MAAFS 2019 - Questioned Documents Section Paper Presentation Abstracts

How the examination of documents has changed
Ronald Morris - RNM & AI*

The presentation will cover some of the changes that have occurred in our profession over the past 47 years. Topics such as training methods, study materials such as books and papers, examinations necessary to arrive at the correct conclusion, examination equipment, etc. The presentation is based on the presenter's personal experience from the beginning of his training in 1972 to the present day.

Bank Robbery Note File
Katelyn Bruno - Department of Justice*

The Bank Robbery Note File (BRNF) is a computerized database containing images and wording of demand notes used during robberies. Using the BRNF, bank robberies that occur in different parts of the country can be linked, even if the robberies occur many years apart. When a person writes a demand note, there is a tendency to use similar words and phrases each time he/she writes a new note. This phenomenon occurs even when notes are written several years apart. This presentation will highlight the functionality of the BRNF and several case examples.

Spectroscopic Analytical Tools for the Discrimination of Black Ink on Pharmaceutical Packaging: Tackling Counterfeits
Emily Haase, Mandy Ho, Luis Arroyo, PhD, and Tatiana Trejos, PhD - West Virginia University*

Counterfeit medicines can contain incorrect/expired ingredients, an incorrect quantity of correct ingredients, or altered/fake packaging. As a result, counterfeit pharmaceuticals represent a global public health issue (with 10% of the global pharmaceutical trade being counterfeit). There is a necessity for quick and cost-effective screening methods to identify counterfeit packaging and anti-counterfeit taggants (e.g., security inks, holograms). In this study, we are proposing the use of spectroscopic methods (LIBS and FTIR) as rapid technologies that have the capability to be used in the laboratory and as portable instruments onsite. Preliminary studies to discriminate between black ink barcodes of packaging have proven successful, with a discrimination rate of >90% using several statistical methods (n=15 different sources, 120 sampling areas). This is a promising first step to developing a rapid and robust analytical method for the identification of counterfeit pharmaceutical packaging.

Increasing TSA Counterfeit Detection Capability: A human performance approach
Don Morrison - DHS/Transportation Security Administration*

Single factor authentication in a manual inspection process within a high stress operational environment is not conducive to increasing counterfeit document detection. The work discussed here will report on 2 primary data collection efforts at the Transportation Security Administration: 1) Transportation Security Officer (TSO) response and feedback to practical training and operational transfer and 2) defining requirements for magnification level and usability. In the first effort TSA sought to gather evidence of TSO ability to adapt to increased use of magnification for manual document inspections. In the second effort TSA sought to gather performance data across 5 conditions to determine criteria for improved counterfeit detection.

Who Threatened The Sheriff? How Non-Contemporaneous Handwriting Standards Helped to Close the Case
Antoine Frazier - FBI*

A look at the history of an anonymous handwritten threat letter mailed in 2015 to a local sheriff. With no official suspect named, initially only the threat letter and envelope were submitted, and indented writing examinations and a search in the FBI's Threatening Communication Database were conducted. Later, a suspect was developed and undictated known handwriting standards prepared up to 25 years before the threat letter was written were submitted for examination.

Fraud Detection and Remediation (FDR)
Patrice Aasmo, Steven Sebestyen - American Association of Motor Vehicle Administrators*

AAMVA's Fraud Detection and Remediation (FDR) program is the industry's premier fraud training used by DMV's, Law Enforcement, Federal agencies, and corporations worldwide. With training modules and supplements that develop skills in the authentication of more than 12 document categories, Imposter Fraud, Internal Fraud, Fraud for Managers/Administrators and more, FDR is the most comprehensive anti-fraud toolbox available. The modularized eLearning suite is critical to anyone handling secure documents or sensitive transactions, and is applicable to all agency staff.

Rocketbook: The Endlessly Reusable Smart Notebook
Erica Murray - FBI*

Rocketbook is a one-of-a-kind notebook. Your handwritten notes are scanned, organized, and uploaded into a cloud service. Once saved, the pages, which look and feel like real paper, can then be wiped clean and reused endlessly. Can criminals use Rocketbook to literally wipe their evidence clean? This question and other challenges for document examiners with this type of notebook will be discussed.

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Friday, May 10th

Needles in a haystack: an intro to the scope of document examinations undertaken by the DHS/ICE/HSI Forensic Lab
Elaine Wooton* - DHS-ICE-HSI Forensic Laboratory

Much of the casework undertaken at the ICE Forensic Lab involves non-US identification documents and items submitted in support of immigration applications. For many items, the Lab has genuine items to compare to, but for others, there's limited or no information. In those cases, the forensic document examiners conduct various other exams. This presentation will describe the documents typically submitted and the types of examinations that have generated results that were useful to the case submitters.

