Dear Colleagues,

Our analysts are like the goose that laid the golden egg. They cost a fortune to hire, train and maintain in an accredited quality system. Their work comes at a premium. Like that goose, their product is dear, so we should carefully meter out what they do. Every additional unnecessary analysis we perform on the case at hand is an analysis that is not done on the next most urgent case waiting in line. Hence every item must be scrutinized for evidentiary value.

Consider that our crime scene specialists have but one chance to gather all of the potential material of forensic significance at the scene. They often do not know what turns the investigation may take, hence they cast a wide net, taking more than very often is necessary. There are all too often major cases that are likened to tipping a house on end and bagging and tagging everything that falls out. As additional information becomes available through the course of the investigation, the actual items of evidentiary value will become a subset of what is collected at the crime scene. Back at the Crime Lab, just because it is collected, does not mean that it is relevant and needs to be analyzed. Better to have it collected and not need it than to not take it in the first place, within reason. Not only is this normal, it is expected and part of an effective forensic investigative system. There is one shot to collect, however given the evolving case facts, items of forensic value can be carefully scrutinized and a proper forensic case analysis be conducted on a relatively small number of items. Further, it is wise to prioritize these items and analyze a subset of the whole. Pending the probative results from that first round of analysis, for example a positive finding with strong associative value linking a potential suspect, further analyses are negated or directed. This layering of analyses is part of a forensic approach that triages analysis and targets rare resources to the most probative items. Additional analyses can be done if needed at a later date, hence appropriate storage of evidentiary items permitting additional work down the road. The result is not only optimization of rare resources, but a much quicker turn around time on investigative results.

It is incumbent on crime labs and crime lab leadership to ensure we make the best of the resources entrusted to us, including providing timely investigative leads. Layered analysis provides a measured approach to ensure we are doing what needs to be done for the case at hand, recognizing that each additional analysis performed on the current case is an analysis that cannot be performed on the next case awaiting its turn.

Ray Wickenheiser

Be sure to stay up-to-date with our 2017-18 National Priorities and Agenda!

Our NEW mailing address: 65 Glen Road, Suite 123, Garner, NC 27529

Looking for a new opportunity?

