2026 Joint Annual Meeting

WORKSHOP ABSTRACTS

October 5-9, 2026 - Poconos, PA

MONDAY, OCTOBER 5th

(W1) MassHunter Unknowns and Qualitative Workflows for Forensic Data Analysis
Presented by: Dr. Kirk Lokits, GCMS Applications Scientist, Agilent Technologies [VENDOR]
Full-Day Workshop - Monday - (Member $250/Non-member $300)

The full day workshop is designed to introduce the audience to the workflows involved when using Unknowns Analysis in the MassHunter software. The workshop begins with an ~20-minute explanation of the deconvolution process, differences between deconvolution and peak integration, and some of the variables involved when using this powerful data analysis tool. Running through workflows, utilizing forensic data, the session will illustrate how to translate established workflows within MSD ChemStation Data Analysis to MassHunter Unknowns Analysis. The workshop will include how to generate an in-house library in Unknowns Analysis, how to link retention time and or retention indices to each library entry and apply these entries to increase your Library Match Score (LMS) confidence level. Examples of Unknowns Analysis reporting templates will be demonstrated from the workshop exercises. Qualitative Analysis software will also be introduced. Laptops with MassHunter software and forensic data will be provided through this full day of hands-on learning.

The course is limited to the first 16 registrants due to the number of laptops available. However, additional students (~10) may join the course if they can provide their own laptop with MassHunter Quantitative and Qualitative Analysis software pre-loaded (rev 12.0 is preferred but not required) on the laptop. The forensic data files can be loaded in the morning prior to the start of the course. Please contact the course instructor if you have additional questions.

(W2) Beyond Compliance: Unlocking the Power of ISO 17025 in Forensic Laboratories.
Presented by: Deanne Emory, Instructional Designer, ANSI National Accreditation Board (ANAB)
Full-Day Workshop - Monday - (Member $250/Non-member $300)

ISO standards provide requirements for accreditation, certification and self-declaration of conformance. Within these requirements are tools that organizations can use to not only implement the requirements, but also as value-added tools for improvement. These tools include risk-based thinking, cause analysis and corrective action, internal audits and management review.

The objective of this course is to have participants evaluate standard requirements from a new perspective: looking at why the requirements exist, how the requirements are interrelated and how to leverage the tools within the requirements for a more robust management system, and overall, more effective laboratory operations.
operations.

This course will use the ISO/IEC 17025:2017 requirements and is geared specifically for Forensic Service Providers. It is designed for quality managers, analysts and other contributors who develop or enhance a culture of quality within their laboratory. It is also well-suited for any personnel who want to strengthen their skills and understand the effective implementation and added value of standard requirements.

This training workshop is designed for laboratory management, technical staff, and new staff that need a general understanding of continual improvement and the skills reviewed in the workshop.

(W3) Applications of Vibrational Spectroscopy in Forensic Science
Presented By: Lewis Smith, Forensic Chemist, Cape May County Pros. Office Forensic Lab
Half Day Workshop - Monday Morning - (Member $125/Non-Member $225)

Vibrational Spectroscopy is another tool, in addition to Mass Spectrometry, which can aid in the precise molecular identification of unknown forensic submissions. This is particularly important in isomer determination of designer drugs.

This form of spectroscopy is unique in that a change in the physical state of a sample (solid, liquid, gas) can dramatically change the spectral profile. There are both advantages and disadvantages for each physical state. Examples will be given illustrating the strength and weaknesses of spectral profiles according to the physical state in which it was sampled.

