# DEPARTMENT OF FORENSIC SCIENCE COLLEGE OF CRIMINAL JUSTICE



## **Publications & Presentations**

**Updated: 18 September 2025** 

#### Academic Year 2024-2025

- Leonardo Costalonga Rodrigues, Náthaly Cristine Bueno Faria dos Santos, Isadora Locilento Denkena, Tássia Flávia Dias Castro, Eduardo Geraldo de Campos, Claudia Vianna Maurer-Morelli and Jose Luiz Costa. A Dive into the New Psychoactive Substances: A Review of the Use of Zebrafish (Danio rerio) as an In Vivo Model.

  Drug and Chemical Toxicology. Epub ahead of print DOI:10.1080/014545.2025.2548873 (Aug 2025).
- Ting-Yu Huang and Jorn Chi Chung Yu. **Deep Transfer Learning for Automatic Analysis of Ignitable Liquid Residues in Fire Debris Samples.** Chemosensors. Epub ahead of print DOI:10.3390/chemosensors13090320 (Aug 2025).
- Emma Hardwick and J. Tyler Davidson. **Structural Characterization of Nitazene Analogs Using Electrospray Ionization-Tandem Mass Spectrometry (ESI-MS/MS).** Drug
  Testing and Analysis. Epub ahead of print <u>DOI:10.1002/dta.3921</u> (Jul 2025).
- Michael Truver, Chris Chronister, Gregory Davis, Teresa Gray, Rebecca Hartman, Joseph Kahl, Erin Karschner, Sarah Kerrigan, Robert Kronstrand, Alex Krotulski, Dayong Lee, Barry Logan, Diane Moore, Luke Rodda, Svante Vikingsson, Ruth Winecker and Bruce Goldberger. Application of Professional Best Practices in Postmortem Forensic Toxicology. Journal of Analytical Toxicology. Epub ahead of print DOI:10.1093/jat/bkaf061 (Jul 2025).
- Angela Tonietto. On the Frequency of Pattern Types and Minutiae on the Interdigital Area of Palmprints: Toward Automated Detection. Proceedings from the Texas Division of the International Association for Identification (Jun 2025).
- Alleigh Couch, Christopher Zall and J. Tyler Davidson. **Utilization of Copper Salts to Induce the Formation of Cannabinoid Molecular Ions Enabling Isomer Differentiation.**Proceedings from the American Society for Mass Spectrometry (Jun 2025).
- Emma Hardwick, Alleigh Couch and J. Tyler Davidson. **Comparison of CID, AIF, and IS-CID Activation for the Identification of Nitazene Analogs Using DART Ionization and the NIST DIT.** Proceedings from the American Society for Mass Spectrometry (Jun 2025).
- Geraldine Monjardez. Characterization of the Lattice Vibrations of Ammonium Nitrate in an ANFO Mixture After Authentic Explosions Using Micro-Raman Spectroscopy and Single Crystal X-Ray Diffraction. Proceedings from Inter-Micro (Jun 2025).

- Jessica Ayala and Sarah Kerrigan. Comparison of a Comprehensive Liquid Chromatography-Quadrupole Time-of-Flight-Mass Spectrometry (LC-QTOF-MS) Screen in Whole Blood with Conventional Immunoassay-Based Techniques. Journal of Analytical Toxicology. Epub ahead of print DOI:10.1093/jat/bkaf054 (Jun 2025).
- John Buckleton, Duncan Taylor, Paul Stafford Allen, James Curran and Tim Kalafut.

  Reporting the Value of Biological Findings Given Activity Level Propositions: A

  Discussion of Published Recommendations. Journal of Forensic Science. Epub ahead of print DOI:10.1111/1556-4029.70112 (Jun 2025).
- Julia Wang, Ruby Dixon, Rachel Houston, Brendan Chapman and Sheree Hughes.

  Characterizing Post-Coital Vaginal and Penile Microbial Transfer and

  Persistence. Proceedings from the Gordon Research Conference (Jun 2025).
- Julia Wang, Ruby Dixon, Rachel Houston, Brendan Chapman and Sheree Hughes.

  Characterizing Post-Coital Vaginal and Penile Microbial Transfer and

  Persistence. Proceedings from the Gordon Research Seminar (Jun 2025).
- Sheree Hughes, Jennifer Snedeker, Hayle Boechler, Haeli Kennedy, Rachel Houston and Mayra Eduardoff. From Death to Discovery: Forensic Science Research and Training in a Human Decomposition Facility. Proceedings from the Texas Division of the International Association for Identification (Jun 2025).
- Tim Kalafut, James Curran and John Buckleton. **A Murder in Boston.** Journal of Forensic Science. Epub ahead of print DOI:10.1111/1556-4029.70097 (Jun 2025).
- Amanda Pacana and Britni Skillman. A Novel Screening Workflow for Nitazene Analogs using LC-MS/MS Precursor Ion Scan Acquisition. Journal of Analytical Toxicology. Epub ahead of print <a href="DOI:10.1093/jat/bkaf046">DOI:10.1093/jat/bkaf046</a> (May 2025).
- Cesar Cantu, Sibyl Bucheli and Rachel Houston. **Recovery of Human DNA from Fly Larvae** (**Order: Diptera) using Powersoil® Pro.** Journal of Legal Medicine. Epub ahead of print DOI:10.1016/j.legalmed.2025/102617 (May 2025).
- Christina Chang, Geraldine Monjardez and J. Tyler Davidson. **Assessment of a Combined Handheld Raman Spectroscopy and Transportable Mass Spectrometry Approach for the Analysis of Seized Drug Mixtures.** Forensic Science International. Epub ahead of print <u>DOI:10.1016/j.forsciint.2025.112512</u> (May 2025).
- Claire Phelps, Emma Hardwick, Alleigh Couch and J. Tyler Davidson. **Development and Validation of a Combined Selected Ion Monitoring-Scan GC-MS Method for**

- **Nitazene Analogs.** Journal of Forensic Sciences. Epub ahead of print DOI:10.1111/1556-4029.70084 (May 2025).
- John Buckleton, Duncan Taylor, James Curran, Simone Gittleson and Tim Kalafut. Interpretating DNA Under Fingernails Given Activity Level Propositions. Journal of Forensic Science. Epub ahead of print DOI:10.1111/1156-4029.70090 (May 2025).
- Munchelou Gomonit, Markus Roman, Britni Skillman, Michael Truver and Robert Kronstrand. Insights into Phosphatidylethanol (Peth) 16:0/18:1 Formation and Degradation Analysis by Supercritical Fluid Chromatography-Tandem Mass Spectrometry. Journal of Analytical Toxicology. Epub ahead of print DOI:10.1093/jat.bkaf007 (May 2025).
- Amanda D'Orazio, Amanda Mohr, Ayako Chan-Hosokawa, Curt Harper, Marilyn Huestis, Sarah Kerrigan, Jennifer Limoges, Amy Miles, Colleen Scarneo, Karen Scott and Barry Logan. North America Laboratory Survey Data for Drug Testing in Drug Impaired Driving and Traffic Fatality Investigations. Journal of Analytical Toxicology. Epub ahead of print DOI:10.1093/jat/bkaf029 (Apr 2025).
- Amanda Pacana and Britni Skillman. **Evaluation of Enzyme-Linked Immunosorbent Assay Screening Kits for the Detection of Nitazene Analogs.** Journal of Forensic Science.

  Epub ahead of print <u>DOI:10.1111/1556-4029.70052</u> (Apr 2025).
- Munchelou Gomonit and Britni Skillman. Quantification of Daridorexant, Lemborexant, and Suvorexant in Whole Blood using Liquid Chromatography-Tandem Mass Spectrometry. Journal of Analytical Toxicology. Epub ahead of print DOI:10.1093/jat/bkaf032 (Apr 2025).
- Javier Hodges, Jonathan McGraw, Kailee Marchand and Jorn (Chi-Chung) Yu. **Development** of an Al-augmented and Smartphone-based Handheld Raman Spectrometer. Proceedings from the American Chemical Society (Mar 2025).
- Munchelou Gomonit, Madeleine Swortwood, Michael Truver and Britni Skillman. **Analysis of N, N-dimethyltryptamine (DMT) and its Metabolites using LC-MS/MS for Forensic Purposes.** Journal of Forensic Science. Epub ahead of print DOI:10.1111/1556-4029.70013 (Mar 2025).
- Munchelou Gomonit, Markus Roman, Britni Skillman, Michael Truver and Robert Kronstrand. Quantification of Phosphatidylethanol 16:0/18:1 in Blood using Supercritical Fluid Chromatography-Tandem Mass Spectrometry. Journal of Analytical Toxicology. Epub ahead of print DOI:10.1093/jat/bkaf007 (Mar 2025).

- Agnes Winokur, Tiffany Rodriguez, Claude Roux, Christopher Palenik, Joseph Remy and Tim Kalafut. **Criminalistics Gone Wild (in the Courtroom)-Human Factors, Activity Level, and Probability, Oh My!** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Alexandra Adeoye, Alleigh Couch, J. Tyler Davidson and Glen Jackson. **Discriminating Between the Tandem Mass Spectra of Isomeric Synthetic Cannabinoids Using the Expert Algorithm for Substance Identification (EASI).** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Alexia Cassman and Kristen Head. **Development of an LC-MS/MS Method for the Identification of Psilocybin and Psilocin from Seized Drugs.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Alleigh Couch, Christopher Zall and J. Tyler Davidson. **Differentiation of CBD and Δ9-THC Isomers Using Copper Ion Complexation and Electrospray Ionization Tandem Mass Spectrometry.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Amanda D'Orazio, Barry Logan, Amanda Mohr, Ayako Chan-Hosokawa, Curt Harper, Marilyn Huestis, Sarah Kerrigan, Jennifer Limoges, Amy Miles, Colleen Scarneo and Karen Scott. Recommendation for Drug Testing in Driving Under the Influence of Drugs (DUID) and Motor Vehicle Fatality Cases 2025 Update. Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Amanda Pacana and Britni Skillman. **Evaluation of Enzyme-Linked Immunosorbent Assay (ELISA) Screening Kits for the Detection of Nitazene Analogs.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Cesar Cantu, Rachel Houston, Christopher Randle and Sibyl Bucheli. *Lucilia Mexicana* and Its Population Structure in Texas. Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Christany Liggins, Alleigh Couch and J. Tyler Davidson. **Differentiation of Isobaric Methyl-Substituted Fentanyl Analogs Using Direct Analysis in Real Time Mass Spectrometry (DART-MS) and All Ion Fragmentation (AIF).** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Claire Phelps, Emma Hardwick, Alleigh Couch and J. Tyler Davidson. **Development and Validation of a Combined Selected Ion Monitoring-Scan GC-MS Method for**

- **Nitazene Analogs.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Daye Kim, Ming-Sie Pan, Chao-Hsing Fan and Jorn Yu. **Application of Deep Learning in Latent Fingerprint Enhancement.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Emma Hardwick and J. Tyler Davidson. Structural Characterization of Nitazene Analogs
  Using Electrospray Ionization-Tandem Mass Spectrometry (ESI-MS/MS).

  Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Fiza Tajdin, Christina Chang, Alleigh Couch and J. Tyler Davidson. **Evaluation of a Transportable Linear Ion Trap Mass Spectrometer for Rapid Seized Drug Screening.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Hayle Boechler, Sheree Hughes and Mayra Eduardoff. **Analysis of DNA Preservation in Human Remains Embedded in Solid Building Materials.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Javier Hodges, Kailee Marchand and Jorn Yu. **The Application of a Handheld Raman Spectrometer for the Classification of Synthetic- and Petroleum-Based Hydrocarbon Fluids.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Jennifer Snedeker, Rachel Houston and Sheree Hughes. **An Evaluation of DNA Recovery from Chemically Treated Human Remains.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- John Laetsch III, Morgan Carpenter, Alleigh Couch, Patrick Buzzini, J. Tyler Davidson and Geraldine Monjardez. Evaluating the Capabilities of DART-MS Compared to FTIR Spectroscopy and SEM-EDS for the Analysis of Architectural Paint Mixtures. Forensic Science International. Epub ahead of print: DOI: 10.1016/j.forsciint.2025.112405 (Feb 2025).
- Joshua Boster, Kathryn Schoeneberg, Maddy Myers, Jennifer McMurray and Jeremey Chappell. **Prevalence of DNA on Car Vehicles and/for Guidance in Collecting Samples.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Julia Wang, Ya-Chih Cheng, Joshua Boster and Rachel Houston. Increased DNA

  Quantification Sensitivity: Evaluation of Investigator® Quantiplex® Pro FLX.

  Proceedings from the American Academy of Forensic Sciences (Feb 2025).

- Kailee Marchand, Javier Hodges and Jorn (Chi-Chung) Yu. **The Impact of Glass Vial Type in Measuring Raman Spectrum of Liquid Hydrocarbon Samples.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Kayli Carrillo and Sheree Hughes. **Streamlining Forensic Workflows: Field Test Results of Forensic Samples using the HID NIMBUS® Presto QNA System.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Keshonna Towns, Alleigh Couch and J. Tyler Davidson. **Thermal Desorption Direct Analysis in Real Time Mass Spectrometry (TD-DART-MS) of Seized Drug Mixtures.**Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Munchelou Gomonit, Markus Roman, Britni Skillman, Michael Truver and Robert Kronstrand. Insights into Phosphatidylethanol (Peth) 16:0/18:1 Formation and Degradation Analysis by Supercritical Fluid Chromatography-Tandem Mass Spectrometry. Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Madison Schackmuth and Sarah Kerrigan. Cytochrome P450-Mediated Metabolism of Isotonitazene, a Novel Synthetic 2-Benzylbenzimadazole Opioid. Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Nayna Cândida Gomes, Vítor Luiz Caleffo Piva Bigão, Eduardo Geraldo de Campos, Oscar Cabrices, Bruno Ruiz Brandão da Costa and Bruno Spinosa De Martinis.

  Optimization of a Disposable Pipette Tips Extraction for the Analysis of Psychoactive Substances in Sweat Specimens using Design of Experiments.

  Journal of Analytical Toxicology. Epub ahead of print DOI:10.1093/jat/bkae090 (Feb 2025).
- Nicholas Jernigan, Jared Estevanes and Geraldine Monjardez. **Detection of Organic Explosive Residues from Outdoor Explosions Using Confocal Raman Microscopy.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Patrick Buzzini, Morgan Carpenter, Swathi Murali and James Curran. **Data Fusion from Infrared, Elemental, MSP, and Raman Analysis Techniques to the Maximization of the Efficiency of the Analytical Sequence for the Forensic Examination of Paint Evidence.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).

- Simone Gittelson, Franco Taroni, Tim Kalafut and John Buckleton. **Back to the Future:**Applying Decades-Old Probabilistic Models to Today's DNA Results When Activities Are of Interest. Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Susana Garcia, Natalia Czado, Damani Johnson, Cesar Cantu, Sheree Hughes and Rachel Houston. **QIAxcel vs. qPCR: Evaluating Versatility for Forensic DNA Screening.**Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Sydney Hampton, Cassidy Callaway, Jared Estevanes, Patrick Buzzini and Geraldine Monjardez. Analysis of Inorganic Oxidizing Salts in Intact and Chemically Reacted Consumer Fireworks Using Microscopical and Spectroscopic Approaches. Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Tim Kalafut. The Development of Universal STRmix™ Parameters for Legacy Kits.

  Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Ting-Yu Huang and Jorn Yu. **An Artificial Intelligence-Based Detection of Ignitable Liquid Residues in Fire Debris Using a Deep Convolutional Neural Network.** Proceedings from the American Academy of Forensic Sciences (Feb 2025).
- Alleigh Couch, Christina Chang and J. Tyler Davidson. **Technical Note: Evaluation of a Transportable Linear Ion Trap Mass Spectrometer for Seized Drug Screening Operated Under Controlled Laboratory Conditions.** Forensic Science International. Epub ahead of print <u>DOI:10.1016/j.forsciint.2025.112381</u> (Jan 2025).
- Jonathon Brooks, Andrea Jantzi, Katherine Brown, Wendy Birch, L. Lijcklama a Nijeholt, Christopher Rogers, Hayley Mickleburgh, Patrick Randolph-Quinney, Lisette Kootker, Maurice Aalders, Roelof-Jan Oostra, Anna Williams, C. Hiley, J. Everett and John Cassella. Establishing a Pan-European, Multi-disciplinary Taphonomic Research Infrastructure: The 'UK-Netherland Decomposition Experimental Research (UNDER) Group. Science & Justice. Epub ahead of print DOI:10.1016/j.scijus.2024.12.007 (Jan 2025).
- Jorge Ruiz-Ramírez, Felix Bittner, Thomas Parsons, Andreas Tillmar, Lisa Vangeel, Ida Grandell, Mayra Eduardoff, Michelle Peck, Adrián Ambroa-Conde, Ana Mosquera-Miguel, Ana Freire-Aradas, Maviky Victoria Laréu, Christopher Phillips and María de la Puente. Inter-platform Evaluation of the MPSplex Large-scale Tri-allelic SNP Panel for Forensic Identification. Forensic Science International: Genetics. Epub ahead of print DOI:10.1016/j.fsigen.2025.103233 (Jan 2025).

- Jared Estevanes and Geraldine Monjardez. **Detection of Organic Explosive Residues from Outdoor Detonations using Confocal Raman Microscopy.** Forensic Science International. Epub ahead of print <u>DOI:10.1016/j.forsciint.2024.112292</u> (Dec 2024).
- Jennifer Snedeker, Michelle Peck, David Russell, Amy Holmes, Christina Neal, Carmen Reedy, Sheree Hughes and Rachel Houston. **An Investigation of Downstream Processing Methods for Challenging Skeletal Samples.** Forensic Science International: Genetics. Epub ahead of print <u>DOI: 10.1016/j.fsigen.2024.103209</u> (Dec 2024).
- Jennifer Snedeker, Rachel Houston and Sheree Hughes. Twenty-eight Days Later: The Recovery of DNA from Human Remains Submerged in Aggressive Household Chemicals. Journal of Forensic Sciences. Epub ahead of print DOI:10.1111/1156-4029.15682 (Dec 2024).
- Jared Estevanes, Nick Jernigan, Christopher Zall and Geraldine Monjardez. The Characterization of the Lattice Vibrations of Ammonium Nitrate in ANFO Mixture After Authentic Detonations Using Confocal Raman Microscopy and Single Crystal X-Ray Diffraction. Journal of Raman Spectroscopy. Epub ahead of print DOI:10.1002/jrs.6752 (Nov 2024).
- Ya-Chih Cheng and Rachel Houston. The Development of Two Fast Genotyping Assays for the Differentiation of Hemp from Marijuana. Journal of Forensic Sciences. Epub ahead of print DOI:10.1111/1556-4029.15663 (Nov 2024).
- Alleigh Couch, Jayleigh Lanza, Christopher Zall and J. Tyler Davidson. Identification of Marijuana using Silver-phosphine Ion Complexation and a Semi-quantitative 1% Decision-point Assay. Talanta Open. Epub ahead of print DOI:10.1016/j.talo.2024.100359 (Oct 2024).
- Amanda Pacana and Britni Skillman. A Novel Screening Workflow for Nitazene Analogs using LC-QQQ Precursor Ion Scan Acquisition. Proceedings from the Society of Forensic Toxicologists (Oct 2024).
- Amanda Venta, Jesse Walker, Ashley Bautista, Maria Cuervo, Jeremy Bechelli, Rachel Houston, Danielle Boisvert, Todd Armstrong, Richard Lewis, Damani Johnson and Ryan Gutierrez. Environmental and Genetic Contributions to Attachment in Late Adolescence and Young Adulthood. Child Psychology and Development. Epub ahead of print DOI:10.1007/10578-024-01764-5 (Oct 2024).

- Eduardo G. de Campos, Ricardo Leal Cunha and Jose Luiz da Costa. **Occurrence of Opioids** in Forensic Casework in the State of Sergipe in Brazil (2019-2023). Proceedings from the Society of Forensic Toxicologists (Oct 2024).
- Munchelou Gomonit and Britni Skillman. Quantification of Daridorexant, Lemborexant, and Suvorexant in Whole Blood using Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS). Proceedings from the Society of Forensic Toxicologists (Oct 2024).
- Sara Kuberski, Amanda Pacana, Madeleine Swortwood and Britni Skillman. **Detection of Forensically Relevant Nitazenes Using Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS).** Proceedings from the Society of Forensic Toxicologists (Oct 2024).
- Swathi Murali, Morgan Carpenter and Patrick Buzzini. On the Characterization and Differentiation of Clearcoats in Automotive Paint using UV-Visible Microspectrophotometry, FTIR Spectroscopy, and Raman Spectroscopy. Proceedings from the Northeastern Association of Forensic Scientists (Oct 2024).
- Ahana Chatterjee, Natalia Czado, Rachel Houston and Sheree Hughes. **Evaluating Direct Lysis and Swabbing Techniques for Improved DNA Typing from Adhesive Surfaces.** Proceedings from the International Symposium on Human Identification (Sept 2024).
- Cesar Cantu, Sibyl Bucheli and Rachel Houston. **Recovery of Human DNA from Maggots.**Proceedings from the International Symposium on Human Identification (Sept 2024).
- Eduardo G. de Campos, David Farrar and Alex Krotulski. **Identification of ADB-5'Br-BINACA in Plant Material and Analytical Characterization using GC-MS, LC-QTOF-MS, NMR and ATR-FTIR.** Journal of Pharmaceutical and Biomedical Analysis. Epub ahead of print <u>DOI:10.1016/jpba.2024.116254</u> (Sept 2024).
- Emma Hardwick and J. Tyler Davidson. **Structural Characterization of Nitazene Analogs using Electron Ionization-Mass Spectrometry (EI-MS).** Forensic Chemistry. Epub ahead of print <u>DOI:10.1016/j.forc.2024/100605</u> (Sept 2024).
- James Curran, Patrick Buzzini and Tatiana Trejos. **Estimating Probability Terms for the Background Presence of Glass When Considering Activity in Forensic Casework.**Forensic Science International. Epub ahead of print <u>DOI:</u>
  10.1016/j.forsciint.2024.112221 (Sept 2024).

- Jennifer Snedeker, Rachel Houston and Sheree Hughes. **28 Days Later: DNA Recovery from Chemically Treated Human Remains.** Proceedings from the International Symposium on Human Identification (Sept 2024).
- Jose Grijalva, Ting-Yu Huang, Jorn Yu, Patrick Buzzini, Darren Williams, J. Tyler Davidson and Geraldine Monjardez. **Analysis of Major Cannabinoids using Raman Microscopy, Density Functional Theory, Chemometrics and a Novel Artificial Intelligence Approach.** Talanta Open. Epub ahead of print <u>DOI: 10.1016/j.talo.2024.10037</u> (Sept 2024).
- Julia Wang, Samantha Davis, Sheree Hughes, Brendan Chapman, Andrew Currie and Rachel Houston. Exploring Immunomagnetic Isolation of Spermatoza. Congress of the International Society for Forensic Genetics (Sept 2024), Santiago de Compostela, Spain.
- Julia Wang, Graciela Montes, Tim Kalafut, Rachel Houston and Sheree Hughes. **Securing the Future: Long-term Stability of Y-Screened Sexual Assault Evidence.**Proceedings from the International Symposium on Human Identification (Sept 2024).
- Kayli Carrillo, Tim Kalafut and Sheree Hughes. **Optimizing the Recovery of DNA from Exhaled Breath Devices for Human Identification.** Congress of the International Society for Forensic Genetics (Sept 2024), Santiago de Compostela, Spain.
- Miranda Fabiola Córdova Mercado and Mayra Eduardoff. **Comparative Evaluation of Fast Screening Algorithms for Kinship Search in Databases.** Proceedings from the International Symposium on Human Identification (Sept 2024).
- Natalia Czado, Damani Johnson, Lucio Avellaneda, Cesar Cantu, Tim Kalafut, Sheree Hughes and Rachel Houston. Streamlining Skeletal Remains Processing in Forensic Laboratories: Developing a Decision Tree for Capillary Electrophoresis and Next Generation Sequencing Platforms. Proceedings from the International Symposium on Human Identification (Sept 2024).

## Academic Year 2023-2024

- Alleigh Couch and J. Tyler Davidson. **Development of a Novel Seized Drug Screening Method Utilizing DART-MS and Used Weigh Paper.** Journal of Forensic Chemistry. Epub ahead of print <u>DOI:10.1016/j.forc.2024.100572</u> (Jul 2024).
- Alleigh Couch, Jayleigh Lanza, Christopher Zall and J. Tyler Davidson. **Differentiation of Δ9-THC and CBD Using Silver-Ligand Ion Complexation and Electrospray Ionization Tandem Mass Spectrometry (ESI-MS/MS).** Journal of the American Society of Mass Spectrometry. Epub ahead of print DOI: 10.1021/jasms.3c00452 (Jul 2024).
- Jared Estevanes, Alleigh Couch, Kevin Bates, J. Tyler Davidson and Geraldine Monjardez.

