President's Message

Colleagues,

We are about half way through this ASCLD Board year and I’m excited to report that there are quite a few great things just around the corner. The ASCLD Board has worked very hard this first half of the year to build on prior initiatives and advance some new ones. The ASCLD Board has an in-person Board meeting next week, after which we will begin ramping up for a very busy Winter and Spring!

There are several exciting announcements and project updates that I hope to share with you soon. The ASCLD Board will produce a mid-year report to update you on the activities of each committee to date. In addition, I expect to be able to provide announcements and updates on the following items soon:

- ASCLD Model Policies – a new resource for crime laboratory leaders to help craft policies in your labs
- An ASCLD Member survey to request your feedback on how ASCLD is doing and what initiatives are most important to you
- The on-track, continued development of Foresight 20/20
- The evolution of the ASCLD Forensic Research Committee
- Additional ASCLD training webinars in December and next Spring
- Enhancing ASCLD’s management training opportunities through the ASCLD Leadership Academy (4th offering), a recorded management training series with RTI, the National Forensic Science Academy project, and an extension of the ASCLD Leadership Academy to international participants.

Don’t forget – in December, expect to see registration open for the 2017 ASCLD Leadership Academy and additional details about a really great 2017 ASCLD Symposium that President-Elect Ray Wickenheiser and the symposium planning committee are already diligently working on.

Have a great week, and I look forward to providing you a full mid-year report in the coming weeks.

Kindest regards,
Jeremy Triplett

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American Board of Criminalistics Survey

The ABC has developed a survey to gauge interest from the forensic community in our current examination offerings and on the development of new certification examinations. Please follow the appropriate link below to take this short survey. Also please forward this message to anyone that you think may be interested.
Thank you!!


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**Symposium Here...**

44th Annual ASCLD Symposium, April 30 – May 4, 2017, Dallas, Texas

The symposium planning committee of the American Society of Crime Laboratory Directors (ASCLD) welcomes your abstracts for plenary talks, full and half-day workshops, and poster presentations for the 44th annual ASCLD Symposium in Dallas, Texas.

The theme for the 2017 symposium is “Continuous Improvement – Leading through Continuous Learning.” ASCLD is interested in presentations that focus on innovative techniques to permit managers to mentor and inspire their employees as they strive to continuously improve their organizations. The key goal of 2017 ASCLD presentations should be to provide crime lab leadership with actionable tools and transportable information that can be directly applied to improve their operation.

44th Annual ASCLD Symposium hotel room block for the 2017 Symposium is no available!

https://www.starwoodmeeting.com/events/start.action...
http://www.ascldsymposium.com/hoteltravel

Links can also be found on the ASCLD FACEBOOK page at https://www.facebook.com/profile.php?id=100010477606575

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Greetings from the Project FORESIGHT team.

We invite you to join us and submit data for the past fiscal year.

FORESIGHT is a business-guided self-evaluation of forensic science laboratories across the globe. The participating laboratories represent local, regional, state/provincial, and national agencies. Faculty from the WVU College of Business and Economics provide assistance, guidance, and analysis. We link financial information to work tasks and functions. Laboratory managers can use these functions to assess resource allocations, efficiencies, and value of services—the mission is to measure, preserve what works, and change what does not. **FORESIGHT is open to any forensic laboratory that completes and submits a LabRAT form. There is no charge for participation.** This link will provide an example of an individualized report prepared for a participating laboratory.

To participate, simply complete the LabRAT workbook and submit to Paul Speaker at email paul.speaker@mail.wvu.edu. Please send any questions to the same email address. For additional information, please visit the program web site http://be.wvu.edu/forensic/foresight.htm.

We are targeting a submission date of December 15, 2016.

Regards,
Paul J Speaker

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An overview of Project Foresight and an Overview of LabRAT can be found at https://www.youtube.com/watch?
Research Reports

NIJ Forensic Science R&D Reports for ASCLD Crime Lab Minute Vol 7
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.