SOLID PHASE FTIR – Solid phase sampling techniques Transmittance, ATR, Diffuse Reflectance.
- Matrix Effects - hydrogen-bonding, water content, polymorphism
- Changes in crystallinity - cast films, solid melts
- Low Frequency Vibrations – the importance of FAR INFRARED and FT RAMAN for inorganic and organometallic compounds

SOLIDS IN SOLUTION - use of solution cells for hydrogen-bonding studies and quantitation

GASES / VAPORS of simple molecules
- ROTATIONAL BANDS IN GASES – use of band profiles to determine molecular geometry
- Linear Molecules - spectral comparisons between Nitrous Oxide and Carbon Dioxide
- Corrosive Liquids – use of gas cells to capture the vapor from corrosive liquids
- CONTROLLED PYROLYZATES – gas analysis of heated polymers

VAPOR PHASE INFRARED
- HEATED VAPOR CELLS - analysis of Butanediol isomers and other compounds
- CHROMATOGRAPHIC SEPARATION – Development and history of GC/FTIR and Light-Pipe Technology
- DEVELOPMENT of Hewlett Packard’s 5965a IRD through to the ASAP IRD3 of today
- Installation Requirements and Maintenance of the ASAP IRD3
- Sensitivity comparisons between Benchtop GC/FTIR vs GC/IRD

Data comparisons between GC/IR Light-pipe technology vs GC/IR solid deposit
Use of Isomer determination in designer drugs using the GC/IRD
MOLECULAR BOND ROTATION - this property, only existing in vapor phase (and dilute solutions), creates unique special bands that aid in the identification of Synthetic Cannabinoids.

(W4) Automated DNA Extraction Strategies for Sexual Assault and Missing Persons Casework

Presented by: Sarah Rosenstein (HID-FAS), Josh Abernathy (HID-CSM), and Carole Cummings (HID-CSM) - QIAGEN North America - HID & Forensics [Vendor]

Half Day Workshop - Monday Morning - (Member $125/Non-Member $225)

Forensic laboratories are increasingly challenged by complex sample types encountered in both sexual assault and missing persons investigations, where low DNA quantity, degradation, and PCR inhibitors can significantly impact downstream analytical success. This workshop highlights the versatility of the EZ2 Connect Fx automated extraction platform and its role in supporting robust and reliable DNA workflows across diverse forensic applications.

Part 1: Automated DNA Purification Strategies for Complex Forensic Samples

Part 1 of the workshop will focus on recently implemented EZ2 Connect Fx workflows supported by the DNA Investigator portfolio. This includes the EZ2 DNA Investigator Sep&Prep protocol for automated differential extraction of sexual assault evidence, as well as the DNA Investigator Bone Extra Large Volume and Fired Cartridge Casings (FCC) workflows for challenging skeletal and ballistic samples. Attendees will gain practical insight into how protocol design, chemistry, and automation work together to support effective inhibitor removal and consistent DNA purification, enabling reliable downstream STR and NGS analysis.

Part 2: Integrated SNP-NGS Strategies for Identification of Highly Degraded Human Remains

Part 2 will present a real-world pilot study from a World War II Missing Persons project conducted in Greece, involving highly compromised skeletal remains. This case study will walk through an integrated QIAGEN workflow incorporating EZ2 Connect Fx extraction, library quality assessment using QIAxcel, and SNP-based analysis on the MiSeq FGx using the ForenSeq Kintelligence workflow. Results from this pilot demonstrate how optimized purification and quality control can enable SNP-NGS analysis in cases where conventional STR-CE methods yield partial or no profiles, supporting extended kinship analysis and identification efforts in historical and missing persons investigations.

This workshop is intended for forensic practitioners seeking applied guidance on implementing adaptable extraction strategies, understanding purification performance, and evaluating integrated workflows that expand investigative potential in both sexual assault and missing persons casework.

(W5) Professional Ethics in Forensic Science: Challenges & Responsibilities

Presented By: Robin Bowen, Teaching Assistant Professor, West Virginia University and Jerome F. Buting, Attorney, Buting, Williams, & Stilling, S.C.