- Criminalist I FingerPrint Examiner, University of Rhode Island State Crime Laboratory, Kingston, RI, Expires: October 13, 2017
- **Latent Fingerprint Examiner**, Hennepin County Sheriff's Office Crime Laboratory, Downtown Minneapolis, MN., Expires: September 28, 2017
- **Director, Forensic Science & Law Program, Duquesne University**, Duquesne University, Pittsburgh, PA, Expires: December 8, 2017
- **Assistant /Associate Professor – Forensic Science M.S. Program, Digital Evidence Emphasis**, Marshall University, Huntington, Expires: December 12, 2017
- **Forensic Coordinator, Assistant Professor**, Texas A&M University-Corpus Christi, Corpus Christi, TX, Expires: December 1, 2017
- **Assistant Professor – Forensic Chemistry**, Southeast Missouri State University, Cape Girardeau, MO, Expires: October 19, 2017
- **Quality Assurance Manager**, Douglas County Sheriff's Office, Forensic Services Division, Omaha, NE, Omaha, NE, Expires: October 19, 2017
- **Forensic Scientist II – Toxicology**, Las Vegas Metropolitan Police Department, Las Vegas, NV, Expires: September 27, 2017
- **Forensic Scientist I – Toxicology**, Las Vegas Metropolitan Police Department, Las Vegas, NV, Expires: September 27, 2017
- **Crime Lab Unit Manager (Forensic Biology/DNA)**, Broward County Sheriff's Office, Fort Lauderdale, Florida, Expires: November 3, 2017
- **Crime Lab Scientist – Toxicologist**, Georgia Bureau of Investigation, Augusta, Expires: September 27, 2017
- **Senior Scientific Advisor**, Texas Forensic Science Commission, Austin, TX, Expires: December 5, 2017
- **Forensic Scientist – NIBIN – Firearms & Toolmarks**, Virginia Dept. of Forensic Science, Richmond, VA, Expires: September 19, 2017
- **Forensic Scientist Trainee – Controlled Substances**, LVMPD, Las Vegas, NV, Expires: September 27, 2017
- **Forensic Scientist I**, LVMPD, Las Vegas, NV, Expires: September 27, 2017
- **Forensic Scientist II – Controlled Substances**, LVMPD, Las Vegas, NV, Expires: September 27, 2017
- **Forensic Scientist IV**, City of Phoenix, Phoenix, AZ, Expires: November 28, 2017
- **Forensic Scientist III**, City of Phoenix, Phoenix, AZ, Expires: November 28, 2017
- **Forensic Scientist II**, City of Phoenix, Phoenix, AZ, Expires: November 28, 2017
- **Forensic Examiner DNA 3 (#01377)**, ORAU, Ft. Gillem, GA (& OCONUS), Expires: December 31, 2017
- **Forensic Examiner DNA 1 (#01376)**, ORAU, Ft. Gillem, GA (& OCONUS), Expires: December 31, 2017
- **Forensic Examiner Latent Print 1 (#01375)**, ORAU, Ft. Gillem, GA (& OCONUS), Expires: December 31, 2017
- **Forensic Examiner Latent Print 3 (#01374)**, ORAU, Ft. Gillem, GA (& OCONUS), Expires: December 31, 2017
- **Forensic Examiner – Firearms & Toolmarks (#01378)**, ORAU, Ft. Gillem, GA (& OCONUS), Expires: December 31, 2017
- **Forensic Chemist (#01373)**, ORAU, Oak Ridge, Expires: December 31, 2017
- **Laboratory Manager/Theater Liaison (#01365)**, ORAU, Ft. Gillem, GA (& OCONUS), Expires: December 31, 2017
- **Laboratory Manager/Theater Liaison**, MISS, Oak Ridge, Expires: December 31, 2017
- **Forensic Examiner – Firearms & Toolmarks (#01378)**, ORAU, Ft. Gillem, GA (& OCONUS), Expires: December 31, 2017
- **NIBIN Technician**, Houston Forensic Science Center, Houston, TX, Expires: September 30, 2017
- Forensic Scientist IV, City of Phoenix, Phoenix, AZ, Expires: November 22, 2017
- Forensic Scientist III, City of Phoenix, Phoenix, AZ, Expires: November 22, 2017
- Forensic Scientist II, City of Phoenix, Phoenix, AZ, Expires: November 22, 2017
- Crime Laboratory Manager, Division of Police, Columbus, OH, Columbus, OH, Expires: September 28, 2017
- Forensic Scientist – Latent Print Examiner, DuPage County Forensic Science Center, Wheaton, IL, Expires: September 22, 2017