2016 National Sexual Assault Policy Symposium

The archival version of the "Looking Ahead: The National Sexual Assault Policy Symposium" that was hosted by The National Institute of Justice on September 8-9, 2016 is now available! The symposium focused on how the nation is moving forward and finding solutions to the complex issues that arise in sexual assault cases and in testing sexual assault evidence. Be sure to check out panels on the role of evidence in sexual assault cases,

Hello Everyone,

Marshall University Forensic Science is offering the DNA Technical Assistance Program (DNA TAP) again this year. Attached is the DNA TAP Information flyer and the associated DNA TAP Request Form should you have validation or evaluation needs. Beginning this week, a limited number of DNA TAP students are in training at the MU Forensic Science Center from now until May for their summer 2017 DNA TAP assignments. No assignments have been made at this time so please apply early this fall to have the best chance to be assigned a DNA TAP student.

Please feel free to call (304-634-5263) or email (staton1@marshall.edu) should you have questions or wish to apply but need more information. If you are new to this program, I would be happy to set up a conference call with your group to discuss this further.

Also, please feel free to forward this email and its attachments to a colleague.

Thank you,
Pam

Pamela J. Staton, Ph.D.
Professor & Graduate Programs Coordinator
Marshall University Forensic Science
1401 Forensic Science Drive
Huntington, WV 25701
Ph: 304-634-5263 Mobile: 304-691-8931 Office
staton1@marshall.edu
www.marshall.edu/forensics
testing sexual assault evidence, and building an efficient laboratory using technology and innovative processes

**National Institute of Justice Invests $63 Million in Nation’s Crime Labs**

The National Institute of Justice announced awards of more than $63 million to 132 state and local jurisdictions to increase laboratory capacity and reduce the number of DNA samples awaiting analysis through its DNA Capacity Enhancement and Backlog Reduction Program. NIJ awarded an additional $3.3 million to state and local governments through its new Sexual Assault Forensic Evidence – Inventory, Tracking, and Reporting program (SAFE-ITR).

**Fiscal Year 2015 NIJ Funding for DNA Analysis, Capacity Enhancement and Other Forensic Activities**

In FY15, NIJ received $117 million in appropriations to assist state and local crime laboratories with DNA analysis, lab capacity enhancement, DNA and other forensic R&D, and training and technical assistance. This report documents how the funding was awarded. Video: Progress Testing Sexual Assault Kits

In this video, members from the Nevada Sexual Assault Kit Backlog Working Group describe the importance of using a multidisciplinary, victim-centered approach in addressing complex issues that arise while responding to sexual assault. The team also describes the importance of utilizing available resources, including research and federal support from the National Institute of Justice, in making progress towards processing untested sexual assault kits.

**Local cold case victims’ buried remains puzzle pieces for renowned forensic expert**

Abstract from the Times Leader:

The project, headed by State Police and Luzerne County District Attorney’s Office, wasn’t going to be cheap. Digging up one body from a single grave can cost upwards of $10,000, according to Chuck Heurich, a senior scientist and program manager of the Department of Justice’s forensics division [the National Institute of Justice]. That’s where NIJ and their resources come in. The NIJ has given more than $23 million to 32 law enforcement agencies since 2008, according to Heurich. The funding is awarded every other year and officials say it is integral to their efforts.

**Genome-Wide Association Study Reveals Multiple Loci Influencing Normal Human Facial**

**ANSI-ASQ National Accreditation Board (ANAB)** ANAB provides accreditation for ISO/IEC 17025 forensic test laboratories and ISO/IEC 17020 forensic inspection agencies and a wide variety of training, workshops, and academic programs.

**ASCLD-LAB Training**

Training classes to help forensic laboratory personnel understand the requirements of ISO/IEC 17025 General Requirements for the Competency of Testing and Calibration Laboratories.

**ASCLD-LAB-International Assessor Training Course for Testing Laboratories**

**ASCLD-LAB-International Assessor Training Course for Breath Alcohol Calibration**

**ASCLD-LAB-International Internal Auditor Training Course**

**ASCLD-LAB-International Preparation Course for Testing Laboratories**

**ASCLD-LAB-International Preparation Course for**
Morphology
NIJ-supported researchers from the University of Colorado Denver recently published an article in PLOS Genetics. Author summary retrieved 10/12/2016:

There is a great deal of evidence that genes influence facial appearance. This is perhaps most apparent when we look at our own families, since we are more likely to share facial features in common with our close relatives than with unrelated individuals. Nevertheless, little is known about how variation in specific regions of the genome relates to the kinds of distinguishing facial characteristics that give us our unique identities, e.g., the size and shape of our nose or how far apart our eyes are spaced. In this paper, we investigate this question by examining the association between genetic variants across the whole genome and a set of measurements designed to capture key aspects of facial form. We found evidence of genetic associations involving measures of eye, nose, and facial breadth. In several cases, implicated regions contained genes known to play roles in embryonic face formation or syndromes in which the face is affected. Our ability to connect specific genetic variants to ubiquitous facial traits can inform our understanding of normal and abnormal craniofacial development, provide potential predictive models of evolutionary changes in human facial features, and improve our ability to create forensic facial reconstructions from DNA.

