

Thursday

Scientific Rigor: Image Analysis

Moderator:

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

Co-Moderator:

J. Levi White, PhD
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

Moderator:

Thomas J. Moore, MSc
Army CID
Fort Benning, GA

Co-Moderator:

Reeta R. Gupta, PhD
Central Forensic Science Lab
Document Division
New Delhi, India

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10:50 a.m. – 11:10 a.m.	C7	WITHDRAWN

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*</i> ; <i>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*</i> ; <i>Gretchel Lomboy, MSc</i> ; <i>Catalin Grigoras, PhD</i> ; <i>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 <i>Rayna Mock, BS*</i> ; <i>Josh Brunty, MS</i>
	C11	Likelihood Ratios for Categorical Evidence With Applications in Digital Evidence <i>Rachel Longjohn, MS*</i> ; <i>Padhraic Smyth, PhD</i> ; <i>Hal Stern, PhD</i>

A Modern Forensic Science World: Cyber Challenges

Moderator:
Patrick A. Eller, MS
Metadata Forensics LLC
Richmond, VA 23219

Co-Moderator:
Kevin E. Fairbanks, PhD
MITRE
Columbia, MD

1:00 p.m. – 1:20 p.m.	C12	Skills for Success: Advancing Pattern of Life Analysis in Cyber Forensics Using a Multidimensional Approach <i>Mohammad Meraj Mirza, MS*</i> ; <i>Umit Karabiyik, PhD</i>
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 <i>Jason Paroff, JD*</i>
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 <i>Simson Garfinkel, PhD*</i>
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 <i>Syed Qasim, BS*</i> ; <i>Irfan Ahmed, PhD</i>
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 <i>Austin Cauley, BS*</i> ; <i>Mark McCoy, EdD</i>
2:40 p.m. – 3:10 p.m.	C17	Revealing the Invisible: Investigating Evidence of Automated and Behind-the-Scenes Computer Activity <i>Josiah Dykstra, PhD*</i>
3:10 p.m. – 3:20 p.m.		BREAK

Ensuring Excellence: Policy & Procedures

Moderator:

Jason M. Paroff, JD
Epiq
New York, NY

Co-Moderator:

Yong Guan, PhD
Iowa State University
Ames, IA

- 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, PhD
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

Moderator:

Gary P. Daniel, DBA
Troy University
Troy, AL

Co-Moderator:

Christina A. Malone, MSFS
Defense Forensic Science Center
Forest Park, GA

- 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, PhD**
- 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. **I22** **A Psychopath in the House: How Digital Media Is Used to Exploit Even the Safest Homes**
Jessica Morel, DO; Vivian Shnaidman, MD; Anna-Renee Labak, NA*
- 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**
*Joseph Levi White, PhD**
- 2:30 p.m. – 3:00 p.m. **I23** **Virtual Reality as a Treatment Medium for Sex Offenders**
*Jacob Pourat, MD**
- 3:00 p.m. – 3:30 p.m. **I24** **From Online Personas to Mass Murderers: The Incel Ideology and the Struggles of Mental Health**
*Eva Ip, BS**

- 3:30 p.m. – 4:15 p.m. **C35** **Sextortion: Understanding Perpetrator Behavior and the Digital Evidence Available to Investigators**
*Martin Novak, MPA**; *Danielle Crimmins, MS*; *Kathryn Seigfried-Spellar, PhD*
- 4:15 p.m. – 4:45 p.m. **I25** **3D Interactive Lineups Improve Eyewitness ID Accuracy**
*Heather Flowe, PhD**