  Detection of Explosives Residue using a Novel Subsampling Technique for DART-HRMS Analysis. Journal of Forensic Chemistry. Epub ahead of print DOI: 10.1016/j.forc.2024.100585 (Jul 2024).
- Madison Schackmuth and Sarah Kerrigan. **Temperature and pH-dependent Stability of Fentanyl Analogs: Degradation Pathways and Potential Biomarkers. Journal of Forensic Sciences.** Epub ahead of print: DOI: 10.111/1556-4029.15578 (Jul 2024).
- Peng Che, Christina Chang, Patrick Buzzini, Lavinia Stegemann, Jeroen Kool, J. Tyler Davidson and Isabelle Kohler. **Identification of Synthetic Cathinone Positional Isomers using Electron Activated Dissociation Mass Spectrometry.** Journal of Analytica Chimica Acta. Epub ahead of print DOI: 10.1016/j.aca.2024.342949 (Jul 2024).
- Alleigh Couch and J. Tyler Davidson. **Identification of Isobaric Methyl-Substituted Fentanyl Analogs Using a Transportable Linear Ion Trap Mass Spectrometer.**Proceedings from the American Society for Mass Spectrometry (Jun 2024).
- Jared Estevanes, Patrick Buzzini and Geraldine Monjardez. Forensic Analysis of Recrystallized Inorganic Oxidizing Salts Used in Pyrotechnic-Based Improvised Explosive Devices Using Light Microscopy and Micro-Raman Spectroscopy. Proceedings from Inter/Micro (Jun 2024).
- Jennifer Snedeker, Rachel Houston and Sheree Hughes. **DNA Analysis of Chemically Treated Human Remains.** Proceedings from BODE (Jun 2024).
- John Buckleton, Jo-Anne Bright, Duncan Taylor, James Curran and Tim Kalafut. **Extending the Discussion on Inconsistency in Forensic Decisions and Results.** Journal of Forensic Sciences. Epub ahead of print: <u>DOI: 10.1111/1556-4029.15558</u> (Jun 2024).

- Tim Kalafut. What's the Probability that DNA Evidence Isn't Relevant Anymore? Is Anything Possible? Proceedings from BODE (Jun 2024).
- Jared Estevanes, Patrick Buzzini and Geraldine Monjardez. Forensic Analysis of Recrystallized Inorganic Oxidizing Salts Used in Pyrotechnic-Based Improvised

  Explosive Devices Using Light Microscopy and Micro-Raman Spectroscopy. The Microscope. Epub ahead of print DOI: 10.59082/INDJ3392 (May 2024).
- Kari Graham, Cesar Cantu and Rachel Houston. **Sequence Variation of Commercially Available Kratom Products at Universal DNA Barcode Regions.** Journal of Forensic Sciences. Epub ahead of print <u>DOI: 10.1111/1556-4029.15547</u> (May 2024).
- Patrick Buzzini. Kirk's 'Ontogeny of Criminalistics' Revisited Under the Lens of the Sydney Declaration. Forensic Science International. Epub ahead of print DOI: 10.1016/j.forsciint.2024.112023 (Apr 2024).
- Safia Boodoosingh, Hannah Kelly, James Curran and Tim Kalafut. **An Inter-Laboratory Comparison of Probabilistic Genotyping Parameters and Evaluation of Performance on DNA Mixtures from Different Laboratories.** Forensic Science International: Genetics. Epub ahead of print DOI: 10.1016/j.fsigen.2024.103046 (Apr 2024).
- Peng Che, Christina Chang, Jeroen Kool, Patrick Buzzini, J. Tyler Davidson and Isabelle Kohler. Identification of Synthetic Cathinone Positional Isomers using Electronactivated Dissociation and Chemometrics. Proceedings from the Dutch Society for Mass Spectrometry and Belgian Society of Mass Spectrometry (Apr 2024), Rolduc, Netherlands.
- Natalia Czado, Rachel Houston and Sheree Hughes. Evaluation of Metal Ions and DNA Recovery from the Surface of Fired and Unfired Brass Ammunition to Improve STR Profiling. International Journal of Legal Medicine. Epub ahead of print DOI: 10.1007/s00414-024-03200-8 (Mar 2024).
- Alleigh Couch, Jayleigh Lanza, Christopher Zall and J. Tyler Davidson. **Ag-Ligand Ion**Complexation: An Alternative Approach for Hemp and Marijuana Differentiation.

  Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Amanda Pacana, Stacie Terry, Madeleine Swortwood and Britni Skillman. **An Evaluation** and Comparison of the Evidence MultiSTAT to GC/MS for the Detection of Morphine, Codeine, and Thebaine in Urine and Oral Fluid. Proceedings from the American Academy of Forensic Sciences (Feb 2024).

- Cailin Herl, J. Tyler Davidson, James Miller, Alaina Anderson, Mona Colca and Geraldine Monjardez. **Investigating the Degradation of Benzodiazepines.** Proceedings from the Current Trends in Seized Drug Analysis Symposium at CFSRE (Feb 2024).
- Christina Chang, Geraldine Monjardez and J. Tyler Davidson. **Assessment of a Combined Portable Raman Spectroscopy and Mass Spectrometry Approach for the Analysis of Seized Drugs.** Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Damani Johnson and Tim Kalafut. **An Exploration of a Sequence-Specific Stutter Model for STR Analysis in Next Generation Sequencing.** Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Emma Hardwick and J. Tyler Davidson. **Structural Characterization of Nitazene Analogs Using Electron Ionization-Mass Spectrometry (EI-MS).** Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Eric Macias, Kendall Hartline, Patrick Buzzini and Sheree Hughes. **Quantitative Color Analysis of Burned Bone to Predict DNA Quantity, Quality, and Genotyping Success.** Journal of Forensic Sciences, Epub ahead of print <u>DOI: 10.1111/1556-4029.15490</u> (Feb 2024).
- Erika Poole, Kayli Carrillo, Haeli Kennedy, Hannah Cervanka, Rachel Houston and Sheree Hughes. Persistence of DNA in Water from an Actively Decomposing Cadaver for Human Identification. Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Jared Estevanes, Alleigh Couch, J. Tyler Davidson and Geraldine Monjardez. **Investigating** the Capacity of DART-MS for the Analysis of Intact Explosives and Explosives Residue. Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Jennifer Snedeker, Sheree Hughes and Rachel Houston. **Examination of the EZ2 Connect Fx for Extra-Large Volume DNA Extraction and Purification from Skeletal Samples.** Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- John Laetsch, Jose Grijalva, Ting-Yu Huang, Patrick Buzzini, Jorn Chi-Chung Yu, J. Tyler Davidson and Geraldine Monjardez. **Analysis of Major Cannabinoids using Raman Microscopy, Chemometrics, and a Novel Artificial Intelligence Approach.**Proceedings from the American Academy of Forensic Sciences (Feb 2024).

- J. Tyler Davidson and Alleigh Couch. Hidden Traces: An Alternative Analytical Scheme for Seized Drug Analysis. Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Julia Wang, Ruby Dixon, Rachel Houston, Brendan Chapman and Sheree Hughes. **Into the**"Sexome": Genital Microbiome Transfer and Applications. Proceedings from the
  American Academy of Forensic Sciences (Feb 2024).
- Lucio Avellaneda, Damani Johnson, Ryan Gutierrez, Lindsey Thompson, Sarah Sturm, Kelly Sage, Rachel Houston and Bobby LaRue. **Development of a Novel Five Dye Insertion/Deletion (INDEL) Panel for Ancestry Determination.** International Journal of Legal Medicine, Epub ahead of print <u>DOI: 10.1007/s00414-024-03196-1</u> (Feb 2024).
- Kayli Carrillo, Natalia Czado, Jennifer Snedeker and Sheree Hughes. **Extraction of Challenging Samples using the HID NIMBUS Presto System.** Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Kelsie Bryand and Andra Lewis-Krick. **Trailside Murder: A Random, Vicious Attack.**Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Madison Ashton, Natalia Czado, Michelle Harrel, Cassidy Callaway, Wesley Fisk, Carl Stephan and Sheree Hughes. **Genotyping Strategies for Tissues Fixed with Various Embalming Fluids for Human Identification, Databasing, and Traceability.**Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Munchelou Gomonit, Krystle McConnell, Lauren Jansson and Madeleine Swortwood. A Validated Method for Quantification of Suboxone® and its Primary Metabolites in Authentic Human Breastmilk, Maternal and Infant Plasma Samples using Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS). Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Rachel Houston, Natalia Czado, Damani Johnson, Lucio Avellaneda, Cesar Cantu and Sheree Hughes. Streamlining Degraded Sample Processing in Forensic Laboratories: Developing a Decision Tree for Capillary Electrophoresis and Next Generation Sequencing Platforms. Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Tess Brown, Celestina Rossi and Jorn Yu. **Evaluation of a Handheld Raman Analyzer for Biological Stains in Crime Scene Investigation.** Proceedings from the Association for Crime Scene Reconstruction (Feb 2024).

- Tim Kalafut and Michael Coble. A Picture is Worth 10,000 LRs: The Evaluation and Implementation of Tools to Improve Interpretation and Reporting of Mixtures Using Probabilistic Genotyping. Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Tim Kalafut. **The Real Action at Court Has Always Been Activity.** Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Ting-Yu Huang and Jorn Chi-Chung Yu. **Development of a Novel Nanocomposite using Polypyrrole and Single-walled Carbon Nanotubes for Headspace Solid Phase Microextraction of Alkanes in Forensic Ignitable Liquid Analysis.** Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Ting-Yu Huang and Jorn Chi-Chung Yu. **Evaluation of Headspace Solid Phase**Microextraction of Diesel Fuel from Cotton Swabs for Forensic Analysis.

  Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Ya-Chih Cheng and Rachel Houston. **The Development of a Next-generation Sequencing Panel Targeting Cannabinoid Synthase Genes to Distinguish between Marijuana and Hemp.** Electrophoresis, Epub ahead of print <u>DOI: 10.1002/elps.202300233</u> (Feb 2024).
- Ya-Chih (Jessica) Cheng and Rachel Houston. **Differentiating Marijuana from Hemp using** an NGS Panel and Rapid Genotyping Assays Targeting Cannabinoid Synthase Genes. Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Ya-Chih (Jessica) Cheng, Charles Perkins and Sarah Kerrigan. **Metabolism of THC-O-Acetate (THCO) An Emerging Drug Threat.** Proceedings from the American Academy of Forensic Sciences (Feb 2024).
- Lucio Avellaneda, Damani Johnson, Ryan Gutierrez, Lindsey Thompson, Kelly Sage, Sarah Sturm, Rachel Houston and Bobby LaRue. **Development of a Novel Five-dye Panel for Human Identification Insertion/Deletion (INDEL) Polymorphisms.** Journal of Forensic Sciences, Epub ahead of print <u>DOI: 10.1111/1556-4029.15475</u> (Jan 2024).
- Jared Estevanes, J. Tyler Davidson and Geraldine Monjardez. Investigation the Combined Capability of Confocal Raman Microscopy and Direct Analysis in Real Time-Mass Spectrometry (DART-MS) for the Analysis of Intact Explosives. Forensic Chemistry, Epub ahead of print DOI: 10.1016/j.forc.2023.100544 (Dec 2023).

- Joanne Sguelgia, Hailey Holt, Erin Hanson, Justina Nichols, Tim Kalafut, Mah-ro Khan, Thomas Walsh, Megan Foley, Hiromi Brown, Jack Ballantyne and Sudhir Sinha.

  Interlaboratory Comparison of SpermX™ and Conventional Differential Extractions Indicated High Male DNA Recovery by the SpermX Method. Forensic Sciences, Epub ahead of print DOI: 10.3390/forensicsci3040043 (Dec 2023).
- Munchelou Gomonit, Britni Skillman and Madeleine Swortwood. **Quantification of Psilocin** in Human Whole Blood using Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS). Journal of Forensic Sciences, Epub ahead of print <u>DOI:</u> 10.1111/1556-4029.15454 (Dec 2023).
- Ya-Chih Cheng and Sarah Kerrigan. **Differentiation of Hemp from Marijuana using a Qualitative Decision-point Assay.** Forensic Chemistry, Epub ahead of print <u>DOI:</u> 10.1016/j.forc.2023.100541 (Dec 2023).
- Ya-Chih Cheng and Sarah Kerrigan. **Factors Influencing the In Situ Formation of Δ9-THC from Cannabidiol during GC-MS Analysis.** Drug Testing and Analysis, Epub ahead of print <u>DOI: 10.1002/dta.3617</u> (Dec 2023).
- Cesar Cantu, Rachel Houston and Sibyl Bucheli. **COI DNA Barcoding of Forensically Relevant Insects Collected during Decomposition in Huntsville, TX, USA.**Proceedings from the Entomological Society of America (Nov 2023).
- Genevieve Massonnet, Marissa Koopman, Patrick Buzzini and Cyril Muehlethaler. **Chemical Criminalistics of Unusual Traces A New Collaborative Online International Learning (COIL) Experience.** Proceedings from the IAFS/ANZFSS (Nov 2023), Sydney, Australia.
- Madeline Ashton, Natalia Czado, Michelle Harrel, Wesley Fisk, Carl Stephan and Sheree Hughes. **Genotyping Strategies for Tissues Fixed with Various Embalming Fluids for Human Identification, Databasing, and Traceability.** Proceedings from the IAFS/ANZFSS (Nov 2023), Sydney, Australia.
- Patrick Buzzini, Lauryn Alexander, Andra Lewis, James Curran and Tatiana Trejos. A Survey on the Background Presence of Glass and Paint in the General Population Across Various Cities in the United States. Proceedings from the IAFS/ANZFSS (Nov 2023), Sydney, Australia.
- Patrick Buzzini, Michelle Miranda, Sheila Willis and Peter De Forest. **An Application of the Principles of the Sydney Declaration through a Scientific Problem-solving Exercise.** Proceedings from the IAFS/ANZFSS (Nov 2023), Sydney, Australia.

- Sheree Hughes, Haeli Kennedy and Rachel Houston. A World of Possibility: Where the Worlds of Forensic Biology and Human Decomposition Meet. Proceedings from the IAFS/ANZFSS (Nov 2023), Sydney, Australia.
- Maria Cuervo, Jesse Walker, Ashley Bautista, Jeremy Bechelli, Danielle Boisvert, Rachel Houston, Damani Johnson, Ryan Gutierrez, Todd Armstrong, Jessica Wells, Richard Lewis, & Amanda Venta. Environmental and genetic contributions to attachment in late adolescence and young adulthood. Proceedings from the annual convention of the Texas Psychological Association (Nov 2023).
- Amanda Pacana, Madeleine Swortwood and Britni Skillman. LC-QTOF-MS Method Development and Validation for the Screening of Nitazene Analogs in Whole Blood. Proceedings from the Society for Forensic Toxicologists (Oct 2023).
- Madeline Ashton, Natalia Czado, Michelle Harrel and Sheree Hughes. **Genotyping Strategies for Tissues Fixed with Various Embalming Fluids for Human Identification, Databasing, and Traceability.** Journal of Forensic Sciences, Epub ahead of print DOI: 10.1111/1556-4029.15414 (Oct 2023).
- Makenzie Kuehn, Kevin Bates, J. Tyler Davidson and Geraldine Monjardez. **Evaluation of Handheld Raman Spectrometers for the Detection of Intact Explosives.** Forensic Science International, Epub ahead of print <u>DOI: 10.1016/j.forsciint.2023.111875</u> (Oct 2023).
- Munchelou Gomonit and Madeleine Swortwood. Rapid and Sensitive Quantification of Psilocin in Human Whole Blood using Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS). Proceedings from the Society for Forensic Toxicologists (Oct 2023).
- Peng Che, J. Tyler Davidson, Jeroen Kool and Isabelle Kohler. **Electron Activated Dissociation-A Complementary Fragmentation Technique to Collision-induced Dissociation for Metabolite Identification of Synthetic Cathinone Positional Isomers.** Analytica Chimica Acta, Epub ahead of print <u>DOI:</u> 10.1016/j.aca.2023.341962 (Oct 2023).
- Tim Kalafut, James Curran, Michael Coble and John Buckleton. Commentary on:

  Thompson WC. Uncertainty in Probabilistic Genotyping of Low Template DNA: A

  Case Study Comparing STRmix™ and TrueAllele™. Journal of Forensic Sciences,

  Epub ahead of print DOI: 10.1111/1556-4029.15405 (Oct 2023).

- Alexis Pollard and J. Tyler Davidson. **Investigating the Effect of Substitution Location on Fentanyl Analog Identification for Methyl-substituted Fentanyl Analogs using GC-EI-MS.** Forensic Chemistry, Epub ahead of print <u>DOI:</u> 10.1016/j.forc.2023.100534 (Sept 2023).
- Jessica Ayala and Sarah Kerrigan. Comprehensive Toxicological Screening of Common Drugs of Abuse, New Psychoactive Substances and Cannabinoids in Blood using Supported Liquid Extraction and Liquid Chromatography-Quadrupole Time-of-Flight Mass Spectrometry. Journal of Analytical Toxicology, Epub ahead of print, DOI: 10.1093/jat/bkad069 (Sept 2023).
- Julia Wang, Grace Rutledge, Rachel Houston, Ruby Dixon, Brendan Chapman and Sheree Hughes. **Across the "Sexome": Understanding Genital Microbiomes.** Proceedings from the International Society for Human Identification (Sept 2023).
- Kari Graham, Javier Gomez, Todd Prim and Rachel Houston. **Comparison of Nine Extraction Methods for Bacterial Identification using the ONT MinION Sequencer.** International Journal of Legal Medicine, Epub ahead of print <u>DOI:</u> 10.1007/s00414-023-03092-0 (Sept 2023).
- Kayli Carrillo, Natalia Czado, Jennifer Snedeker and Sheree Hughes. **Unveiling the Power of the HID NIMBUS™ Presto in Tackling Challenging Samples.** Proceedings from the
  International Society for Human Identification (Sept 2023).
- Natalia Czado, Damani Johnson, Lucio Avellaneda, Cesar Cantu, Sheree Hughes and Rachel Houston. Developing a Decision Tree for Streamlining Degraded Sample Processing Across Capillary Electrophoresis and Next-Generation Sequencing Platforms in Forensic Laboratories. Proceedings from the International Society for Human Identification (Sept 2023).
- Ruby Liliedahl, Elise Hutzell, Madison Haley, Daniel Predeck and J. Tyler Davidson. **The Differentiation of N-butyl pentylone Isomers using GC-EI-MS and NMR.** Forensic Science International, Epub ahead of print DOI: 10.1016/j.forsciint.2023.111815 (Sept 2023).
- Ya-Chih (Jessica) Cheng and Rachel Houston. **Differentiating Marijuana from Hemp using** an NGS Panel and Rapid Genotyping Assays Targeting Cannabinoid Synthase Genes. Proceedings from the International Society for Human Identification (Sept 2023).

#### Academic Year 2022-2023

- Jayleigh Lanza, Alleigh Couch, J. Tyler Davidson and Christopher Zall. **Differentiation of Cannabinoids Through Selective Binding to Silver and Copper Phosphine Complexes.** Proceedings from the American Chemical Society (Aug 2023).
- Kayli Carrillo, Natalia Czado, Jennifer Snedeker and Sheree Hughes. **Extraction of Challenging Samples using the HID NIMBUS Presto System.** Proceedings from the Association of Forensic DNA Analysts and Administrators (Jul 2023).
- Madison Schackmuth and Sarah Kerrigan. **Lipophilicty of Fentalogs: Comparison of Experimental and Computationally Derived Data.** Epub ahead of print <u>DOI:</u> 10.1111/1556-4029.15324 (Jul 2023).
- Michelle Miranda, Patrick Buzzini, Peter De Forest and Sheila Willis. **An Exercise in Scientific Problem-solving: Illustrating the Utility of the Principles of the Sydney Declaration.** Journal of Forensic Sciences, Epub ahead of print <u>DOI: 10.1111/1556-4029.15336</u> (Jul 2023).
- Peng Che, J. Tyler Davidson, Kristinal Still, Jeroen Kool and Isabelle Kohler. In Vitro Metabolism of Cathinone Positional Isomers: Does Sex Matter? Analytical and Bioanalytical Chemistry, Epub ahead of print DOI: 10.1007/s00216-023-04815-3 (Jul 2023).
- Ya-Chih (Jessica) Cheng and Rachel Houston. **Development of a Next Generation Sequencing Panel Targeting Cannabinoid Synthase Genes to Distinguish Between Marijuana and Hemp.** Proceedings from the Association of Forensic DNA Analysts and Administrators (Jul 2023).
- Alleigh Couch, Jayleigh Lanza, Christopher Zall and J. Tyler Davidson. **Differentiation of Hemp and Marijuana Using Ag-Ligand Ion Complexation and a Semi-Quantitative Decision-Point Assay.** Proceedings from the American Society of Mass Spectrometry (Jun 2023).
- Eric Macias, Jennifer Snedeker and Rachel Houston. **Examination of the EZ2 Connect Fx for Large Volume DNA Extraction from Skeletal Samples.** Proceedings from the Qiagen Investigator Forum (Jun 2023), Bogotà, Columbia.

- Frank Crispino, Claude Roux, Rebecca Bucht, Patrick Buzzini, Peter De Forest, Keith Inman, Chris Lennard, Pierre Margo, Michelle Miranda, Olivier Ribaux, Niamh Nic Daeid, Alastair Ross and Sheila Willis. **The Sydney Declaration--Revisiting the Essence of Forensic Science Through its Fundamental Principles.** Proceedings from the Canadian Society of Forensic Science (Jun 2023), Ontario, Canada.
- Morgan Carpenter and Patrick Buzzini. Assessing Redundancy of UV-Vis Microspectrophotometry, Scanning Electron Microscopy/Energy Dispersive Spectroscopy, Fourier Transform Infrared Spectroscopy, and Raman Spectroscopy to the Detection of Distinguishing Features of Colored Spray Paint. Proceedings from Inter/Micro (Jun 2023).
- Peng Che, J. Tyler Davidson, Jeroen Kool and Isabelle Kohler. **Electron Activated Dissociation A Complementary Fragmentation Technique to Collision Induced Dissociation for Metabolite Identification of Synthetic Cathinones.** Proceedings from the Dutch Society for Mass Spectrometry (Jun 2023), Wageningen, Netherlands.
- Ya-Chih Cheng, Madeline Roman and Rachel Houston. **Development of Genetic Assays to Predict Crop Type and Geographical Origin of a Cannabis Sample.** Proceedings from the International Symposium on Advances in Forensic Genetics and Genomics (Jun 2023).
- Glen Jackson, Samantha Mehnert, J. Tyler Davidson, Brandon Lowe, Emily Ruiz and Jacob King. Expert Algorithm for Substance Identification Using Mass Spectrometry: Statistical Foundations in Unimolecular Reaction Rate Theory. Journal of the American Society of Mass Spectrometry, Epub ahead of print DOI: 10.1021/jasms.3c00089 (May 2023).
- Samantha Mehnert, J. Tyler Davidson, Alexandra Adeoye, Brandon Lowe, Emily Ruiz, Jacob King and Glen Jackson. Expert Algorithm for Substance Identification Using Mass Spectrometry: Application to the Identification of Cocaine on Different Instruments Using Binary Classification Models. Journal of the American Society of Mass Spectrometry, Epub ahead of print DOI: 10.1021.jasms.3c00090 (May 2023).
- Ting-Yu Huang and Jorn (Chi Chung) Yu. **Carbon Nanotubes-assisted Solid-phase Microextraction for the Extraction of Gasoline in Fire Debris Samples.** Journal of Chromatography A, Epub ahead of print DOI: 10.1016/j.chroma.2023.464063 (May 2023).

- Andra Lewis, Lauryn Alexander, Oriana Ovide, Olivia Duffett, James Curran, Patrick Buzzini and Tatiana Trejos. A Study on the Occurrence of Glass and Paint Across Various Cities in the United States—Part I: Background Presence of Glass in the General Population. Forensic Chemistry, Epub ahead of print DOI: 10.1016/j.forc.2023.100497 (Apr 2023).
- Jared Estevanes, Justin Day, Rajesh Balaraman, Patrick Buzzini and Geraldine Monjardez.

  Forensic Characterization and Differentiation of Automotive Lubricating

  Greases using Fourier Transform Infrared Spectroscopy and Scanning Electron

  Microscopy-Energy Dispersive X-Ray Spectroscopy. Forensic Chemistry, Epub

  ahead of print DOI: 10.1016/j.forc.2023.100502 (Apr 2023).
- Ruby Dixon, Siobhon Egan, Sheree Hughes and Brendan Chapman. **The Sexome A Proof of Concept Study into Microbial Transfer between Heterosexual Couples After Sexual Intercourse.** Forensic Science International, Epub ahead of print <u>DOI:</u> 10/1016/j.forsciint.2023.111711 (Apr 2023).
- Ting-Yu Huang and Jorn Chi Chung Yu. Intelligent Framework for Cannabis Classification using Visualization of Gas Chromatography/Mass Spectrometry Data and Transfer Learning. Frontiers in Analytical Science, Epub ahead of print DOI: 10.3389/frans.2023.1125049 (Apr 2023).
- Elise Hutzell, Madison Haley, Daniel Predecki, Ruby Liliedahl and J. Tyler Davidson.

  Forensic Analysis and Identification of Pentylones via NMR Spectroscopy.

  Proceedings from the American Chemical Society (Mar 2023).
- Jared Estevanes and Geraldine Monjardez. Characterization of Isotropic and Anisotropic

  Particles Dispersed in Lubricating Automotive Greases using SEM-EDS.

  Proceedings from the Texas Society for Microscopy (Mar 2023).
- Lauryn Alexander, Oriana Ovide, Olivia Duffet, Andra Lewis, Patrick Buzzini, James Curran and Tatiana Trejos. The Random Presence of Glass and Paint on the Clothing and Footwear of Members of the General Population: A US Baseline Survey at Various Seasons. Journal of Forensic Sciences, Epub ahead of print DOI: 10.1111/1556-4029.15226 (Mar 2023).
- Lauryn Alexander, Andra Lewis, Olivia Duffett, James Curran, Patrick Buzzini and Tatiana Trejos. A Study on the Occurrence of Glass and Paint Across Various Cities in the United States—Part II: Background Presence of Paint in the General Population. Forensic Chemistry, Epub ahead of print DOI: 10.1016/j.forc.2023.100493 (Mar 2023).