Half Day Workshop - Monday Morning - (Member $125/Non-Member $225)

Many people may think of ethics as a personal matter, but it also includes professional and public issues. Proper ethical behavior is required by scientists making complex decisions which help to improve the quality of forensic science. Which problems to pursue, interpretation of data, and when to conclude an experiment are important decisions guided by scientists' integrity. Scientists must also be aware of various conflicts they may encounter with police, prosecutors, or others who may have different expectations.

On a personal level, a forensic analyst's reputation and credibility are as important over the course of a career as their scientific expertise. A damaged reputation is very difficult to repair, particularly if it concerns one's character and credibility for court. Analysts never know which of their cases will require courtroom testimony, so they must assume that all tests performed could end up in court and they must be prepared to confront and address ethical issues encountered or observed so as not to damage their credibility in court or the public's perception of the scientific community.

This workshop will include both the perspective of a forensic science educator and a criminal defense attorney with more than 40 years of experience in many high-profile cases involving forensic science evidence. While this workshop includes many "basics," the course relates those ideas to the forensic science profession and real-world scenarios. To understand forensic-specific ethics, it is important to look at the interactions between the cultures of science, law, research, and law enforcement.

Upon completion of this course, the student will be able to:

- Demonstrate the relationship between science, technology, and society in ethics
- Examine the various types of conflicts and the problems they may create
- Analyze what ethical standards are in place for forensic scientists and related professions
- Evaluate how codes of ethics in science may contradict other professions
- Understand how and why unethical situations occur
- Analyze when and how to report misconduct and associated consequences

Attendees will have the opportunity to interact and discuss ethical situations that have taken place within the forensic science community. Attendees will be presented with scenarios and the ethical considerations involved. The attendees will share insight from their work environments and represent the "real-world" of ethics in forensic science. Participants should be open to discuss and debate, while keeping an open-mind and positive environment.

(W6) Design and Implementation of Statistical Sampling Plans for Seized-Drug Analysis - Part I

Presented by: Jack Prothero, Mathematical Statistician, National Institute of Standards, and Technology and Laurel Bobka, Forensic Scientist Advanced, Maryland State Police, and Dr. Jennifer Bonetti, Virginia Department of Forensic Science and MAAFS SWGDRUG representative Tiffany Ribadeneyra, Nassau County Office of the Medical Examiner and NEAFS SWGDRUG representative

Half-Day Workshop - Monday morning - (Member $125/Non-member $225)

This workshop will detail the process of establishing statistical sampling plans for seized drugs analysis.

The morning session will focus on the mathematical fundamentals for the statistical analysis of a seizure, including random sampling, the hypergeometric distribution, confidence intervals, hypothesis testing, and statistical significance. These concepts will be related to the various phases of analyzing a seizure, including estimating unit counts and performing inference about the number of units or the total weight of material containing controlled substances. A series of hands-on exercises will allow attendees to explore these ideas further and introduce them to multiple web-based tools available from ENFSI and NIST to aid in performing these analyses.

(W7) Design and Implementation of Statistical Sampling Plans for Seized-Drug Analysis - Part II

Presented by: Jack Prothero, Mathematical Statistician, National Institute of Standards, and Technology and Laurel Bobka, Forensic Scientist Advanced, Maryland State Police, and Dr. Jennifer Bonetti, Virginia Department of Forensic Science and MAAFS SWGDRUG representative Tiffany Ribadeneyra, Nassau County Office of the Medical Examiner and NEAFS SWGDRUG representative

Half-Day Workshop - Monday afternoon - (Member $125/Non-member $225)

This workshop will detail the process of establishing statistical sampling plans for seized drugs analysis.

The afternoon session will focus on the implementation of statistical sampling plans in a laboratory, with particular focus on Maryland State Police's incorporation of the NIST sampling app into workflows as a case study. Topics discussed will include techniques for achieving random samples, aligning sampling with customer needs, reporting, testimony, and handling of unexpected sampling outcomes such as negative units or heterogeneous units. Particular focus will be placed on options for handling negative units during an analysis targeting a jurisdictional weight threshold and options for handling heterogeneous units as part of a report on the total number of units in a seizure containing controlled substances.

