DIGITAL & MULTIMEDIA SCIENCES

Wednesday

Poster Session

11:30 am – 1:00 pm	**C1**	**A Digital Forensics Occupation and Competency-Based Taxonomy: A Prerequisite for the Professionalization of Digital Forensics** Jason Jordaan, PhD*
11:30 am – 1:00 pm	**C2**	**A Human-in-the-Loop Architecture for the Scalpel3 File Carver** Lauren Bristol, MS*; Golden G. Richard, PhD
11:30 am – 1:00 pm	**C3**	**An Experimental Validation of Timing Advance Accuracy for Cellular Forensic Investigations** Ivica Kostanic, PhD*; Josko Zec, PhD
11:30 am – 1:00 pm	**C4**	**Facial Identification as a Certified Discipline: Where We Stand Today** Lora Sims*; Steven L. Johnson, APM; Richard W. Vorder Bruegge, PhD
11:30 am – 1:00 pm	**C5**	**Turning the Tables With Tech: Scambaiting Tools and Their Applications** Doetri Ghosh*; Tatiana Ringenberg, PhD
11:30 am – 1:00 pm	**C6**	**Investigating Metadata Persistence and Recovery Constraints in MongoDB** Hardi Matholia, BEng*; Oluwasola Mary Adedayo, PhD

Thursday

Poster Session

11:30 am – 1:00 pm	**C7**	**AI in Digital Forensics: Considerations for a Reduction of Hallucinogenic Results in AI-Integrated Forensic Environments** Zhenee Brown, MS*; Sneha Sudhakaran, PhD
11:30 am – 1:00 pm	**C8**	**Automated Evidence Triage Via Coherence-Optimized Topic Modeling and LLM Summarization** Victor Olesen, PhD*; Vrund Patel, MS
11:30 am – 1:00 pm	**C9**	**Blast From the Past! Assessing the Value of Optical Media Storage in Forensics and Law Enforcement** Tanya Fitch, BA*; Jesus R. Valenzuela, MS; Bertram Lyons, MA
11:30 am – 1:00 pm	**C10**	**D3 (Decipher, Detect, Defend) -AI : Unmask Digital Fraud** Shivam Chourasiya, MSc*; Tanisha Singh, MSc; Varsha Rani Patel, MScFS
11:30 am – 1:00 pm	**C11**	**Memory Laundering: The AI-Assisted Anti-Forensics Threat and the Evasion of Memory Analysis Hiding in Plain Sight** Chiamaka J. Femi-Adeyinka, MSc*

*Presenting Author

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Thursday—Session I

The Force Awakens: Emerging Challenges in Multimedia Forensics

Moderator: Shuangteng Zhang, PhD Co-Moderator: Nicole Jones, MS

8:30 am – 8:50 am	**C13**	**How Do Automatic Transcription Errors Affect Authorship Verification?** Elizabeth Smith, PhD*; Cristina Aggazzotti, PhD; Matthew Wiesner, PhD; Nicholas Andrews, PhD
8:50 am – 9:10 am	**C14**	**Can Cloaked Voices Be Decloaked? A Forensic and Security Evaluation of Audio Anti-Cloning Countermeasures** Lucky M. Onyekwelu Udoka, MSc*; Yong Guan, PhD *(FSF Emerging Forensic Scientist Award Oral Presentation)*
9:10 am – 9:30 am	**C15**	**Leveraging Heart Rate for Deepfake Detection: The Robustness of rPPG-Based Heart Rate Estimation Under Realistic Forensic Video Recording and Processing Conditions** Stijn van Lierop, MSc*; Luna I. van Rijswijk, BSc; Zeno J. Geradts, PhD*
9:30 am – 9:50 am	**C16**	**Evaluating the Use of Agentic Artificial Intelligence for Media Authentication Results Interpretation** Brandon Epstein, MS*; Bertram Lyons, MA*
9:50 am – 10:05 am	**C37**	**Biometric Bypass: 3D-Printed Fingerprint Spoofs for Smart Phone Authentication in Forensic Data Access** Jolijn Jongenelen, MSc; Zeno Geradts, PhD*

