Presentation Abstracts for CBDIAI Fall 2021 Virtual Conference

**Technology as Applied to the Investigation and Reconstruction of a Vehicle Collision** **(Justin P. Schorr, Ph.D)** – The Newest Data Collection and Analysis Tools Speaker(s): Justin P. Schorr, Ph.D., Principal Collision Reconstruction Engineer Technology is expanding exponentially in all areas of our everyday lives from being able to “speak commands” to units that unlock our doors; create shopping lists; and actually order goods and services for us; to units that provide diagnostics to keep our house, office and vehicles properly serviced. The wave of new technology will not be dissipating anytime soon. Even in the world of forensic engineering, every year things progress. This seminar will provide an overview of some of the newer technologies that have been, and/or are just being used to help evaluate vehicular collisions and other failure events. Topics like 3D demonstrative evidence; Event Data Recorders, Telematics and Infotainment; the Epidemic of Distracted Driving; Autonomous and/or Driver Assisted Vehicles; Drones; 3D Laser Scanners; and the engineering analysis of surveillance video are just some of the topics covered in this fast moving, dynamic presentation. Real word case examples will provide a context of how this technology is properly applied so it can be accepted into evidence.

**Fundamentals of Negative Processing Testimony (Andrew Reitnauer) -** The focus of this class is to discuss the importance of presenting negative findings in latent print processing testimony, to include factors affecting latent prints and presentation methods to the trier of fact.

**The Unites States Treasury Check: Examination of Suspect Checks (Jennifer Strand) -** This presentation will give a general overview of the features of the U.S. Treasury check with a focus on the security features incorporated to deter counterfeiting. It will also describe the types of examinations conducted by laboratory personnel when assisting TIGTA special agents in their investigations of suspected stolen, altered and counterfeit checks.

**Supplemental** **Verification**s **– the ones that gave us heartburn (Meredith Coon)** – A discussion of complex prints or prints with less than 8 2nd-level features which were involved in a workflow involving multiple verifiers. A discussion of the guidelines of the policy enacted at Baltimore Police Department to involve a second blinded verification process on challenging latent prints.

**Case Study: The Capital Gazette (Gabrielle Toy)** - This case study will investigate the active assailant attack which occurred at the Capital Gazette in June 2018. There will be a review of the facts and evidence of the case along with the response from Anne Arundel County Police Department’s Crime Scene Unit and subsequent documentation and processing of the scene.

**Introduction to Facial Recognition and Morphological Analysis (Melissa Southern)** - Facial Recognition technology has been around for some time but has become increasingly available to law enforcement in the recent years. In addition to her role as the Forensic Photographer at CCBI, Melissa Southern has been a facial recognition examiner since 2015. She will introduce the group to some of the terms, techniques, advances, and limitations of facial recognition. She will discuss morphological analysis and other types of facial examinations. She will show real case examples with details of the enhancements and pose corrections that were needed during the examination and how she reached her conclusions.

**Enhancing Latent Prints Using Adobe Photoshop (Melissa Southern)** - We document latent prints in many ways, and sometimes that documentation can benefit from some enhancement. Melissa Southern will discuss and demonstrate the methods that she most commonly employs in her role as the Forensic Photographer at CCBI to enhance photographs of latent prints using Adobe Photoshop. These methods will include black and white conversion, tonal reversals, horizontal reversals, contrast and exposure adjustments, applying techniques to portions of images, etc. She will also discuss documentation of enhancements and limitations of the methods employed.

**Case Closed: A Case Study in Crime Scene Evidentiary Photography (Andrew Reitnauer)** - This session will review a Homicide Crime Scene from 2009 in New York City, where patience and the application of Evidentiary Photography techniques in the field led to the identification of the suspect.

**Tales from the Bench (Discussion of unusual know and latent prints, and strange AFIS behavior) (Meredith Coon)** - A palm with 8 deltas, a whorl with 1 delta, Photoshop on a lift card and prints that would only hit in AFIS after being encoded the wrong orientation.

**RECOVERing Latent Fingerprints from Fired Cartridge Casings and other Difficult Surfaces: Exploring a Revolutionary New Technique (Saad Khan)** - This lecture will begin by providing attendees with a background to a new novel chemical fuming process that has been shown to offer significant advantages over traditional latent fingermark enhancement processes across a range of metallic substrates (copper, brass, stainless steel, etc). Described by the UK Ministry of Defense as ‘revolutionary’ and ‘ground-breaking’, the unique ability of this process to recover fingerprint ridge patterns when none of the latent fingermark residue actually remains on the substrate (i.e. the surface has been wiped clean, washed, submerged in water, heated, or a combination of these) will be explored and practical examples illustrated and discussed.

**Publication Trends in Forensic Science Research: Friction Ridge Discipline (Kyle Tom)** - There has been considerable progress in latent fingerprint research.  The number of latent fingerprint publications nearly doubled from 2005-2009 to 2010-2014. This presentation will demonstrate relevant trends by measuring publications, top funding agencies, and prolific authors in the field.  A bibliometric review method versus an informal review method by subject matter experts will be compared and contrasted.

**Importance of Scene Communication: A Case Study (Kelly Ayers)** Communication comes in a variety of modes and must be initiated among all parties critical to the crime scene processing effort. This presentation will walk you through a domestic homicide case and its various communication elements, any of which could have affected the approach to the scene. Since the topics in this presentation are case specific, it will be followed by an open discussion of shared experiences.

\*Warning: Graphic Photos

**C.S.I. Checklist App – Don’t Miss A Step (Thomas P. Mauriello)** - C.S.I. Checklist™ app creator, Tom Mauriello, will present to participants the use of this most valuable and first-of-its-kind tool that was launched just this year. C.S.I. Checklist™ provides the guidance needed for all first responder criminal investigation professionals real-time in the field. It represents a quick reference guide in a checklist format, always with you on your mobile device. This checklist tool lists all the procedures essential to conduct a successful investigation.

**Public Speaking for Criminal Justice Professionals** **(Thomas P. Mauriello)** - Whether you speak to one or one-thousand; are comfortable or terrified with public speaking; whether you have been speaking for many years or just a beginner; "Public Speaking for Criminal Justice Professionals" will improve your presentation skills through strategic planning, preparation, and performance. Techniques for speaking in all settings with confidence, choosing the right audio-visual technologies, and dealing with questions from an audience, are explained clearly to help the participant develop their presentation skills. Knowing your subject does NOT guarantee a successfully presentation. Aristotle, who many recognize as the Father of Public Speaking and Forensic Debate said, “It is not enough to know what to say, one must know how to say it.” This lecture focuses on technique and the recognition that “a speech is composed of three factors — the speaker, the subject and the listener — and it is to the last of these that its purpose is related. So reduce the fear, embarrassment and agony of public speaking; or increase your repertoire of oral communications skills in the classroom, town hall, courtroom or conference room. This training experience guarantees that you will gain a wealth of knowledge that will “make a difference.”