- Tim Kalafut. **Challenging DNA Evidence Based on the "How?" Question.** Proceedings from the Questioning Forensics Conference (Mar 2023).
- Ting-Yu Huang and Jorn Chi-Chung Yu. Artificial Intelligent Framework for the Detection of Gasoline Residues in Fire Debris Samples: Transforming Gas Chromatography/Mass Spectrometry Data into Image Presentation for Transfer Learning. Proceedings from the American Chemical Society (Mar 2023).
- Alleigh Couch, Jayleigh Lanza, Christopher Zall and J. Tyler Davidson. **Differentiation of Delta-9-Tetrahydrocannabinol (Delta-9-THC) and Cannabidiol (CBD) Using Silver-Ligand Ion Complexation and Electrospray Ionization Tandem Mass Spectrometry (ESI-MS/MS).** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Alexis Pollard and J. Tyler Davidson. Investigating the Effect of Substitution Location on Fentanyl Analog Identification for Methyl-Substituted Fentanyl Analogs Using Gas Chromatography/Electron Ionization/ Mass Spectrometry (GC/EI/MS). Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Cesar Cantu, Sibyl Bucheli and Rachel Houston. **The Recovery of Human DNA From Fly Larvae.** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Damani Johnson, Lucio Avellaneda, Cesar Garza Sanchez, Rachel Houston and Tim Kalafut.

  Forensic Evaluation of the Verogen PrepStation and ForenSeq® Workflows for Implementation in Crime Laboratories. Proceedings from the Society for Laboratory Automation and Screening (Feb 2023).
- Damani Johnson, Lucio Avellaneda, Rachel Houston and Tim Kalafut. **The Evaluation of the ForenSeq™ MainstAY Kit for Mixed Forensic DNA Samples.** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Jennifer Snedeker, Erin Gorden, Gina Parada, Christina Neal, Carmen Reedy and Rachel Houston. The Evaluation of Demineralization Parameters for DNA Extraction Methods From Skeletal Remains. Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Jennifer Snedeker, Sheree Hughes and Rachel Houston. **Optimization of InnoXtract™ Extraction and Purification System for DNA Extraction from Skeletal Samples.**International Journal of Legal Medicine, Epub ahead of print <u>DOI: 10.1007/s00414-023-02980-9</u> (Feb 2023).

- Jessica Ayala and Sarah Kerrigan. A Cost Benefit Analysis of High Resolution Mass Spectrometry (HRMS) Based Drug Screening in Forensic Toxicology.

  Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Julia Wang, Grace Rutledge, Rachel Houston and Sheree Hughes. When and "Y" to Screen With QIAGEN® Investigator® Casework GO! Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Kari Graham, Cesar Cantu and Rachel Houston. **The Intraspecies Variation of Commercially Available Kratom Products in Common DNA Barcode Regions.**Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Kayli Carrillo and Sheree Hughes. The Optimized Recovery of DNA From Exhaled Breath Devices: From Drug Detection to Human Identification. Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Lucio Avellaneda, Damani Johnson and Rachel Houston. **The Development of a Five-Dye Insertion/Deletion (INDEL) Panel for Human Identification.** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Madison Schackmuth and Sarah Kerrigan. **Temperature and pH-Dependent Stability: Identifying Fentalog Degradation Pathways.** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Makenzie Kuehn, J. Tyler Davidson and Geraldine Monjardez. **An Assessment of Field- Portable Instrumentation for Pre-Blast Explosives Detection.** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Morgan Carpenter, Jared Estevanes and Patrick Buzzini. Assessing the Individual and Joint Use of Ultraviolet/Visible (UV/VIS) Microspectrophotometry and Scanning Electron Microscopy/Energy Dispersive Spectroscopy (SEM/EDS) to the Differentiation of Colored Spray Paint. Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Natalia Czado, Bobby LaRue, Amanda Wheeler, Rachel Houston, Amy Holmes, Kelly Grisedale and Sheree Hughes. **The Effectiveness of Various Strategies to Improve DNA Analysis of Fromaldehyde-damaged Tissues from Embalmed Cadavers for Human Identification Purposes.** Journal of Forensic Sciences, Epub ahead of print DOI: 10.1111/1556-4029.15200 (Feb 2023).

- Natalia Czado, Sheree Hughes and Rachel Houston. **The Optimization of Single Nucleotide Polymorphism (SNP) SNaPshot™ Multiplexes to Distinguish Fiber and Drug-Type Cannabis Sativa.** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Patrick Buzzini and Tim Kalafut. **"Back to the Future"—Bayes' Theorem Goes Around, Comes Around.** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Peter De Forest, Michelle Miranda, Patrick Buzzini and Sheila Willis. **An Exercise in Scientific Problem Solving.** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Sarah Kerrigan and Jessica Ayala. **High-Resolution Mass Spectrometry Screening in Forensic Toxicology: Cost Benefit Analysis.** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Taylor Parmer, Geraldine Monjardez, Jorn (Chi-Chung) Yu and Sarah Stewart. The Development of a Self-Assembled Gold Nanoparticle Thin Film to Support Field Detection of Trace Chemicals. Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Ting-Yu Huang and Jorn (Chi-Chung) Yu. **The Detection of Gasoline in Fire Debris Using Artificial Intelligence: Image Transformation of Gas Chromatography and Mass Spectrometry.** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Ting-Yu Huang and Jorn (Chi-Chung) Yu. **The Development of Carbon Nanotubes-Assisted Solid-Phase Microextraction for Fire Debris Analysis.** Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Ya-Chih (Jessica) Cheng and Rachel Houston. The Development of a Next Generation Sequencing Panel Targeting Cannabinoid Synthase Genes to Distinguish Between Marijuana and Hemp. Proceedings from the American Academy of Forensic Sciences (Feb 2023).
- Erin Bruner and Geraldine Monjardez. **Development of SERS Evidence Swabs using a Silver Nanoparticle Biosynthesis for the Detection of Animal Blood.** Journal of Raman Spectroscopy, Epub ahead of print <u>DOI: 10.1002/jrs.6479</u> (Dec 2022).

- Amanda Pacana and Madeleine Swortwood. **Evaluation and Limitations of Dried Plasma Spot (DPS) Testing for Opioids.** Proceedings from the Society of Toxicology (Nov 2022).
- Julia Wang, Sheree Hughes, Brendan Chapman, Andrew Currie and Rachel Houston. **If the Trap Fits: Immunomagnetic Isolation of Spermatoza.** Proceedings from the International Symposium on Human Identification (Nov 2022).
- Julia Wang, Grace Rutledge, Rachel Houston and Sheree Hughes. **The Y's and How's of Screening with QIAGEN Casework GO!** Proceedings from the International Symposium on Human Identification (Nov 2022).
- Safia Boodoosingh, Hannah Kelly, James Curran and Tim Kalafut. **Evaluation of Inter-laboratory Probabilistic Genotyping Parameters.** Proceedings from the International Symposium on Human Identification (Nov 2022).
- Alleigh Couch, Jared Sharp and J. Tyler Davidson. **Assessing the Effectiveness of the NIST DART-MS Forensics Database and Data Interpretation Tool for Designer Drug Screening with Alternative Instrumentation.** International Journal of Mass Spectrometry, Epub ahead of print <u>DOI: 10.1016/j.fsigss.2022.10.021</u> (Oct 2022).
- Andrea Bonicelli, William Cheung, Sheree Hughes, Daniel Wescott and Noemi Procopio.

  Preliminary Investigation of the Effect of Maceration Procedures on Bone

  Metabolome and Lipidome. Metabolites, Epub ahead of print DOI:

  10.3390/metabo12111020 (Oct 2022).
- Jessica Ayala and Sarah Kerrigan. **Development of a Supported Liquid Extraction (SLE) High Resolution Mass Spectrometry-based Drug Screening Protocol for Comprehensive Toxicological Analysis of Whole Blood.** Proceedings from the Society of Forensic Toxicologists (Oct 2022).
- Natalia Czado, Rachel Houston and Sheree Hughes. **Comparison of Metal Ions Recovered during DNA Analysis of Brass Ammunition and Effects of Copper and Zinc Ions on DNA Profiling.** Forensic Science International: Genetics, Epub ahead of print <u>DOI:</u> 10.1016/j.fsigss.2022.10.021 (Oct 2022).
- Andra Lewis, Lauryn Alexander, Patrick Buzzini and Tatiana Trejos. **A Comparative Study on the Background Presence of Glass and Paint in Various Populations and Seasons in the United States.** Proceedings from Inter/Micro (Sept 2022).

- Andra Lewis, Geraldine Monjardez and Patrick Buzzini. The Use of Microscopy and Spectroscopic Techniques in the Differentiation of Darkly Colored Automotive Carpet Fibers. Proceedings from Inter/Micro (Sept 2022).
- Cesar Cantu, Sibyl Bucheli and Rachel Houston. **Recovery of Human DNA from Maggots using Different DNA Extraction Methods.** Proceedings from the International Society for Forensic Genetics (Sept 2022).
- Damani Johnson, Ryan Gutierrez, Rachel Houston and Tim Kalafut. **Detection and Analysis of DNA Mixtures with the MiSeq FGx.** Proceedings from the International Society for Forensic Genetics (Sept 2022).
- Jennifer Snedeker, David Russell, Michelle Peck, Amy Holmes, Christina Neal, Carmen Reedy, Sheree Hughes and Rachel Houston. **Investigation of Downstream Processing Methods for Challenging Skeletal Samples.** Proceedings from the International Society for Forensic Genetics (Sept 2022).
- Jessica Cheng, Madeline Roman, Sarah Kerrigan and Rachel Houston. **Development of a**Next Generation Sequencing Panel Targeting Cannabinoid Synthase Genes to

  Distinguish between Marijuana and Hemp. Proceedings from the International Society for Forensic Genetics (Sept 2022).
- Natalia Czado, Rachel Houston and Sheree Hughes. **Evaluation of Metal Ion and DNA Recovery from the Surface of Brass Ammunition to Improve STR Profiling.**Proceedings from the International Society for Forensic Genetics (Sept 2022).

### Academic Year 2021-2022

- Jared Sharp, Daniel Do and J. Tyler Davidson. Assessment of the Similarity Between In-Source Collision-Induced Dissociation (IS-CID) Fragment Ion Spectra and Tandem Mass Spectrometry (MS/MS) Product Ion Spectra for Seized Drug Identifications. Journal of Forensic Chemistry, Epub ahead of print DOI: 10.1016/j.forc.2022.10041 (Aug 2022).
- John Buckleton, Tim Kalafut and James Curran. **Guiding Proposition Setting in Forensic DNA Interpretation.** Science & Justice, Epub ahead of print <u>DOI:</u> 10.1016/j.scijus.2022.08.002 (Aug 2022).
- Lucio Avellaneda, Ryan Gutierrez and Rachel Houston. **Plexity Considerations for the ForenSeq MainstAY Kit.** Proceedings from the International Society for Forensic Genetics (Aug 2022).
- Julia Wang, Grace Rutledge, Rachel Houston and Sheree Hughes. **Mind Your X's and Y's: Screening with QIAGEN Casework GO!** Proceedings from the Association of Forensic DNA Analysts and Administrators (Jul 2022).
- Kari Graham and Rachel Houston. **An Evaluation of Chloroplast DNA Barcoding Markers to Individualize Papaver Somniferum for Forensic Intelligence Purposes.**International Journal of Legal Medicine, Epub ahead of print DOI: 10.1007/s00414-022-02862-6 (Jul 2022).
- Natalia Czado, Rachel Houston and Sheree Hughes. **Evaluation of Metal Ion and DNA Recovery from the Surface of Brass Ammunition to Improve STR Profiling.**Proceedings from the Association of Forensic DNA Analysts and Administrators (Jul 2022).
- Ryan Gutierrez, Madeline Roman, Rachel Houston and Tim Kalafut. **Detection and Anaylsis of DNA Mixtures with the MiSeq FGx®.** Science & Justice, Epub ahead of print <u>DOI:</u> 10.1016/j.scijus.2022.07.008 (Jul 2022).
- Safia Boodoosingh, Hannah Kelly and Tim Kalafut. **An Early Look at an Inter-Laboratory STRmix Concordance Study.** Proceedings from the Association of Forensic DNA Analysts and Administrators (Jul 2022).

- J. Tyler Davidson, Jared Sharp and Daniel Do. Quantifying the Mass Spectral Similarity Between IS-CID Fragment Ion Spectra and MS/MS Product Ion Spectra for Seized Drug Identifications. Proceedings from the American Society for Mass Spectrometry (Jun 2022).
- Ryan Gutierrez, Madeline Roman, Michelle Harrel, Sheree Hughes, Bobby LaRue and Rachel Houston. **Assessment of the ForenSeq mtDNA Control Region Kit and Comparison of Orthogonal Technologies.** Forensic Science International: Genetics, Epub ahead of print <u>DOI:10.1016/j.fsigen.2022.10271</u> (May 2022).
- Madeline Roman, Ya-Chih Cheng, Sarah Kerrigan and Rachel Houston. **Evaluation of Tetrahydrocannabinolic Acid (THCA) Synthase Polymorphisms for Distinguishing Between Marijauna and Hemp.** Journal of Forensic Sciences, Epub ahead of print DOI: 10.1111/1556-4029.15045 (Apr 2022).
- Sheree Hughes. A World of Possibility: Where Forensic Biology and Human Decomposition Meet. Proceedings from the Bode (Apr 2022).
- Tim Kalafut. **Great Expectations: Do Experts Have Any Expertise?** Proceedings from the Southern Association of Forensic Scientists (Apr 2022).
- Tim Kalafut. An Overview of the Proposed OSAC Human Forensic Biology Best Practices for Evaluative DNA Testimony. Proceedings from the Southern Association of Forensic Scientists (Apr 2022).
- Damani Johnson, Ryan Gutierrez, Danielle Boisvert and Rachel Houston. **Exploring Environmental and Genetic Influences on Substance Abuse Behavior.**Proceedings from the Academy of Criminal Justice Sciences (Mar 2022).
- Madeline Roman, Ryan Gutierrez and Rachel Houston. **Massively Parallel Sequencing of Cannabis sativa Chloroplast Hotspots for Forensic Typing.** Journal of Cannabis Research, Epub ahead of print <u>DOI: 10.1186/s42238-022-00123-2</u> (Mar 2022).
- Patrick Buzzini, Meggan King Dempsey, Gary Laughlin and Sebastian Sparenga. The Effect of Ultraviolet Radiation on Dyed Man-Made Textile Fibers Using UV-Vis Microspectrophotometry (MSP): Technical Aspects on Spectral Alterations in Time. The Microscope, 69 (1):13-24 (First Quarter Mar 2022).

- Tim Kalafut, Jo-Anne Bright, Duncan Taylor and John Buckleton. Investigation into the Effect of Mixtures Comprising Related People on Non-donor Likelihood Ratios, and Potential Practices to Mitigate Providing Misleading Opinions. Forensic Science International: Genetics, Epub ahead of print DOI: 10.1016/j.fsigen.2022.102691 (Mar 2022).
- Ting-Yu Huang, Jianzhong Wang, Qingzhong Liu and Jorn Yu. **The Application of Wavelet Transform of Raman Spectra to Facilitate Transfer Learning for Gasoline Detection and Classification.** Talanta Open, Epub ahead of print DOI: 10.1016/j.talo.2022.100106 (Mar 2022).
- Ting-Yu Huang and Jorn Chi Chung Yu. **New Framework to Support Headspace Chemical Forensics using Wavelet Scalogram Visualization of Mass Spectrometry Data and Transfer Learning.** Proceedings from the American Chemical Society (Mar 2022).
- Andra Lewis and Patrick Buzzini. The Impact of Ultraviolet (UV) Radiation and Plane Polarized Light (PPL) Microspectrophotometry (MSP) in the Characterization and Differentiation of Deeply Colored Automotive Fibers. Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Cesar Cantu, Sibyl Bucheli and Rachel Houston. A Comparison of DNA Extraction Techniques for the Recovery of Bovine DNA from Fly Larvae Crops. Journal of Forensic Science, Epub ahead of print DOI: 10.1111/1556-4029.15010 (Feb 2022).
- Cesar Cantu, Sibyl Bucheli and Rachel Houston. A Comparison of DNA Extraction Techniques for the Recovery of Bovine DNA from Maggot Crops. Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Christina Smith and Madeleine Swortwood. An Analysis of Methylphenidate, Ethylphenidate, Lisdexamfetamine, and Amphetamine in Oral Fluid by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Clarra Moore and Patrick Buzzini. Hyperspectral Imaging and Gray Value Analysis of Porous-Tipped Pen Samples Composed of Unknown Inks. Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Damani Johnson and Tim Kalafut. **The Effect of Pull-Up on the Allele Peak Heights and the Weights of Genotypes for Minor Donors.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).

- Geraldine Monjardez, Erin Bruner, Rajesh Balaraman and Patrick Buzzini. **The Detection of Animal Blood Using Green Synthesized Surface-Enhanced Raman Spectroscopy (SERS).** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Glendon Parker, Jennifer Snedeker, Trevor Borja and Rachel Houston. **Proteomic Genotyping in Compromised Skeletal Remains.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Grace Rutledge, Aaron Lynne, Rachel Houston and Sheree Hughes. **Evaluating the Effectiveness of Microbial DNA Extraction Kits for Intimate Samples.**Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Heather Deel, Alexandra Emmons, Jennifer Kiely, Franklin Damann, David Carter, Aaron Lynne, Rob Knight, Zhenjiang Xu, Sibyl Bucheli and Jessica Metcalf. A Pilot Study of Microbial Succession in Human Rib Skeletal Remains During Terrestrial Decomposition. Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- James Miller, Kay McClain, Charles Cline, Ya-Chih Cheng and Sarah Kerrigan. A Retrospective Review of Hemp/Marijuana Decision Point Assays in Operational Laboratories. Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Jared Estevanes, Rajesh Balaraman, Patrick Buzzini and Geraldine Monjardez. A Microscopical Examination and Elemental Analysis of Automotive Lubricating Greases. Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Jared Sharp and J. Tyler Davidson. Identifying the Similarity Between In-Source Collision-Induced Dissociation (IS-CID) Fragment Ion Spectra and Tandem Mass Spectrometry (MS/MS) Product Ion Spectra for Seized Drug Identifications.

  Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Jennifer Snedeker, David Russell, Michelle Peck, Amy Holmes, Elayna Ciuzio, Christina Neal, Carmen Reedy, Sheree Hughes and Rachel Houston. The Optimization of the InnoXtract™ Extraction and Purification System for DNA Extraction from Skeletal Samples and Analysis of Subsequent Downstream Processing Methods. Proceedings from the American Academy of Forensic Sciences (Feb 2022).

- Jessica Ayala, Sarah Kerrigan, Vadim Kalmeyer, Bjorn Ogren, Peter Stone and Karen Yannell.

  The Application of All Ions Data Acquisition and SureMass Quantitative Data

  Analysis for Comprehensive Drug Screening Detection in Whole Blood.

  Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Kari Graham and Rachel Houston. **An Evaluation of Chloroplast DNA Barcoding Markers to Individualize** *Papaver Somniferum* **for Forensic Intelligence Purposes.**Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Kayli Carrillo, Alexis Moser and Jennifer Turner. **An Internal Validation Study of the TopMatch 3D Scanner for Cartridge Cases.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Kintress Watson, Kaitlyn Palmquist and Madeleine Swortwood. **Fentanyl Analogs in Dried Plasma Spots (DPS): A Novel Technique.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Lauryn Alexander, Oriana Ovide, Olivia Duffett, Andra Lewis-Krick, Patrick Buzzini and Tatiana Trejos. A Comparative Study on the Background Presence of Glass and Paint in Various Populations and Seasons in the United States. Proceedings of the American Academy of Forensic Sciences (Feb 2022).
- Lucio Avellaneda, Ryan Gutierrez and Rachel Houston. **The Forensic Utility of the ForenSeq™ MainstAY Kit with Challenging Samples.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Natalia Czado and Sheree Hughes. The Quantification of Metal Ions Recovered During DNA Analysis of Brass Ammunition Using Inductively Coupled Plasma/Optical Emission Spectrometer (ICP/OES). Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Michelle Miranda, Sheila Willis, Patrick Buzzini and Rebecca Bucht. **Reclaiming Forensic Science: A Closer Look at the Sydney Declaration.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Michelle Peck, Stephen Turner, V. Peter Nagraj, David Russell, Jessica Bouchet, Amy Holmes, Rachel Houston, Jennifer Snedeker, Carmen Reedy and Christina Neal.

  Internal Validation of the ForenSeq™ Kintellignece Kit for Application to Forensic Genetic Genealogy Cases. Proceedings from the American Academy of Forensic Sciences (Feb 2022).

- Rachel Houston, Timothy Kalafut and Ryan Gutierrez. **The Detection and Analysis of DNA Mixtures with the MiSeq® FGx™.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Ruby Liliedahl and Tifani Parker. **The Effects of Storage Time, Adverse Storage Conditions, and Lab Exposure on Blood Alcohol Concentrations.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Samantha Davis, Julia Wang, Rachel Houston, Sheree Hughes, Brandan Chapman and Andrew Currie. **Magnetic Bead Capture of Sperm Cells by Sperm-Specific Antibodies.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Sophia Mavroudas, Downie Steadman, Katie Zedjlik, Daniel Wescott, Timothy Gocha, Sheree Hughes, Gretchen Dabbs, Melissa Connor, Jodie Ward, Erin Kimmerle, Jane Harris, Shari Forbes and Anthony Falsetti. **50 Years of Taphonomic Research: From Death's Acre to a Global Footprint.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Timothy Kalafut, Jo-Anne Bright, Duncan Taylor and John Buckleton. **Interpreting DNA Mixtures with Extreme Allele Overlap.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Ting-Yu Huang and Jorn Chi-Chung Yu. **The Classification of Cannabis Varieties Through Headspace Chemical Analysis and Transfer Learning.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Ya-Chih Cheng, Rachel Houston, Sarah Kerrigan and Madeline Roman. **The Evaluation of Cannabinoid Synthase Polymorphisms for Distinguishing Between Marijuana and Hemp.** Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Ya-Chih Cheng and Sarah Kerrigan. Factors Influencing the *In Situ* Formation of Psychoactive Cannabinoids from Cannabidiol During Gas Chromatography/Mass Spectrometry (GC/MS) Analysis. Proceedings from the American Academy of Forensic Sciences (Feb 2022).
- Christina Smith and Madeleine Swortwood. **Analysis of Methylphenidate, Ethylphenidate, Lisdexamfetamine, and Amphetamine in Oral Fluid by Liquid Chromatography-Tandem Mass Spectrometry.** Journal of Forensic Sciences, Epub ahead of print, <u>DOI: 10.1111/1556-4029.14977</u> (Jan 2022).

- Christina Smith and Madeleine Swortwood. **Chiral Separation and Quantification of d,l-methylphenidate, d,l-ethylphenidate and Ritalinic Acid in Bood by LC-MS/MS.**Forensic Chemistry, Epub ahead of print DOI: 10.1016/j.forc.2022.100400 (Jan 2022).
- Michael Truver, Gerd Jakobsson, Maria Chermà, Madeleine Swortwood, Henrik Gréen and Robert Kronstrand. **Urinary Pharmacokinetics of Immediate and Controlled Release Oxycodone and its Phase I and II Metabolites Using LC-MS-MS.** Journal of Analytical Toxicology, Epub ahead of print <u>DOI: 10.1093/jat.bkab123</u> (Dec 2021).
- Andra Lewis and Patrick Buzzini. **The Differentiation of Dark Colored Automotive Carpet Fibers using Plane-Polarized Light Ultraviolet-Visible Microspectrophotometry.**Proceedings from the Northeastern Association of Forensic Scientists (Nov 2021).
- Jessica Ayala and Sarah Kerrigan. **High Resolution Mass Spectrometry Screening in Impaired Driving Investigations.** Proceedings from the Northeastern Association of Forensic Scientists (Nov 2021).
- Michelle Harrel, Madeline Ashton and Sheree Hughes. **Bones: STR Workflows, DNA Extraction with a Twist...and Quite a Bit More.** Proceedings from the Bode Conference (Oct 2021).
- Tim Kalafut, Simone Pugh, Peter Gill, Sarah Abbas, Marie Semaan, Issam Mansour, James Curran, Jo-Anne Bright, Tacha Hicks, Richard Wivell and John Buckleton. **A Mixed DNA Profile Controversy Revisited.** Journal of Forensic Sciences, Epub ahead of print DOI: 10.111/1556-4029.14912 (Oct 2021).
- Sun Yi Li, Madeleine Swortwood and Jorn Chi Chung Yu. **Determination of Morphine,**Codeine, and Thebaine Concentrations from Poppy Seed Tea using Magnetic
  Carbon Nanotubes Facilitated Dispersive Micro-Solid Phase Extraction and GCMS Analysis. Forensic Science International, Epub ahead of print DOI:
  10.1016/j.forsciint.2021.111052 (Oct 2021).
- Badiah Hannon, Rachel Houston and Tim Kalafut. **Examining Partition Efficiency of Cell Types Following QIAcube/EZ1® Advanced XL Differential Extraction.** Proceedings from the International Symposium on Human Identification (Sept 2021).
- Christina Smith and Madeleine Swortwood. Long- And Short-Term Stability of Methylphenidate and Its Metabolites in Blood. Proceedings from the Society of Forensic Toxicologists (Sept 2021).

