

Thursday

Scientific Rigor: Image Analysis

Moderator:

Kathryn C. Seigfried-Spellar, PhD
Purdue University
West Lafayette, IN

Co-Moderator:

J. Levi White, MS
Defense Forensic Science Center
Forest Park, GA

8:30 a.m. – 8:35 a.m.		Welcome
8:35 a.m. – 8:55 a.m.	C1	The Validation of Imagery Enhancement Tools <i>James Zjalic, MSc*; Jake Harrison, BSc</i>
8:55 a.m. – 9:15 a.m.	C2	Score-Based Likelihood Ratios for Camera Device Identification Using Cameras of the Same Brand for the Alternative Device Population <i>Stephanie Reinders, PhD*; Danica Ommen, PhD; Alicia Carriquiry, PhD</i>
9:15 a.m. – 9:35 a.m.	C3	The Influence of Compression on Forensic Deepfake Detection <i>Meike Kombrink, MFS; Zeno Geradts, PhD*</i>
9:35 a.m. – 9:55 a.m.	C4	The Performance of Automated Age Assessment Methods in Images of Subadults <i>Petra Urbanova, PhD*; Pavel Bednar</i>
9:55 a.m. – 10:15 a.m.	C5	Methods for Evaluating and Optimizing Automated Detection/Classification Systems in the Forensic Environment <i>Jeff Smith, MS*</i>
10:15 a.m. – 10:30 a.m.		BREAK

Promoting Justice: Audio & Video Analysis

10:30 a.m. – 10:50 a.m.	C6	A Quantitative Analysis of Video Software Frame Extraction Methods for Use in Forensic Science <i>Gregory Wales, MSc*; Christopher Lemon, BA; Gregory Savage, BSc; Stephen Wells, BA; Jesus Valenzuela, BSc</i>
10:50 a.m. – 11:10 a.m.	C7	Can WhatsApp Transmitted Audio Recordings Be Authenticated? <i>Gretchel Lomboy, MSc*; Cole Whitecotton, MSc; James Zjalic, MSc</i>
11:10 a.m. – 11:30 a.m.	C8	The Use of Electric Network Frequency Presence Due to Rolling Shutter Effect in Video Material for Time Estimation <i>Zeno Geradts, PhD*; Guus Frijters, MSc</i>
11:30 a.m. – 11:50 a.m.	C9	A Review of Axon Citizen From a Forensic Perspective as a Tool for Law Enforcement Investigations <i>Jesus Valenzuela, BSc*; Gretchel Lomboy, MSc; Catalin Grigoras, PhD; Jason Latham, BA</i>
11:50 a.m. – 1:00 p.m.		BREAK

Poster Session

- 11:30 a.m. - 1:00 p.m. **C10** **Constructing Digital Video Recorder (DVR) Datasets for Multimedia Forensics Validation**
*Rayna Mock, BS**; *Josh Brunty, MS*
- C11** **Likelihood Ratios for Categorical Evidence With Applications in Digital Evidence**
*Rachel Longjohn, MS**; *Padhraic Smyth, PhD*; *Hal Stern, PhD*

A Modern Forensic Science World: Cyber Challenges

- 1:00 p.m. – 1:20 p.m. **C12** **Skills for Success: Advancing Pattern of Life Analysis in Cyber Forensics Using a Multidimensional Approach**
*Mohammad Meraj Mirza, MS**; *Umit Karabiyik, PhD*
- 1:20 p.m. – 1:40 p.m. **C13** **Virtualization, Self-Hosting, and File/Storage Systems—Recent Technological Advances and the Search for Digital Evidence**
*Jason Paroff, JD**
- 1:40 p.m. – 2:00 p.m. **C14** **Keeping Forensic Tools Sharp: A Case Study of Updating Bulk_Extractor 1.6 to 2.0**
*Simson Garfinkel, PhD**
- 2:00 p.m. – 2:20 p.m. **C15** **A Case Study of Virtual Programmable Logic Controllers (PLC) Forensic Framework on Investigating Control Logic Attacks in a Belt Conveyor System**
*Syed Qasim, BS**; *Irfan Ahmed, PhD*
- 2:20 p.m. – 2:40 p.m. **C16** **Exploiting the Post-Attendee URL Feature in Zoom Webinar to Distribute Malware: Implications for Digital Forensics**
*Austin Cauley, BS**; *Mark McCoy, EdD*
- 2:40 p.m. – 3:10 p.m. **C17** **Revealing the Invisible: Investigating Evidence of Automated and Behind-the-Scenes Computer Activity**
*Josiah Dykstra, PhD**
- 3:10 p.m. – 3:20 p.m. **BREAK**