- Crime Lab Director, Office Of Attorney General, Bismarck, ND, Expires: November 30, 2017
- Forensic Scientist I-Firearms/Toolmarks/Ballistics, Nassau County Medical Examiner Division of Forensic Services, East Meadow, NY, Expires: February 2, 2018
- Forensic Scientist II-Firearms/Toolmarks/Ballistics, Nassau County Medical Examiner Division of Forensic Services, East Meadow, NY, Expires: February 2, 2018
- Forensic Scientist III-Firearms/Toolmarks/Ballistics, Nassau County Medical Examiner Division of Forensic Services, East Meadow, NY, Expires: February 2, 2018
- Forensic Scientist IV-Firearms/Toolmarks/Ballistics, Nassau County Medical Examiner Division of Forensic Services, East Meadow, NY, Expires: February 2, 2018
- Forensic Scientist I-Trace Evidence, Nassau County Medical Examiner Division of Forensic Services, East Meadow, NY, Expires: February 2, 2018
- Forensic Scientist II-Trace Evidence, Nassau County Medical Examiner Division of Forensic Services, East Meadow, NY, Expires: February 2, 2018
- Forensic Scientist III-Trace Evidence, Nassau County Medical Examiner Division of Forensic Services, East Meadow, NY, Expires: February 2, 2018
- Forensic Scientist IV-Trace Evidence, Nassau County Medical Examiner Division of Forensic Services, East Meadow, NY, Expires: February 2, 2018
- Forensic Scientist Trainee-Chemistry/Controlled Substances, Nassau County Medical Examiner Division of Forensic Services, East Meadow, NY, Expires: February 2, 2018
- Forensic Scientist Trainee-Firearms/Toolmarks/Ballistics, Nassau County Medical Examiner Division of Forensic Services, East Meadow, NY, Expires: February 2, 2018
- Forensic Scientist Trainee-Latent Prints, Nassau County Medical Examiner Division of Forensic Services, East Meadow, NY, Expires: February 2, 2018
- Forensic Scientist Trainee-Trace Evidence, Nassau County Medical Examiner, East Meadow, NY, Expires: February 2, 2018
- Forensic Analyst – Toxicology, Houston Forensic Science Center, Houston, TX, Expires: October 13, 2017
- Forensic Serologist, Sorenson Forensics, Salt Lake City, Expires: September 29, 2017
- Forensic DNA Technician, Sorenson Forensics, Salt Lake City, Expires: September 29, 2017
- Forensic DNA Analyst I / II, Sorenson Forensics, Salt Lake City, Expires: September 29, 2017
- Quality Specialist, Houston Forensic Science Center, Houston, TX, Expires: September 30, 2017
- Forensic Analyst – Biology/DNA, Houston Forensic Science Center, Houston, TX, Expires: September 30, 2017
- Crime Scene Supervisor, Houston Forensic Science Center, Houston, TX, Expires: September 30, 2017
• Latent Print Examiner, Houston Forensic Science Center, Houston, TX, Expires: September 30, 2017
• Property & Evidence Manager, NMS Labs, Grand Prairie, TX, Expires: October 18, 2017
• Forensic Biologist III or IV Trainer, NMS Labs, Willow Grove, PA, Expires: October 18, 2017
• Forensic Chemist III or IV, NMS Labs, Willow Grove/Warminster PA, Expires: October 18, 2017
• Non-Tenure Track Forensic Science Faculty Position, Pennsylvania State University, University Park, PA, Expires: October 13, 2017
• Staff Chemist, ORAU (Oak Ridge Associated Universities), Charlottesville, VA and OCONUS, Expires: September 29, 2017
• Audio/Video Forensic Analyst, Houston Forensic Science Center, Houston, TX, Expires: September 30, 2017
• Staff DNA Analyst (#01611), ORAU, Charlottesville, VA and OCONUS, Expires: October 2, 2017
• Senior DNA Analyst (#01607), ORAU, Charlottesville, VA and OCONUS, Expires: October 2, 2017
• Principal DNA Analyst (#01604), ORAU, Charlottesville, VA and OCONUS, Expires: October 2, 2017
• Associate DNA Analyst (#01593), ORAU, Charlottesville, VA and OCONUS, Expires: September 29, 2017