Do Individuals Disguise Their Handwriting in a Same/Similar Manner Each Time?
Brandi Ragsdale* - FBI

Ten participants were asked to copy a short sentence in their natural and disguise handwriting. I met with each participant three times, with each time roughly a month apart, the time gap was to, hopefully, have participants forget their previous disguises. Each person produced a total of 12 samples each (six disguises and six naturals), yielding 120 samples total. My results, 80% of participants disguised in a similar/same manner each time.

Face Recognition: Matching Mugshots with Face Photos from ID Documents
Thirimachos Bourlai* - West Virginia University

The past decade has seen significant progress in the field of automated face recognition as is borne out by results of the 2006 Face Recognition Vendor Test (FRVT) organized by NIST [2]. For example, at a false accept rate (FAR) of 0.1%, the false reject rate (FRR) of the best performing face recognition system has decreased from 79% in 1993 to <1% in 2012. However, the problem of matching facial images that are severely degraded remains to be a challenge. Typical sources of image degradation include harsh ambient illumination conditions, low quality imaging devices, image compression, etc. Other types of degradation that have received very little attention in the face recognition literature include halftoning, dithering, and the presence of security watermarks on documents. These types of degradation are observed in face images that are digitally acquired from printed or faxed documents. Thus, successful face recognition in the presence of such low quality probe images is an open research issue. This presentation will start with discussing automated face recognition scenarios that involve comparing degraded facial photographs of subjects against their high-resolution counterparts. These scenarios are encountered in various situations (e.g. online purchases) where there is a need, for example, to match face images present in driver's licenses, refugee documents, and visas, against a live photo (captured by mobile devices or web cameras) for the purpose of establishing or verifying a subject's identity. The presentation will also discuss the development of techniques that can eliminate the noise present in degraded face images, and restore their quality before matching is applied.

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Ethics in Forensic Science
Robin Bowen*, West Virginia University

Ethics is an understudied, yet significant topic when it comes to the field of forensic science. Although people may think of ethics as a personal matter, it also includes professional and public issues. Proper ethical behavior is required by scientists making complex decisions about the interpretation of data, about which problems to pursue, and about when to conclude an experiment, all which help to improve the quality of forensic science.

Counterfeit Currency Trends
Julia Barker* - United States Secret Service

What's in your wallet? Do you know the security features in U.S. currency? This presentation will cover the evolution of security features in U.S. currency, as well as common methods for counterfeiting.

Forensic Document Examination - Rethinking Conclusion Language (an update on the OSAC conclusion standard)
Elaine Wooton* - DHS-ICE-HSI Forensic Laboratory

Handwriting examiners have been using pretty much the same conclusion language for decades. Based on outside forces, there's an effort to create a standard that will use very different language. A group within the OSAC (Organization of Scientific Area Committees) has been working on the standard for three years, and they expect the process will take another two years. The purpose of this presentation is to explain the process and to update MAAFS members.

A primer on digital forensics
Paul Ondercin* - Federal Bureau of Investigation - Pittsburgh Division

Today's digital devices, including printers, fax machines and multi-function devices, can contain a wealth of information, but it is often not easy to recover. During this talk we will discuss some the challenges faced when dealing with digital devices and media, and some best practices to follow when you encounter a device. We will also discuss ways to verify the integrity of digital documents and other files when they are extracted from a device and copied to other media for analysis.

Clear the Smoke (Group Discussion)
Kohdy Detwiler - Lesnevich & Detwiler*

Do you have burning QD questions leaving you in a haze of smokey uncertainty? Well now's the time to get some answers. Come prepared with a burning question you want answered and see how your colleagues respond. Topics can include anything of QD relevance (ie: methodologies, legal challenges, report wording, 9-point vs. 5-point conclusion scales, the meaning of "identification", how to prevent biasing information, collection of handwriting exemplars, quality & assurance etc).

Can I Get A Witness?! (Group Discussion)
Rachel Clay - FBI*

Have you testified in the last few years and have an interesting experience from that testimony to share with the group? Was there something you learned during that testimony process that we can all learn from? Unusual challenges, courtroom or presentation layout, media contact, unexpected legal challenges, humorous anecdotes, etc. Come prepared to share a brief 2-3 minute experience you've had recently in testifying.