

ENGINEERING & APPLIED SCIENCES

Thursday

Posters

- 11:30 am – 1:00 pm **D1** **A Study on the Application of a Thermal Mannequin for Estimating a Hypothermia Environment**
*Chan-Seong Park, PhD**
- 11:30 am – 1:00 pm **D2** **Active Air Sampling and Quantitation of Methyl Methacrylate During Controlled Pyrolysis of Poly(Methyl Methacrylate)**
Kaylee Morton, MSFS; Mahsa Lotfi Marchoubeh, PhD*
- 11:30 am – 1:00 pm **D3** **An Examination and Analysis of False Negative in Presumptive Blood Testing Methods on Leather**
*Sarahy Magdaleno, MSFS**

Thursday – Session I

Sample Analysis and Forensic Detection

- 8:00 am – 8:20 am **D4** **Failure Analysis of Ink Samples Using Multiple Modes of Pyrolysis-Gas Chromatography/Mass Spectrometry (Py-GC/MS)**
*Athena Nguyen, BS**
- 8:20 am – 8:50 am **D5** **Light It Up! Photoluminescent Lead Detection for Forensic Investigations**
Kendra Adelberg, MS; Arno van der Weijden, PhD; Lukas Helmbrecht, PhD; Arian van Asten, PhD; Wim Noorduyn, PhD*
- 8:50 am – 9:20 am **D6** **Seeing the Invisible: Flow Visualization and Scientific Imaging Techniques to Support Safety, Security, and Forensics**
Matthew Staymates, MS; Edward Sisco, PhD*
- 9:20 am – 9:40 am **D7** **Odorant Depletion in Propane Containers**
*Tim Dunn, MS**
- 9:40 am – 9:55 am **BREAK**
- 9:55 am – 10:15 am **D8** **Synthetic Routes for the Production of Xylazine: An Analysis of Clandestine Viability**
*Calvin Keller, PhD**
- 10:15 am – 10:45 am **D9** **Forensic Exams of Public Works Contracts: Ethical and Just Methodologies in Pavement Works Investigation**
Victor Zoch, BEng; Alan Lopes, PhD; Bruno Lima, MS*
- 10:45 am – 11:15 am **D10** **An Economic Valuation of Environmental Damages Caused by Illegal Artisanal Mining in the Brazilian Yanomami Indigenous Territory**
David Pavanelli, PhD; Uilian Mello, MS; Rai Cunha, BS; Rommel Pereira, BA; Erich Lima; Mauro Magliano, PhD*
- 11:15 am – 1:00 pm **BREAK**

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Collision/Forensic Analysis

1:00 pm – 1:30 pm	D12	A Race Car Accident Analysis <i>Berislav Barisic-Jaman, MEng*</i>
1:30 pm – 1:50 pm	D13	A Forensic Analysis of Unintended Vehicle Rollaway Incidents <i>Chris Clarke, BSME*; Brian Herbst, BSME*</i>
1:50 pm – 2:10 pm	D14	The Role of Early Assumptions in Driver Determination for an Unwitnessed Motor Vehicle Crash <i>David Porta, PhD*</i>
2:10 pm – 2:25 pm		BREAK
2:25 pm – 2:55 pm	D15	Roof System Failure: Causes and Misconceptions <i>Darren Franck, MSME*; Harold Franck, MSEE</i>
2:55 pm – 3:40 pm	D16	The Analysis of Vehicle Dynamics From Monitor Playback Recordings <i>Michael Callahan, BSME*; Sean Snyder, BS*</i>
3:40 pm – 4:10 pm	D17	Forensic Mapping With a Real-Time Kinematics-Equipped Drone (UAS/UAV), With or Without Ground Control? <i>David Sersen, BSEE*</i>

Thursday – Session II

Multidisciplinary Session: Engineering & Applied Sciences and Forensic Nursing Science

1:00 pm – 1:30 pm	D18	Accidental or Deliberate? Can a Safety Razor Inflict Injuries to a Baby in a Bathtub? <i>Sarah Hainsworth, PhD*</i>
1:30 pm – 2:00 pm	E8	Alternate Light Sources in Subclinical Bruising: A Systematic Review <i>Maureen Canellas, MD*; Jennifer Edwards, MD</i>
2:00 pm – 2:30 pm	D19	An Analysis of Injuries and Injury Mechanisms of Male PMHS in High-Speed, Rear-Facing Frontal Impact Scenarios <i>John Bolte, IV, PhD*; Amanda Agnew, PhD; Yun-Seok Kang, PhD</i>
2:30 pm – 2:45 pm		BREAK
2:45 pm – 3:15 pm	E9	Revolutionizing Forensic Nursing Education: The Impact of Virtual Reality, Artificial Intelligence, and Performance Data Analytics <i>Jamie Ferrell, MBA, BSN, RN*; Sally Henin, MD</i>
3:15 pm – 3:45 pm	D20	Empirical Testing of a Trip-Fall Incident <i>Darren Franck, MSME*; Harold Franck, MSEE</i>
3:45 pm – 4:15 pm	D21	A Windshield Fracture Incident: Injury-Producing Event or Just Cracked Glass? <i>Michelle Hoffman, MS*; Kurt Weiss, MS</i>