- Glen Jackson, Samantha Mehnert and J. Tyler Davidson. **EASI: A New Paradigm for Mass Spectral Identifications.** Proceedings from SciX (Sept 2021).
- Jessica Ayala and Sarah Kerrigan. Comprehensive Drug Screening Using Supported Liquid Extraction and Liquid Chromatography Quadrupole Time-of-Flight Mass Spectrometry. Proceedings from the Society of Forensic Toxicologists (Sept 2021).
- Lucio Avellaneda, Ryan Gutierrez and Rachel Houston. **Evaluation of the ForenSeq MainstAY Kit with Challenging Samples.** Proceedings from the International Symposium on Human Identification (Sept 2021).
- Michael Truver, Gerd Jakobsson, Maria Chermà, Madeleine Swortwood, Henrik Green and Robert Kronstrand. **Urinary Pharmacokinetic of Immediate and Controlled Release Oxycodone and its Phase I and II Metabolites using LC-MS/MS.**Proceedings from the Society of Forensic Toxicologists (Sept 2021).
- Sun Yi Li, Christina Smith, Sarah Bartock, Leland McClure, Les Edinboro and Madeleine Swortwood. **Evaluation of EtG and EtS Alcohol Markers in Urine and Oral Fluid After Hard Kombucha Consumption.** Society of Forensic Toxicologists (Sept 2021).
- Sun Yi Li, Ilona Petrikovics and Jorn Yu. **Performance Comparison between Solid Phase Extraction and Magnetic Carbon Nanotubes Facilitated Dispersive-Micro Solid Phase Extractions (Mag-CNTs/d-µSPE) of a Cyanide Metabolite in Biological Samples using GC-MS.** Journal of Analytical Science and Technology, Epub ahead of print <u>DOI: 10.1186/s40543-021-00296-0</u> (Sept 2021).

### Academic Year 2020-2021

- Coral Loockerman, Brittanie Miller, Rebecca Ramsey, Sheree Hughes and Rachel Houston.

  Collection and Storage of DVI Samples with microFLOQ® Direct Swabs for Direct

  Amplification. Forensic Science International: Genetics, Epub ahead of print DOI:

  10.1016/j.fsigen.2021.102588 (Aug 2021).
- Michelle Harrel, Carrie Mayes, Rachel Houston, Amy Holmes, Ryan Gutierrez and Sheree Hughes. The Performance of Quality Controls in the Investigator Quantiplex Pro RGQ and Investigator®24plex STR Kits with a Variety of Forensic Samples. Forensic Science International: Genetics, Epub ahead of print DOI: 10.1016/j.fsigen.2021.102586 (Aug 2021).
- Ruby Liliedahl and J. Tyler Davidson. **The Differentiation of Synthetic Cathinone Isomers using GC-EI-MS and Multivariate Analysis.** Journal of Forensic Chemistry, Epub ahead of print DOI: 10.1016/j.forc.2021.100349 (Aug 2021).
- Carrie Polston, David Thompson and Patrick Buzzini. **Technical Note: The Assessment of the Impact of Induction Spatial Effects on Magnetic Flux Measurements of Toner-printed Documents to the Detection of Forged or Altered Documents.**Journal of Forensic Sciences, Epub ahead of print DOI:10.1111/1556-4029.14786 (Jul 2021).
- Jared Estevanes, Rajesh Balaraman and Geraldine Monjardez. **Development of an Extraction Method for the Elemental Analysis of Microscopic Particles in Automotive Greases using SEM/EDS.** Proceedings from the Center for Forensic Research and Education's Online Trace Symposium (Jul 2021).
- Jennifer Snedeker, Sheree Hughes and Rachel Houston. **Optimization of InnoXtract™ Extraction and Purification System for DNA Extraction from Skeletal Samples.**Proceedings from the Association of Forensic DNA Analysts and Administrators (Jul 2021).
- J. Tyler Davidson. The Influence of Chemical Modifications on the Fragmentation of Fentanyl Analogs. Proceedings from the American Society of Crime Laboratory Directors Forensic Research Committee Lightning Talks (Jul 2021).
- Kaitlyn Palmquist and Madeleine Swortwood. **Quantification of Fentanyl Analogs in Oral Fluid using LC-QTOF-MS.** Journal of Forensic Sciences, Epub ahead of print <u>DOI:</u> 10.1111/1556-4029.14813 (Jul 2021).

- Lucio Avellaneda, Ryan Gutierrez and Rachel Houston. **Evaluation of the ForenSeq MainstAY Kit with Challenging Samples.** Proceedings from the Association of Forensic DNA Analysts and Administrators (Jul 2021).
- Amanda D'Orazio, Amanda Mohr, Ayako Chan-Hosokawa, Curt Harper, Marilyn Huestis, Jennifer Limoges, Amy Miles, Colleen Scarneo, Sarah Kerrigan, Laura Liddicoat, Karen Scott and Barry Logan. Recommendations for Toxicological Investigation of Drug-Impaired Driving and Motor Vehicle Fatalities—2021 Update. Journal of Analytical Toxicology, Epub ahead of print DOI: 10.1093/jat/bkab064 (Jun 2021).
- Christina Smith and Madeleine Swortwood. **Short- and Long-Term Stability of Methylphenidate and its Metabolites in Blood.** Journal of Analytical Toxicology, Epub ahead of print <u>DOI: 10.1093/jat/bkab063</u> (Jun 2021).
- Jennifer Snedeker, Sheree Hughes and Rachel Houston. **Optimization of InnoXtract™ Extraction and Purification System for DNA Extraction from Skeletal Samples.**Proceedings from the Qiagen Investigator Forum (Jun 2021).
- Sun Yi Li, Jennifer Turner, Scott Golightly, Pamela Zelbst and Jorn Yu. **Potential Impacts of 3D Modeling and 3D Printing in Firearm Toolmark Examinations.** Journal of Forensic Sciences, Epub ahead of print <u>DOI: 10.1111/1556-4029.14790</u> (Jun 2021).
- Ting-Yu Huang and Jorn Chi Chung Yu. **Development of Crime Scene Intelligence Using a Hand-Held Raman Spectrometer and Transfer Learning.** Journal of Analytical Chemistry, Epub ahead of print <u>DOI: 10.1021/acs.analchem.1c01099</u> (Jun 2021).
- Kaitlyn Palmquist and Madeleine Swortwood. **Long-Term Stability of 13 Fentanyl Analogs in Blood.** Journal of Analytical Toxicology, Epub ahead of print <u>DOI:</u> 10.1093/jat/bkab051 (May 2021).
- Ryan Gutierrez, Bobby LaRue and Rachel Houston. **Novel Extraction Chemistry and Alternative Amplification Strategies for Use with Rootless Hair Shafts.** Journal of Forensic Sciences, Epub ahead of print <u>DOI: 10.1111/1556-4029.14763</u> (May 2021).
- Sarah Kerrigan and Stephanie Basiliere. **Kratom: A Systematic Review of Toxicological Issues.** Wiley Interdisciplinary Reviews: Forensic Science, Epub ahead of print <u>DOI:</u> 10.1002/wfs2.1420 (May 2021).
- Carrie Polston, Yuriy Agalidy, Arif Mamedov and Patrick Buzzini. **Technical Note: A Preliminary Evaluation of a Method for the Examination of Text Substitutions using Magneto-optical Measurements.** Forensic Science International, Epub ahead of print DOI: 10.1016/j.forsciint.2021.110776 (Apr 2021).



- Tim Kalafut. Hard Mixtures!—Should I Report This or Not, and What Would Reverend Bayes Say? Proceedings from the Northeast Forensic Laboratory Probabilistic Genotyping Users (Apr 2021).
- Jennifer Snedeker, Trevor Borja, Rachel Houston and Glendon Parker. **Application of Proteomic Genotyping to Forensic Science Applications in Challenging Skeletal Remains.** Proceedings from Pittcon (Mar 2021).
- Kari Graham, Javier Gomez, Todd Primm and Rachel Houston. **Comparison of Nine Extraction Methods for Bacterial Identification using a Sequencer.** Proceedings from Pittcon (Mar 2021).
- Michael Truver, Gerd Jakobsson, Maria Chermà, Madeleine Swortwood, Henrik Gréen and Robert Kronstrand. A Sensitive LC-MS/MS Method for the Quantitation of Oxycodone, Noroxycodone, Oxymorphone, Noroxymorephone, 6α-oxycodol, and β-oxycodol in Human Blood. Journal of Chromatography B, Epub ahead of print DOI: 10.1016/j.jchromb.2021.122625 (Mar 2021).
- Alexandra Adeoye, Samantha Mehnert, J. Tyler Davidson and Glen Jackson. The Development of a Multivariate Mass Spectral Algorithm for the Identification of Seized Drugs. Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Alia Hacker, J. Tyler Davidson and Glen Jackson. **The Effect of Modifications to the Core Fentanyl Structure on the Observed Product Ion Spectra.** Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Amanda D'Orazio, Barry Logan, Amanda Mohr, Ayako Chan-Hosokawa, Curt Harper, Marilyn Huestis, Sarah Kerrigan, Jennifer Limoges, Laura Liddicoat, Amy Miles and Karen Scott. Recommendations for Drug Testing in Driving Under the Influence of Drugs (DUID) and Motor Vehicle Fatality Cases—2021 Update. Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Carrie Polston and Patrick Buzzini. **Digital Walkthrough of the Validation of a Method for Measuring Magnetic Flux of Toner-Printed Documents.** Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Clarra Moore and Patrick Buzzini. An Evaluation of Gray Value Measurements and Hyperspectral Imaging (HIS) as a Method for Differentiating Optical Characteristics of Porous-Tipped Ink Pens. Proceedings from the American Academy of Forensic Sciences (Feb 2021).

- Christina Smith, Marlon Young and Madeleine Swortwood. Chiral Separation and Analysis of Methylphenidate, Ethylphenidate, and Ritalinic Acid in Blood by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Curt Schuerman, Tim Kalafut, Clinton Buchanan, Joel Sutton, Jo-Anne Bright and Brian Higgins. **How to Deal with Low Likelihood Ratios (LRs) in Mixed DNA Samples.**Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Jennifer Kiely, Kate Lesciotto and Sheree Hughes. A Survey of Skeletal Trauma within the Southeast Texas Applied Forensic Science Collection: A Wealth of Research Opportunity. Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Kaitlyn Palmquist and Madeleine Swortwood. Long-Term Stability Assessment of Fentanyl Analogs in Blood Using Liquid Chromatography/Quadrupole Time-Of-Flight/Mass Spectrometry (LC/QTOF/MS). Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Lucio Avellaneda, Ryan Gutierrez, Damani Johnson, Bobby LaRue and Rachel Houston. **The**Development of a Five-Dye Insertion/Deletion (INDEL) Panel for Ancestry

  Determination. Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Ruby Liliedahl and J. Tyler Davidson. **The Differentiation of Synthetic Cathinone Isomers by Gas Chromatography/Electron Ionization/Mass Spectrometry (GC/EI/MS) and Multivariate Analysis.** Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Sarah Kerrigan, Ya-Chih Cheng, Chance Cline, Kay McClain and James Miller. **The Results of an Interlaboratory Validation to Differentiate Marijuana from Hemp.**Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Sudhir Sinha, Andrew Loftus, Ryan Gutierrez, Clarra Krzykwa and Hiromi Brown. **The Development of a DNA Extraction Method for Rootless Hair Shafts.** Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Tim Kalafut. Adventitious vs False Inclusions: LR Magnitudes and What They Mean.

  Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Tim Kalafut. **Bayesian Framework and the Court Do They Go Together?** Proceedings from the American Academy of Forensic Sciences (Feb 2021).

- Tim Kalafut. **Bayes' Theorem, Forensic Science, and the Law: Long-Lost Relatives or Feuding Family?** Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Tim Kalafut. **Setting Propositions.** Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Ting-Yu Huang and Jorn Chi-Chung Yu. **The Application of Wavelet Transform and Transfer Learning for Gasoline Classification Using a Hand-Held Raman Spectrometer.** Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Ya-Chih Cheng and Sarah Kerrigan. **The Differentiation of Hemp from Marijuana Using a Qualitative Decision-Point Assay.** Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Ya-Chih Cheng, Madeline Roman and Rachel Houston. **An Evaluation of Hotspot Chloroplast Regions to Differentiate Crop Type and Biogeographical Origin of Cannabis Sativa.** Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Ya-Chih Cheng and Rachel Houston. **Evaluation of the trnK-matK-trnK, ycf3, and accD-psal Chloroplast Regions to Differentiate Crop Type and Biogeographical Origin of Cannabis sativa.** International Journal of Legal Medicine, Epub ahead of print <u>DOI:</u> 10.1007/s00414-021-02518-x (Feb 2021).
- Victoria Pieczynski, Celestina Rossi and Jorn Chi-Chung Yu. **The Visualization of Seminal Stains on Dark Textiles.** Proceedings from the American Academy of Forensic Sciences (Feb 2021).
- Michael Truver, Gerd Jakobsson, Maria Chermà, Madeleine Swortwood, Henrik Gréen and Robert Kronstrand. **The Quantification of Oxycodone and its Phase I and II Metabolites in Urine.** Journal of Analytical Toxicology, Epub ahead of print DOI: 10.1093/jat/bkaa186 (Dec 2020).
- J. Tyler Davidson, Zachary Sasiene and Glen Jackson. Comparison of In-source Collision-induced Dissociation and Beam-type Collision-induced Dissociation of Emerging Synthetic Drugs using a High-resolution Quadrupole Time-of-Flight (Q-TOF) Mass Spectrometer. Journal of Mass Spectrometry, Epub ahead of print DOI: 10.1002/jms.4679 (Nov 2020).

- Indika Warnakula, Afshin Ebrahimpour, Sun Yu Li, Ramesha Ralalage, Chathuranga Hewa-Rahinduwage, Márton Kiss, Christian Rios, Kyler Kelley, Ashley Whiteman, David Thompson, Gary Rockwood and Ilona Petrikovics. **Evaluation of the Long-Term Storage Stability of the Cyanide Antidote: Dimethyl Trisulfide and Degradation Product Identification.** ACS Omega, Epub ahead of print <u>DOI: 10.1021/acsomega.0c03208</u> (Oct 2020).
- Madeline Roman, David Gangitano, Alejandra Figueroa, Jaime Solano, Leonardo Anaabalón and Rachel Houston. **Use of Eucalyptus DNA Profiling in a Case of Illegal Logging.**Journal of Science & Justice, Epub ahead of print <u>DOI:10.1016/j.scijus.2020.09.005</u> (Oct 2020).
- Robert Pitts, Mingkui Wei, Jorn Yu and Alicia Rairden. **Empirical Comparison of DSLRs and Smartphone Cameras for Latent Prints Photography.** WIREs Forensic Science, Epub ahead of print <u>DOI: 10.1002/wfs2.1391(Sept 2020)</u>.
- Christina Smith, Svante Vikingsson, Robert Kronstrand and Madeleine Gates. Chiral Separation and Quantitation of Methylphenidate, Ethylphenidate and Ritalinic Acid using Supercritical Fluid Chromatography. Proceedings from the Society of Forensic Toxicologists (Sept 2020).
- Jessica Ayala and Sarah Kerrigan. Efficacy of Sample Preparation Techniques on Whole Blood Prior to High-Resolution Mass Spectrometry (HRMS) Drug Screening. Proceedings from the Society of Forensic Toxicologists (Sept 2020).
- Michael Truver, Christina Smith, Nancy Garibay, Theresa Kopajtic, Madeleine Swortwood and Michael Baumann. **Pharmacodynamics and Pharmacokinetcs of U-47700 and its Metabolites in Rats.** Proceedings from the Society of Forensic Toxicologists (Sept 2020).
- Patrick Buzzini and James Curran. *Interpreting Trace Evidence* in **Handbook of Trace Evidence Analysis.** Ed. By Vincent Desiderio, Chris Taylor and Niamh NicDaéid, 1st edition, Chichester: Wiley (Sept 2020).
- Ryan Gutierrez, Michelle Harrell, Sheree Hughes, Bobby LaRue and Rachel Houston. **Moving**Forward: Applying Massively Parallel Sequencing to Achieve Quality
  Mitochondrial Sequencing Results. Proceedings from the International
  Symposium on Human Identification (Sept 2020).

Sun Yi Li, Christina Smith, Sarah Bartock, Leland McClure, Les Edinboro and Madeleine Gates. Evaluation of Alcohol Markers in Urine and Oral Fluid after Kombucha Consumption. Proceedings from the Society of Forensic Toxicologists (Sept 2020).

## Academic Year 2019-2020

- Amanda Jenkins and Madeleine Gates. *Hallucinogens and Psychedelics* in **Principles of Forensic Toxicology.** Ed. by Barry Levine and Sarah Kerrigan, 5th edition, Zurich: Springer International (Aug 2020).
- Emily Fairbanks, Jennifer Turner, Junkun Ma and Jorn Yu. **Development of a Novel Finger-Trigger Interface for Trigger Pull Measurement.** Journal of Forensic Science, Epub ahead of print <u>DOI: 10.1111/1556-4029.14538</u> (Aug 2020).
- Jessica Cheng, Madeline Roman and Rachel Houston. **Genetic Differentiation of Marijuana and Hemp.** Proceedings from the Association of Forensic DNA Analysts and Administrators (Aug 2020).
- Lindsay Glicksberg and Sarah Kerrigan. *Derivatization* in **Principles of Forensic Toxicology.**Ed. by Barry Levine and Sarah Kerrigan, 5th edition, Zurich: Springer International (Aug 2020).
- Patrick Buzzini and Sarah Kerrigan. Statistics for Forensic Toxicology in **Principles of Forensic Toxicology.** Ed. by Barry Levine and Sarah Kerrigan, 5th edition, Zurich:
  Springer International (Aug 2020).
- Ryan Gutierrez, Bobby LaRue and Rachel Houston. **Alternative Processing Techniques for Highly Degraded Samples.** Proceedings from the Association of Forensic DNA Analysts and Administrators (Aug 2020).
- Sarah Kerrigan and Bruce Goldberger. *Opioids* in **Principles of Forensic Toxicology.** Ed. by Barry Levine and Sarah Kerrigan, 5th edition, Zurich: Springer International (Aug 2020).
- Andra Lewis, Chris Palenik, Skip Palenik and Patrick Buzzini. The Differentiation of Macroscopically Similar Black Fibers through Characterization of Nylanthrene Dyes using UV-Visible Microspectrophotometry and Thin Layer Chromatography. Proceedings from the Center for Forensic Research and Education's Online Trace Symposium (Jul 2020).
- Britni Skillman and Sarah Kerrigan. **Drug-Mediated Ion Suppression and Mitigation of Interferences Using Liquid Chromatography-Quadrupole/Time of Flight Mass Spectrometry (LC-Q/TOF-MS) and Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS)**. Journal of Chromatography B, Epub ahead of print <u>DOI 10.1016/j.jchromb.2020.122265</u> (Jul 2020).

- Madeline Roman and Rachel Houston. Investigation of Chloroplast Regions rps16 and clplP for Determination of Cannabis sativa Crop Type and Biogeographical Original. Legal Medicine, Epub ahead of print DOI: 10.1016/j.legalmed.2020.101759 (Jul 2020).
- Melissa Rae Garcia, Madeleine Swortwood, Christine Nicole Aune and Kaashif Aqeeb Ahmad. **Maternal Poppy Seed Tea Ingestion and Ensuing Neonatal Abstinence Syndrome.** Neonatology, Epub ahead of print <u>DOI:10.1159/000508446</u> (Jul 2020).
- Morgan Carpenter and Patrick Buzzini. On the Effect of Data Fusion Methods for the Classification of Colored Automotive Paint Mixtures using Visible Microspectrophotometry and Raman Spectroscopy. Proceedings from the Center for Forensic Research and Education's Online Trace Symposium (Jul 2020).
- Michael Baumann, Nancy Garibay, Michael Truver, Christina Smith and Madeleine Swortwood. **Pharmacodynamic Effects, Pharmacokinetics, and Metabolism of the Novel Synthetic Opioid, U-47700, in Male Rates.** Proceedings from the College on Problems of Drug Dependence (Jun 2020).
- Michael Truver, Christina Smith, Nancy Garibay, Theresa Kopajtic, Madeleine Swortwood and Michael Baumann. **Pharmacodynamics and Pharmacokinetics of the Novel Synthetic Opioid, U-47700, in Male Rats.** Neuropharmacology, Epub ahead of print DOI: 10.1016/j.neuropharm.2020.108195 (Jun 2020).
- Stephanie Basiliere, Justin Brower, Laura Friederich, Ruth Winecker and Sarah Kerrigan.

  Identification of Five Mitragyna Alkaloids in Blood and Tissue using Liquid

  Chromatography-Quadrupole/Time of Flight Mass Spectrometry. Forensic

  Toxicology, Epub ahead of print DOI: 10.1007/s11419-020-00537-8 (May 2020).
- Britni Skillman and Sarah Kerrigan. **CYP450-Mediated Metabolism of Suvorexant and Investigation of Metabolites in Forensic Case Specimens.** Forensic Science International, Epub ahead of print <u>DOI: 10.1016/j.forsciint.2020.110307</u> (Apr 2020).
- Erin Karschner, Madeleine Swortwood-Gates, and Marilyn Huestis. **Identifying and Quantifying Cannabinoids in Biological Matrices in the Medical and Legal Cannabis Era.** Clinical Chemistry, Epub ahead of print <u>DOI:</u> 10.1093/clinchem/hvaa113 (Mar 2020).
- Jessica Lynn Ayala and Sarah Kerrigan. **HRMS-based Drug Screening in Forensic Toxicology: Data Acquisition Comparison.** Proceedings from the NIJ Forensic Science Research and Development Symposium at Pittcon (Mar 2020).

- Andra Lewis, Chris Palenik, Skip Palenik and Patrick Buzzini. **Characterization of Nylanthrene Dyes in the Differentiation of Macroscopically Similar Black Fibers using Light Microscopy and UV-Visible Microspectrophotometry.** Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Carrie Polston, Williams Mazzella and Patrick Buzzini. **Investigating the Interlaboratory Reproducibility of Magnetic Flux Measurements of Toners.** Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Christina Smith and Madeleine Swortwood. **Chiral Separation of Methylphenidate, Ethylphenidate, and Ritalinic Acid in Blood.** Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Coral Loockerman, Sheree Hughes-Stamm and Rachel Houston. Direct Polymerase Chain Reaction Using MicroFLOQ® Direct Swabs with a Modified Qiagen® Investigator 24plex GO! Protocol from Decomposing Human Remains for Disaster Victim Identification Applications. Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Jessica Ayala and Sarah Kerrigan. Comparison of Data Acquisition Methods for High Resolution Mass Spectrometry Drug Screening. Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Kaitlyn Palmquist and Madeleine Swortwood. **Quantification of Furanyl Fentanyl and its**Metabolites in Human and Rat Plasma using LC-MS/MS. Journal of Analytical Toxicology, Epub ahead of print DOI: 10.1093/jat/bkaa013 (Feb 2020).
- Madeline Roman, Ryan Gutierrez, Carrie Mayes, Bobby LaRue and Rachel Houston. Evaluation of the Investigator® 26plex QS STR Kit and Comparison with Two Commercially Available STR Kits. Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Madison Schackmuth and Sarah Kerrigan. **Physiochemical Characterization of 19 Fentalogs: Lipophilicity.** Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Morgan Carpenter and Patrick Buzzini. **Data Fusion from Spectroscopic Techniques for the Discrimination of Colored Automotive Paint Mixtures.** Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Nicholas Frey, Carilyn Santisteban, Khalid Noman, Mingkui Wei and Jorn Chi-Chung Yu. **The Development of an Intelligent Mobile Application to Enhance the Quality of**

- **Latent Fingerprint Acquisition.** Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Patrick Buzzini. **The Methodology of Criminalistics Developed...By Crossing Borders.**Proceedings at the Young Forensic Scientists Forum from the American Academy of Forensic Sciences (Feb 2020).
- Ryan Gutierrez and Bobby LaRue. **DNA Profiling of Rootless Hair Shafts Utilizing Massively Parallel Sequencing and Bi-Allelic Assays.** Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Ryan Gutierrez, LeAnn Michelle Harrel, Sheree Hughes-Stamm, Rachel Houston and Bobby LaRue. Mitochondrial Analysis of Challenging Samples Utilizing the ForenSeq™ mtDNA Control Region Solution on the MiSeq FGx. Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Stephanie Basiliere and Sarah Kerrigan. **CYP450-Mediated Metabolism of Mitragynine** and Investigation of Metabolites in Human Urine. Journal of Analytical Toxicology, Epub ahead of print <u>DOI: 10.1093/jat/bkz108</u> (Feb 2020).
- Stephanie Basiliere and Sarah Kerrigan. Identification of Mitragyna Alkaloids and Metabolites as Biomarkers of Kratom Use in Postmortem Urine Samples.

  Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Sun Yi Li and Jorn Yu. An Advanced Extraction Method for Cyanide Metabolite Using Magnetic Carbon Nanotubes Facilitated Dispersive Micro Solid Phase Extraction. Proceedings from the American Academy of Forensic Sciences (Feb 2020).
- Esiri Tasker, Madeline Roman, Mary Kosile, Carrie Mayes, Sheree Hughes and Bobby LaRue.

  Efficacy of "touch" DNA Recovery and Room-temperature Storage from Assault

  Rifle Magazines. Legal Medicine (Tokyo), Epub ahead or print DOI:

  10.1016/j.legalmed.2019.101658 (Jan 2020).
- Michael Truver and Madeleine Swortwood-Gates. Long-term Stability of Novel Synthetic Opioids in Blood. Forensic Science International, Epub ahead of print DOI: 10.1016/j.forsciint.2020.110175 (Jan 2020).
- Stephanie Basiliere and Sarah Kerrigan. **Identification of Metabolites and Potential Biomarkers of Kratom in Urine.** Journal of Chromatography B, Epub ahead of print DOI: 10/1016/j.jchromb.2020.121971 (Jan 2020).