Ensuring Excellence: Policy & Procedures

- 3:20 p.m. – 3:40 p.m. **C18** **The Decontamination of Drug-Contaminated Mobile Devices Using VTO Labs' Decontamination Kits**
*Arcelia Cohen**; *Josh Brunty, MS*; *Lauren Richards-Waugh, PhD*
- 3:40 p.m. – 4:00 p.m. **C19** **Crowdsourcing Forensics: The Digital Artifact Catalog**
*Lam Nguyen, MS**; *Eoghan Casey, PhD*
- 4:00 p.m. – 4:20 p.m. **C20** **Standards Development Activities in Digital and Multimedia Forensic Science**
*Tracy Walraven, MFS**
- 4:20 p.m. – 4:40 p.m. **C21** **Key Takeaways From a National Institute of Standards and Technology (NIST) Digital Forensic Scientific Foundations Study**
*James Lyle, PhD**; *Barbara Guttman, BA*
- 4:40 p.m. – 5:00 p.m. **C22** **What Is the Computer Forensic Tools and Techniques (CFTT) Catalog?**
*Jenise Reyes-Rodriguez, BS**; *Richard Ayers, MS*

Friday

Integrity: (Not So) Dead-Box Forensics

Moderator:

Kathryn C. Seigfried-Spellar, PhD
Purdue University
West Lafayette, IN

Co-Moderator:

J. Levi White, MS
Defense Forensic Science Center
Forest Park, GA

- 8:30 a.m. – 8:35 a.m. **Welcome**
- 8:35 a.m. – 8:55 a.m. **C23 A Forensic Analysis of Microsoft® Teams**
Herschel Bowling, MS;* *Kathryn Seigfried-Spellar, PhD;* *Umit Karabiyik, PhD;* *Marcus Rogers, PhD*
- 8:55 a.m. – 9:15 a.m. **C24 The Correlation of Garbage Collection and Object Recovery in Userland Forensic Analysis**
Sncha Sudhakaran, MTech;* *Aisha Ali-Gombe, PhD;* *Golden G. Richard III, PhD*
- 9:15 a.m. – 9:35 a.m. **C25 The Forensic Use of Sparse Files**
Mark Guido, MS;* *Justin Grover, MS*
- 9:35 a.m. – 9:55 a.m. **C26 Google® Chromebook™ and Takeout™ Forensics: A Comparative Analysis of Data Recovered From a Logical Acquisition of a Chromebook™ as Compared to Data From a Google® Takeout**
*Jessica Hyde, MS**
- 9:55 a.m. - 10:10 a.m. **C27 The Examination of Questioned Digital Documents Customized From a Database**
Oluwasola Mary Adedayo, PhD;* *Martin S. Olivier, PhD*
- 10:10 a.m. – 10:20 a.m. **BREAK**

Connectivity: Mobile Device Forensics

- 10:20 a.m. – 10:40 a.m. **C28 A Comparison of Apple® iPhone® Extraction Methods for Multimedia**
*Jeff Smith, MS**
- 10:40 a.m. – 11:00 a.m. **C29 CoreDuet, KnowledgeC, and InteractionC: Just How Much Does My iPhone® Really Need to Know About Me?**
*Joseph Levi White, MS**
- 11:00 a.m. – 11:20 a.m. **C30 SQLite Data Recovery**
Richard Ayers, MS;* *Jenise Reyes, BS*
- 11:20 a.m. – 11:40 a.m. **C31 A Forensic Analysis of the Viber Instant Messaging Application on iPhone® Devices**
Akshata Thole, BTech;* *Nina Matulis, BS;* *Marcus Rogers, PhD*
- 11:40 a.m. – 12:00 p.m. **C32 Forensic Analysis on Cryptocurrency Wallet Apps**
Chen Shi, MS;* *Yong Guan, PhD*
- 12:00 p.m. - 1:00 p.m. **BREAK**

Poster Session

- 11:30 a.m. - 1:00 p.m. **C33 Memory Forensic Analysis for Programmable Logic Controllers (PLCs)**
Muhammad Rais, MS;* *Irfan Ahmed, PhD*

Multidisciplinary Session: Digital & Multimedia Sciences and Psychiatry & Behavioral Science

Moderator:

Jessica Morel, DO
Fayetteville, NC

Co-Moderator:

Kathryn C. Seigfried-Spellar, PhD
Purdue University
West Lafayette, IN

1:00 p.m. – 1:05 p.m.		Welcome
1:05 p.m. – 2:00 p.m.	I23	A Psychopath in the House: How Digital Media Is Used to Exploit Even the Safest Homes <i>Jessica Morel, DO*</i> ; <i>Vivian Shnaidman, MD</i> ; <i>Anna-Renee Labak, NA</i>
2:00 p.m. – 2:30 p.m.	C34	The Analysis of a Digital Sexual Diary to Aid in a Child Sexual Assault Investigation: A Case Study <i>Joseph Levi White, MS*</i>
2:30 p.m. – 3:00 p.m.	I24	Virtual Reality as a Treatment Medium for Sex Offenders <i>Jacob Pourat, MD*</i>
3:00 p.m. – 3:30 p.m.	I25	From Online Personas to Mass Murderers: The Incel Ideology and the Struggles of Mental Health <i>Eva Ip, BS*</i>
3:30 p.m. – 4:15 p.m.	C35	Sextortion: Understanding Perpetrator Behavior and the Digital Evidence Available to Investigators <i>Martin Novak, MPA*</i> ; <i>Danielle Crimmins, MS</i> ; <i>Kathryn Seigfried-Spellar, PhD</i>
4:15 p.m. – 4:45 p.m.	I26	3D Interactive Lineups Improve Eyewitness ID Accuracy <i>Heather Flowe, PhD*</i>