Keeping evidence safe during weather events

Recently we appear to experience a weather event weekly. High winds from hurricanes, flood ravaged waters from dam releases, and unstable infrastructure from earthquakes are all issues plaguing us at this time. Keeping our evidence safe has become a top priority for many departments.

During a catastrophic event, moving the evidence to a secure location is the most desirable situation. In the event you need to move evidence, do not forget that if a secure facility elsewhere is not available, a portable facility could be the answer. Moving the evidence to a portable container that could be moved to a more secure location works as well as having another facility.

But what about those who cannot move the evidence, there is certainly the ability to place items on higher floors in the building, or at the least on higher shelves. But once power has been cut what does a lab do about heating and cooling? We know that evidence and property rooms require specialized environments. Wet conditions are an obvious factor, but ventilation, temperature, and humidity are just as important. In 2001, the California Attorney General’s Office put out recommendations on post-conviction testing of evidence. It was recommended that in order to maintain the possibility of successful DNA testing with techniques currently in use, evidence containing biological material: Should be stored in a dried condition, stored frozen, under cold/dry conditions, or in a controlled room temperature environment with little fluctuation in either temperature or humidity, and should not be subjected to repeated thawing or freezing.

Even with a state-of –the-art heating and cooling system, heavy rains usually create problems with power grids. But what happens when the backup generator does not work as expected? An emergency or temporary climate control system may be in order. Generators are usually in place for safety and life issues. But, evidence and property rooms may need proper heating, cooling, and ventilation. Finding a vendor before a weather event occurs is the key.

Looking for a towable diesel generator to rent may the way to go. Choosing the size of the generator is important. You want to be able to restore HVAC to your facility during down time. It is recommended you choose a generator that matches your incoming voltage. It may be too late for current weather activities, but planning for future events should be a top priority. Have a plan in place. One for evacuation for foreseen major events and one for the unforeseen.

For more information:
Crime Lab Report’s recent article on this issue
http://www.science20.com/john_collins/hurricane_harvey_and_the_risk_to_criminal_evidence-225590
New York Times article from 2013 that is still relevant today
TRAINING OPPORTUNITIES

ANAB

Introduction to ISO/IEC 17025
October 1-2, 2017, Riyadh, KSA

Internal Auditing to ISO/IEC 17025
October 3-5, 2017, Riyadh, KSA

ISO/IEC 17025 Lead Assessor Training
October 2-6, 2017, San Antonio, TX
October 8-12, 2017, Riyadh, KSA

Fundamentals of Measurement Uncertainty
November 16-17, 2017, San Francisco, CA

Principles of Internal Auditing and Measurement Uncertainty
November 27-29, 2017, Indian Rocks Beach, FL

Internal Auditing to ISO/IEC 17020
October 17-19, 2017, Alexandria, VA

ISO/IEC 17021-1:2015 Training
October 9-10, 2017, Houston, TX

ISO/IEC 17020 and Audit Preparation for Forensic Agencies
November 2-3, 2017, Alexandria, VA

Forensic ISO/IEC 17025 Internal Auditor
October 23-26, 2017, Fort Worth, TX

Forensic ISO/IEC 17025 Assessor Training (Testing)
September 25-29, 2017, Honolulu, HI (course full)
October 16-20, 2017, Hillsboro, OR
November 13-17, 2017, Emeryville, CA

Forensic ISO/IEC 17025 Preparation (Testing)
September 25-27, 2017, Honolulu, HI
October 16-18, 2017, Hillsboro, OR
November 13-15, 2017, Emeryville, CA

Forensic Measurement Confidence (Web-based)
October 4-6, 2017

Root Cause Analysis for Forensic Service Providers (Web-based)
October 3-5, 2017

Recorded Training:

Episode 9 Podcast!!
Just Blood Spatter

In episode nine of Just Science, funded by the National Institute of Justice’s Forensic Technology Center of Excellence [Award 2016-MU-BX-K110], we spoke with Dr. Marc Smith, from the Georgia Institute of Technology. Dr. Smith’s NIJ funded research in blood spatter has connected computational fluid dynamics with empirical studies to improve the understanding of blood spatter onto solid, slanted surfaces. His work looks at many variables, including droplet size, speed, surface roughness and wettability. Listen and Subscribe HERE.