- Stephanie Basiliere and Sarah Kerrigan. **Temperature and pH-Dependent Stability of Mitragyna Alkaloids.** Journal of Analytical Toxicology, Epub ahead of print <u>DOI:</u> 10.1093/jat/bkz103 (Jan 2020).
- Blake Young, Madeline Roman, Bobby LaRue, David Gangitano and Rachel Houston. **Evaluation of 19 Short Tandem Repeat Markers for Individualization of Papaver somniferum.** Epub ahead of print <u>DOI: 10.1016/j.scijus.2019.12.002</u> (Dec 2019).
- Britni Skillman and Sarah Kerrigan. Identification of Suvorexant in Blood Using LC-MS/MS: Important Considerations for Matrix Effects and Quantitative Interferences in Targeted Assays. Journal of Analytical Toxicology, Epub ahead of print DOI: 10.1093/jat/bkz083 (Nov 2019).
- Britni Skillman and Sarah Kerrigan. **Comparison of Physiochemical Properties of Suvorexant and Quantitative Results using Authentic Samples.** Proceedings from the Society of Forensic Toxicologists (Oct 2019).
- Colin Aitken, Ya-Ting Chang, Patrick Buzzini, Grzegorz Zadora and Genevieve Massonnet.

  The Evaluation of Evidence for Microspectrophotometry Data using Functional Data Analysis. Forensic Science International, Epub ahead of print DOI: 10.1016/j.forsciint.2019.110007 (Oct 2019).
- Kelsey Duxbury and Madeleine Swortwood. **Comparison of Extraction Methods for Novel Synthetic Opioids.** Proceedings of the Society of Forensic Toxicologists (Oct 2019).
- Madeline Roman, David Gangitano and Rachel Houston. **Development of Cannabis sativa Autosomal and Organelle Genotyping Methods for Forensic and Intelligence Purposes.** Proceedings of the Southeastern Regional Meeting of the American Chemical Society (Oct 2019).
- Michael Truver, Ashley Gilbert and Madeleine Swortwood. **Long-Term Stability of Novel Synthetic Opioids in Blood.** Proceedings of the Society of Forensic Toxicologists (Oct 2019).
- Michael Truver, Shimpei Watanabe, Anna Åstrand, Svante Vikingsson, Henrik Green, Madeleine Swortwood and Robert Kronstrand. **5F-MDMB-PINACA and 5F-MDMB-PICA Metabolite Identification and Cannabinoid Receptor Activity.** Proceedings of the Society of Forensic Toxicologists (Oct 2019).
- Michelle Harrel and Sheree Hughes-Stamm. **A Powder-free DNA Extraction Workflow for Skeletal Samples.** Journal of Forensic Sciences, Epub ahead of print <u>DOI:</u> 10.1111/1556-4029.14197 (Oct 2019).

- Rachel Houston, Madeline Roman and David Gangitano. **Development of Cannabis sativa Autosomal and Organelle Genotyping Methods for Forensic and Intelligence Purposes.** Proceedings of the Southwestern Regional Meeting of the American Chemical Society (Oct 2019).
- Stephanie Basiliere and Sarah Kerrigan. **Stability of Mitragynine and 7- Hydroxymitragynine.** Proceedings of the Society of Forensic Toxicologists (Oct 2019).
- Charia Talia, Panagotis Filis, N. Walker, Ugo Soffientini, Baltasar Lucendo-Villarin, Alex Douglas, David Hay, Sophie Shaw, John Iredale, Madeleine Swortwood, Marilyn Huestis, Michelle Bellingham, B. van der Burg, Lisa Connolly, Peter O'Shaughnessy, Paul Fowler. Hepatic IGF Signaling is Dysregulated by in utero Exposure to Maternal Smoking. Proceedings of the Congress of the European Societies of Toxicology (Sept 2019), Helsinki, Finland.
- Coral Loockerman, Sheree Hughes-Stamm and Rachel Houston. **Direct PCR using microFLOQä Direct Swabs with a Modified QIAGEN Investigator 24plex GO! Protocol from Decomposing Human Remains for DVI Applications.** Proceedings of the International Society of Forensic Genetics (Sept 2019), Prague, Czech Republic.
- Coral Loockerman, Sheree Hughes-Stamm and Rachel Houston. A Modified Direct PCR Protocol for DVI Applications using microFLOQ® Direct Swabs from Decomposing Human Remains Coupled with the Qiagen Investigator 24plex GO! Kit. Proceedings of the International Symposium on Human Identification (Sept 2019).
- Madeline Roman, Michele Di Nunzio, Rachel Houston, Bobby LaRue and David Gangitano.

  Characterization of New Chloroplast Polymorphisms to Determine
  Biogeographical Origin and Crop Type of Cannabis sativa Samples. Proceedings
  of the International Society of Forensic Genetics (Sept 2019), Prague, Czech
  Republic.
- Madeline Roman, Ryan Gutierrez, Carrie Mayes, Bobby LaRue and Rachel Houston.

  Evaluation of the Investigator® 26plex QS STR Kit and Comparison with Two

  Commercially Available STR Kits. Proceedings of the International Symposium

  on Human Identification (Sept 2019).
- Michael Truver, Shimpei Watanabe, Anna Åstrand, Svante Vikingsson, Henrik Green,
  Madeleine Swortwood and Robert Kronstrand. **5F-MDMB-PICA Metabolite**

- **Identification and Cannabinoid Receptor Activity.** Drug Test Analysis, Epub ahead of print DOI: 10.1002/dta.2688 (Sept 2019).
- Michael Truver, Kaitlyn Palmquist and Madeleine Swortwood. **Oral Fluid and Drug Impairment: Pairing Toxicology with Drug Recognition Expert Observations.**Journal of Analytical Toxicology, Epub ahead of print <u>DOI: 10.1093/jat.bkz075</u> (Sept 2019).
- Michele Di Nunzio, Rachel Houston, Madeline Roman, Ciro Di Nunzio, David Gangitano and Carme Barro-Feixat. **European Validation of a Cannabis sativa 13-locus STR Multiplex Kit for Genetic Identification: A Preliminary Study.** Forensic Science International: Genetics Supplement Series, Epub ahead of print <u>DOI:</u> 10.1016/j.fsigss.2019.09.086 (Sept 2019).
- Michele Di Nunzio, Rachel Houston, Madeline Roman, Ciro Di Nunzio, David Gangitano and Carme Barro-Feixat. European Validation of a Cannabis sativa 13-locus STR Multiplex Kit for Genetic Identification: A Preliminary Study. Proceedings from the International Society of Forensic Genetics (Sept 2019), Prague, Czech Republic.
- Michelle Harrel, Carrie Mayes, Rachel Houston, Amy Sorensen Holmes, Ryan Gutierrez and Sheree Hughes-Stamm. Effectiveness of STR Quality Sensors to Inform Rework Strategies for Challenging Database and Casework Samples using a Semi-Automated Workflow. Proceedings of the International Symposium on Human Identification (Sept 2019).
- Ryan Gutierrez and Bobby LaRue. **Alternative DNA Profiling Strategies for Rootless Hair Shafts.** Proceedings of the International Symposium on Human Identification (Sept 2019).
- Ryan Gutierrez, Madeline Roman, Michelle Harrel, Sheree Hughes-Stamm, Rachel Houston and Bobby LaRue. Improved Mitochondrial Control Region Analysis of Degraded Bone and Hair Samples for the Miseq FGX. Proceedings of the International Symposium on Human Identification (Sept 2019).

## Academic Year 2018-2019

- Carrie Polston, David Thompson, Patrick Buzzini, Yuriy Agalidii and Arif Mamedov.

  Assessing the Impacts of Induction Spatial Effects on Magnetic Flux

  Measurements of Toners. Proceedings of the American Society of Questioned

  Document Examiners (Aug 2019).
- Clarra Moore and Patrick Buzzini. **Analysis of Colored Felt-tipped Blending Marker Ink using Gray Value Measurements of Visual Spectral Data.** Proceedings of the
  American Society of Questioned Document Examiners (Aug 2019).
- Kyleen Elwick, Magdalena Bus, Jonathan King, Joseph Change, Sheree Hughes-Stamm and Bruce Budowle. Utility of the Ion S5™ and MiSeq FGx™ Sequencing Platforms to Characterize Challenging Human Remains. Legal Medicine, Epub ahead of print DOI: 10.1016/j.legalmed.2019.08.001 (Aug 2019).
- Madeline Roman, David Gangitano and Rachel Houston. Characterization of New Chloroplast Markers to Determine Biogeographical Origin and Crop Type of Cannabis sativa. International Journal of Legal Medicine, Epub ahead of print DOI: 10.1007/s00414-019-02142-w (Aug 2019).
- Michelle Harrel, Carrie Mayes, Rachel Houston, Amy Sorensen Holmes, Ryan Gutierrez and Sheree Hughes-Stamm. Evaluation of a Semi-Automated Workflow and Effectiveness of STR Quality Sensors to Inform Rework Strategies for Challenging Database and Casework Samples. Proceedings of the Association of Forensic DNA Analysts and Administrators (Aug 2019).
- Patrick Buzzini, James Curran and Carrie Polston. The Discrimination of Inkjet Printer Inks using microRaman Spectroscopy Part II: Comparing Visual Inspection and Different Variants of Linear Indiscriminant Analysis Methods. Proceedings of the American Society of Questioned Document Examiners (Aug 2019).
- Jonna Berry, Ashley Gilbert and Justin Grodnitzky. **Cases of Kava Impairment in Iowa Drivers.** Journal of Forensic Sciences, Epub ahead of print DOI: 10.1111/1556-4029.14130 (Jul 2019).
- Andra Lewis, Justin Day and Patrick Buzzini. Conceptualization of Assessing the Evidential Value of Vehicular Transmission Fluids, Brake Fluids, and Lubricating Greases. Proceedings of the Inter/Micro Conference (Jun 2019).

- Carrie Mayes, Rachel Houston, Bobby LaRue, Sarah Seashols-Williams and Sheree Hughes-Stamm. The Application of Targeted mRNA Massively Parallel Sequencing for Body Fluid Identification on Challenging and Mock Casework-type Samples. Proceedings of the Human Identification Solutions (Jun 2019), Kobe, Japan.
- Esiri Tasker, Carrie Mayes, Bobby LaRue and Sheree Hughes-Stamm. Collection and Direct Amplification Methods using the GlobalFiler™ Kit for DNA Recovered from Common Pipe Bomb Substrates. Science & Justice, Epub ahead of print DOI: 10.1016/j.scijus.2019.06.002 (Jun 2019).
- Esiri Tasker, Carrie Mayes, and Sheree Hughes-Stamm. microFLOQ®: Collection and Direct Amplification Methods Using the GlobalFiler™ Kit from Common Pipe Bomb Substrates. Proceedings of the Human Identification Solutions (Jun 2019), Kobe, Japan.
- Frank Qingzhong Liu and Jorn Chi-Chung Yu. **Differentiate Hemp and Non-hemp Cannabis by Headspace Cannabinoid Analysis.** Proceedings of the Forensic Science
  Research Innovation to Implementation Symposium (NIST) (Jun 2019).
- Jessica Winborn and Sarah Kerrigan. **Analysis of Desomorphine in Urine Using Liquid Chromatography-Tandem Mass Spectrometry.** Journal of Analytical Toxicology, 43(5), 340-345 (Jun 2019).
- Patrick Buzzini, James Curran and Carrie Polston. **The Classification of Raman Patterns of Inkjet Printer Inks: Comparing Visual Inspection and Different Variants of Linear Discriminant Analysis Methods.** Proceedings of the Inter/Micro Conference (Jun 2019).
- Patrick Buzzini, Meggan King, Sebastian Sparenga and Gary Laughlin. An Update on the Effect of Ultraviolet Radiation on the Degradation of Dyed Fibers as a Function of Time using UV-Vis Microspectrophotometry. Proceedings of the Inter/Micro Conference (Jun 2019).
- Patrick Buzzini, Brooke Kammrath and Peter De Forest. **Trace Evidence? The Term Trace from Adjective to Noun.** WIREs Forensic Science, Epub ahead of print <u>DOI:</u> 10.1002/wfs2.1342 (Jun 2019).
- Britni Skillman and Sarah Kerrigan. Side-by-Side Comparison of LC-Q/TOF-MS and LC-MS/MS Validation Parameters for the Detection of Suvorexant in Blood. Proceedings of the Southwestern Association of Toxicologists (May 2019).

- Madison Schackmuth and Sarah Kerrigan. Immunoassay-based Detection of Fentanyl Analogs in Forensic Toxicology. Proceedings of the Southwestern Association of Toxicologists (May 2019).
- Michelle Harrel, David Gangitano and Sheree Hughes-Stamm. The Effects of Extra PCR Cycles When Amplifying Skeletal Samples with the GlobalFiler® PCR Amplification Kit. International Journal of Legal Medicine, 133(3), 745-750 (May 2019).
- Christina Smith, Michael Truver and Madeleine Swortwood. **Quantification of U-47700 and its Metabolites in Plasma by LC-MS/MS.** Journal of Chromatography B,1:1112, 41-47 (Apr 2019).
- Joan Bytheway and Jennifer Kiely. **The Effects of Fire on the Human Body.** Proceedings of the Wisconsin Association of Homicide Investigators (Apr 2019).
- Kaitlyn Palmquist and Madeleine Swortwood. **Data-independent Screening Method for 14 Fentanyl Analogs in Whole Blood and Oral Fluid Using LC-QTOF-MS.** Forensic Science International, 297, 189-197 (Apr 2019).
- Aikaterini Zafeiri, Panagiotis Filis, Sophie Shaw, John Iredale, Madeleine Swortwood, Rod Mitchell, David Hay, Peter O'Shaughnessy and Paul Fowler. **Maternal Smoking during Pregnancy and Changes in Prostaglandin Enzymes in the Human Fetus.**Proceedings of the Society for Reproductive Investigation Annual Scientific Meeting (Mar 2019), Paris, France.
- Carrie Mayes, Rachel Houston, Bobby LaRue, Sarah Seashols-Williams and Sheree Hughes-Stamm. Evaluating the Stability and Persistence of mRNA and miRNA for Body Fluid Identification in Forensic Samples. Proceedings of the NIJ Forensic Science Research and Development Symposium at Pittcon (Mar 2019).
- Carrie Mayes, Rachel Houston, Sarah Seashols-Williams, Bobby LaRue and Sheree Hughes-Stamm. The Stability and Persistence of Blood and Semen mRNA and miRNA Targets for Body Fluid Identification in Environmentally Challenged and Laundered Samples. Legal Medicine (Tokyo), 38, 45-50 (Mar 2019).
- Michael Truver and Madeleine Swortwood. **Drug Impairment: Pairing Toxicology with Drug Recognition Expert Observations.** Proceedings of the NIJ Forensic Science Research and Development Symposium at Pittcon (Mar 2019).

- Jessica Winborn and Sarah Kerrigan. **Stability and Hydrolysis of Desomorphine-Glucuronide.** Journal of Analytical Toxicology, Epub ahead of print <u>DOI:</u> 10.1093/jat/bkz021 (Mar 2019).
- Stephanie Basiliere and Sarah Kerrigan. **Identification of Mitragynine and its Metabolites Using High Resolution Mass Spectrometry.** Proceedings of the NIJ Forensic Science Research and Development Symposium at Pittcon (Mar 2019).
- Sun Yi Li, Ilona Petrikovics and Jorn Chi-Chung Yu. Application of Magnetic Carbon Nanotubes Facilitated Dispersive Micro Solid Phase Extraction of the Cyanide Metabolite (2-aminothiazoline-4-carboxylic acid) in Biological Samples. Proceedings of the Society of Toxicology (Mar 2019).
- Sun Yi Li, Ilona Petrikovics and Jorn (Chi Chung) Yu. **Development of Magnetic Carbon Nanotubes for Dispersive Micro Solid Phase Extraction of the Cyanide Metabolite, 2-aminothiazoline-4-carboxylic acid, in Biological Samples.** Journal of Chromatography B, 1109, 67-75 (Mar 2019).
- Andra Lewis. Crime Scene Reconstruction Based on the Interpretation of Physical Evidence. Proceedings of the Association of Crime Scene Reconstruction (Feb 2019).
- Ashley Gilbert, Justin Grodnitzky and Jonna Berry. **Kava Impairment in Drivers.** Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- Carrie Polston, David Thompson and Patrick Buzzini. **Assessing the Impacts of Induction Spatial Effects on Magnetic Flux Measurements of Toners.** Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- Clarra Moore and Patrick Buzzini. **Evaluation of Gray Value Measurements of Visual Spectral Data to the Characterization of Alcohol-based Inks from Colored Felt-tipped Blending Markers.** Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- Esiri Tasker, Carrie Mayes, and Sheree Hughes-Stamm. MicroFLOQ®: Collection and Direct Amplification Methods Using the GlobalFiler™ Kit for DNA Recovered From Common Pipe Bomb Components. Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- Jessica Winborn and Sarah Kerrigan. **Quantitative Analysis of Desomorphine in Blood and Urine Using Solid Phase Extraction and Gas Chromatography-Mass Spectrometry.** Journal of Chromatography B, 1106-1107, 43-49 (Feb 2019).

- Jorn Chi-Chung Yu. A Chemical Analysis of Controlled Substances Using Automated Headspace Solid-Phase Microextraction-Gas Chromatography/Mass Spectrometry. Proceedings of the NIJ Forensic Science Research and Development Symposium at the American Academy of Forensic Sciences (Feb 2019).
- Kaitlyn Palmquist and Madeleine Swortwood. Liquid Chromatography/Quadrupole Timeof-Flight (LC-QTOF) Screening for Fentanyl Analogs in Whole Blood and Oral Fluid. Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- LeAnn Michelle Harrel and Sheree Hughes-Stamm. A Faster, Easier, and More Effective Bone Processing Method for DNA Analysis. Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- Madeline Roman, Rachel Houston, Bobby LaRue and David Gangitano. The Characterization of New Chloroplast Markers to Determine the Biogeographical Origin and Crop Type of Cannabis sativa Samples. Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- Madison Schackmuth, Patrick Buzzini and Darren Williams. In Silico Simulation of Fentalog Raman Spectra. Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- Meggan King, Sebastian Sparenga, Gary Laughlin and Patrick Buzzini. **The Effect of Ultraviolet Radiation on the Microspectrophotometry (MSP) of Dyed Textile Fibers: Spectral Alteration Categories.** Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- Michael Truver, Kaitlyn Palmquist and Madeleine Swortwood. **The Detection and Quantification of Synthetic Opioids in Oral Fluid.** Proceedings of the NIJ Forensic Science Research and Development Symposium at the American Academy of Forensic Sciences (Feb 2019).
- Morgan Carpenter and William Davis. **The Determination of Weathering Levels of Gasoline Using Various Methods of Analysis.** Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- Patrick Buzzini, James Curran and Carrie Polston. The Classification of Raman Patterns from Inkjet Printer Inks Using Visual Comparisons of Spectra and Different Statistical Methods. Proceedings of the American Academy of Forensic Sciences (Feb 2019).

- Rachel Houston, Carrie Mayes, Jonathan King, Sheree Hughes-Stamm and David Gangitano. Massively Parallel Sequencing (MPS) of 12 Autosomal Short Tandem Repeats (STRs) in Cannabis sativa. Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- Sun Yi Li and Jorn Chi-Chung Yu. **The Development of Magnetic Carbon Nanotubes (Mag-CNT) for Dispersive Solid Phase Extraction (Dspe) of Cyanide Metabolite (2-Aminothiazoline-4-Carboxylic Acid) in Biological Samples.** Proceedings of the American Academy of Forensic Sciences (Feb 2019).
- Jaime Solano, Leonardo Anabalón, Sylvia Figueroa, Cristian Lizama, Luis Chávez Reyes and David Gangitano. Psychedelic Fungus (Psilocybe sp.) Authentication in a Case of Illegal Drug Traffic: Sporological, Molecular Analysis and Identification of the Psychoactive Substance. Science & Justice, 59(1), 102-108 (Jan 2019).
- Janna Lowry, Michael Truver and Madeleine Swortwood. **Quantification of Seven Novel Synthetic Opioids in Blood Using LC-MS/MS.** Forensic Toxicology, 37(1), 215-223 (Jan 2019).
- Madison Schackmuth and Sarah Kerrigan. Immunoassay-Based Detection of Fentanyl Analogs in Forensic Toxicology. Forensic Toxicology, 37(1), 231-237 (Jan 2019).
- Sun Yi Li, Ilona Petrikovics and Jorn Chi-Chung Yu. **The Potential Use of 2-aminothiazoline-4-carboxylic acid (ATCA) as a Forensic Marker for Cyanide Exposure in Medicolegal Death Investigation: A Review.** Forensic Science Review, 31(1), 45-58 (Jan 2019).
- Xiangpei Zeng, Kyleen Elwick, Carrie Mayes, Maiko Takahashi, Jonathan King, David Gangitano, Bruce Budowle and Sheree Hughes-Stamm. **Assessment of Impact of DNA Extraction Methods on Analysis of Human Remain Samples on Massively Parallel Sequencing Success.** International Journal of Legal Medicine, 133(1), 51-58 (Jan 2019).
- Austin McDaniel, Lauren Perry, Qingzhong Liu, Wei-Chuan Shih and Jorn Yu. **Toward the Identification of Marijuana Varieties by Headspace Chemical Forensics.** Forensic Chemistry, 11, 23-31 (Dec 2018).
- Eric Cooke, Todd Armstrong, Danielle Boisvert, Jessica Wells, Richard Lewis, Sheree Hughes-Stamm and David Gangitano. The Relationship between the MAOA-uVNTR Polymorphism, Delinquent Peer Affiliation, and Antisocial Behavior with a Consideration of Sex Differences. Psychiatric Quarterly, 89(4), 841-853 (Dec 2018).

- Chiara Talia, Panagiotis Filis, Ugo Soffientini, Baltasar Lucendo-Villarin, Alex Douglas, David Hay, Sophie Shaw, John Iredale, Madeleine Swortwood, Marilyn Huestis, Michelle Bellingham, Lisa Connolly, Peter O'Shaughnessy and Paul Fowler. **Angiopoietin-like Protein 4 and 8 (ANGPTL4 and ANGPTL8) in Human Fetal Liver are Dysregulated by in utero Exposure to Maternal Smoking.** Proceedings of the Society for Endocrinology BES (Nov 2018), Glasgow, Scotland.
- Michelle Harrel, Carrie Mayes, David Gangitano and Sheree Hughes-Stamm. **Evaluation of a Powder-free DNA Extraction Method for Skeletal Remains.** Journal of Forensic Science, 63(6), 1819-1823 (Nov 2018).
- Patrick Buzzini, Carrie Polston and Madison Schackmuth. **On the Criteria for the Discrimination of Inkjet Printer Inks using Micro Raman Spectroscopy.** Journal of Raman Spectroscopy, 49(11), 1791-1801 (Nov 2018).
- Rachel Houston, Carrie Mayes, Jonathan King, Sheree Hughes-Stamm and David Gangitano. Massively Parallel Sequencing of 12 Autosomal STRs in Cannabis sativa. Electrophoresis, 39(22), 2906-2911 (Nov 2018).
- Britni Skillman and Sarah Kerrigan. Side-by-Side Comparison of LC-Q/TOF-MS and LC-MS/MS Validation Parameters for the Detection of Suvorexant in Blood. Proceedings of the Society of Forensic Toxicologists (Oct 2018).
- Christina Smith and Madeleine Swortwood. **Quantification of U-47700 and its Metabolites in Plasma by LC-MS/MS.** Proceedings of the Society of Forensic Toxicologists (Oct 2018).
- Janna Lowry, Michael Truver and Madeleine Swortwood. **Quantification of Novel Synthetic Opioids in Blood Using LC-MS/MS.** Proceedings of the Society of Forensic Toxicologists (Oct 2018).
- Jessica Winborn, Stephanie Basiliere and Sarah Kerrigan. **Identification of Desomorphine in Urine.** Proceedings of the Society of Forensic Toxicologists (Oct 2018).
- Kaitlyn Palmquist and Madeleine Swortwood. **Screening of Fentanyl Analogs in Whole Blood using LC-QTOF Analysis.** Proceedings of the Society of Forensic Toxicologists (Oct 2018).
- Mackenzie Hale and Madeleine Swortwood. **Identification of Novel Synthetic Benzodiazepines by GC-MS.** Proceedings of the Society of Forensic Toxicologists (Oct 2018).

- Madeleine Swortwood. Effective Communication Skills for Successful Forensic Toxicology Practice: How to Search for Relevant References. Proceedings of the Society of Forensic Toxicologists (Oct 2018).
- Madeleine Swortwood. Incorporating the Updated NSC ADID Lab Guidelines into Casework: Pharmacology of Fentanyl, Buprenorphine, and Tramadol. Proceedings of the Society of Forensic Toxicologists (Oct 2018).
- Madison Schackmuth and Sarah Kerrigan. Immunoassay-Based Detection of Fentanyl Analogs in Forensic Toxicology. Proceedings of the Society of Forensic Toxicologists (Oct 2018).
- Michael Truver and Madeleine Swortwood. **Quantitative Analysis of Novel Synthetic Opioids, Morphine, and Buprenorphine in Oral Fluid by LC-MS/MS.** Journal of Analytical Toxicology, 42(8), 554-561 (Oct 2018).
- Michael Truver and Madeleine Swortwood. **Quantitative Analysis of Novel Synthetic Opioids, Morphine, and Buprenorphine in Oral Fluid by LC-MS/MS.** Proceedings of the Society of Forensic Toxicologists (Oct 2018).
- Stephanie Basiliere and Sarah Kerrigan. **Phase I Metabolism of Mitragynine using In Vitro Methods.** Proceedings of the Society of Forensic Toxicologists (Oct 2018).
- Aikaterini Zafeiri, Panagiotis Filis, Ugo Soffientini, Baltasar Lucendo-Villarin, Alex Douglas, Sophie Shaw, John Iredale, Madeleine Swortwood, Marilyn Huestis, Michelle Bellingham, Rod Mitchell, David Hay, Peter O'Shaughnessy and Paul Fowler.