(W8) Next-Generation Sequencing: From Theory to Implementation
Presented by: Kelly Elkins, Cindy Zeller, and Filipa Simão - Department of Chemistry & Forensic Science, Towson University
Half Day Workshop - Monday Afternoon - (Member $125/Non-Member $225)

WORKSHOP CANCELLED

(W9) How Can We Know If Drug Samples Are Related? Analysis, Association, and Attribution.
Presented By: Dr. Joshua DeBord, Senior Scientist; The Center for Forensic Science Research and Education and Dr. Agnes Winokur, Director, DEA Special Testing and Research Laboratory
Half Day Workshop - Monday Afternoon - (Member $125/Non-Member $225)

Source attribution of illicit drug samples remains a persistent challenge in forensic chemistry and is largely limited to a small number of highly resourced laboratories. Although analytical capabilities have evolved substantially, the interpretive frameworks required to translate chemical similarity into defensible association are constrained by limited shared datasets, poorly characterized sources of variability, and the absence of broadly accepted statistical models. As a result, many current approaches emphasize exploratory association rather than statistically supported inference.

This half-day, discussion-driven workshop is designed for practicing forensic scientists and introduces the concept of source attribution as a graded inferential process built upon concordant results across macro-, meso-, and micro-analytical scales. Participants will examine how profiles are built from contextual information, formulation, impurities, and other characteristics collectively contribute to association strength, and how disagreements across scales should be interpreted. Emphasis will be placed on concepts critical to generating meaningful comparison profiles, including feature stability, reproducibility, discrimination, and susceptibility to temporal and market-driven drift.

Case-based presentations will highlight analytical approaches that have shown promise for drug sample comparison, including impurity profiling, untargeted high-resolution mass spectrometry, isotope ratio analysis, and multivariate similarity metrics. Rather than promoting specific methods, discussion will focus on the assumptions underlying these approaches and outline the advantages and the limitations that commonly available forensic instrumentation have for making source-level claims.

Modern data storage, processing, and visualization tools are now relatively inexpensive and widely accessible, placing the large datasets needed to estimate the significance of chemical profile similarity increasingly within reach of the forensic community. At the same time, the application of machine-learning and other advanced computational approaches introduces new challenges related to data integrity, curation, scalability, interoperability, and model interpretability. These considerations underscore the need for coordinated, transparent research efforts rather than isolated single-laboratory solutions.

Beyond technical discussion, this workshop is intended to assess and foster mutual interest in forming a committee or working group dedicated to advancing collaborative research, shared datasets, and interpretive frameworks for drug sample association. Rather than prematurely prescribing method solutions, the session emphasizes critical evaluation, responsible communication of uncertainty, and cooperative research progress.

(W10) Forensic Entomology Workshop

Presented by: Dr. Jennifer Rosati, Associate Professor of Forensic Entomology, John Jay College of Criminal Justice

Half Day Workshop - Monday Afternoon - (Member $125/Non-member $225)

This workshop will provide attendees with basic fundamental knowledge on the use of insect evidence as a tool in forensic investigations. Topics will include a brief history of the field, techniques employed by forensic entomologists, the importance of proper evidence collection and the various applications of insect evidence within legal investigations. Attendees will gain practical experience in recognizing and collecting insect specimens and in the proper documentation of such evidence to aid in the proper utilization of this information should a forensic entomologist be involved within the investigative process.

TUESDAY, OCTOBER 6th

(W11) LC-MS/MS Method Development and Validation – Fragmenting Ions While Keeping Your Sanity Intact

Presented by: Dustin L. Abbott, MS, D-ABFT-FT Forensic Scientist IV New York State Police – Toxicology

Full Day Workshop - Tuesday - (Member $250/Non-member $300)

The two primary hurdles that must be overcome by any forensic laboratory to bring a new analytical method online for casework are method development and method validation, and while the two are closely linked, the rules of engagement for each differ greatly. One is an exercise in creativity and ingenuity that rewards a deeper understanding of chemistry and instrumentation, the other is regulated and meticulous with strict criteria and detailed documentation. The successful creation of a new method requires mastery of both.

