DIGITAL & MULTIMEDIA SCIENCES

Thursday

JUST for Starters: Talking About The Forensic Analysis of Mobile Devices

Moderator: Patrick Siewert, BS

8:30 AM − 8:50 AM	**C1**	**A Forensic Analysis of Veo Micromobility Mobile Application on iOS® Devices** *Nina Matulis, MS*; Umit Karabiyik, PhD; Marcus Rogers, PhD; Baijian Yang*
8:50 AM − 9:10 AM	**C2**	**A Forensic Analysis on Major Android™ Cloud SDKs** *Chen Shi, PhD*; Yong Guan, PhD*
9:10 AM − 9:30 AM	**C3**	**Geodata Sleuthing: Geo-Contextualized Digital Footprints Analysis to Empower Cyber Forensic Investigations and Life Pattern Analysis** *Mohammad Meraj Mirza, PhD*; Umit Karabiyik, PhD*
9:30 AM − 9:50 AM	**C4**	**The Development, Testing, and Comparison of Decontamination Methods for Drugs and Ignitable Liquids From Mobile Devices** *Christopher Michael Haser, BS*; Kimberly S. Kunkler, PhD; Lauren L. Richards-Waugh, PhD*
9:50 AM − 10:00 AM		**BREAK**

It JUST Goes to Show . . . Or Does It?

Moderator: Vir Phoha, PhD

10:00 AM − 10:20 AM	**C5**	**Using File Structure to Authenticate Video Files Uploaded to Cloud Storage Via iOS® Mobile Web Browser** *Brandon Epstein, MS*; Bertram Lyons, MA**
10:20 AM − 10:40 AM	**C6**	**An Overview of Deepfake Technologies: From Creation to Detection in Forensics** *Luca Guarnera, PhD*; Sebastiano Battiato, PhD*
10:40 AM − 11:00 AM	**C7**	**The Application of Artificial Intelligence in Forensic Science AI4Forensics From Deepfakes to Risks and Challenges** *Zeno J. Geradts, PhD**
11:00 AM − 11:20 AM	**C8**	**Searching for Hidden Data in Multimedia Files With UNCOVER** *Zeno J. Geradts, PhD**
11:20 AM − 1:00 PM		**BREAK**

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JUST in Time: Verifying Multimedia Evidence

Moderator: Umit Karabiyik, PhD

1:00 PM − 1:20 PM	**C9**	**The Accuracy of Time Stamps on Surveillance Recording Devices** *Benjamin Tyler Molnar, BSME*; Toby Terpstra; Tilo Voitel* *(FSF Emerging Forensic Scientist Award Oral Presentation)*
1:20 PM − 1:40 PM	**C10**	**Forensic Video Analysis of an Underwater Volcanic Explosion That Injured Multiple Tour Boat Passengers** *Parris Ward, BA, JD**
1:40 PM − 2:00 PM	**C11**	**An MDCT Analysis of Copy-Paste Fragments Without Query in Digital Forensic Audio** *Catalin Grigoras, PhD*; Cole Whitecotton, MSc*
2:00 PM − 2:20 PM		**BREAK**
2:20 PM − 2:40 PM	**C12**	**Navigating the SILK Road: An Examination of WeChat SILK Audio Files** *Andrew N. Crouse, BA*; Douglas S. Lacey, MS, BS*; Brian Smith, BS*; In Yong Shin, BE;* *Louis Chan, BBA; Ricky W.K. Lam, BS*
2:40 PM − 3:00 PM	**C13**	**Validation of Image Stream Hashing: A Forensic Method for Content Verification** *Gregory S. Wales, DFS**
3:00 PM − 3:30 PM		**BREAK**

JUSTice For All: Joining Digital & Multimedia With Jurisprudence

Moderator: Grace Rubio, BS

3:30 PM − 3:50 PM	**C14**	**Modeling Influences on the Understanding of Digital and Multimedia Evidence (DME) by Attorneys and Digital Forensic Examiners (DFE) Within the United States Criminal Justice System** *Joseph Levi White, PhD**
3:50 PM − 4:10 PM	**C15**	**Uncovering Ethical and Legal Issues Associated With the Rising Trend of Using Chatbots—Crime Scene Investigation and Scientific Publishing** *Ankita Guleria, MSc*; Rakesh Meena, MSc; Nandini Chitara, MSc; Vishal Sharma, PhD;* *Kewal Krishan, PhD*
4:10 PM − 4:30 PM	**C16**	**The Case of the Distracted Pedestrian: The Importance of Experts in Digital Forensics** *Jason R. Lewis, PhD**
4:30 PM − 5:00 PM	**C17**	**The Potential for Impacting Unsolved Case Outcomes With the Inclusion of Digital and Multimedia Evidence (DME) Forensics Into Cold Case Units** *Joseph Levi White, PhD**