  Maternal Smoking and Changes in Drug Metabolising Enzymes in the Human Fetus. Proceedings of the Congress of the European Societies of Toxicology (Sept 2018), Brussels, Belgium.
- Amy Sorensen Holmes, Madeline Roman and Sheree Hughes-Stamm. In-field Collection and Preservation of Decomposing Human Tissues to Facilitate Rapid Purification and STR Typing. Forensic Science International: Genetics, 36, 124-129 (Sept 2018).
- Chaira Talia, Panagiotis Filis, Ugo Soffientini, Baltasar Lucendo-Villarin, Alex Douglas, David Hay, Sophie Shaw, John Iredale, Madeleine Swortwood, Marilyn Huestis, Michelle Bellingham, Lisa Connolly, Peter O'Shaughnessy and Paul Fowler. In utero Exposure to Cigarette Smoke and NAFLD Pathways: Sex and Age Specific Effects in the Human Fetus. Proceedings of the Congress of the European Societies of Toxicology (Sept 2018), Brussels, Belgium.

- Esiri Tasker, Carrie Mayes, Bobby LaRue and Sheree Hughes-Stamm. microFLOQ®:

  Collection and Direct Amplification Methods Using the GlobalFiler™ Kit for DNA

  Recovered from Common Pipe Bomb Components. Proceedings of the
  International Symposium on Human Identification (Sept 2018).
- Kyleen Elwick, Magdalena Bus, Jonathan King, Joseph Chang, Bruce Budowle and Sheree Hughes-Stamm. Using the Ion S5™ and MiSeq FGx™ Systems to Identify Challenging Human Remains. Proceedings of the International Symposium on Human Identification (Sept 2018).
- Michelle Harrel and Sheree Hughes-Stamm. Effective Powder-free DNA Extraction Workflow for Skeletal Samples using the PrepFiler® BTA™ and AutoMate Express™ Systems. Proceedings of the International Symposium on Human Identification (Sept 2018).
- Ryan Gutierrez, Kari Graham, Kyleen Elwick, Carrie Mayes and Bobby LaRue. A Costeffective Workflow for Massively Parallel Sequencing of Drug Metabolising Enzymes. Proceedings of the International Symposium on Human Identification (Sept 2018).

## Academic Year 2017-2018

- Britni Skillman and Sarah Kerrigan. Quantification of Suvorexant in Blood Using Liquid Chromatography-Quadrupole/Time of Flight (LC-Q/TOF) Mass Spectrometry. Journal of Chromatography B, 1091, 87-95 (Aug 2018).
- Carrie Polston, Williams Mazzella, Martin Furbach and Patrick Buzzini. **Assessing the Forensic Potential of Magnetic Flux Measurements of Toners.** Proceedings of the American Society of Questioned Document Examiners (Aug 2018).
- Elizabeth Chesna, Todd Armstrong, Peyton Howell, Jessica Roberts, Shawn Keller, Charity Beherec, Danielle Boisvert, Ramiro Salas and David Gangitano. **Sequence Variation in Genes Affecting Dopamine Turnover and Oxytocin in a Sample of Male Inmates.** Proceedings of the Association of Forensic DNA Analysts and Administrators (Aug 2018).
- Jessica Winborn, Donovan Haines and Sarah Kerrigan. In Vitro Metabolism of Desomorphine. Forensic Science International, 289, 140-149 (Aug 2018).
- Madeline Roman, Rachel Houston, Bobby LaRue and David Gangitano. Investigation of Ancestry Markers in the Cannabis sativa Chloroplast Genome for Determination of Biogeographical Origin and Crop Type. Proceedings of the Association of Forensic DNA Analysts and Administrators (Aug 2018).
- Patrick Buzzini, Carrie Polston and Madison Schackmuth. **The Discrimination of Inkjet Printer Inks using Micro Raman Spectroscopy.** Proceedings of the American Society of Questioned Document Examiners (Aug 2018).
- Rachel Houston, Carrie Mayes, Jonathan King, Sheree Hughes-Stamm and David Gangitano. Massively Parallel Sequencing of 12 Autosomal STRs in Cannabis sativa. Proceedings of the Association of Forensic DNA Analysts and Administrators (Aug 2018).
- Debbie Powers, Stephen Erickson and Madeleine Swortwood. **Quantification of Morphine,**Codeine, and Thebaine in Home-Brewed Poppy Seed Tea by LC-MS/MS. Journal of Forensic Sciences, 63(4), 1229-1235 (Jul 2018).
- Edward Suzuki and Patrick Buzzini. Applications of Raman Spectroscopy in Forensic Science. I: Principles, Comparison to Infrared Spectroscopy, and Instrumentation. Forensic Science Review, 30, 111-135 (Jul 2018).

- Edward Suzuki and Patrick Buzzini. Applications of Raman Spectroscopy in Forensic Science. II: Analysis Considerations, Spectral Interpretation, and Examination of Evidence. Forensic Science Review, 30, 137-169 (Jul 2018).
- Kyleen Elwick, Xiangpei Zeng, Jonathan King, Bruce Budowle and Sheree Hughes-Stamm.

  Comparative Tolerance of Two Massively Parallel Sequencing Systems to

  Common PCR Inhibitors. International Journal of Legal Medicine, 132(4), 983-995

  (Jul 2018).
- Lindsay Glicksberg, Ruth Winecker, Caitlin Miller and Sarah Kerrigan. **Postmortem Distribution and Redistribution of Synthetic Cathinones.** Forensic Toxicology, 36(2), 291-303 (Jul 2018).
- Carrie Mayes, Sarah Seashols-Williams and Sheree Hughes-Stamm. **Initial Evaluation of the Stability and Persistence of mRNA and miRNA for Body Fluid Identification in Forensic Samples.** Proceedings of the Gordon Research Conference (Jun 2018).
- Carrie Mayes, Sarah Seashols-Williams and Sheree Hughes-Stamm. **Initial Evaluation of the Stability and Persistence of mRNA and miRNA for Body Fluid Identification in Forensic Samples.** Proceedings of the Gordon Research Seminar (Jun 2018).
- Esiri Tasker, Carrie Mayes and Sheree Hughes-Stamm. **Optimization of Direct Amplification Methods for DNA Samples from Common Pipe Bomb Substrates using the GlobalFiler® Kit.** Proceedings of the Gordon Research Conference (Jun 2018).
- Kyleen Elwick, Carrie Mayes, Xiangpei Zeng, Jonathan King, Bruce Budowle and Sheree Hughes-Stamm. Assessment of Five Common DNA Extraction Methods for the Analysis of Human Remains using the Ion Ion S5™ and MiSeq FGx™ Systems. Proceedings of the Gordon Research Conference (Jun 2018).
- Mazzella Williams, Martin Furbach, Bing Li and Carrie Polston. Is Magnetic Flux a Valuable

  Tool for the Analysis of Electro Photographic Printed Documents? Proceedings of
  the International Symposium on Sino Swiss Evidence Science (Jun 2018), Hangzhou,
  China.
- Meggan King, Patrick Buzzini and Carrie Polston. The Effect of Ultraviolet Radiation on the Microspectrophotometry (MSP) of Dyed Fibers Part 1- Photobleaching Effect. Proceedings of Inter/Micro (Jun 2018).

- Meggan King, Patrick Buzzini and Carrie Polston. The Effect of Ultraviolet Radiation on the Microspectrophotometry (MSP) of Dyed Fibers Part 2- Spectral Differences as a Function of Time. Proceedings of Inter/Micro (Jun 2018).
- Patrick Buzzini, Carrie Polston and Madison Schackmuth. **Evaluation of the Criteria for the Discrimination of Inkjet Printer Inks using Micro Raman Spectroscopy.**Proceedings of Inter/Micro (Jun 2018).
- Ya Ting Chang, C Aitken, G Zadora, Patrick Buzzini and G Massonnet. **Evidence Evaluation** and Functional Data Analysis. Proceedings of the International Society of Bayesian Analysis (Jun 2018), Edinburgh, UK.
- Aikaterini Zafeiri, Panagiotis Filis, Alex Douglas, Sophie Shaw, John Iredale, Madeleine Swortwood, Marilyn Huestis, Michelle Bellingham, Rod Mitchell, David Hay, Peter O'Shaughnessy and Paul Fowler. Maternal Smoking and Changes in Drug Metabolizing Enzymes in the Human Fetus. Proceedings of the International Conference on Fetal Programming and Developmental Toxicity (May 2018), Torshavn, Faroe Islands.
- Amy Sorensen Holmes, Rachel Houston, Kyleen Elwick, David Gangitano and Sheree Hughes-Stamm. Evaluation of Four Commercial Quantitative Real-Time PCR Kits with Inhibited and Degraded Samples. International Journal of Legal Medicine, 132(3), 691-701 (May 2018).
- Amy Sorensen Holmes, Ryan Gutierrez, Madeline Roman, David Gangitano and Sheree Hughes-Stamm. In-field Collection of DNA from Decomposing Remains for More Direct Analysis: Experiences with Investigator Quality Sensors. Proceedings of the Qiagen Investigator Forum (May 2018).
- Carrie Mayes, Sarah Seashols-Williams and Sheree Hughes-Stamm. **Little Stains, Lots of Problems.** Proceedings of the Qiagen Investigator Forum (May 2018).
- Chaira Talia, Panagiotis Filis, Alex Douglas, Sophie Shaw, John Iredale, Madeleine Swortwood, Marilyn Huestis, Michelle Bellingham, Rod Mitchell, David Hay, Peter O'Shaughnessy and Paul Fowler. *In utero* Exposure to Cigarette Smoke is Associated with Sex and Age Specific Changes in NAFLD Pathway. Proceedings of the International Conference on Fetal Programming and Developmental Toxicity (May 2018), Torshavn, Faroe Islands.

- Esiri Tasker, Sheree Hughes-Stamm and Bobby LaRue. SwabSaver® Evaluation: Room-temperature Storage of "Touch" DNA Recovered from Assault Rifle Magazines.

  Proceedings of the Qiagen Investigator Forum (May 2018).
- Kyleen Elwick, Carrie Mayes, Xiangpei Zeng, Jonathan King, Bruce Budowle and Sheree Hughes-Stamm. Evaluation of Five Common DNA Extraction Methods for Analysis of Human Remain Samples on Massively Parallel Sequencing Success. Proceedings of the Human Identification Solutions (May 2018), Rome, Italy.
- Lindsay Glicksberg, Sumandeep Rana and Sarah Kerrigan. Cathinone Stability in Authentic Urine Specimens. Forensic Science International, 286, 54-60 (May 2018).
- Rachel Houston, Carrie Mayes, Jonathan King, Sheree Hughes-Stamm and David Gangitano. Innovative Molecular Approaches for Cannabis sativa DNA Typing.

  Proceedings of the Qiagen Investigator Forum (May 2018).
- Rachel Houston, Matthew Birck, Bobby LaRue, Sheree Hughes-Stamm and David Gangitano. **Nuclear, Chloroplast, and Mitochondrial Data of a US Cannabis DNA Database.** International Journal of Legal Medicine, 132(3), 713-725 (May 2018).
- Sun Yi Li, Jorn Yu and Ilona Petrikovics. **Trace Level Extraction of the Cyanide Biomarker, 2-amino-2-thiazoline-4-carboxylic Acid (ATCA), from Biological Samples by Applying Magnetic Nanomaterials in Dispersive Solid Phase Extraction.**Proceedings of the U. S. Army Medical Defense Bioscience Review (Apr 2018).
- Amy Sorensen Holmes, David Gangitano and Sheree Hughes-Stamm. In-field Collection of DNA Samples from Decomposing Remains for More Direct Analysis: Experiences with Investigator Quality Sensors. Proceedings of the Qiagen Investigator Forum (Mar 2018), Lisbon, Portugal.
- Barry Logan, Amanda D'Orazio, Amanda Mohr, Jennifer Limoges, Amy Miles, Colleen Scarneo, Sarah Kerrigan, Laura Liddicoat, Karen Scott and Marilyn Huestis.

  Recommendations for Toxicological Investigation of Drug-Impaired Driving and Motor Vehicle Fatalities—2017 Update. Journal of Analytical Toxicology, 42(2), 63-68 (March 2018).
- Lindsay Glicksberg and Sarah Kerrigan. **Stability of Synthetic Cathinones in Urine.** Journal of Analytical Toxicology, 42(1), 77-87 (Mar 2018).
- Stephanie Basiliere, Kelsie Bryand and Sarah Kerrigan. Identification of Five Mitragyna Alkaloids in Urine Using Liquid Chromatography-Quadrupole/Time of Flight Mass Spectrometry. Journal of Chromatography B, 1080, 11-19 (Mar 2018).

- Amy Sorensen Holmes, David Gangitano and Sheree Hughes-Stamm. Alternate Methods for Collection, Room Temperature Storage, and Processing of DNA Samples from Human Remains: A New DVI Approach. Proceedings of Pittcon Conference & Expo (Feb 2018).
- Austin McDaniel, Frank Liu and Jorn Yu. **Application of Headspace Solid Phase Microextraction in Chemical Forensics.** Proceedings of Pittcon Conference & Expo (Feb 2018).
- Carrie Mayes, Sarah Seashols-Williams and Sheree Hughes-Stamm. **Identifying Forensically Relevant Body Fluids Using a Capillary Electrophoresis Based miRNA Multiplex.** Proceedings of Pittcon Conference & Expo (Feb 2018).
- Carrie Polston, Williams Mazzella, Martin Furbach and Patrick Buzzini. **Evaluation of Instrument Parameters Affecting Magnetic Flux Measurement of Toners as a Screening Tool for Casework Application.** Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Christopher Palenik, Edward Suzuki, Andrew Bowen and Patrick Buzzini. **Applications of Raman Spectroscopy for Trace Evidence Examinations.** Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Deborah Powers, Stephen Erickson and Madeleine Swortwood. **The Morphine in Your Pantry Understanding Overdose Risk of Home-Brewed Poppy Seed Tea.**Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Elizabeth Chesna, Ana Blanco, Gabriella Cansino-Jones, Peyton Gandy, Jessica Wells, Danielle Boisvert, Todd Armstrong, Sheree Hughes-Stamm and David Gangitano.

  Variation in Genes Affecting Dopamine Turnover, Oxytocin, and Serotonin in Inmate and Student Populations. Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Esiri Tasker, Sheree Hughes-Stamm and Bobby LaRue. **Efficacy of DNA Recovery and Room-Temperature Storage from Assault Rifle Magazines.** Proceedings of Pittcon Conference & Expo (Feb 2018).
- Jennifer Kiely, Aaron Lynne and Jessica Metcalf. **Using Microbial Clocks in Human Cadaver Ribs as a Postmortem Tool.** Proceedings of the American Academy of Forensic Sciences (Feb 2018).

- Jennifer Turner, Robert Baldwin, Scott Golightly, Pamela Zelbst and Jorn Chi-Chung Yu. **An Examination of Striations on Bullets Discharged from 3D-Printed Metallic Gun Barrels.** Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Justin Day, Harry Ehmann and Jorn Chi-Chung Yu. **The Identification of Various Controlled Substances by Headspace Chemical Analysis using Headspace Solid-Phase Microextraction and Gas Chromatography/Mass Spectrometry.** Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Kari Graham, Ryan Gutierrez, Kyleen Elwick, Sheree Hughes-Stamm and Bobby LaRue. A Novel Workflow for Identifying Phenotypic Polymorphisms in Detoxification Enzymes Associated with Drug Metabolism. Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Kyleen Elwick, Carrie Mayes and Sheree Hughes-Stamm. Comparative Sensitivity and Inhibitor Tolerance of GlobalFiler® PCR Amplification and Investigator® 24plex QS Kits for Challenging Samples. Journal of Legal Medicine (Tokyo), 32, 31-36 (Feb 2018).
- Kyleen Elwick, Xiangpei Zeng, Jonathan King, Bruce Budowle and Sheree Hughes-Stamm.

  Evaluation of Five Common Extraction Methods for Analysis of Human Remain

  Samples on Massively Parallel Sequencing Success. Proceedings of Pittcon

  Conference & Expo (Feb 2018).
- Lauren Perry, Sun Yi Li and Jorn Chi-Chung Yu. **Detection of Phytocannabinoids from Buccal Swabs Using One Vial Headspace Vaporization Derivatization Coupled with SPME/GC/MS.** Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Lindsay Glicksberg, Ruth Winecker, Caitlin Miller and Sarah Kerrigan. **Post Mortem Tissue Distribution of Synthetic Cathinones.** Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Lindsay Glicksberg. Synthetic Cathinone Stability in Blood Using Liquid Chromatography/Quadrupole Time-of-Flight/Mass Spectrometry (LC/qTOF/MS). Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Madeline Roman, Amy Sorensen, David Gangitano and Sheree Hughes-Stamm. **Effect of Body Mass and Cadaveric Bloat on DNA Quantity and Downstream STR Success.**Proceedings of the American Academy of Forensic Sciences (Feb 2018).

- Madison Schackmuth, Rachel Marvin and Erica Bakota. A Validated Method for the Detection and Quantitation of Zolpidem, Zopiclone, and Zaleplon by Liquid-Liquid Extraction and Liquid Chromatography-Tandem Mass Spectrometry.

  Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Michelle Harrel, Carrie Mayes, David Gangitano and Sheree Hughes-Stamm. A Powder-free Approach to Extracting DNA from Environmentally Challenged Bone Samples.

  Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Patrick Buzzini. The Characterization and Discrimination of Textile Fiber Dyes.

  Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Patrick Buzzini, James Curran and Carrie Polston. The Application of t-Stochastic Node Embedding and Random Forest Statistical Methods to Classify Raman Spectra of Inkjet Printer Inks for Purposes of Identification and Production of Investigative Leads. Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Rachel Houston, Sheree Hughes-Stamm and David Gangitano. **Nuclear, Chloroplast, and Mitochondrial Data of a US Cannabis DNA Database.** Proceedings of Pittcon Conference & Expo (Feb 2018).
- Rachel Houston, Sheree Hughes-Stamm and David Gangitano. **Nuclear, Chloroplast, and Mitochondrial Data of a US Cannabis DNA Database.** Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Stephanie Basiliere, Kelsie Bryand and Sarah Kerrigan. **Identification of Five Kratom Alkaloids using High Resolution Mass Spectrometry.** Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Sun Yi Li, William Davis and Roger Kahn. Assessing the Capability of Combining Elemental and Phase Mapping in Automotive Paint Systems Analysis Using Scanning Electron Microscope/Energy Dispersive Spectroscopy (SEM/EDS). Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Theresa Joslin Yogi, Michael Penrod, Melinda Holt and Patrick Buzzini. The Relationship Between Cross-sectional Shapes and FTIR Profiles in Synthetic Wig Fibers and Their Discriminating Abilities-An Evidential Value Perspective. Forensic Science International, 283, 94-102 (Feb 2018).

- Tiffany Franklin, Lauren Perry Wei-Chuan Shih and Jorn Yu. **Detection of Phytocannabinoids from Buccal Swabs by Headspace Solid Phase Microextraction Gas Chromatography/Mass Spectrometry.** Analytical Methods, 10, 942-946 (Feb 2018).
- Tonya Parnell, Katie Tanner, Stacie Gray, Haeli Kennedy and Joan Bytheway. **The Human**Cadaver Decomposition Island (CDI) and the Vegetation Regrowth Interval.

  Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Vincent Desiderio, Jr., Michael Rieders, Brandon Callahan, Agnes Winokur, Erin Worrel, John Casale, Karl Williams, Sherri Kacinko and Patrick Buzzini. **The Growing Phenomenon of the Epidemic of Synthetic Opioids and Forensic Science: Impact and Response.** Proceedings of the American Academy of Forensic Sciences (Feb 2018).
- Britni Skillman, Kelsie Bryand and Sarah Kerrigan. **Quantification of Suvorexant in Blood Using LC-Q/TOF-MS.** Proceedings of the Society of Forensic Toxicologists (Jan 2018).
- Carrie Mayes, Sarah Seashols-Williams and Sheree Hughes-Stamm. A Capillary Electrophoresis Method for Identifying Forensically Relevant Body Fluids Using miRNAs. International Journal of Legal Medicine, 30, 1-4 (Jan 2018).
- Daniel Wescott, Dawnie Steadman, Nichole Miller, Kelly Sauerwein, Chaunesey Clemmons, Devora Gleiber, Chloe McDaneld, Lauren Meckel and Joan Bytheway. Validation of the Total Body Score/Accumulated Degree-Day Model at Three Human Decomposition Facilities. Journal of Forensic Anthropology, 1, 3 (Jan 2018).
- Jessica Winborn, Donovan Haines and Sarah Kerrigan. **Phase 1 Metabolism of Desomorphine.** Proceedings of the Society of Forensic Toxicologists (Jan 2018)
- Lindsay Glicksberg and Sarah Kerrigan. **Analyte-Dependent Stability of Synthetic Cathinones.** Proceedings of the Society of Forensic Toxicologists (Jan 2018).
- Madeleine Swortwood and Marilyn Huestis. Cannabinoids in Oral Fluid: Roadside Screening and Markers of Recent Use. Proceedings of the Association for Mass Spectrometry: Applications to the Clinical Laboratory Conference (Jan 2018).

- Madeleine Swortwood, Sarah Bartock, Karl Scheidweiler, Sophie Shaw, Panagiotis Filis, Alex Douglas, Peter Oshaughnessy, Ugo Soffientini, Baltasar Lucendo-Villarin, John Iredale, David Hay, Paul Fowler and Marilyn Huestis. **Quantification of Ethyl Glucuronide, Ethyl Sulfate, Nicotine, and its Metabolites in Human Fetal Liver and Placenta.** Forensic Toxicology, 36(1), 102-112 (Jan 2018).
- Michael Truver and Sarah Kerrigan. Optimized Digestion and Extraction of Endogenous Gamma Hydroxybutyrate (GHB) in Human Hair. Proceedings of the Society of Forensic Toxicologists (Jan 2018).
- Patrick Buzzini, Norah Rudin, Keith Inman, Glenn Langenburg and Cedric Neumann.

  Foundations of the Interpretation of Pattern and Trace Evidence (Source and Activity Levels). Proceedings of the Impression, Pattern and Trace Evidence Symposium (Jan 2018).
- Patrick Buzzini and Nicholas Petraco. The Evaluation of the Joint Value of Paint and Toolmark Evidence using Bayesian Networks. Proceedings of the Impression, Pattern and Trace Evidence Symposium (Jan 2018).
- Sun Yi Li, Pamela Zelbst, Patrick Buzzini and Jorn Chi-Chung Yu. **Potential Impact and Application of 3D Scanning, 3D Modeling and 3D Printing in Toolmark Examination.** Proceedings of the Impression, Pattern and Trace Evidence Symposium (Jan 2018).
- Patrick Buzzini and Jorn Chi-Chung Yu. *General Principles and Techniques of Trace Evidence Collection* in **Forensic Evidence Management: From Science to Courtroom.** Ed. by Ashraf Mozayani and Casie Parish Fisher, Routledge & Taylor, Boca Raton: CRC Press (Dec 2017).
- Madeleine Swortwood, Baltasar Lucendo-Villarin, Panagiotis Filis, Marilyn Huestis, Jose Mesequer-Ripolles, Kate Cameron, John Iredale, Peter O'Shaughnesy, Paul Fowler and David Hay. **Modelling Fetal Exposure to Maternal Smoking Using Hepatoblasts from Pluripotent Stem Cells.** Archives of Toxicology, 91(11), 3633-3643 (Nov 2017).
- Rachel Wiley, Kelly Sage, Bobby LaRue and Bruce Budowle. **Internal Validation of the Rapid HIT® ID System.** Forensic Science International: Genetics, 31, 180-188 (Nov 2017).

- Amy Sorensen, David Gangitano and Sheree Hughes-Stamm. Alternate Methods for Collection, Room Temperature Storage, and Processing of DNA Samples from Human Remains: A New DVI Approach. Proceedings of the International Symposium on Human Identification (Sept 2017).
- Carrie Mayes, Sarah Seashols-Williams and Sheree Hughes-Stamm. A Capillary Electrophoresis Method for Identifying Forensically Relevant Body Fluids Using miRNAs. Proceedings of the International Symposium on Human Identification (Sept 2017).
- Esiri Tasker, Sheree Hughes-Stamm and Bobby LaRue. **Efficacy of DNA Recovery and Room-Temperature Storage from Assault Rifle Magazines.** Proceedings of the International Symposium on Human Identification (Sept 2017).
- Gretchen Dabbs, Joan Bytheway and Melissa Connor. **Comparing the Scoring of Human Decomposition from Digital Images to Scoring Using On-site Observations.**Journal of Forensic Science, 62(5), 1292-1296 (Sept 2017).
- Kyleen Elwick, Xiangpei Zeng, Jonathan King, Bruce Budowle and Sheree Hughes-Stamm.

