

EVIDENCE MANAGEMENT CONFERENCE

October 2-4, 2019

Green Auditorium



NIST
National Institute of
Standards and Technology
U.S. Department of Commerce



With support from the
National Institute of Justice

AGENDA

DAY 1 – WEDNESDAY, OCTOBER 2, 2019

7:30 – 8:30 AM	REGISTRATION
8:30 – 8:45 AM	WELCOME REMARKS / INTRODUCTION Susan Ballou, Program Manager, Forensic Science Research Program, Special Programs Office, NIST Dr. Howard Spivak, M.D., Principal Deputy Director, National Institute of Justice
PLENARY	
8:45 – 10:15 AM	ADDRESSING THE EVIDENCE MANAGEMENT PROBLEM – TURNING CRISIS INTO OPPORTUNITY Presentations and panel discussion describing the journey towards improving the management of physical evidence by describing events before and after major turning points within the speakers' organizations Kerstin Hammarberg, Supervisor, Property and Evidence Unit, Minneapolis Police Department Melisse Huffmaster, Evidence Vault Director, Las Vegas Metropolitan Police Department Dr. Peter Stout, Ph.D., CEO/President, Houston Forensic Science Center Lt. John Somerindyke, Fayetteville, North Carolina Police Department MODERATOR: Lindsey Smith, Executive Director, North Carolina Innocence Inquiry Commission
10:20 – 10:30 AM BREAK	
10:30 – 11:00 AM	NIST / NIJ EVIDENCE MANAGEMENT INITIATIVE Overview of the work of the Evidence Management Steering Committee (EMSC) and it's activities developing a national survey of evidence handlers and recommendations on best practices Shannan Williams-Mitchem, Project Manager, Forensic Science Research Program, NIST Robert Martin, Evidence Manager, Volusia County Sheriff's Office
DEFINING ROLES IN EVIDENCE MANAGEMENT	
11:00 – 11:30 AM	THE STATE OF THE PROPERTY AND EVIDENCE MANAGEMENT INDUSTRY Discussion of challenges confronted by property and evidence units and personnel nationwide in police departments Joe Latta, Executive Director, International Association for Property and Evidence
11:30AM – 2:00PM	POSTER AND EXHIBITOR SESSION BREAK FOR LUNCH ON YOUR OWN (NIST CAFETERIA) TOURS START AT 12:45PM





DEFINING ROLES IN EVIDENCE MANAGEMENT

2:00 – 3:45 PM

THE ROLE OF LAW ENFORCEMENT LEADERSHIP IN THE MANAGEMENT OF PHYSICAL EVIDENCE

Phil Pulaski, Former Chief of Detectives, New York City Police Department (Retired)

THE ROLE OF COURTS IN THE MANAGEMENT OF EVIDENCE

Presentation the role of courts in storage, preservation, and disposal of physical evidence based on state and local policy and practice

The Honorable Jim Mixon, Iredell County Clerk of Superior Court and Chairman of the North Carolina Handling Evidence Work Group

Jaime Lassiter, Executive Director, North Carolina Conference of Clerks of Superior Court

MODERATOR: Andrea Borchartdt, Physical Scientist, National Institute of Justice

THE ROLE OF MEDICAL PROFESSIONALS IN THE MANAGEMENT OF EVIDENCE

Panel discussion on the unique perspective of nurses, doctors, and hospital staff in the collection and storage of evidence associated with victims of crime

Jennifer Johnson, Program Coordinator, Forensic Assessment Consultation and Treatment Program, Shawnee Mission Health

Rachell Ekroos, Assistant Professor, University of Nevada (UNLV), School of Nursing

Stacey Mitchell, Clinical Associate Professor, Texas A&M University

MODERATOR: Dr. Patricia Speck, DNSc, Professor, Coordinator Advanced Forensic Nursing Professor/Coordinator, University of Alabama at Birmingham, MSN Advanced Nursing Program

3:45– 4:00 PM BREAK

DEFINING ROLES IN EVIDENCE MANAGEMENT

4:00 – 5:00 PM

THE ROLE OF THE FORENSIC LABORATORY IN THE MANAGEMENT OF EVIDENCE

Panel discussion on the varying roles of the forensic laboratory in identifying, tracking, analyzing, and establishing appropriate preservation policies for evidence types

Erin Trujillo, Assistant Director, Los Angeles Sheriff's Department, Scientific Services Bureau

Dr. Karl E. Williams, MD, MPH, Chief Medical Examiner, Allegheny County, PA

Elizabeth Small, Supervisory Physical Scientist, Evidence Management Unit, FBI Laboratory