Subscribe to the channel at:

- Google Play
- iTunes
- Stitcher
- Soundcloud

ASCLD/RTI Backlog Series

Archival versions of the ASCLD/RTI Backlog Series can be found at the following links:

- The Paradox of Backlog Reduction – How Doing Less Can Be Doing More
- Taking the First Steps Toward Backlog Reduction
- Managing Customer Expectations and Education
- How to Increase your Staff without Increasing Budget
- Efficiency Improvements
- Developing a Statewide Approach to Backlog Management
Case Acceptance Policies and Guidelines

ASCLD/RTI Rapid DNA Series

Archival versions of the ASCLD/RTI Rapid DNA Series can be found at the following links:
- Rapid DNA: The QAS and NDIS
- Rapid DNA: Arizona DPS and Richland County, SC
- Rapid DNA: Booking Stations and CODIS

ASCLD /RTI DNA Standards and Guidelines Webinar Series

SWGDAM Interpretational Guidelines


Proposed Quality Assurance Standards (QAS) changes


2018 National Institute of Justice Forensic Science Symposium

NIST has published a request for information on OSAC 2.0. Comment is open until October 30, 2017.

Forensic Science in the News

Two Forensic DNA Analysis Techniques Are Under Fire for Serious Inaccuracies
New York Legal Aid has asked the State Attorney General to investigate two techniques used to analyze and sort DNA from crime scenes, which they say are unreliable and have been misused.

Oklahoma State University Center for Health Sciences to offer Ph.D. in forensic sciences
The Oklahoma State University Center for Health Sciences will become the third university in the nation to offer a Ph.D. in forensic sciences.

Once hailed, DNA testing techniques now under fire
The New York City medical examiner’s lab developed one of the techniques and became a leader in sophisticated DNA examinations partly because of its work identifying the remains of 9/11 victims.

Legal Aid Society slams state’s familial DNA testing proposal as abuse of power
In June, the State Commission on Forensic Science voted 9-2 to allow the technique to be used by law enforcement agencies across the state in violent felony and sex crime investigations.

New Montana state crime lab, morgue, could get axed under budget proposal
A new state crime lab in Billings that opened a little more than a year ago to help with an almost tripling of local drug possession cases could soon close.

Iowa tells rape victims to 'be patient' as they wait months for evidence to be tested
Frustrated rape victims are waiting months—or sometimes even more than a year—for Iowa’s overwhelmed crime lab to process DNA evidence that is crucial to their cases, allowing their suspected attackers to avoid arrest.

Omaha Police Department will use UNMC crime lab, end agreement with Douglas County Sheriff’s Office
Omaha’s mayor and police chief say that moving forensic testing services to the University of Nebraska Medical Center will produce faster test results and more public confidence in evidence used in court.

New Utah Crime Lab Tackles Rape Kit Testing with Robotics
Earlier this year, the Utah legislature passed a law requiring the testing of all new rape kits in the state. Around the same time, something was in the works—a new building that would house the laboratories of the Utah Department of Agriculture and Food, the state medical examiner under the Department of Health, and the state crime lab under the Department of Public Safety.

Sister, boyfriend of victim hope police can finally solve 1978 killing of teen girl
Police could retest evidence if it is warranted, he said. He urged anyone with any information about the case to get in touch with police.
“We may look at this and right now, there’s nothing further that could be done. I’m hoping not, but we’ll see,” he said. “We’ll see what a fresh pair of eyes will do with that.”

NY Man Freed After 5th Murder Trial, Based on ‘False Confession Testimony’
Only the final 76 minutes of the interrogation was recorded, and the defense attorneys eventually convinced a jury that police had coached the confession before the videocameras began rolling. (The total interrogation lasted more than seven hours.)

iOS 11 Will Make It Harder to Extract Data from Seized Devices
Two new features of the upcoming iOS 11 system update for Apple devices will make it more difficult for law enforcement to extract data from seized devices.
enforcement to unlock seized devices and extract data from devices that are already unlocked. Apple announced at its special event yesterday that the release date for iOS 11 will be Sept. 19, as it also unveiled the new iPhone 8 and iPhone X devices.

Fingerprints on Bomb Central to Terror Trial of US Citizen
A U.S. citizen accused of abandoning his birth nation to fight for al-Qaeda was to be put on trial Tuesday, a day after the 16th anniversary of the Sept. 11 terror attacks, in a case that hinges partly on fingerprints found on an unexploded bomb.