  Comparative Tolerance of Two Massively Parallel Sequencing Platforms to

  Common PCR Inhibitors for Missing Person Cases. Proceedings of the

  International Symposium on Human Identification (Sept 2017).
- Patrick Buzzini, Doug Armstrong and Cedric Neumann. Classification and Quantification of the Weight of Evidence of Textile Fibers by Microspectrophotometry.

  Proceedings of the International Conference on Forensic Inference and Statistics (Sept 2017).
- Rachel Houston, Sheree Hughes-Stamm and David Gangitano. **Nuclear, Chloroplast, and Mitochondrial Data of a US Cannabis DNA Database.** Proceedings of the International Symposium on Human Identification (Sept 2017).

## Academic Year 2016-2017

- Amy Sorensen, David Gangitano and Sheree Hughes-Stamm. Alternate Methods for Collection, Room Temperature Storage, and Processing of DNA Samples from Human Remains: A New DVI Approach. Proceedings of the International Society for Forensic Genetics (Aug 2017), Seoul, Korea.
- Jessica Wells, Todd Armstrong, Danielle Boisvert, Richard Lewis, David Gangitano and Sheree Hughes-Stamm. **Stress, Genes, and Generalization Across Gender: Effects of MAOA and Stress Sensitivity of Crime and Delinquency.** Criminology, 55(3), 548-574 (Aug 2017).
- Kyleen Elwick, Xiangpei Zeng, Jonathan King, Bruce Budowle and Sheree Hughes-Stamm.

  Comparative Tolerance of Two Massively Parallel Sequencing Platforms to

  Common PCR Inhibitors for Missing Person Cases. Proceedings of the
  International Society for Forensic Genetics (Aug 2017), Seoul, Korea.
- Lindsay Glicksberg and Sarah Kerrigan. **Stability of Synthetic Cathinones in Blood.** Journal of Analytical Toxicology, 31, 1-9 (Aug 2017).
- Madeleine Swortwood, Rebecca Hartman, Barry Logan and Marilyn Huestis. Cannabis Impaired Driving: Biological Markers and Behavioral Indicators of Recent Cannabis Intake. Proceedings of the American Association of Clinical Chemistry (Aug 2017).
- Matthew Newmeyer, Madeleine Swortwood, Megan Taylor, Osama Abulseoud, Thomas Woodward and Marilyn Huestis. **Evaluation of Divided Attention Psychophysical Task Performance and Effects on Pupil Sizes Following Smoked, Vaporized and Oral Cannabis Administration.** Journal of Applied Toxicology, 37(8), 922-932 (Aug 2017).
- Michelle Harrel, Carrie Mayes, David Gangitano and Sheree Hughes-Stamm. **Do We Really Need to Crush? An Alternative DNA Extraction Approach for Bone Samples.**Proceedings of the International Society for Forensic Genetics, Seoul, Korea (Aug 2017).
- Todd Armstrong, Danielle Boisvert, Shahida Flores, Mary Symonds and David Gangitano.

  Heart Rate, Serotonin Transporter Linked Polymorphic Region (5-HTTLPR)

  Genotype, and Violence in an Incarcerated Sample. Journal of Criminal Justice,
  51, 1-8 (Jul/Aug 2017).

- Elizabeth Chesna, Gabriella Cansino, Peyton Gandy, Jessica Wells, Danielle Boisvert, Todd Armstrong, Sheree Hughes-Stamm and David Gangitano. Application of Massive Parallel Sequencing in Forensics Using Custom Panels including Markers Potentially Linked to Human Behavioral Traits. Proceedings of the Association of Forensic DNA Analysts and Administrators (Jul 2017).
- Esiri Tasker, Bobby LaRue, Charity Beherec, David Gangitano and Sheree Hughes-Stamm.

  Analysis of DNA from Post-blast Pipe Bomb Fragments for Identification and

  Determination of Ancestry. Proceedings of the Association of Forensic DNA

  Analysts and Administrators (Jul 2017).
- Hiromi Brown, Robyn Thompson, Gina Murphy, Dixie Peters, Bobby LaRue, Jonathan King, Anne Montgomery, Marion Carroll, James Baus, Sid Sinha, Frank Wendt, Bing Song, Ranajit Chakraborty, Bruce Budowle and Sudir Sinha. **Development and Validation of a Novel Multiplexed DNA Analysis System, Innotyper 21.** Forensic Science International: Genetics, 29, 80-99 (Jul 2017).
- Kyleen Elwick, Charity Beherec, David Gangitano and Sheree Hughes-Stamm. **Comparative Tolerance of Inhibited Samples for Short Tandem Repeat and Massively Parallel Sequencing Chemistries.** Proceedings of the Association of Forensic DNA Analysts and Administrators (Jul 2017).
- Jessica Winborn and Sarah Kerrigan. **Desomorphine Screening Using Commercial Enzyme-Linked Immunosorbent Assays.** Journal of Analytical Toxicology, 41(5), 455-460 (Jun 2017).
- Madeleine Swortwood, Matthew Newmeyer, Maria Andersson, Osama Abulseoud, Karl Scheidweiler and Marilyn Huestis. **Cannabinoid Disposition in Oral Fluid After Controlled Smoked, Vaporized, and Oral Cannabis Administration.** Drug Testing and Analysis, 9(6), 905-915 (Jun 2017).
- Matthew Newmeyer, Madeleine Swortwood, Osama Abulseoud and Marilyn Huestis.

  Subjective and Physiological Effects, and Expired Carbon Monoxide

  Concentrations in Frequent and Occasional Cannabis Smokers Following

  Smoked, Vaporized, and Oral Cannabis Administration. Drug and Alcohol

  Dependence, 175, 67-76 (Jun 2017).
- Carrie Mayes, Kyleen Elwick, Michelle Harrel, David Gangitano and Sheree Hughes-Stamm.

  NGM Detecting More from Skeletal Remains. Proceedings of the Human Identification Solutions Conference (May 2017), Vienna, Austria.

- Esiri Tasker, Bobby LaRue, Charity Beherec, David Gangitano and Sheree Hughes-Stamm.

  Analysis of DNA from Post-blast Pipe Bomb Fragments for Identification and

  Determination of Ancestry. Forensic Science International: Genetics, 28, 195-202
  (May 2017).
- Kyleen Elwick, Carrie Mayes, Michelle Harrel, Esiri Tasker, David Gangitano and Sheree Hughes-Stamm. Worlds Converge: A New Approach to Analyzing CE and MPS-based STRs. Proceedings of the Human Identification Solutions Conference (May 2017), Vienna, Austria.
- Mazzella Williams, Martin Furbach, Alex Biedermann, Bing Li, Silvia Bozza and Carrie Polston. Magnetism Analysis of Black & White Electrophotographic Printed Documents. Proceedings of the International Symposium on Question Document: Examination and Identification (May 2017), Hangzhou, China.
- Rachel Houston, Matthew Birck, Sheree Hughes-Stamm and David Gangitano.

  Developmental and Internal Validation of a Novel 13 loci STR Multiplex Method for Cannabis sativa DNA Profiling. Legal Medicine, 26, 33-40 (May 2017).
- Amy Sorensen, Rachel Houston, Kyleen Elwick, Carrie Mayes, Kayla Ehring, David Gangitano and Sheree Hughes-Stamm. **Alternate Methods for Collection, Preservation and Processing of DNA Samples from Decomposing Human Cadavers: A DVI Strategy.** Proceedings of the Qiagen Investigator Forum (Apr 2017), Prague, Czech Republic.
- Austin McDaniel, Lauren Perry, James Sweet, Frank Liu and Jorn Yu. **Detection of Marijuana**Varieties Based on Heated Sample Headspace Chemical Signatures.

  Proceedings of the American Chemical Society (Apr 2017).
- Lauren Perry and Jorn Chi-Chung Yu. **Total Vaporization of Derivatization Reagent for In Situ Headspace Derivatization Solid Phase Microextraction.** Proceedings of the American Chemical Society (Apr 2017).
- Sydney Sullinger, Kelsie Bryand and Sarah Kerrigan. Identification of Suvorexant in Urine Using Liquid Chromatography-Quadrupole/Time-of-Flight Mass Spectrometry (LC-Q/TOF-MS). Journal of Analytical Toxicology, 41(3), 224-229 (Apr 2017).

- Matthew Newmeyer, Madeleine Swortwood, Osama Abulseoud, Karl Scheidweiler and Marilyn Huestis. Cannabis Edibles: Blood and Oral Fluid Pharmacokinetics and Evaluation of Oral Fluid Screening Devices for Predicting Δ9-Tetrahydrocannabinol in Blood and Oral Fluid Following Cannabis Brownie Administration. Clinical Chemistry, 63(3), 647-662 (Mar 2017).
- Alejandra Figueroa, David Gangitano, Jaime Solano and Leonardo Anabalon. **Botanical DNA Evidence in a Case of Illegal Drug Trafficking: The Use of High-Resolution Melting with the Internal Transcribed Spacer Approach in the Identification of Psychedelic Fungus (Psilocybe sp.).** Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Amanda D'Orazio, Amanda Mohr, Karen Scott, Jennifer Limoges, Amy Miles, Marilyn Huestis, Laura Liddicoat, Sarah Kerrigan and Barry Logan. The Results of the National Safety Council's Alcohol, Drugs and Impairment Division Survey of Drug Testing in Driving Under the Influence of Drugs and Traffic Fatality Investigations. Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Andrew Greenwood and Dayong Lee. Characteristics of Drug Use among Drivers in the City of Houston. Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Austin McDaniel, James Sweet and Jorn Chi-Chung Yu. Comparison of Headspace Cannabinoid Profiles Detected from Different Structures of Dried Cannabis Inflorescences. Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Carrie Mayes, David Gangitano and Sheree Hughes-Stamm. **Development and Initial Evaluation of miRNA System for Forensically Relevant Fluids Using Capillary Electrophoresis.** Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Carrie Polston, Williams Mazzella, Martin Furbach and Patrick Buzzini. **Evaluation of Instrument Sensitivity and Stability for Magnetic Flux Measurement Relative to Toner Area as a Screening Tool for Casework Application.** Proceedings of the American Academy of Forensic Sciences (Feb 2017).

- Elizabeth Chesna, Charity Beherec, Gabriella Cansino-Jones, Peyton Gandy, Jessica Wells, Danielle Boisvert, Todd Armstrong, Sheree Hughes-Stamm and David Gangitano.

  Relationship of Oxytocin and the Serotonin Transporter (5-HTT) Single Nucleotide Polymorphisms and Antisocial Behavior. Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Joan Bytheway, Nichole Miller, Dawnie Steadman, Kelly Sauerwein, Daniel Wescott, Chaunesey Clemmon, Devora Gleiber, Chloe McDaneld and Lauren Meckel.

  Validation of the Total Body Score/Accumulated Degree Days Equation at 100, 300, 500, and 1,000 ADD on 30 Human Subjects with a Known Postmortem Interval from Three Human Decomposition Facilities. Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Kimberly Setien, Kyle Vircks and Warren Samms. Investigating the Utility of Automated Flash Chromatography in Forensic Drug Analysis. Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Kyleen Elwick, David Gangitano and Sheree Hughes-Stamm. Comparative Tolerance of Short Tandem Repeat and Massively Parallel Sequencing Chemistries to Inhibited Samples. Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Lauren Perry and Patrick Buzzini. **The Discrimination of Less Frequently Encountered Colored Pen Inks Based on their Optical Properties.** Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Lindsay Glicksberg, Kelsie Bryand and Sarah Kerrigan. **Stability of Synthetic Cathinones in Biological Evidence.** Proceedings of the NIJ Forensic Science Research and Development Symposium at the American Academy of Forensic Sciences (Feb 2017).
- Lindsay Glicksberg and Sarah Kerrigan. Synthetic Cathinone Stability in Blood Using LC/Q-TOF-MS. Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Madeleine Swortwood, Allan Barnes, Karl Scheidweiler, Lauren Jansson and Marilyn Huestis. **Buprenorphine and Metabolites in Pair Breast Milk and Material and Infant Plasma Specimens.** Proceedings of the American Academy of Forensic Sciences (Feb 2017).

- Matthew Newmeyer, Madeleine Swortwood, Osama Abulseoud, Karl Scheidweiler and Marilyn Huestis. Blood and Oral Fluid Cannabinoids' Pharmacokinetics and the Evaluation of Two On-site Oral Fluid Screening Devices for the Prediction of Delta-9-Tetrahydrocannabinol (THC) in Oral Fluid and Blood Following Edible Cannabis Administration. Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Michelle Harrel and Sheree Hughes-Stamm. **The Effect of Using an Extra PCR Cycle with GlobalFiler when Amplifying Skeletal Samples.** Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Patrick Buzzini, Rebecca Bucht, Peter DeForest, Douglas Lucas, Pierre Margo, Claude Roux and Sheila Willis. **Our Future Reflects Our Past: The Evaluation of Criminalistics.**Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Rachel Houston, Sheree Hughes-Stamm and David Gangitano. **Development and Validation of a New 13-loci STR Multiplex System for Cannabis sativa Genetic Identification.** Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Sarah Long, Lynne Bell and Joan Bytheway. **Postmortem Interval Estimation Using the Blackened Osteocyte Method.** Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Sierra Smith, Kevin Derr and Joan Bytheway. **Differentiating Between Sharp Force Trauma Defects and Insect Invasion of the Skin of Human Cadavers Throughout the Decomposition Process in a Terrestrial and Fluvial Environment.** Proceedings of the American Academy of Forensic Sciences (Feb 2017).
- Amanda Wheeler, Natalia Czado, David Gangitano, Meredith Turnbough and Sheree Hughes-Stamm. Comparison of DNA Yield and STR Success Rate from Different Tissues in Embalmed Bodies. International Journal of Legal Medicine, 131(1), 61-66 (Jan 2017).
- Karl Scheidweiler, Maria Andersson, Madeleine Swortwood, Cristina Sempio and Marilyn Huestis. Long Term Stability of Cannabinoids in Oral Fluid After Controlled Cannabis Administration. Drug Testing and Analysis, 9(1), 143-147 (Jan 2017).
- Madeleine Swortwood, Matthew Newmeyer, Osama Abulseoud, Maria Andersson, Allan Barnes, Karl Scheidweiler and Marilyn A. Huestis. On-site Oral Fluid Δ9-tetrahydrocannabinoll (THC) Screening After Controlled Smoked, Vaporized, and Oral Cannabis Administration. Forensic Toxicology, 35, 133-145 (Jan 2017).

- Mariah Carson and Sarah Kerrigan. **Quantification of Suvorexant in Urine Using Gas Chromatography/Mass Spectrometry.** Journal of Chromatography B, 1040, 289-294 (Jan 2017).
- Matthew Newmeyer, Madeleine Swortwood, Allan Barnes, Osama Abulseoud, Karl Scheidweiler, and Marilyn Huestis. Free and Glucuronide Whole Blood Cannabinoids' Pharmacokinetics after Controlled Smoked, Vaporized and Oral Cannabis Administration in Frequent and Occasional Cannabis Users: Identification of Recent Cannabis Intake. Clinical Chemistry, 62(12), 1579-1592 (Dec 2016).
- Amy Sorensen, Elizabeth Rahman, Cassandra Canela, David Gangitano and Sheree Hughes-Stamm. **Preservation and Rapid Purification of DNA from Decomposing Human Tissue Samples.** Forensic Science International: Genetics, 25, 182-190 (Nov 2016).
- Esirioghene Tasker, Kyleen Elwick, Bobby LaRue, Charity Beherec, Rachel Houston, David Gangitano and Sheree Hughes-Stamm. **HID & MPS for Post-blast Bomb Fragments and Highly Inhibited Samples.** Summit Forum of Forensic Technology and Applications/China Association for Forensic Science and Technology (Nov 2016), Foshan, Guangzhou, China.
- Frank Wendt, David Warshauer, Xiangpei Zeng, Jennifer Churchill, Nicole Novroski, Bing Song, Jonathan King, Bobby LaRue and Bruce Budowle. Massively Parallel Sequencing of 68 Insertion/Deletion Markers Identifies Novel Microhaplotypes for Utility in Human Identity Testing. Forensic Science International: Genetics, 25, 198-209 (Nov 2016).
- Lauren Jansson, Nancy Spencer, Krystle McConnell, Martha Velez, Michelle Tuten, Cheryl Harrow, Hendrée Jones, Madeleine Swortwood, Allan Barnes, Karl Scheidweiler and Marilyn Huestis. **Maternal Buprenorphine Maintenance and Lactation.** Journal of Human Lactation, 32(4), 675-681 (Nov 2016).
- Lindsay Glicksberg, Kelsie Bryand and Sarah Kerrigan. Identification and Quantification of Synthetic Cathinones in Blood and Urine using Liquid Chromatography-Quadrupole/Time of Flight (LC-Q/TOF) Mass Spectrometry. Journal of Chromatography B, 1035, 91-103 (Nov 2016).
- Lindsay Glicksberg and Sarah Kerrigan. Synthetic Cathinone Stability in Urine Using LC/Q-TOF-MS. Proceedings of the Society of Forensic Toxicologists (Oct 2016).

- Madeleine Swortwood, Matthew Newmeyer, Osama Abulseoud, Karl Scheidweiler and Marilyn Huestis. Cannabinoid Pharmacokinetics and Detection Windows in Oral Fluid after Controlled Smoked, Vaporized, and Oral Cannabis Administration. Proceedings of the Society of Forensic Toxicologists (Oct 2016).
- Madeleine Swortwood, Matthew Newmeyer, Osama Abulseoud, Allan Barnes, Karl Scheidweiler and Marilyn Huestis. On-site Oral Fluid Cannabinoid Screening after Controlled Smoked, Vaporized, and Oral Cannabis Administration. Proceedings of the Society of Forensic Toxicologists (Oct 2016).
- Matthew Newmeyer, Madeleine Swortwood, Osama Abulseoud and Marilyn Huestis. Subjective and Physiological Effects following Controlled Smoked, Vaporized, and Oral Cannabis Administrations to Frequent and Occasional Cannabis Smokers. Proceedings of the Society of Forensic Toxicologists (Oct 2016).
- Samantha Wiegand, Madeleine Swortwood, Marilyn Huestis, John Thorp, Hendree Jones and Neeta Vora. Naloxone and Metabolites Quantification in Cord Blood of Prenatally Exposed Newborns and Correlations with Maternal Concentrations.

  American Journal of Perintology Reports, 6(4), e385-390 (Oct 2016).
- Amy Sorensen, Kyleen Elwick, David Gangitano and Sheree Hughes-Stamm. **Comparative Evaluation of Three Commercial Quantitative PCR Kits with Extremely Inhibited and Degraded Samples.** Proceedings of the International Symposium on Human Identification (Sept 2016).
- Carrie Mayes and Sheree Hughes-Stamm. **Development and Initial Evaluation of a miRNA System for Forensically Relevant Body Fluids using Capillary Electrophoresis.**Proceedings of the International Symposium on Human Identification (Sept 2016).
- Elizabeth Chesna, Charity Beherec, Gabriella Cansino, Jessica Wells, Danielle Boisvert, Todd Armstrong, Sheree Hughes-Stamm and David Gangitano. Application of Massive Parallel Sequencing in Forensic Psychiatry and Behavioral Science Using Custom Panels Including Markers Linked to Human Behavioral Traits. Proceedings of the International Symposium on Human Identification (Sept 2016).
- Esirioghene Tasker, Charity Beherec, Bobby LaRue, David Gangitano and Sheree Hughes-Stamm. Analysis of DNA from Post-blast Fragments for Identification and Determination of Ancestry. Proceedings of the International Symposium on Human Identification (Sept 2016).

- Kyleen Elwick, Charity Beherec, David Gangitano and Sheree Hughes-Stamm.

  Comparative Tolerance of Short Tandem Repeat and Massively Parallel

  Sequencing Chemistries to Inhibited Samples. Proceedings of the International

  Symposium on Human Identification (Sept 2016).
- Rachel Houston, Matthew Birck, Sheree Hughes-Stamm and David Gangitano.

  Developmental Validation of a Novel 13-loci STR Multiplex Method for Cannabis sativa DNA Profiling. Proceedings of the International Symposium on Human Identification (Sept 2016).

### Academic Year 2015-2016

- Carrie Mayes and Sheree Hughes-Stamm. **Development and Initial Evaluation of a miRNA System for Forensically Relevant Body Fluids Using Capillary Electrophoresis.**Proceedings of the Gordon Research Conference; Forensic Analysis of Human DNA (Jun 2016).
- Cassandra Schield, Cassandra Campeli, Jennifer Sycalik, Christopher Randle, Sheree Hughes-Stamm and David Gangitano. **Identification and Persistence of Pinus Pollen DNA on Cotton Fabrics: A Forensic Application.** Proceedings of the Association of Forensic DNA Analysts and Administrators (Jul 2016).
- Esirioghene Tasker, Bobby LaRue, David Gangitano and Sheree Hughes-Stamm. **Analysis of DNA from Post-blast Fragments for Identification and Determination of Ancestry.** Proceedings of the Gordon Research Conference; Forensic Analysis of Human DNA (Jun 2016).
- Amy Sorensen, Clare Berry, David Bruce, Michelle Gahan, Sheree Hughes-Stamm and Dennis McNevin. **Direct-to-PCR Tissue Preservation for DNA Profiling**. International Journal of Legal Medicine, 130(3), 607-13 (May 2016).
- Anastasia Brown and Jorn Chi-Chung Yu. **Sample Collection of Fire Debris from Burned Cadavers for Ignitable Liquid Analysis.** Proceedings of the Mid-Atlantic Association of Forensic Scientists (May 2016).
- Anastasia Brown, James Sweet and Jorn Chi-Chung Yu. **Heated Headspace Solid Phase Microextraction of Marijuana for Chemical Testing.** Proceedings of the MidAtlantic Association of Forensic Scientists (May 2016).
- Esirioghene Tasker, Charity Beherec, Rachel Houston and Sheree Hughes-Stamm. **Bodies, Bones and Bombs; Human Identification.** Proceedings of the Human Identification
  Solutions (HIDS) Conference (May 2016), Barcelona, Spain.
- Rachel Houston, Matthew Birck, Sheree Hughes-Stamm and David Gangitano. **Evaluation** of a 13-loci STR Multiplex System for Cannabis sativa Genetic Identification. International Journal of Legal Medicine, 130(3), 635-647 (May 2016).
- Anastasia Brown, James Sweet and Jorn Chi-Chung Yu. **Heated Headspace Solid Phase Microextraction of Marijuana for Chemical Testing.** Proceedings of the American Chemical Society (Mar 2016).

- Gretchen Dabbs, Melissa Connor and Joan Bytheway. **Interobserver Reliability of the Total Body Score System for Quantifying Human Decomposition.** Journal of Forensic Sciences, 61(2), 445-451 (Mar 2016).
- Kristof Kovacs, Parashanth Jayanna, Anna Duke, Brittany Winner, Melaeni Negrito, Siva Angalakurthi, Jorn Yu, Petra Furedi, Krisztina Ludanyi, Peter Sipos, Gary Rockwood and Ilona Petrikovics. A Lipid Base Formulation for Intramuscular Administration of a Novel Sulfur Donor for Cyanide Antagonism. Current Drug Delivery, 13(8), 1351-1357 (Mar 2016).
- Alejandra Figueroa, Jaime Solano, Leonardo Anabalon and David Gangitano. **Botanical DNA Evidence in a Case of Robbery and Property Crime: Application of High Resolution Melting Analysis of** *Triticuma aestivum* **L. Grains.** Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Amanda Wheeler, Natalia Czado, David Gangitano and Sheree Hughes-Stamm.

  Comparison of DNA Yield & STR Success Rates from Various Tissues in Embalmed Bodies. Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Amy Sorensen, Clare Berry, David Bruce, Michelle Gahan, Sheree Hughes-Stamm and Dennis McNevin. **Tissue Preservation with Direct-to-PCR for DNA Profiling: An Alternative DVI Approach.** Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Anastasia Brown, James Sweet and Jorn Chi-Chung Yu. Quantitation of Major Cannabinoids Found in Seized Marijuana Using Automated Headspace/Solid-Phase Microextraction Coupled with Gas Chromatography/Mass Spectrometry (HS/SPME-GC/MS). Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Daniela Anane-Bediakoh, Martin Lopez, Holly Whillock, Sheree Hughes-Stamm and Amy Castillo. **Can DNA Data Be Used to Establish a Cut-Off Time for Juvenile Sexual Assault Exams?** Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Elizabeth Chesna, Gabriella Cansino, Peyton Gandy, Jessica Wells, Danielle Boisvert, Todd Armstrong and David Gangitano. **Genetic Study of Single Nucleotide Polymorphisms (SNPs) in the Oxytocin Receptor (OXTR).** Proceedings of the American Academy of Forensic Sciences (Feb 2016).

- Gretchen Dabbs, Joan Bytheway and Melissa Connor. **Comparing Decomposition Assessments from Digital Images to In Situ Observations.** Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Janice Aleman, Jesse Zavala, Kyle Vircks and Warren Samms. Identification of Regioisomers Via Gas Chromatography Coupled with Vapor-Phase Infrared Detection (GC-IRD). Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Jessica Winborn, James Sweet and Jorn Chi-Chung Yu. Differentiation of Seized Marijuana Samples Using Automated Headspace/ Solid-Phase Microextraction Coupled to Gas Chromatograph/Mass Spectrometer/Flame Ionization Detector (HS/SPME-GC/MS/FID) and Principal Component Analysis (PCA). Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Joan Bytheway, Kevin Derr, Zachary Lueck, Lyndi Turner, Kandace Schakelford, Erica Fisher and Luis Dominguez. **Differentiating Between Sharp Force Trauma (SFT) Defects and Insect Invasion of Skin of Human Cadavers Throughout the Decomposition Process.** Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Joseph Insana and Patrick Buzzini. **Do the Bulk Area and the Exterior Surface of Modern Container Glass Exhibit Differences in Refractive Index (RI) Measurements?**Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Kyleen Elwick, Sheree Hughes-Stamm, Kimberly Andreaggi and Michelle Peck.