MODERATOR: Ellen Spain, Forensic Evidence Manager, Virginia Department of Forensic Science

5:00PM MEETING ADJOURNED



DAY 2 – THURSDAY, OCTOBER 3, 2019

7:30 – 8:30 AM	REGISTRATION
8:30 – 9:00 AM	DAY 1 RECAP & AGENDA OVERVIEW
IMPROVING EVIDENCE MANAGEMENT THROUGH TECHNOLOGY AND FACILITY DESIGN	
9:00 – 10:15 AM	<p>IMPLEMENTING AUTOMATION SYSTEMS IN EVIDENCE MANAGEMENT</p> <p>Discussion on the procurement and implementation of automated tracking systems, including bar coding and RFID, and software to improve evidence management efficiency</p> <p>Brian Russell, Lieutenant/Manager, Charlotte Mecklenberg Police Department, Property and Evidence Division (Retired)</p> <p>Darrell L. Davis, Executive Director, STEMiversity & Dr. Erick Jones, Ph.D., University of Texas at Arlington (pending)</p>
	<p>FACILITY DESIGN CONSIDERATIONS OVERVIEW</p> <p>Presentation discussing important considerations on design using examples from low tech and state of the art facilities</p> <p>Nancy McKay-Hills, Evidence Superintendent, Tucson Police Department (Retired)</p> <p>MODERATOR: Robert Martin, Evidence Manager, Volusia County Sheriff's Office</p>
EVIDENCE STABILITY AND CLIMATE CONTROLS – WHAT DOES SCIENCE SAY?	
10:15– 11:30 AM	<p>PRESENTATIONS DISCUSSING NIST PROJECTS APPLYING MATERIALS MEASUREMENT, APPLIED GENETICS, AND DIGITAL EVIDENCE EXPERTISE TO EVIDENCE MANAGEMENT BEST PRACTICES AND GUIDANCE</p> <p>Biological Evidence Preservation: Considerations for Evidence Handlers</p> <p>Shannan Williams-Mitchem, Project Manager, Forensic Science Research Program, NIST</p> <p>Digital Evidence Preservation</p> <p>Doug White, Computer Scientist, Software Quality Group, Information Technology Laboratory, NIST</p> <p>Tapping into Industry Knowledge – Establishing new guidelines for evidence environmental considerations</p> <p>Marcela Najarro, Research Chemist, Surface and Trace Chemistry Analysis Group, Materials Measurement Laboratory, NIST</p> <p>MODERATOR: Robert Thompson, Senior Research Manager, Forensic Science Research Program, NIST</p>
POSTER AND EXHIBITOR SESSION	
11:30AM – 2:00 PM	<p>BREAK FOR LUNCH ON YOUR OWN (NIST CAFETERIA)</p> <p>TOURS START AT 12:45PM</p>



IMPROVING STANDARDS AND POLICY

2:00 – 3:30 PM

PANEL DISCUSSION HIGHLIGHTING KEY ORGANIZATIONS PLAYING A ROLE IN IMPROVING STANDARDS AND POLICY RELATED TO EVIDENCE MANAGEMENT

Overview of the International Association of Property and Evidence

Joe Latta, Executive Director, International Association for Property and Evidence

The Standards Landscape and the Role of the Organization of Scientific Area Committees (OSAC) for Forensic Science

Karen Rezcek, Social Scientist, Standards Coordination Office, NIST

The Role of Legislative Policy – Advocating for Change

Lindsey Smith, Executive Director, North Carolina Innocence Inquiry Commission

Improving Accountability with Agency Policy and Procedures

Jeff Scott, Executive Director for Police Training in Ohio

MODERATOR: Donia Slack, RTI International

3:30 – 3:45 PM BREAK

IMPROVING STANDARDS AND POLICY

3:45 – 5:00 PM

DISPOSITION POLICY: THE IMPORTANCE OF PURGING IN AN EVIDENCE MANAGEMENT SYSTEM

Panel discussion engaging the audience and speakers in a conversation about perspectives on developing and enforcing disposition policy in evidence management systems

Melisse Huffmaster, Evidence Vault Director, Las Vegas Metropolitan Police Department

Brian Russell, Lieutenant/Manager, Charlotte Mecklenberg Police Department, Property and Evidence Division (Retired)

Robert Martin, Evidence Manager, Volusia County Sheriff's Office

MODERATOR: Shannan Williams-Mitchem, Project Manager, Forensic Science Research Program, NIST

5:00PM MEETING ADJOURNED

TOURS: Sign up is onsite at the registration booth. First come first serve. Day 1 sign ups are for BOTH tours. Tour groups will be split into 15 person groups. Shuttle will pick up in front of 101 at 12:45 and will be waiting for return at the designation at 1:30.