DIGITAL & MULTIMEDIA SCIENCES

Friday

JUST To Let You Know: Ensuring Quality and JUSTice in Digital & Multimedia Sciences

Moderator: Tanveer Zia, PhD

| 9:00 AM − 9:20 AM | **C18** | **A Study of Digital Evidence (DE) Processing Efficiencies in Publicly Funded Crime Laboratories** |
| | | *Christopher L. Williams, BS*; Peyton Attaway, MPH; Nichole D. Bynum, MS; Crystal Daye, MPA; Hope M. Smiley-McDonald, PhD; John H. Grassel, MS* |

| 9:20 AM − 9:40 AM | **C19** | **Standards Development Activities in Digital and Multimedia Forensic Science** |
| | | *Tracy Walraven, MFS** |

| 9:40 AM – 10:00 AM | **C20** | **What's VITAL When It Comes to Digital/Multimedia Standards? An Update From the OSAC Video/Imaging Technology & Analysis (VITAL) Subcommittee** |
| | | *Christina A. Malone, MSFS*; Marla E. Carroll, BS*; Neil F. Johnson, PhD*; Melissa Kimbrell; Michelle Montonera, MS* |

| 10:00 AM – 10:10 AM | | **BREAK** |

JUST The Facts: Computer Forensic Investigations

Moderator: Alex Nelson, PhD

| 10:10 AM – 10:30 AM | **C21** | **The Integration of Forensic Science and Artificial Intelligence: The Implications in Crime Scene Investigations** |
| | | *Nandini Chitara, MSc*; Damini Siwan, MSc*; Ankita Guleria, MSc; Rakesh Meena, MSc; Vishal Sharma, PhD; Kewal Krishan, PhD* |

| 10:30 AM – 10:50 AM | **C22** | **WITHDRAWN** |

| 10:50 AM – 11:10 AM | **C23** | **Live Memory Acquisition for STM32-Based Microcontrollers With ARM TrustZone** |
| | | *Karley Waguespack, BS*; Aisha Ali-Gombe, PhD* |

| 11:10 AM – 11:30 AM | **C24** | **Live Memory Forensics of Field Devices in Industrial Control Systems** |
| | | *Irfan Ahmed** |

| 11:30 AM – 1:00 PM | | **BREAK** |

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This JUST In: Tools and Their Developments

Moderator: Christina Malone, MSFS

1:00 PM − 1:20 PM	**C25**	**Provenience-Based Cross-Verification of Digital Forensic Artifacts Applied to NTFS** *Alex J. Nelson, PhD*; Sheldon L. Douglas*
1:20 PM − 1:40 PM	**C26**	**Testing File Carving Tools** *James R. Lyle, MS, PhD*; Barbara Guttman, BA*
1:40 PM − 2:00 PM	**C27**	**The Latest Developments in Sailfish OS Forensics** *Krassimir T. Tzvetanov, MS**
2:00 PM − 2:20 PM	**C28**	**Toward Personal Internet-of-Things User Attribution During Forensic Investigations** *Shinelle Hutchinson*; Umit Karabiyik, PhD*
2:20 PM − 2:30 PM		**BREAK**

JUST Think: New and Novel Techniques in Multimedia Forensics

Moderator: Jason Latham, BA

2:30 PM − 2:50 PM	**C29**	**Deep Audio Analyzer: A Framework to Industrialize the Research on Audio Forensics** *Valerio Francesco Puglisi, MS, BS*; Sebastiano Battiato, PhD; Oliver Giudice, PhD*
2:50 PM − 3:10 PM	**C30**	**The Impact of Multi-Camera Smart Phones on Source Camera Identification** *Stephanie Reinders, PhD*; Danica M. Ommen, PhD; Alicia Laura Carriquiry, PhD*
3:10 PM − 3:30 PM	**C31**	**Research and Development of the Next Generation Digital Forensic Image Transmission Tool** *Kevin Fairbanks, PhD*; Mark Guido, MS*
3:30 PM − 3:50 PM	**C32**	**Poses and Grimaces: Challenges for Automated Face Identification Algorithms?** *Petra Urbanova, PhD*; Dominik Cerny, MSc; Tomas Goldmann, MSc*