Improving the confidence of “questioned versus known” fiber comparisons using microspectrophotometry and chemometrics
NIJ-supported researchers from the Indiana University Purdue University Indianapolis recently published an article in Forensic Chemistry. Abstract retrieved 10/12/2016:

Microspectrophotometry followed by chemometric data analysis was conducted on pairs of visually similar blue acrylic fibers, simulating the “questioned versus known” scenarios often encountered in forensic casework. The relative similarity or dissimilarity of each pair was determined by employing principal component analysis, discriminant analysis and Fisher’s exact test. Comparison of fibers from within each set resulted in a correct inclusion result in 10 out of 11 scenarios, with the one false exclusion attributed to a lack of reproducibility in the spectra. Comparison of fibers from different sets resulted in a correct exclusion result in 108 of 110 scenarios, with two sets that shared identical dye spectra. Comparison of fibers from different sets resulted in a correct exclusion result in 108 of 110 scenarios, with two sets that shared identical dye combinations being indistinguishable. Although the presented methods are not infallible, they may nonetheless provide a path forward for forensic fiber examiners that has a more scientifically rigorous basis on which to support their findings in a court of law.

A cooperative-binding split aptamer assay for rapid, specific and ultra-sensitive fluorescence detection of cocaine in saliva
NIJ-supported researchers from the Minnesota Department of Public Safety recently published an article in Chemical Science. Abstract retrieved 10/12/2016:

Sensors employing split aptamers that reassemble in the presence of a target can achieve excellent specificity, but the accompanying reduction of target affinity mitigates any overall gains in sensitivity. We for the first time have developed a split aptamer that achieves enhanced target-binding affinity through cooperative binding. We have generated a split cocaine-binding aptamer that incorporates two binding domains, such that target binding at one domain greatly increases the affinity of the second domain. We experimentally demonstrate that the resulting cooperative-binding split aptamer (CBSA) exhibits higher target binding affinity and is far more responsive in terms of target-induced aptamer assembly compared to the single-domain parent split aptamer (PSA) from which it was derived. We further

Employment Opportunities

Forensic Chemist, City of Rapid City, Rapid City, SD, Expires: November 30, 2016
Supervisory Fingerprint Specialist, Washington, DC, Expires: November 14, 2016
Crime Lab Scientist, Georgia Bureau of Investigation, Decatur, Georgia, Expires: November 30, 2016
Crime Lab Scientist, Firearms, Georgia Bureau of Investigation, Decatur, Georgia, Expires: November 30, 2016
Crime Lab Scientist, Impressions (Latent Prints), Georgia Bureau of Investigation, Decatur, Georgia, Expires: November 30, 2016
Multiple Forensics, Laboratory, and Technician Opportunities, ORAU, Metro DC Area and OCONUS, Expires: December 31, 2016
Crime Scene Technician, City of Wilmington, Wilmington, NC, Expires: November 18, 2016
Forensic Scientist III (Latent Print Examiner), Denver Police Department Crime Laboratory, Denver, Colorado, Expires: February 3, 2017
Criminalist II (Firearms), Broward Sheriff’s Office, Fort Lauderdale, FL, Expires: December 2, 2016
Forensic Scientist I (Serology), Suffolk County Crime Lab, Hauppauge, NY, Expires: December 31, 2016
Forensic Chemist, City of Rapid City, Rapid City, SD, Expires: November 30, 2016
confirmed that the target-binding affinity of our CBSA can be affected by the cooperativity of its binding domains and the intrinsic affinity of its PSA. To the best of our knowledge, CBSA-5335 has the highest cocaine affinity of any split aptamer described to date. The CBSA-based assay also demonstrates excellent performance in target detection in complex samples. Using this CBSA, we achieved specific, ultra-sensitive, one-step fluorescence detection of cocaine within fifteen minutes at concentrations as low as 50 nM in 10% saliva without signal amplification. This limit of detection meets the standards recommended by the European Union's Driving under the Influence of Drugs, Alcohol and Medicines program. Our assay also demonstrates excellent reproducibility of results, confirming that this CBSA-platform represents a robust and sensitive means for cocaine detection in actual clinical samples.

