter of two recent conferences: the International Association of Coroners and Medical Examiners (IAC&ME) Annual Training Conference in June and the National Association of Medical Examiners (NAME) Annual Meeting in October. The FTCoE promoted their MDI resources at both of these annual events," Shute says.

Understanding the varying needs of professionals in this field is also priority of the NIJ, which funds the FTCoE. The Center produced a report on *Strengthening the Medical Examiner-Coroner System Through NIJ-funded Programs: 2018 Medicolegal Death Investigation Stakeholders' Meeting* (<https://forensiccoe.org/medical-examiner-coroner-medicolegal-death-investigation-stakeholders-meeting-mdi/>), an NIJ-sponsored event that brought together a diverse group of stakeholders from 21 states and the District of Columbia in February 2018. NIJ's goals for the meeting included learning how the agency can better help the community



with its high-priority needs, identify solutions to help with their challenges, and inform participants about existing NIJ programs and initiatives. NIJ had initiated this effort in response to both a nationwide shortage of forensic pathologists and recommendations from the National Academy of Science, the National Commission on Forensic Science (NCFS), and the Office of Science and Technology Policy's National Science and Technology Council.

That NIJ prioritization and stakeholders' meeting made the topic a natural fit as the first one to benefit from the new FTCoE approach, which is also timed to work with the redesign of the FTCoE home page at <https://forensiccoe.org/>.

"We have redesigned the home page so that it's easier to use and to find information on what you're looking for," Shute says. "All of the new information is right up front, and it's easy to find links to topics of interest, including pathology and MDI."

Following that link to <https://forensiccoe.org/pathology-medicolegal/> leads the user to the aforementioned podcasts and webinars, along with reports, archived workshops and other resources.

"We're able to offer a lot of solid information to the forensics community and we want to be as comprehensive as possible in doing it," says Shute. "Switching to this approach allows us to provide a lot of value to multiple stakeholders. We're trying to be more intentional in serving end users better."