These Aren't the Pixels You're Looking For: Image Authentication

Moderator: Vinicius Lima, PhD Co-Moderator: Lucky Onyekwelu-Udoka, PhD

10:05 am – 10:25 am	**C17**	**A Preliminary Validation of a RAW-to-Ground-Truth Conversion Workflow for Forensic Image Integrity Analysis** Gregory S. Wales, DFS*; Susan C. Kost, MSc*
10:25 am – 10:45 am	**C18**	**Beyond Pixel Analysis: Toward a Layered Examination Guide for AI-Generated and AI-Processed Images in Forensic Casework** Filipe Augusto da Luz Lemos, PhD*; Rubens Alexandre de Faria, PhD
10:45 am – 11:05 am	**C19**	**Seeing Is No Longer Believing: Explainability in the Next Generation of Generated Image Detection** Vaishnavi Mahindra, MSc*; Marcus K. Rogers, PhD *(FSF Emerging Forensic Scientist Award Oral Presentation)*
11:05 am – 11:25 am	**C20**	**Turning an Artifact Into an Asset: Image Forgery Localization Via the Adobe Hidden Pattern** Marco Fontani, PhD*; Gabriele Guarnieri, PhD; Massimo Iuliani, PhD; Martino Jerian, MSc
11:25 am – 1:00 pm		**BREAK**

DIGITAL & MULTIMEDIA SCIENCES

Multidisciplinary Session: Criminalistics, Digital & Multimedia Sciences, Engineering & Applied Sciences, Psychiatry & Behavioral Science, and Toxicology

To Boldly Go: Navigating New Frontiers at the Intersection of AI and Forensic Science—Part I

Moderator: Jason Lewis, PhD — Co-Moderator: Ann Geisendorfer, JD

1:00 pm – 1:20 pm	**C21**	**Benchmarking AI Detectors on Altered Images: What Works, What Doesn't, and What We're Still Learning** Stephanie Reinders, PhD*; Gautham Venkatasubramanian, MSc
1:20 pm – 1:40 pm	**C22**	**The Role of Artificial Intelligence-Based Machine Learning Algorithms in Automated Forensic Facial Approximation: A Scientific Stride** Jagmahender Singh Sehrawat, PhD*
1:40 pm – 2:00 pm	**C23**	**Tracing Meaning Across the Universe: A Forensic Semiotic Evaluation of Context Loss and AI Overinterpretation** Ivan Jerković, PhD*; Željana Bašić, PhD
2:00 pm – 2:20 pm	**B124**	**A Quick Differentiation of Similar Paint Colors Using a Palm-Sized Spectrometry Device for Field and Lab Applications: An Emerging Technology Via Machine Learning for an AI Direction** John Z. Wang, PhD*; Long Bing, PhD
2:20 pm – 2:40 pm	**B125**	**AI-Assisted Rare Sperm Cell Identification for Direct Single Cell aSTR Analysis From Late-Reported Post-Coital Samples** Morgan S. Peters-Grim, PhD*; Erik Baumann, BS; DeAna Dziak-Paustian, PhD; Jack Ballantyne, PhD; Erin Hanson, PhD
2:40 pm – 2:50 pm		**BREAK**

To Boldly Go: Navigating New Frontiers at the Intersection of AI and Forensic Science—Part II

Moderator: David Notowitz, BS — Co-Moderator: E. Allyn Smith, PhD

2:50 pm – 3:10 pm	**L52**	**Retro-BAC: An R Shiny Application for Retrograde Extrapolation Alcohol Calculation With AI Chatbot** Carlos Espinoza Cruz, PharmD*
3:10 pm – 3:30 pm	**L53**	**Using Machine Learning to Estimate How Designer Benzodiazepines Behave—From Structure Alone** Joel R. Fry, MS*; Dominica Peri, MS; Yomna Elgamal, MS; Guillermo Garza, MS; Marisol Castaneto, PhD; Anthony Rios, PhD; Min Wang, PhD
3:30 pm – 4:00 pm	**D14**	**Artificially Generated Handwriting in Forensic Comparisons** Gautham Venkatasubramanian, MSc*; Alicia L. Carriquiry, PhD
4:00 pm – 5:00 pm	**J13**	**Artificial Intelligence-Associated Psychosis: Clinical and Forensic Implications of Emerging Human–AI Interactions** Amanda Grace Hecker, MD*; Christopher Sterwald, MD; Rebecca Stenersen, MD; Jason Banarsee, MD; Luan Garcia, MD

*Presenting Author

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Friday

The Standards Strike Back: Consistency in Digital and Multimedia Sciences

Moderator: Joseph Remy, JD — Co-Moderator: Nicole Odom, MSFS

8:30 am – 8:50 am	**C24**	**Standards Development Activities in Digital and Multimedia Forensic Science** Brandon Epstein, MS*; Lora Sims*
8:50 am – 9:10 am	**C25**	**Global Standards, Universal Quality: SWGDE's Quality Framework for Digital Evidence** Nicole S. Jones, MS*
9:10 am – 9:30 am	**C26**	**Leveraging Analysis of Competing Hypotheses for Mobile Device Forensics** Aisha Ali-Gombe, PhD*
9:30 am – 9:50 am	**C27**	**AI-Enabled CSEA and Digital Forensic Risk Assessment: An Empirical Mapping of Online Discussions to Existing Frameworks** Sonali Tyagi, PhD*; Kate Seigfried-Spellar, PhD*; Marcus K. Rogers, PhD*
9:50 am – 10:05 am		**BREAK**