**An Examination of the Conditions Affecting Forensic Scientists’ Workplace Productivity and Occupational Stress**

The NIJ-supported research team at Michigan State University surveyed 899 crime lab technicians and forensic scientists regarding work conditions, job satisfaction, and working relationships with police and prosecutors. By and large, forensic scientists exhibited very high rates of job satisfaction but also exhibited the similar stress levels as other criminal justice professionals. Also, many forensic scientists feel pressure from prosecutors and police to produce results quickly and a majority of scientists felt that prosecutors did not understand that they worked hard on a case even if no evidence is found.

**Dried Blood Spot Analysis as an Emerging Technology for Application in Forensic Toxicology**

Investigators often encounter dried blood spots as they examine a crime scene, but such evidence often isn’t collected because very little work has been done in the analysis of dried blood for forensic applications. Researchers at RTI International, noting that dried blood spot analysis is well established in newborn testing, conducted this NIJ-supported project to see if newborn testing of dried blood has broader applications in forensic toxicology. After analyzing dried blood samples for 28 drugs, the researchers showed it was comparable to more routine blood tests and useful in forensic investigations.

**Developing DNA Friendly Fluorogenic Methods for Detecting, Enhancing, and Preserving Bloody and Proteinaceous Impression Evidence**

Impressions are commonly found as evidence associated with crime scenes and current fluorogenic enhancement methods for such evidence are problematic for DNA preservation. The goal of this project, by NIJ-supported researchers at Madonna University and the Oakland County Sheriff’s Office Forensic Science Laboratory, was to produce simple, effective, non-toxic methods for recovery and enhancement of impression evidence that allowed for subsequent DNA recovery. The project used Zar-Pro Fluorescent Lifters and focused on optimizing the detection, enhancement, and preservation of impressions deposited in blood, semen, saliva, sweat, and non-human oil. The researchers found that DNA capable of producing full STR profiles can be extracted from semen and blood impressions, but not from impressions in any biofluid treated with Fluorescent Enhancement Sprays. The researchers concluded that in many instances, both impression evidence and DNA can be recovered from a single evidentiary item.

**Development of Individual Handwriting Characteristics in About 1800 Students: Statistical Analysis and Likelihood Ratios That Emerge Over an Extended Period of Time**

For decades, questioned document examiners (QDE) have conducted handwriting comparisons based on the assumption that no two people write the same way and no one person writes exactly the same way.
Analysis of Drugs of Abuse in Human Hair: Surface Contamination and Localization of Analysis

For more than two decades, researchers and scientists have utilized hair testing for drug abuse in addition to blood and urine tests. Despite considerable research and current analytical technologies and interpretive methods, environmental contamination remains an unresolved issue for hair, and controversy exists over the source of drug residues found in hair and the potential for environmental contamination to cause false-positive test results. NIJ-supported researchers from the Research Triangle Institute examined the effects of environmental contamination of human hair leading to external deposition of methamphetamine and heroin on drug tests designed to identify drug use. This study shows that a decontamination step alone is likely not sufficient to remove contributions from external contamination.

Characterization of Designer Drugs: Chemical Stability, Exposure, and Metabolite Identification

Designer drugs, such as synthetic cannabinoids and cathinones have become increasingly prevalent, as have their health and societal consequences. Currently, little is known about the pharmacological and toxicological profiles of these products. The consequences of long-term usage have yet to be studied, and behavioral and metabolic studies have only been performed on a relatively limited number of compounds. The objective of this research is to gain a more thorough understanding of designer drugs with respect to their chemical exposure profiles and biological elimination pathways. New designer drugs are still coming to market faster than targeted testing can keep up. However, within each class of designer drugs, the elements of chemical structure and design often follow known or rational substitution patterns required to enhance or retain pharmacological activity. By performing a thorough and systematic study looking at families of structurally related compounds, NIJ-supported researchers at the Research Triangle Institute are able to predict markers for broad classes of compounds and help practitioners keep up with designer drug manufacturers.