This presentation is an in-depth discussion of modern liquid chromatography-tandem mass spectrometry (LC-MS/MS) method development as well as the steps to a successful validation according to ANSI/ASB Standard 036. Development topics will include selection of mobile phases and columns, chromatography evaluation, transition selection, optimization/deoptimization, and commonly observed drug trends and interferences. Validation topics will include advice and techniques for completion of all required and optional studies outlined in Standard 036 as well as additional helpful studies recommended by the presenters. There will be a discussion of identification criteria as outlined in ANSI/ASB Standard 098 as well as the ANSI/ASB Standard 113 point system and considerations for using it in place of a traditional screen/confirmation testing scheme.

This workshop is designed for scientists who are making the transition from traditional single quadrupole gas chromatography-mass spectrometry (GC-MS) analysis or want to improve their ability to optimize LC-MS/MS methods, as well as those looking to expand their general understanding of chromatography, mass spectrometry, and the standardized techniques used to determine method validity. It also serves as a valuable resource for students, educators, and administrators who would benefit from a broader understanding of the analytical chemistry that is routinely employed by forensic testing laboratories. While the content is toxicology focused, the instrumental techniques discussed are applicable to any discipline which utilizes mass spectrometry, and the validation studies can act as a starting point for testing the validity of any piece of instrumentation or new methodology used for forensic analysis.

(W12) Advanced Instrument Maintenance: Gas Chromatography-Mass Spectrometry (GC-MS)

Presented by: Mikaela Romanelli, Marilyn De Apodaca, and Mark Filandro, Senior Forensic Chemists

Full Day Workshop - Tuesday - (Member $250/Non-Member $300)

Gas chromatography mass spectrometry (GC-MS) is the primary analytical technique utilized by forensic laboratories for the identification of controlled substances. The Advanced Instrument Maintenance: GC-MS workshop is designed for seized drug analysts with beginner to advanced experience seeking to enhance analytical proficiency and instrument stewardship to support dependable, court-defensible results.

Through the use of both lecture-based modules and practical hands on time with offline instrumentation, attendees will be provided a brief overview of GC-MS theory, preventative maintenance procedures, case-related troubleshooting, and application of the Drug Enforcement Administration's Global Uniform Analysis and Reporting of Drug Related Substances (GUARDS) GC-MS method. Specific maintenance topics will include inlet and column care, split valve line cleaning, source cleaning, vacuum system performance, tuning stability, and early recognition of instrument degradation indicators. Participants will learn how routine maintenance practices directly impact sensitivity, reproducibility, and data quality. With the implementation of high quality routine maintenance procedures, high-throughput controlled substances laboratories are able to reduce instrument down times and continue to provide reliable GC-MS results in compliance with ISO/IEC 17025 accreditation standards.

(W13) Polarized Light Microscopy - A Basic Refresher

Presented by: Jack Hietpas and Peter Diaczuk, Assistant Professors, John Jay College of Criminal Justice

Full Day Workshop - Tuesday - (Member $250/Non-Member $300)

Polarized light microscopy is the backbone of criminalistics, particularly in the area of trace (microtrace) evidence analysis. The experienced microscopist can accurately and reliably characterize, identify, and compare an enormous variety of materials spanning biological tissues, pollen grains, diatoms, minerals, hairs, fibers, glass, general unknowns, food ingredients, paints/pigments, building materials, among many other particle types. To fully exploit the information available in microscopic evidence, the microscopist relies on both the proper use of the microscope and their training and experience. This workshop will serve as a refresher course that will cover basic polarized light microscopy theory and practical applications to forensically relevant materials. We will cover the proper alignment of the microscope which will serve as the basis for the acquisition of high-quality images for both particle identification as well as the capture of photomicrographs, which can serve for both evidence documentation/ observation as well as quantitative image analysis.