May the Prompt Be With You: LLMs in Forensic Practice

Moderator: Julie Ryan, DSc — Co-Moderator: Graciela Rubio, BS

10:05 am – 10:25 am	**C28**	**Beyond the Turing Test: Statistical Classification of LLM-Generated Text in Social Media Intercepts** Vaishnavi Mahindra, MSc*; Marcus K. Rogers, PhD *(FSF Emerging Forensic Scientist Award Oral Presentation)*
10:25 am – 10:45 am	**C29**	**Decoding the Dark Lexicon: Large Language Models for Drug-Related Euphemism Triage** Xiao Hu, PhD*; Umit Karabiyik, PhD; Marcus K. Rogers, PhD
10:45 am – 11:05 am	**C30**	**Reconstructing a Search in the Age of Generative AI: A Forensic Analysis of Google's AI Mode Feature** *(FSF Emerging Forensic Scientist Award Oral Presentation)* Vaishnavi Mahindra, MSc*; Marcus K. Rogers, PhD
11:05 AM – 11:25 AM	**C31**	**Textual LLM Forensics: An Interpretable Provenance Analysis for AI-Generated Text** Vinicius Lima, PhD*
11:25 am—1:00 pm		**BREAK**

Strange New Worlds: Drones, Wearables, and Beyond

Moderator: Aisha Ali-Gombe, PhD — Co-Moderator: Vi Mahindra

1:00 pm – 1:20 pm	**C32**	**A Cross-Platform Forensic Analysis of OpenClaw: Digital Evidence and Privacy Exposure** Yufeng Gong, MS*; Yujin Lee, MS; Umit Karabiyik, PhD
1:20 pm – 1:40 pm	**C33**	**Identifying User Activities Not Recorded in KnowledgeC: A Case Study in Reviewing Artifacts Not Parsed by Commercial Tools** Graciela Rubio, BS*

1:40 pm – 2:00 pm	**C34**	**Drone Detection and Footprinting Using Passive Scanning of 2.4GHz** Bands David LeGrow, APM*; Adam Aucoin, APM; Robin Verma, DC
2:00 pm – 2:20 pm	**C35**	**Forensic Detection of Sensor-Interface Manipulation: A Multi-Vantage Observability Model for Embedded Digital Evidence** Sandesh A. More, MS; Sneha Sudhakaran, PhD*
2:20 pm – 2:40 pm	**C36**	**From Protobuf to Provenance: Parsing Wearable Heart Rate Data and Expressing the Provenance in CASE/UCO and the Error Mitigation Analysis in SOLVE-IT** Michael F. McGowan, BA*
2:40 pm – 3:00 pm	**C12**	**VR Mobile App Forensics Using LLM** Adam Aucoin, APM*; David LeGrow, APM; Robin Verma, DC
3:00 pm – 3:15 pm		**BREAK**

Warp Speed Ahead: Mobile Device Access, Analysis, and Timing

Moderator: Michael McGowan, PhD

Co-Moderator: Xiao Hu, PhD

3:15 pm – 3:35 pm	**C38**	**A Digital Forensic Analysis of 360-Degree Action Camera Companion Applications: GoPro MAX2, Insta360 X4, and DJI Osmo 360 on Android and iOS** Yujin Lee, MS*; Yufeng Gong, MS; Umit Karabiyik, PhD; Marcus K. Rogers, PhD *(FSF Emerging Forensic Scientist Award Oral Presentation)*
3:35 pm – 3:55 pm	**C39**	**Persistent Digital Traces Despite Enhanced Privacy Protections: A Cross-Platform Forensic Analysis on Privacy-Oriented Instant Messaging Applications, Session, SimpleX Chat, and Mosavi** Yufeng Gong, MS*; Yujin Lee, MS; Umit Karabiyik, PhD
3:55 pm – 4:15 pm	**C40**	**An Experimental Validation of T-Mobile Timing Advance Reports for Cellular Forensic Investigations** Ivica Kostanic, PhD*; Josko Zec, PhD
4:15 pm – 4:35 pm	**C41**	**Evaluating AI-Based Timeline Reconstruction From Mobile Artifacts With a Real-World Dataset** Yong Guan, PhD*; Chen Shi, MS
4:35 pm – 4:55 pm	**C42**	**Debug Symbol Removal and Memory Structure Preservation in Production Android Builds: Android 8 to Android 15** Jayasimha Nannapaneni, MS*; Sneha Sudhakaran, PhD