How Labs Prepared for Harvey: Protect People First, Then Equipment
The agency escaped with no lost evidence, all staff members safe, instruments undamaged, and the communications system intact throughout the entire historic storm. Controlled substances were brought back online yesterday, and today the toxicology and biology work resumed, according to HFSC senior leadership.

New Narcotics Protection Kit as You Face the Dangerous Opioid Epidemic
We designed this single-use kit following DEA & CDC guidelines
Small amounts of Fentanyl can cause an overdose, a significant threat to you & your department. We designed this kit to help you stay safe.

Buy Now

http://www.sirchie.com/nark-ppe-kit-available-in-med-large-x-large-2xl.html#.WaNzc-mQxPb

August 2017 Newsletter
The American Society of Crime Laboratory Directors (ASCLD) has received funding from the Laura and John Arnold Foundation to develop software that will transfer data from forensic Laboratory Information Management Systems (LIMS) to FORESIGHT, a business quantitative process tailored to forensic laboratories.

The goal of the project, called FORESIGHT 20/20, will be to allow laboratories to easily upload business-relevant information from their individual LIMS to the FORESIGHT project, hosted at West Virginia University.

Software development and installations for
JusticeTrax Alpha labs is progressing. The software provides a dashboard of the labs' own stats and FORESIGHT stats, among other information. The information, formatting, and interface may vary somewhat by vendor.

Foresight 20/20

West Virginia University Forensic Management Academy

Review

Reports of Adverse Events Associated with Use of Novel Psychoactive Substances, 2013-2016: A Review

Barry K. Logan1,2, Amanda L.A. Moh3, Melissa Frisicna, Alex J. Krotulski1, Donna M. Papun4, Sherri L. Kacik5, Jeri D. Repero-Miller6, and Marilyn A. Huete1,2,4

1Center for Forensic Science Research and Education at the Forensic Science Foundation, 2055 Strickland Ave, Willow Grove, PA 19090, USA. 2Department of Science and Technology, West Virginia University, Morgantown, WV 26506, USA. 3Jefferson Medical College, Philadelphia, PA 19107, USA. 4ChemCentre Expert Solutions, http://www.chemcentre.wa.gov.au/Our-Services/Forensic-Science

ChemCentre Expert Solutions


For more information, please visit the JusticeTrax website: www.JusticeTrax.com

The 2015 Heroin Signature Program Report

DEA DCW-DR0-03-17

The 2015 Heroin Signature Program Report

DEA Intelligence Brief; 13 pages; August; 2017

Download the report here

NIJ Forensic Science R&D Reports for ASCLD Crime Lab Minute Vol 11

These research reports have been submitted by the National Institute of Justice (NIJ) especially for their relevance to crime laboratory activities. ASCLD has not reviewed nor does it necessarily endorse the findings of this research.

NIJ-FBI Fingerprint Partnership Identifies 200 Missing Persons

In March of this year, a new collaboration began between the National Institute of Justice and the FBI Laboratory. Fingerprints from unidentified missing persons are sent to the FBI where a new technology, known as Next Generation Identification, along with

enhanced processing protocols, is improving the odds of identification. Identifications are increasing even with poor quality prints or with those that have been searched in the past.

**National Best Practices for Sexual Assault Kits: A Multidisciplinary Approach**
The National Institute of Justice recently released a report on National Best Practices for Sexual Assault Kits: A Multidisciplinary Approach in response to the Sexual Assault Forensic Evidence Reporting (SAFER) Act of 2013, which focuses on the accurate, timely, and effective collection and processing of DNA evidence in sexual assault investigations. A practitioner working group developed 35 recommendations that provide a roadmap for collecting, transferring, preserving, storing and analyzing sexual assault kits. The recommendations apply to medical professionals, members of law enforcement, victim advocates, prosecutors and laboratories. A coordinated, collaborative and multidisciplinary approach to sexual assault investigations helps reassure and support victims of sexual violence, encourages victim engagement and increases the potential for just legal resolutions.