(W14) Navigating Leadership and Legal Topics that Affect Forensic Scientists
Presented by: Theresa DeAngelo, QA Manager, Maryland State Police Forensic Sciences Division and Dr. Kelly Elkins, Professor, Chemistry and Forensic Science, Towson University
Half Day Workshop - Tuesday Morning - (Member $125/Non-Member $225)

Beyond the science and evidentiary findings within the lab, Forensic Science practitioners have to traverse through external influences such as changes to applicable laws, leadership and the justice system. Balancing the expectations of these outside factors can be demanding and exhaustive to the scientist and the forensic community as a whole. What changes to the legal system affect a forensic case testimony? How do modifications to various leadership affect standards and regulations within forensic science? What can the forensic scientist do to be prepared and pivot to ensure accuracy and effectiveness through these domains? During this workshop, these questions will be explored and specific legal topics such as Smith v. Arizona and Brady/Giglio will be discussed with participants and guidance will be provided on how to successfully navigate through these changes outside of the control of the forensic scientist.

(W15) Requirements and Implementation of the Standard for Forensic Autosomal STR DNA Statistical Analyses
Presented by: Michael Coble, Ph.D.; Executive Director, Center for Human Identification, UNT Health, Caitlyn Taveira, M.S.; Forensic Scientist, Nassau County Office of the Medical Examiner, Division of Forensic Services, and Charlotte J. Word, Ph.D.; Consultant
Half Day Workshop - Tuesday Morning - (Member $125/Non-Member $225)

The critical last step in DNA testing and reporting is often the generation of an appropriate statistical value following the interpretation and comparison of a DNA profile from an evidence item to the profiles from known individuals. This is especially necessary when a resulting inclusion or positive association will be reported. This workshop will focus on the Standard for Forensic Autosomal STR DNA Statistical Analyses, which is currently available for implementation as a Proposed Standard on the OSAC Registry (OSAC 2021-S-0021) and under development for publication as ANSI/ASB Standard 186. The requirements of this standard address the: 1) general laboratory protocol for performing statistical analyses; 2) verification and consistent use of the statistical analysis protocol; and 3) necessary case record documentation for statistical value calculations at the sub-source and sub-sub-source levels in the hierarchy of propositions. The requirements and supplemental information in the Annex address the use of both probabilistic genotyping software for the generation of likelihood ratios (LR) as well as manual/binary statistical approaches using likelihood ratios, the random match probability (RMP), and the combined probability of inclusion/exclusion (CPI/CPE).

The standard's requirements will be presented and discussed with the goal of aiding attendees in understanding the individual requirements and the implementation of this standard in forensic DNA testing laboratories. In addition, information and guidance regarding the implementation of this standard along with other standards having complimentary requirements will also be presented [e.g., FBI Quality Assurance Standards; ANSI/ASB Standard 020, Standard for Validation Studies

of DNA Mixtures, and Development and Verification of a Laboratory's Mixture Interpretation Protocol; ANSI/ASB Standard 040, Standard for Forensic DNA Interpretation and Comparison Protocols; ANSI/ASB Standard 018, Standard for Validation of Probabilistic Genotyping Systems]. While this standard applies directly to the use of data generated with the polymerase chain reaction (PCR) amplification of autosomal short tandem repeats (STR) for identification testing and biological relationship testing, many of the general requirements may also apply to other types of DNA testing and analysis.

Through the presentations and general discussions, attendees, such as DNA analysts, DNA technical leaders, quality assurance staff, laboratory directors and attorneys should leave the workshop with a sound understanding of the individual requirements for the standard as well as constructive information regarding the implementation of each requirement.

