# Virginia Department of Forensic Science
# Virginia Forensic Science Academy Alumni Association
# 2019 Annual Retraining Seminar
# Presentation Synopses

**Charlottesville Case Study – Double Homicide**

In this presentation students will learn how a double homicide / arson case was addressed over a two-week period working in conjunction with the City's Fire Department. Students will see how Detectives overcame obstacles such as multiple scenes, fire damage, the effects of suppression efforts, equipment issues, and several new (to the department) techniques used to locate and document the evidence. Students will also have an understanding of the history and crime that occurred. Photos will be utilized during the presentation to show the obstacles Detectives faced during the processing and investigation of the scene.

**HemoSpat – Bloodstain Pattern Analysis Software**

This presentation will update attendees about the Virginia State Police's new Bloodstain Pattern Analysis Processes. It will cover what changes they can expect and new questions they will be asked from the on-call agent. It will relate to why we are now incorporating Laser Scanning technology to create new presentable displays for court and the Bloodstain Report.

**Department of Forensic Science Update**

- Review of backlogs and case turnaround times for all sections
- Discussion of marijuana and industrial hemp legislation and testing
- Update on controlled substances case outsourcing
- Presentation of the amendment status of Regulations for the Approval of Field Tests for Detection of Drugs [6VAC40-30] to permit DFS to consider and approve presumptive mobile instruments as field tests
- Update on Breath Alcohol instruments and the online Breath Alcohol operator recertification training
- Update on the reporting of NIBIN investigative leads
- Presentation of new DNA Data Bank collection kits
- Update on PERK Tracking system implementation
- Update on PERK grant testing
- Update on Digital and Multi-media Evidence capabilities

**Disposal of Fetal Remains from Criminal Cases**

PRESENTATION DESCRIPTION:
Faced with the dilemma of how to properly dispose of fetal remains evidence from closed cases, Henrico Police researched possible options and were able to find a local resource to meet this need.

**DNA Updates**

- Physical Evidence Recovery Kit (PERK) Update
    - New Design
    - Bar Codes
    - Expiration Dates
    - Case Approach
- PERK Tracking Software (Includes OCME Perks)
- New Data Bank Sample Collectors
- Virginia Legislation Update
- DNA FAQs

**Harrisonburg Case Study – Double Homicide**

CASE DESCRIPTION:
A missing person case is gradually discovered to be a double homicide by using phone data, GPS data, purchase receipts, and Gmail account information to show proof of death and probable cover up.

LEARNING OBJECTIVES:

- Processing arson scenes
- Body recovery process from burial sites and deep woods
- Process for recovering call detail records, GPS data, Gmail account data, cell tower data
- Landfill recovery process
- Cadaver dog searches
- DFS Lab submissions for no body/no weapon cases

**Training Updates**

- New technique being taught regarding measuring vehicles back into a scene
- Organization of Scientific Area Committees Draft Standard
    - "Standard Practice for Crime Scene Investigator Training, Continuing Education, Professional Development, Certification, and Accreditation"
- International Association for Identification (IAI) Certification
- Update on the status of the Byrne Justice Assistance Grant (JAG) Program
- Virginia Forensic Science Academy waitlist

**Never Stop Searching: Innovative Tools and Strategies for Long Term Missing & Unidentified Cases**

PRESENTATION DESCRIPTION:
This session will showcase the expansive resources available through the National Center for Missing & Exploited Children (NCMEC) with a specific focus on long-term missing and unidentified child investigations. The session will highlight innovative ways to reinvigorate and resolve these investigations using analytics, the latest forensic technologies, such as investigative

genealogy and pollen analysis, alongside well-timed and strategic communications through social media.

LEARNING OBJECTIVES:

- Introduce useful method to systematically approach long term missing and unidentified child investigations that will bring a case up to current investigative standards and lead to resolutions.
- Hear about different analytical and innovative forensic resources that can provide critical leads in a long term investigation.
- Learn how NCMEC's expansive resources and multidiscipline staff can provide direct support to long term investigations.

**Legal Update**

Presentation and discussion of court decisions from the past year that directly affect the laws of Search & Seizure.

**Blacksburg Case Study – Missing Juvenile / Homicide**

CASE DESCRIPTION:
This presentation covers the investigation of the murder of a 13 year old girl lured away from home by two college students. She is murdered in a remote area and her body is later moved to a location in North Carolina. Evidence associated with the crime is scattered among multiple locations in three states. The case was investigated by the Blacksburg Police Department with the assistance of other localities, the Virginia State Police and federal assets through the FBI Child Abduction Rapid Deployment Team. The investigation resulted in arrests within 72 hours but evidence took months to fully process. For an act the offenders planned with the idea of it being the perfect crime, we were able to locate evidence through physical and digital searches that showed just how far we can go in the forensic field.

LEARNING OBJECTIVES:

- Know/understand forensic applications for early response in missing child cases (i.e.: crime scene photography, digital evidence recovery)
- Recognize the need to integrate Crime Scene Processing in Incident Response Planning (i.e.: daily briefings, task assignments and lead recording)
- Know/understand the importance of maintaining local chain of custody when operating an integrated investigative task force (i.e.: local officers assigned to investigative and evidence recovery teams)
- Know/recognize the evidentiary potential of digital communications devices and associated services (i.e.: cell phones, GPS navigation devices, vehicle insurance monitoring devices, etc.)
- Recognize the need to involve DFS personnel in prescreening large case submissions (i.e.: prescreening meetings with DFS section heads, early involvement of Commonwealth Attorney in evidence management)

- Know/understand the importance of integrating informational leads with physical/digital evidence recovery steps (i.e.: finding real names from chat ID's, locating crime scenes based on fragmentary information, other information fusion actions)
- Know/understand how thorough investigation proves a null hypothesis as well as an affirmative one (i.e.: no other suspect(s) committed the crime other than the defendants)