**The Fingerprint Sourcebook is Now Available in Spanish**
NIJ has released a Spanish-language version of The Fingerprint Sourcebook, which aims to be the definitive resource on the science of fingerprint identification. The Sourcebook was prepared by the International Association for Identification and topics covered include the anatomy and physiology of friction ridge skin; techniques for recording exemplars from both living and deceased subjects; AFIS, latent print development, preservation and documentation; equipment and laboratory quality assurance; perceptual, cognitive and psychological factors in expert identifications; and legal issues.

**Forensic Identification Using Individual Chemical Signatures**
NIJ-funded researchers developed an approach to translate chemical signatures recovered from personal objects such as phones into a lifestyle sketch of the owner, using mass spectrometry and informatics approaches.

**Quantifying Error Rates for the Measurement of Human Skeletal Remains**
NIJ-funded researchers revised forensic anthropology procedures to include an “error metric” for the measurement of human skeletal remains. This article summarizes findings from that study.

**Designing Methods to Identify Evolving Designer Drugs**
This article describes an NIJ-supported research project focused on issues of resolution and discriminatory capabilities needed to increase the reliability and selectivity of forensic evidence and analytical data for new bath salt-type drugs of abuse.

**Standardized Process Developed for Identifying Dyes in Fibers**
This article summarizes a method with the twofold purpose of producing a novel, reliable, and useful microfluidic system for fabric dye extraction and increasing the knowledge needed to guide criminal justice policy and practice related to the forensic analysis of dyed fabric.

**The Most Important Features for an Effective Sexual Assault Response Team**
Sexual Assault Response Teams (SART)
hold the promise of improving victim experiences, increasing prosecution rates, and reducing the prevalence of sexual assault. To understand how an effective SART works, NIJ-funded researchers studied the structure and operations of SARTs across the United States.

Identifying Ignitable Liquids in the Aftermath of a Fire
In a wide-ranging analysis of the effects of weathering and biological degradation on ignitable liquids, NIJ-supported researchers at the University of Central Florida's National Center for Forensic Science studied and classified 50 liquids in the Ignitable Liquids Reference Collection database.

Scale Modeling in Fire Reconstruction
After reviewing scaling theory used in fire research, this project developed scaling rules for design fires and enclosure material boundaries, followed by the full-scale testing of a gas burner, heptane pool fire, pine wood crib, and polyurethane foam, and the scaling theory was applied to the full-scale scenario and a 1/8 scale compartment.

Evaluation of the Use of a Non-Contact 3D Scanner for Collecting Postmortem Fingerprints
Historically, the recording of postmortem fingerprint impressions from decedents is a manual and labor-intensive process. 3D scanners are potentially an important tool to help forensic scientists address the challenges of postmortem fingerprint recovery due to the contactless scanning capabilities, as well as the ability to scan complex surfaces and capture scale. This NIJ-supported study evaluated the potential for using a contactless, 3D fingerprint scanner to capture examination-quality postmortem fingerprints and facilitate rapid identification of the deceased.

Evidential Value of Particle Combination Profiles on Common Items of Evidence
This project used the analytical tools and statistical methods developed in previous research funded by NIJ to measure the evidential value of very small particle (VSP) profiles found on four common types of physical evidence: handguns, cell phones, drug packaging, and ski masks.

Method Development and Validation of Toolmark Imaging, Virtual Casing Comparison, and In-Lab Verification using a GelSight-Based Three Dimensional Imaging and Analysis
Stemming from a previous project that developed a 3D surface topography imaging and analysis system for casings based on the GelSight scanning technology and custom feature-based image comparison, this NIJ-supported project aimed 1) to develop the ability to scan and compare firing pin impressions; 2) to examine the use of the imaging and analysis technology in a live lab experiment; and 3) to investigate Virtual Microscopy, the use of measured 3D surface topographics as a substitute for physical casings.