Separation and Identification of Drugs by Electrospray Ionization-Ion Mobility Spectrometry-Mass Spectrometry

Ion mobility spectrometry (IMS) has been described in scientific literature as both a stand-alone separation technique and as a hyphenated technique to enhance other analytical determinations. Despite this flexibility and versatility, the applications of IMS have not grown as quickly as those of gas chromatography (GC) or liquid chromatography (LC). This research describes the use of IMS as a lab-based analytical technique able to perform separations on par with GC and LC separations. It was motivated by the necessity to perform rapid and inexpensive analyses on substances commonly encountered by law enforcement, in particular, analysis of controlled amphetamine type substances and the emerging designer drugs, some of which are very similar in structure. The results from this NIJ-supported research by Florida International University suggest that chiral separation by an achiral modifier in the gas phase and the detection and identification of designer drugs are possible using an electrospray ionization

Fighting Bias - Self-Paced Online Professional Training

This self-paced online professional training program focuses on Minimizing bias in Forensic Decision Making. This program covers brain and cognitive issues relating to bias and cognitive processing. It then connects the cognitive science issues to practical and specific issues in forensic decision making. In addition to knowledge about the cognitive factors in forensic decision making, the program also provides practical solutions to address weaknesses as well as best practices to enhance forensic practices.

This program is directly relevant to the document recently adopted by the National Commission on Forensic Science (NCFS). The practical implementation of this document ("Ensuring That Forensic Analysis Is Based Upon Task-Relevant Information") is presented and discussed, as are the recommendations of the National Academy of Sciences report on forensic science.

Minimizing Bias in Forensic Decision Making

Learning Objectives:

- Describe background information regarding the human mind and cognitive system
- Describe how information and knowledge is acquired, processed, represented, encoded, stored, utilized, retrieved, compared, and evaluated
- Describe how decisions are made
- Demonstrate the connection between information and a variety of forensic decision making processes that forensic examiners typically use
- Describe how cognitive factors can be utilized to make forensic experts' work more efficient
- Describe the pitfalls and errors that can occur in forensic decision making

http://concept.leadpages.co/minimizing-bias-forensic-science/

Visit the website for registration or abstract submission: http://www.cvent.com/events/icfs-2017-international-conference-on-forensic-inference-and-statistics/event-summary-8d357a95832241448664f44de367a2.aspx or contact Glenn Langenburg (glenn.langenburg@estate.mn.us) for more information.

The American Society of Crime Lab Directors, along with RTI, have made the below webinars available.

ASCLD Train the Directors Latent Prints Webinar - Archival
ASCLD Train the Directors DNA Discipline Webinar - Archival
ASCLD Train the Directors Controlled Substance Webinar - Archival
ASCLD Train the Directors Digital Multimedia Evidence Webinar - Archival
ASCLD Train the Directors Toxicology Webinar - Archival
ASCLD Train the Directors Firearms Webinar - Archival
False-Positive/Negative Error Rates in Cartridge Case Comparisons
ASCLD Rapid DNA Webinar 1 – Archival
VersionASCLD Rapid DNA Webinar 2 – Archival
VersionASCLD Rapid DNA Webinar 3 – Archival
VersionASCLD Rapid DNA Webinar Series:

http://www.rapiddna.org
ion mobility mass spectrometer (ESI-IMS-MS) with an optimal solvent system. A total of four peer-reviewed manuscripts were published and more than 20 oral and poster presentations were presented at national and international scientific conferences.

**Error Rates for Latent Fingerprinting as a Function of Visual Complexity and Cognitive Difficulty**

The comparison of forensic fingerprint images for purposes of identification is a complex task that, despite advances in image processing, still requires highly trained human examiners to achieve adequate levels of performance. This NIJ-supported project by researchers at the University of California aims to determine more about the relationship between the measurable, visual dimensions of fingerprint pairs and the level of comparison difficulty for human examiners, both experts, and to a lesser degree, novices. These experiments showed that experts have substantial, albeit imperfect, subjective knowledge about the difficulty of print pairs. Experiments also showed that novices perform very poorly and showed no consistent pattern of feature use. Results indicate the plausibility of using objective fingerprint image metrics to predict expert performance and provide a subjective assessment of difficulty in fingerprint comparisons. While further research is necessary, this research provides strong support for the plausible but previously untested assumption that for expert fingerprint analysis, difficulty is in significant part a function of measurable, visual dimensions of print comparison pairs.