[1]https://www.nist.gov/standard/811

(W16) DESI, DART, ASAP Oh My: Discovering How Direct Ionization Can Enhance Your Forensic and Toxicology Workflow

Presented by: Dr. Ciara Pitman, Clinical and Forensic Account Manager, Waters [Vendor], Patrice Ohouo MLS(ASCP), Ph.D., NRCC-TC Clean Slate Centers, Melissa Fogarty MSFS, D-ABFT-FT The Center for Forensic Science Research & Education, Fran Diamond The Center for Forensic Science Research & Education, and Melanie Tanis, Duquesne University

Half Day Workshop - Tuesday Morning - (Member $125/Non-Member $225)

Direct ionization, or also known as ambient ionization, is a type of ionization that requires no chromatography and little to no sample preparation. Since the creation of the first ambient ionization source, there have been several variants and techniques that have emerged both commercially and in research. Desorption Electrospray Ionization (DESI) uses the same ionization mechanism as traditional ESI. In the case of DESI, one would have the sample on the sample platform, and a charged spray would impact the sample to create the desorption needed to then enter the mass spectrometer. DESI has been used for several matrices but can be great for biologics such as blood or urine. Along with DESI, Atmospheric Solids Analysis Probe (ASAP) and Direct Analysis in Real Time (DART) are popular commercial sources. ASAP and DART are plasma-based techniques and align with the traditional APCI ionization mechanism. The key difference between the two sources is that ASAP uses nitrogen-based plasma for ionization and DART uses a helium metastable. Both techniques have been used for small molecule work and can be used to explore seized drugs or post-blast explosive materials.

Direct ionization can offer simplicities and increased throughput to laboratory workflows and is growing continuously in popularity and interest. This workshop is designed to create a learning environment for those curious about direct ionization techniques or would like to increase throughput in their labs. We will begin by exploring the history and scientific principles behind these techniques to establish a strong foundational understanding. Building on that foundation, we will then examine a range of real world applications and highlight compelling stories of laboratory success.

(W17) Implementation OF ANSI/ASB Standard 175 and Best Practice Recommendation 171 Regarding DNA Contamination

Presented by:Beth Ordeman, MS, ABC-MB, DNA Analyst/CODIS Administrator, Pinellas County Forensic Laboratory and Charlotte J Word, Ph.D., Consultant

Half Day Workshop - Tuesday Afternoon - (Member $125/Non-Member $225)

Every forensic laboratory doing DNA testing periodically has to address the presence of a possible contaminating DNA profile within the profile obtained from an evidence item or a negative control. This contaminating DNA may be from known individuals associated with the collection, handling and/or testing of the item, or from an unidentified source. Two documents relevant to this topic were drafted by the Organization for Scientific Areas Committees (OSAC)[1] for Forensic Science, developed through the American Academy of Forensic Sciences (AAFS) Academy Standards Board (ASB)[2], and have been published as ANSI/ASB documents. They are available at no charge on the ASB and OSAC Registry websites for implementation in forensic laboratories.

Through presentations by the speakers and interactive discussions with the attendees, this workshop will focus on guidance for using and implementing these two related documents that specifically address issues with contaminating DNA in casework and the benefits of their implementation into the laboratory. These two documents are:

1. **ANSI/ASB Best Practice Recommendation 171,** *Best Practice Recommendations for the Management and Use of Quality Assurance DNA Elimination Databases in Forensic DNA Analysis*, First Edition, 2024;[3] and
2. **ANSI/ASB Standard 175**, *Standard for Interpreting, Comparing and Reporting DNA Test Results Associated with Failed Controls and Contamination Events*, First Edition, 2024.[4]

Best Practice Recommendation 171 provides recommendations for the collection, storing, searching, and retention of DNA elimination samples and/or profiles in a quality assurance database as one component of a comprehensive approach to detect and monitor contamination. Standard 175 provides requirements for the laboratory protocols for evaluating, interpreting and comparing data associated with contamination events or with failed controls. In addition, Standard 175 provides requirements for the: 1) assessment of the risks of re-testing vs. not re-testing an item of evidence; 2) necessary documentation in the case record for that assessment; as well as 3) reporting of the event and the associated data and conclusions when the DNA profile obtained is suitable for interpretation and comparison based on that assessment, but re-testing is not possible or feasible. Implementation of Standard 175 may be vital in situations where exculpatory/exclusionary conclusions can be made in order to avoid legal issues associated with Brady violations.