OCTOBER 2ND

Forensic Firearm and Tool Mark Analysis | Johannes Soons and Robert Thompson | Building 217, Room E114

NIST is working with the forensics community to establish a sound scientific infrastructure for forensic firearm and tool mark examination. When a firearm is fired, it leaves marks on the cartridge case and bullet. Forensic examiners compare these microscopic marks to determine whether a crime scene bullet or cartridge case was fired from a suspect's firearm. For more than a century, this evaluation has been subjective, relying on the skill and expertise of the examiner. This approach is under scrutiny because errors in judgement can potentially lead to miscarriages of justice. The tour will show examples of NIST's work to address these concerns and increase accuracy through better measurements, standards, reference data, objective computer-aided comparison, and statistically-rigorous statements for the strength of the evidence.

Trace Explosives and Narcotics Detection | Greg Gillen and Matthew Staymates | Building 217

The trace explosives and narcotics detection tour will showcase NIST's efforts to optimize the performance of currently deployed trace detection methods and technology. Examples include investigating variables such as the effects of different environmental conditions and instrument settings, and metrology of particle removal from surfaces via direct wipe and aerodynamic sampling. The tour will include improved sampling efforts such as force sensing sampling wands and biomimicry based on canine olfaction.

DAY 3 – FRIDAY, OCTOBER 4, 2019

8:00 – 8:30 AM	REGISTRATION
8:30 – 8:45 AM	DAY 2 RECAP & AGENDA OVERVIEW
EVIDENCE COLLECTION AND PACKAGING	
8:45 – 10:00 AM	<p>Standardizing Packaging and Labeling – Practical Guidance Suzi Doerhoff, CEO, Police Evidence Audits Melisse Huffmaster, Evidence Vault Director, Las Vegas Metropolitan Police Department</p> <p>Evidence Management Challenges from Crime Scene to the Lab Erin Trujillo, Assistant Director, Los Angeles Sheriff's Department, Scientific Services Bureau</p> <p>Collection and Packaging Issues for Sexual Assault Kits Dr. Rachell Ekroos, PhD, Assistant Professor, University of Nevada (UNLV), School of Nursing</p> <p>MODERATOR: Ellen Spain, Forensic Evidence Manager, Virginia Department of Forensic Science</p>
10:00 - 10:15 AM BREAK	
EVIDENCE SAFETY AND SECURITY	
10:15– 11:30 PM	<p>Preventing Theft in Property and Evidence Rooms: Conducting Audits and Inventories and Other Security Measures Joe Latta, Executive Director, International Association for Property and Evidence</p> <p>The Synthetic Fentanyl Crisis – Research on Background Levels and Safety Implications for the Property and Evidence Room Ed Sisco, Ph.D., Research Chemist, Surface and Trace Chemical Analysis Group, Materials Measurement Laboratory, NIST</p> <p>MODERATOR: Robert Thompson, Senior Research Manager, Forensic Science Research Program, NIST</p>
11:30 – 12:00 PM	WRAP UP MEETING ADJOURNED - BREAK FOR LUNCH ON YOUR OWN (NIST CAFETERIA)
OPTIONAL EMSC DEBRIEF – MEMBERS ONLY 1:00 - 2:00 PM	

TOURS: Sign up is onsite at the registration booth. First come first serve. Day 1 sign ups are for BOTH tours. Tour groups will be split into 15 person groups. Shuttle will pick up in front of 101 at 12:45 and will be waiting for return at the designation at 1:30.

OCTOBER 3RD Robotics Facility

Kenny Kimble | Building 207

With support from the Department of Homeland Security, NIST is developing measurement science to support international standard test methods for evaluating robotic emergency response capabilities. These standard test methods give a point of comparison before using the robots in more realistic scenarios. Some of the types of robots tested include throwable robots for reconnaissance tasks, mobile manipulator robots for detecting and disarming package-sized improvised explosive devices (IEDs), and small aerial vehicles for remote situational awareness. The Robot Test Facility (Building 207) is used to prototype test methods and conduct experiments on robot performance in order to develop the most effective means of measuring capabilities, collecting data, and synthesizing the results.