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Friday

Posters

- 11:30 am – 1:00 pm **D22** **The Impact of Artificial Intelligence in Clinical Risk Management: A Focus on Fall Prevention**
*Paolo Visci, MD**; *Elena Graziano, MD*; *Michele Telegrafo, MD*;
Annachiara Vinci, MD; *Fiorenza Zotti, MS*; *Alessandro Dell’Erba, MD, PhD*;
Davide Ferorelli, MD
- 11:30 am – 1:00 pm **D23** **The Role of Engineering in Forensic Science: Physics Applied in a Case of Hemorrhagic Shock From Central Venous Catheter Blood Loss**
*Gabriella Maisetta, MD**; *Federica Spina, MD**; *Ilaria Marcacci, MD**;
Julia Lazzari, MD; *Giulia Berneschi, MD*; *Luigi Papi, MD*; *Paolo Maremmani, MD*;
Fabio Giannelli, BSN; *Alessandro Mariotti, PhD*
- 11:30 am – 1:00 pm **D24** **The Use of Stationary Phases Designed for Supercritical Fluid Chromatography for the Reversed-Phase Liquid Chromatographic Separation of Nine Isomers of $\Delta 9$ -Tetrahydrocannabinol**
*Gunnar Franz, BS**; *Ira Lurie, PhD*; *Walter Wilson, PhD*
- 11:30 am – 1:00 pm **D25** **Augmented Reality Visualization for Postmortem Analysis of a Traffic Accident: Clarification of Injury Mechanism Through PMCT-Based Antemortem Posture Reconstruction**
*Haruki Fukuda, MD, PhD**; *Akira Hayakawa, MD, PhD*; *Hiroyuki Tokue, MD, PhD*;
Rie Sano, PhD; *Yoshihiko Kominato, MD, PhD*

Linguistics/Artificial Intelligence

- 8:00 am – 8:45 am **D26** **Environmental Signature Extraction for Forensic Analysis of Audio Recordings Using AI/LLM Models**
*Lucky Onyekwelu-Udoka, MS**; *Yong Guan, PhD*
- 8:45 am – 9:15 am **D27** **Quantitative Similarity Assessments of Forensic Images**
*Gautham Venkatasubramanian, MS**; *Alicia Carriquiry, PhD*
- 9:15 am – 9:35 am **D28** **Kumho, Engineering, and the Linguistics of Definitions**
*Jeffrey Holmes, JD**; *Carole Chaski, PhD*
- 9:35 am – 9:55 am **D29** **A Tool to Quickly Estimate Uncertainty of a Forensic Test**
*Alessandro Ferrero, MS**; *Veronica Scotti, JD*
- 9:55 am – 10:10 am **BREAK**
- 10:10 am – 10:30 am **D30** **Artificial Intelligence Tools Applied to Forensic Engineering Cases: Overcoming This Challenge Through an Academic Cooperation Program**
*Jose Medeiros, DSc**; *Thiago Albuquerque, MS*; *Sandro Torres, PhD*;
Lucidio Cabral, DSc; *Marçal Lima Filho, PhD*; *Gilberto Sousa Filho, DSc*;
Bruno Leitão, BEng

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10:30 am – 10:50 am	D31	Falsely Accused: Generative AI and the Allegation of Academic Plagiarism <i>Carole Chaski, PhD*</i>
10:50 am – 11:10 am	D32	Weaknesses of Artificial Intelligence Proxies of Topic for Forensic Linguistic Applications <i>Elizabeth Smith, PhD*; Cristina Aggazzotti, PhD; Nicholas Andrews, PhD</i>
11:10 am – 11:30 am	D33	A Computational Method for Detecting Sophisticated Plagiarism <i>Carole Chaski, PhD*</i>
11:30 am – 11:50 am	D34	Analyzing Generative AI's Truth-Bias in Deceit Detection: An Empirical Experiment in English and Spanish <i>Ángela Almela, PhD*</i>