Various scenarios that occur in laboratories with approaches to consider for evaluating, decision-making and reporting data without re-testing will be presented along with hands-on problems and through interactive discussions. Effective communication of the data, conclusions and events to individuals in the criminal justice system through conversations, trainings and testimony will also be discussed.

Additional guidance and information regarding other relevant and related standards will also be addressed during the workshop [e.g., FBI Quality Assurance Standards; ANSI/ASB Standard 020, *Standard for Validation Studies of DNA Mixtures, and Development and Verification of a Laboratory's Mixture Interpretation Protocol*; ANSI/ASB Standard 040, *Standard for Forensic DNA Interpretation and Comparison Protocols*; and ANSI/ASB Standard 018, *Standard for Validation of Probabilistic Genotyping Systems*].

This workshop may be instructional for DNA analysts and DNA technical leaders, supervisors, QA/QC managers, trainers and laboratory directors overseeing any type of testing where controls may fail or contamination can occur. By attending this workshop, the attendees should gain a sound understanding of the individual requirements and recommendations in these two documents and leave with insights on how to develop appropriate protocols and policies for addressing them with the goal of full implementation of the documents in their DNA testing program.

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[1]https://www.nist.gov/osac/registry
[2]https://www.aafs.org/academy-standards-board
[3]https://www.nist.gov/osac/standards-library/ansiasb-best-practice-recommendation-171-24
[4]https://www.nist.gov/osac/standards-library/ansiasb-standard-175-24

(W18) Understanding and Implementing OSAC IGSR Standards
Presented by: Mary Keehan, Trace Evidence Section Supervisor, Virginia Department of Forensic Science and Thomas (Rusty) White, Team Lead ILR/GSR,Texas Department of Public Safety
Half Day Workshop - Tuesday Afternoon - (Member $125/Non-Member $225)

WORKSHOP CANCELLED

(W19) From the Street to the Morgue: Analytical Approaches for Drugs Across the Toxicology Spectrum

Presented by: Laura Kimble, Chief Drug Analyst, Hamilton County Coroner's Office, Michelle Peace, Ph.D., Professor – Department of Forensic Science, Virginia Commonwealth University, Teeshavi Acosta, PhD, Head Toxicology Technician, John Jay College of Criminal Justice, and Aria McCall, Senior Toxicologist/Technical Lead, Tarrant County Medical Examiner's Office

Half Day Workshop - Tuesday Afternoon - (Member $125/Non-Member $225)

Illicit drugs present unique challenges for the chemist. This is particularly true depending on where along the toxicology spectrum the analysis takes place. Seized drugs and seemingly innocuous products require insights to preserving, preparing, and successfully analyzing the materials to discern identification, composition, and purity. Biological matrices, such as postmortem blood and tissues, present their own unique challenges surrounding preparation, analysis, and data interpretation.

Attendees of this workshop will explore the variable lifecycle of some notable illicit formulations, from seized drugs through postmortem extraction and analysis. We will examine some of the common complications surrounding this work, including matrix interference and removal techniques, managing detection of adulterants, and even uncovering novel substances. This session will demonstrate successful workflows pertaining to GC-MS, LC-MS/MS, and high-resolution mass spectrometry (Q-TOF).

Through real-world casework, attendees will be shown practical approaches to avoiding errors and improving confidence in their own analytical work. Emphasis will be placed on sample preparation, technical troubleshooting, and developing trends in the modern toxicology laboratory.