POSTER PRESENTATIONS

Electronic Tamper-Evident Packaging (eTEP); Environmental Monitoring by Evidence Envelopes | Peter Gompper, MSc., MBA

From crime scene to presentation at court, forensic material evidence is at risk of careless handling, theft, counterfeiting, tampering and destruction. Such “triggering events” can become liability issues for law enforcement agencies (LEAs), crime labs, courts and communities dependent upon the credibility of criminal justice systems. Property and material managers attempt to mitigate such risk by manual or automated processes which result in inventory control, custody chain monitoring, reporting on evidence (as assets), tracking in-transit evidence, and controlling evidence to access. The weakness of both manual and automated identification technology (AIT) systems is a lack in detection and communication of triggering events at the level of the unit of packaged evidence. For instance, unique identifiers – be they from signature lines, barcodes, or adhered RFID tags—can easily be copied, replaced or decrypted to thwart security efforts. Standard packaging has not been designed to robustly detect triggering events and electronically integrate the event with an upstream enterprise application for response (e.g., Lab Information Management System (LIMS) or other workflow and data tracking support).

To increase the reliability and convenience of AIT without adding cost, the author developed an electronic integrated evidence tracking device which detects any package incursion. Electronic tamper-evident packaging (eTEP) identifies and conveniently communicates triggering events for issue identification and systematic improvements in material management. It acts as a one-time irreversible surface monitor capable of sending a signal using the same protocol and standards as RFID but with a sensing function. As an evidence storage and environmental monitor, implementation is fit for the entire custody chain -- from crime scene collection, submission, documentation, testing, re-packaging, storage, movement, security, purging, to final disposition. In addition to minimizing the risk that evidence is compromised, eTEP offers an opportunity for coordination in the collaboration of evidence standards and an additional value for the implementation of AIT within organizations which utilize manual systems.

As a part of the National Science Foundation’s I-Corps program, the author will outline the innovation of eTEP to conference attendees who work in the field of forensic sciences (i.e., laboratory personnel, first-responders, nurse practitioners, and legal experts interested in the processing of Sexual Assault Kits and material evidence related to the wrongfully convicted). Through interviews the author aims to test hypothesized value propositions: Is robust authentication and encryption of evidence important? How and to what extent (e.g., lab accreditation)? Does it support the organizational mission of continual improvement of process performance? How is the adoption of AIT, and a proposed AIT-eTEP solution, valued relative to other factors such as ROI, process disruption, development of intelligent functions such as automated tracking and preservation of evidence along an electronic custody chain, etc? Is the value seen differently depending upon the decision-making model in which key stakeholders operate (e.g., executive level in which the key stakeholders are external but related to the LEA, versus distributed level in which the key stakeholder is internal and dependent upon the LEA)?

Standardizing Future “Smart and Connected Forensic Evidence Rooms” for Internet of Things (IoT) Based AutoID Enabled Technologies | Dr. Erick C. Jones, The University of Texas at Arlington, Darrell Davis CAPS-Analytical Training Laboratory, LaTasha Taylor Starr, The University of Texas at Arlington

There is a critical need to standardize and automate the chain of custody (COC) manual processes to minimize safety risks to personnel involved in this Forensics lab related processes. Automation through modern Internet of Things (IoT) technologies of Forensic Lab processes inclusive of receiving, packaging, stocking, retrieving, chronicling and re-handling of this sensitive evidence can provide safety and efficient ways of processing data to minimize operational costs.

Our research focused on the impacts of standardizing chain of custody (COC) manual processes using Internet of Things technologies. We investigated IoT technologies that are based on standards and can be implemented quickly to support the United States Department of Justice’s future operational goals to capture, maintain, and document forensic evidence in a safe and cost efficient manner. Specific objectives for this research highlighted the importance of identifying, investigating and evaluating COC risks, IoT technology readiness and DEA Lab scenarios.

Our findings provide best practices, lessons learned, and future standards for safe and secure Forensic Lab operations. Our recommendations include cyber secure data collection and real time usage for inventory control, maintenance of forensic evidence records, and the provisions for a safe environment for dangerous drugs that can be stored and secured. As a result of this study, a design for the future state-of-the-art facilities for inventory control and maintenance of forensic evidence by capitalizing on modern technologies to automate, monitor and improve evidence room labor efficiency and productivity has been proposed. Expected outcomes for this project have been met, which includes a set of standard operating procedures for critical process for automating chain of command activities for Forensic Labs using automated technologies. The use of IoT based instrumentation and technology is a critical part of the recommended standards that emerged from this research, further delineating the cost benefit ratio of automating critical processes.

THANKS TO OUR VENDORS