  Optimization and Validation of the ForensicGEM™ Rapid Extraction Method for

  High-Throughput Processing of Cotton Buccal Swabs. Proceedings of the

  American Academy of Forensic Sciences (Feb 2016).
- Lindsay Glicksberg, Kelsie Bryand and Sarah Kerrigan. Fragmentation Pathways and Structural Characterization of Synthetic Cathinones Using Electrospray Ionization (ESI) and High Resolution Mass Spectrometry. Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Matthew Danker, Donovan Haines and Joan Bytheway. Time-Dependent Changes in Human and Chicken Bones in Soil Examined by Infrared (IR), Raman, Inductively Coupled Plasma/Optical Emission Spectroscopy (ICP/OES), and Organic Elemental Analysis. Proceedings of the American Academy of Forensic Sciences (Feb 2016).

- Natalia Czado, Bobby LaRue, Jr., Amanda Wheeler, Rachel Houston, Amy Sorensen, David Gangitano and Sheree Hughes-Stamm. The Effectiveness of Various Strategies to Improve DNA Analysis of Formaldehyde-Damaged Tissues from Embalmed Cadavers for Human Identification (HID) Purposes. Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Rachel Houston, Sheree Hughes-Stamm and David Gangitano. **Evaluation of a 13-Loci Short Tandem Repeat (STR) Multiplex System for Cannabis sativa Genetic Identification.** Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Sarah Long, Richard Wiggins, Jennifer Akin and Amy Gruszecki. **A Mercury "Bullet" at Autopsy.** Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Stephanie Basiliere, Sarah Kerrigan and Kelsie Bryand. Fragmentation Pathways and Structural Characterization of Mitragynine and Its Metabolite Using Electrospray Ionization (ESI) and High Resolution Mass Spectrometry. Proceedings of the American Academy of Forensic Sciences (Feb 2016).
- Sarah Kerrigan, Megan Savage, Cassandra Cavazos and Paige Bella. **Thermal Degradation of Synthetic Cathinones: Implications for Forensic Toxicology.** Journal of Analytical Toxicology, 40(1), 1-11 (Jan/Feb 2016).
- Cassandra Schield, Cassandra Campelli, Jennifer Sycalik, Christopher Randle, Sheree Hughes-Stamm and David Gangitano. **Identification and Persistence of** *Pinus* **pollen DNA on Cotton Fabrics: A Forensic Application**. Science & Justice, 56(1), 29-24 (Jan 2016).
- Joseph Insana and Patrick Buzzini. **The Differences Between Refractive Index Measurements of the External Surface and Bulk Area of Container Glass.** The Microscope, 64(2), 51-60 (Second Quarter 2016).
- Patrick Buzzini and Edward Suzuki. **Forensic Applications of Raman Spectroscopy for the In Situ Analyses of Pigments and Dyes in Ink and Paint Evidence.** Journal of Raman Spectroscopy (Year of Light Special Issue), 47(1), 16-27 (Jan 2016).
- Sheree Hughes-Stamm, Frauke Warnke and Angela van Daal. **An Alternate Method for Extracting DNA from Environmentally Challenged Teeth for Improved DNA Analysis.** Legal Medicine, 18, 31–36 (Jan 2016).

- Joan Bytheway, Melissa Connor, Gretchen Dabbs, Cheryl Johnston and Michelle Sunkel. **The Ethics and Best Practices of Human Decomposition Facilities in the United States**. Forensic Science Policy & Management: An International Journal, 6(3/4), 59-68 (Nov 2015).
- Jorn Chi-Chung Yu and Ashraf Mozayani. **Medicolegal and Forensic Factors in Cyanide Poisoning**. *Toxicology of Cyanides and Cyanogens: Experimental, Applied and Clinical Aspects*. Ed by Alan H. Hall, Gary E. Isom, and Gary A. Rockwood. Hoboken: Wiley (Nov 2015).
- Sarah Kerrigan and Bruce A. Goldberger. **Alternative Body Fluids Analysis** *in Encyclopedia* of Forensic and Legal Medicine, 2nd Edition. Elsevier and Academic Press, R. Byard. Ed. Academic Press (Nov 2015).
- Amy Sorensen, Clare Berry, David Bruce, Michelle Gahan, Sheree Hughes-Stamm and Dennis McNevin. **Direct-to-PCR Tissue Preservation for DNA Profiling**. Proceedings of the International Symposium on Human Identification (Oct 2015).
- Elizabeth Rahman, Sheree Hughes-Stamm, David Gangitano and Gabriel Boselli.

  Evaluation of a One-Step DNA Extraction Method for "touch" Samples.

  Proceedings of the International Symposium on Human Identification (Oct 2015).
- Lindsay Glicksberg and Sarah Kerrigan. Simultaneous Identification of Twenty-Two Synthetic Cathinones in Urine using LC/Q-TOF-MS. Proceedings of the Society of Forensic Toxicologists (Oct 2015).
- Rachel Houston, Matthew Birck, Sheree Hughes-Stamm and David Gangitano. **Evaluation** of a 13-loci STR Multiplex for *Cannabis sativa* Genetic Identification. Proceedings of the International Symposium on Human Identification (Oct 2015).
- Jessica Wells, Todd Armstrong, Brian Boutwell, Danielle Boisvert, Shahida Flores, Mary Symonds and David Gangitano. **Molecular Genetic Underpinnings of Self-Control: 5-HTTLPR and Self-Control in a Sample of Inmates**. Journal of Criminal Justice, 43(5), 386-396 (Sept-Oct 2015).
- Amy Sorensen, Clare Berry, David Bruce, Michelle Gahan, Sheree Hughes-Stamm and Dennis McNevin. **Direct-to-PCR Tissue Preservation for DNA Profiling.**Proceedings of the International Society for Forensic Genetics, Krakow, Poland (Sept 2015)

### Academic Year 2014-2015

- Rachel Houston, Amy Sorensen, David Gangitano and Sheree Hughes-Stamm. **Using DNA Profiling to Discriminate Marijuana Sources**. Proceedings of the Association of Forensic DNA Analysts and Administrators (Aug 2015).
- James White, Sheree Hughes-Stamm and David Gangitano. **Development and Validation** of a Rapid PCR Method for the PowerPlex® 16 HS System for Forensic DNA Identification. International Journal of Legal Medicine, 129(4), 715-723 (Jul 2015).
- Michael Alexander, Theresa Hodges, Joan Bytheway and Jacqueline Aitkenhead-Peterson. **Application of Soil in Forensic Science: Residual Odor and HRD Dogs.** Forensic Science International, 249, 304-313 (Apr 2015).
- Amy Sorensen, Elizabeth Rahman, David Gangitano and Sheree Hughes-Stamm. Improved Preservation and Purification Methods for DNA in Decomposing Human Tissue Samples; A DVI Application. Proceedings of the American Academy of Forensic Sciences (Feb 2015).
- Amy Sorensen, Elizabeth Rahman, Cassandra Shield, James White, David Gangitano and Sheree Hughes-Stamm. Room Temperature DNA Preservation and Rapid Purification of Decomposing Human Tissue Samples: An Alternative DVI Approach. Proceedings of the American Academy of Forensic Science (Feb 2015).
- Gabriella Cansino, Peyton Gandy, Jessica Motl, Todd Armstrong, Matt Nobles, Brian Boutwell and David Gangitano. Criminal Behavior and Single Nucleotide Polymorphisms in Genes Related to Dopamine and Serotonin Modulation. Proceedings of the American Academy of Forensic Sciences (Feb 2015).
- Gretchen Dabbs, Melissa Connor and Joan Bytheway. Interobserver Reliability of the Total Body Score System for Quantifying Human Decomposition. Proceedings of the American Academy of Forensic Sciences (Feb 2015).
- Jessica Winborn, Margaret Hanson, Luis Figueroa, Ashley Konarik, Dustin James, Kevin Chen, Terra Dassau, James Sweet and Jorn Chi-Chung Yu. **Analysis of Cannabinoids**Found in Seized Marijuana Using Automated Headspace Solid-phase Microextraction Coupled with Gas Chromatography/Mass Spectrometry. Proceedings of the American Academy of Forensic Sciences (Feb 2015).
- Lindsay Glicksberg, Rebecca Ponsini, Megan Savage, Cassandra Cavazos and Sarah Kerrigan. **Identification of Synthetic Cathinones from Electron Impact Mass Spectra**. Proceedings of the American Academy of Forensic Sciences (Feb 2015).

- Mustapha Zein, Kristina M. McNerney, Jason Schroeder, William Davis and Roger Kahn. **Gunshot Residue on Evidence Packaging**. Proceedings of the American Academy of Forensic Sciences (Feb 2015).
- Patrick Buzzini and Alyshia Meyers. **Characterization and Discrimination of Inkjet Printer Inks Using Micro-Raman Spectroscopy**. Proceedings of the American Academy of Forensic Sciences (Feb 2015).
- Peter De Forest, Patrick Buzzini, Rebecca Bucht, Carol Hunter and Douglas Lucas. The Making of the Criminalistics Maestro- On the Skills, Knowledge, and Abilities to Work Proficiently on Non-Routine and Complex Cases. Proceedings of the American Academy of Forensic Sciences (Feb 2015).
- Rebecca Ponsini and Sarah Kerrigan. **Identification of Synthetic Cathinones from Electron Impact Mass Spectra**. Proceedings of the American Academy of Forensic Sciences (Feb 2015).
- R. J. McDown, Joshua D. Sablatura, Lei Chen and Jorn Chi-Chung Yu. Fingerprint Replication Utilizing Latent Fingerprints for Conducting Forensic Analysis on Mobile Devices with Biometric Security. Proceedings of the American Academy of Forensic Sciences (Feb 2015).
- Stephanie Basiliere, Tracy Gastineau and Sarah Kerrigan. A Validated Method for the Determination of Salvinorin A and Salvinorin B in Forensic Toxicology Samples.

  Proceedings of the American Academy of Forensic Sciences (Feb 2015).
- Jeffrey Wozniak, Monte Thies, Joan Bytheway and William Lutterschmidt. A Hydrologic Retention System and Water Quality Monitoring Program for a Human Decomposition Research Facility: Concept and Design. Journal of Forensic Sciences, 60(1), 54-60 (Jan 2015).
- Jacqueline Aitkenhead-Peterson, Michael Alexander, Joan Bytheway, David Carter and Daniel Wescott, *Application of Soil Chemistry in Forensic Entomology* in **Forensic Entomology: International Dimensions and Frontiers**, Jeffrey Tomberlin and M. Eric Benbow eds., Boca Raton: CRC Press, 283-296 (2015).
- Sarah Kerrigan. Improved Detection of Synthetic Cathinones in Forensic Toxicology Samples. Technical Report, U.S. Department of Justice, Award Number 2012-R2-CX-K003, 2015.

- Joan Bytheway, Nicole Larison and Ann Ross. Recognition of Atypical Burn Patterns and Pre-cremation Blunt Force Trauma Observed on Human Remains in Two Forensic Cases in the United States. Anthropology, 2(5), 136 (Nov 2014).
- Amy Sorenson, David Gangitano and Sheree Hughes-Stamm. Room Temperature DNA Preservation and High-Throughput Purification of Decomposing Human Tissue Samples, An Improved DVI Approach. Proceedings of the International Symposium on the Forensic Sciences, The Australian and New Zealand Forensic Science Society (Sept 2014).

# Academic Year 2013-2014

- Amy Sorensen, David Gangitano and Sheree Hughes-Stamm. Room Temperature DNA Preservation and Rapid Purification of Decomposing Human Tissue Samples; A DVI Application. Proceedings of the International Symposium on Human Identification (Aug 2014).
- Todd Armstrong, Brian Boutwell, Shahida Flores, Mary Symonds, Shawn Keller and David Gangitano. Monoamine Oxidase A Genotype, Childhood Adversity, and Criminal Behavior In An Incarcerated Sample. Psychiatric Genetics, 24(4), 164-171 (Aug 2014).
- Amy Sorenson, David Gangitano and Sheree Hughes-Stamm. **DNA Preservation and Rapid Purification of Decomposing Human Tissue Samples; A DVI Application.**Proceedings of the Association of Forensic DNA Analysts and Administrators (Jul 2014).
- Sarah Bahlmann, Sheree Hughes-Stamm and David Gangitano. **Development and Evaluation of a Rapid PCR Method for the PowerPlex® S5 System for Forensic DNA Profiling.** Legal Medicine, 16(4), 227-233 (Jul 2014).
- Jianbo Zeng, Ji Qi, Fuquan Bai, Jorn Chi-Chung Yu and Wei-Chuan Shih. **Analysis of Ethyl and Methyl Centralite Vibrational Spectra for Mapping Organic Gunshot Residues.** Analyst, 139, 4270-4278 (May 2014).
- Ming Li, Jing Lu, Ji Qi, Fusheng Zhao, Jianbo Zeng, Jorn Chi-Chung Yu and Wei-Chuan Shih. Stamping Surface-enhanced Raman spectroscopy for Label-free, Multiplexed, Molecular Sensing and Imaging. Journal of Biomedical Optics, 19(5), 050501-050503 (May 2014).
- Cassandra Cavazos, Michael Manes and Monica Brady Mellon. **Benefits of Deconvolution Reporting Software in Forensic Toxicology.** Proceedings of the American Academy of Forensic Sciences (Feb 2014).
- Cassandra Schield, Cassandra Campelli, Bruce Budowle, Craig Echt and David Gangitano.

  Forensic Botany: Molecular Identification of Pinus Pollen Grains in Surface Soil.

  Proceedings of the American Academy of Forensic Sciences (Feb 2014).
- Elizabeth Rahman and Sheree Hughes-Stamm. **Preservation of Human Tissue Samples in Tropical Climates.** Proceedings of the American Academy of Forensic Sciences (Feb 2014).

- James White, Sarah Bahlmann, Sheree Hughes-Stamm and David Gangitano. **Development** and Evaluation of a Rapid PCR Method for a Commercially Available MiniSTR Kit for Human Identification. Proceedings of the American Academy of Forensic Sciences (Feb 2014).
- Joseph Cox and Jeffrey Walterscheid. **Determination of GHB in Blood and Urine Using GC-MS/MS without Derivatization.** Proceedings of the American Academy of Forensic Sciences (Feb 2014).
- Kaitlin Main, Stacie Gray, Kevin Derr and Joan Bytheway. **Differences in Skeletal Pathology** as Seen in an Individual with Quadriplegia Secondary to Duchenne Muscular **Dystrophy.** Proceedings of the American Academy of Forensic Sciences (Feb 2014).
- Kourtni Woods, Sheree Hughes-Stamm, David Gangitano and Frauke Warnke. **An Improved Method of DNA Extraction from Environmentally Challenged Teeth.** Proceedings of the American Academy of Forensic Sciences (Feb 2014).
- Peyton Gandy, Mary Symonds, Shahida Flores, Todd Armstrong, Matthew Nobles, Brian Boutwell and David Gangitano. **Genetic Study of DNA polymorphisms in Androgen Receptor, Serotonin Transporter and Monoamine-oxidase Genes in an Inmate Sample.** Proceedings of the American Academy of Forensic Sciences (Feb 2014).
- Rebecca McCullough, Yongyi, Jiang and Warren Samms. Differentiation and Thermal Degradation of Synthetic Cathinone Regioisomers During Gas Chromatography/Mass Spectrometry Analysis. Proceedings of the American Academy of Forensic Sciences (Feb 2014).
- Rebecca McCullough, Yongyi, Jiang and Warren Samms. **Differentiation of Regioisomeric Alpha-methyltryptamine (AMT; 3- (2-aminopropyl) indole) and 5-IT (5-(2-aminopropyl) indole).** Proceedings of the American Academy of Forensic Sciences (Feb 2014).
- Sarah Kerrigan and Paige Bella. **Stability of the Synthetic Cathinones: Implications for Forensic Toxicology.** Proceedings of the American Academy of Forensic Sciences (Feb 2014).
- Tiffany McCann and Jorn Chi-Chung Yu. **Optimization of Headspace Solid Phase Microextraction Coupled with Gas Chromatography/Mass Spectrometry for Marijuana Profiling.** Proceedings of the American Academy of Forensic Sciences (Feb 2014).

- Tracy Gastineau, Justin Schwane and Elizabeth Todd. **Two Month Stability and Distribution** and **Study of the Benzodiazepine Phenazepam.** Proceedings of the American Academy of Forensic Sciences (Feb 2014).
- Sarah Kerrigan, Ashley Mullings, Breanna Jatzlau, Francisco Ortiz, Laura Perrella, Sarah Martin and Kelsie Bryand. **Psychostimulants in Urine by Liquid Chromatography-Tandem Mass Spectrometry.** Journal of Forensic Sciences, 59(1), 175-183 (Jan 2014).
- Pablo Noseda, Jaclyn Kenline, Samantha Manning and David Gangitano. **Genetic Study of Three Closely Linked X chromosome STR Markers in an Argentinian Population.**Journal of Forensic Investigation, 1(2), 4, 24 (Oct 2013).
- Darrel Stein and Jorn Chi-Chung Yu. **The Use of Near-infrared Photography to Image Fired Bullets and Cartridge Cases.** Journal of Forensic Science, 58(5), 1330-1335 (Sept 2013).
- Sarah Kerrigan, Monica Brady Mellon and Paige Hinners. **Detection of Phenazepam in Impaired Driving.** Journal of Analytical Toxicology, 37(8), 552-558 (Sept 2013).
- Sheree Hughes-Stamm, Mark Barash, Kelly Grisedale and Angela van Daal. Initial Evaluation of a 96-plex GoldenGate® Genotyping SNP Assay with Suboptimal and Whole Genome Amplified Samples. Journal of Forensic Investigation, 1(1), 8-16 (Sept 2013).

### Academic Year 2012-2013

- Barry Logan, Kayla Lowrie, Jennifer Turri, Jillian Yeakel, Jennifer Limoges, Amy Miles, Colleen Scarneo, Sarah Kerrigan and Laurel Farrell. **Recommendations for Toxicological Investigation of Drug Impaired Driving and Motor Vehicle Fatalities.** Journal of Analytical Toxicology, 37(8), 605-610 (Aug 2013).
- Sarah Bahlmann, Sheree Hughes-Stamm and David Gangitano. **Development and Evaluation of a Rapid PCR Method for the PowerPlex® S5 System for Forensic DNA Profiling.** Proceedings of the International Symposium on Human Identification (Aug 2013).
- Pablo Noseda, Jaclyn Kenline, Samantha Manning and David Gangitano. **Population data for DXS6800, DXS101 and DXS8377 loci from Buenos Aires (Argentina).** Journal of Forensic Legal Medicine, 20(5), 522-524 (Jul 2013).
- Sarah Kerrigan and Bruce A. Goldberger. **Opioids** *in Principles of Forensic Toxicology*, 4th Ed., AACC Press, Washington, D.C., Ed. B. Levine (Jul 2013).
- Sarah Kerrigan. **Sampling, Storage and Stability** *in Clarke's Analytical Forensic Toxicology*, 2nd Ed. Pharmaceutical Press, London, UK. Eds. A. Negrusz and G Cooper (May 2013).
- Cassandra Campelli, Jennifer Sycalik, Christopher Randle, Craig Echt, Bruce Budowle and David Gangitano. **Using Pinus STR Profiling to Discriminate Pollen Sources at the Regional Level: A Potential Tool for Forensic Investigations.** Proceedings of the American Academy of Forensic Sciences (Feb 2013).
- Joe Treviño, Darren Williams and Joan Bytheway. **Quantification of Color Changes in Human Decomposition Using Image Processing Software.** Proceedings of the American Academy of Forensic Sciences (Feb 2013).
- Paige Hinners, Monica Brady Mellon and Sarah Kerrigan. **Phenazepam Impairment: A Case Report.** Proceedings of the American Academy of Forensic Sciences (Feb 2013).
- Sarah Bahlmann, Ashleigh Faris, Sibyl Bucheli and David Gangitano. A Molecular Approach: Species Composition of the Maggot Mass in Human Cadavers in the Pineywoods Ecoregion of Southeastern Texas. Proceedings of the American Academy of Forensic Sciences (Feb 2013).

- Sarah Sims, Chris Heartsill and Elizabeth Todd. A Proposed Means for the Detection and Quantification of Bath Salts from Blood. Proceedings of the American Academy of Forensic Sciences (Feb 2013).
- Joan Bytheway and Stephen Pustilnik. **Determining Postmortem Interval using Glycoproteinous Adhesion Deposits by Balanus improvisus on Human Skeletal and Dental Remains.** Journal of Forensic Science, 58(1), 200-205 (Jan 2013).
- Patricia Contreras, Stephen Houck, William Davis and Jorn Chi-Chung Yu. **Pyrolysis Products of Linear Alkylbenzenes Implications in Fire Debris Analysis.** Journal of Forensic Sciences, 58(1), 210-216 (Jan 2013).
- Jorn Chi-Chung Yu, Sarah Martin, Jessica Nasr, Katelyn Stafford, David Thompson and Ilona Petrikovics. LC-MS/MS Analysis of 2-aminothiazoline-4-carboxylic acid as a Forensic Biomarker for Cyanide Poisoning. World Journal Methodology, 2(5), 33-41 (Oct 2012).

### Academic Year 2011-2012

- Kayla Ellefsen and Sarah Kerrigan. **Detection of Beta-Keto Amphetamines in Urine by GC/MS.** Proceedings of the Society of Forensic Toxicologists (Jul 2012).
- MacKenzie Willis and Sarah Kerrigan. **Determination of Endogenous Concentrations of GHB in Human Hair by LCMSMS**. Proceedings of the Society of Forensic Toxicologists (Jul 2012).
- MacKenzie Willis, Kayla Ellefsen, Ayodele Collins, James Bourland and Ronald Backer.

  Validation and Comparison of the Microgenics and Immunalysis Buprenorphine

  EIA Kits. Proceedings of the Society of Forensic Toxicologists (Jul 2012).
- Sarah Martin and Sarah Kerrigan. **Analysis of Psychedelic Phenethylamines in Blood by LC/MS/MS.** Proceedings of the Society of Forensic Toxicologists (Jul 2012).
- Patricia Contreras, Stephen Houck, William Davis and Jorn Chi-Chung Yu. **Pyrolysis Products of Linear Alkylbenzenes Implications in Fire Debris Analysis.** Journal of Forensic Science, 58(1), 210-216 (May 2012).
- Ilona Petrikovics, Jorn Chi-Chung Yu, David Thompson, Prashanth Jayanna, Brian Logue, Jessica Nasr, Raj Bhandari, Steven Baskin and Gary Rockwood. **Plasma Persistence of 2-Aminothiazoline-4-Carboxylic Acid in Rat System Determined by Liquid Chromatography Tandem Mass Spectrometry.** Journal of Chromatography B, 891-892, 81-84 (Apr 2012).
- Ilona Petrikovics, Melinda Wales, Marianna Budai, Jorn Chi-Chung Yu and Maria Szilasi.

  Nano-Intercalated Organophosphorus-Hydrolyzing Enzymes in

  Organophosphorus Antagonis. AAPS PharmSciTech, 13(1), 112-117 (Mar 2012).
- Jacqueline Aitkenhead-Peterson, Charity Owings, Mara Alexander, Nicole Larison and Joan Bytheway. **Mapping the Extent of Human Cadaver Decomposition Islands with Soil Chemistry.** Forensic Science International, 216(1-3), 127-134 (Mar 2012).
- Angela Rippley, Nicole Larison, Kathryn Moss, Jeffrey Kelly and Joan Bytheway. **Scavenging Behavior of Lynx rufus on Human Remains during the Winter Months of Southeast Texas.** Proceedings of the American Academy of Forensic Sciences (Feb 2012).
- Ashleigh Faris, Sibyl Bucheli and David Gangitano. **Species Composition of the Maggot Mass.** Proceedings of the American Academy of Forensic Sciences (Feb 2012).

- Danielle Dela Cruz, Chris Heartsill and Jorn Chi-Chung Yu. **A Comparison of Alprazolam Levels in Blood and Urine.** Proceedings of the American Academy of Forensic Sciences (Feb 2012).
- Eduardo Padilla and Sarah Martin. **Method Development and Validation for the Detection of Cannabinoids in Blood Using LC/MS/MS.** Proceedings of the American Academy of Forensic Sciences (Feb 2012).
- Jaclyn Kenline, Lauren Bouse, Pablo Noseda and David Gangitano. Comparison of Genetic Markers and Developmental Validation of the Multicopy LINE-1 Marker for Use in a Sensitive Real-Time Quantification Method. Proceedings of the American Academy of Forensic Sciences (Feb 2012).
- Joan Bytheway and Nicole Larison. **An Atypical Burn Pattern Associated with Forensically Signification Human Remains.** Proceedings of the American Academy of Forensic Sciences (Feb 2012).
- Joan Bytheway, Angela Rippley and Ashleigh Gallaway. **Stages of Decomposition of Human Remains in a Subtropical Humid Environment.** Proceedings of the American Academy of Forensic Sciences (Feb 2012).
- Kayla Ellefsen, MacKenzie Willis, Ayodele Collins, James Bourland and Ronald Backer. **Evaluation of the Immunalysis Tapentadol Enzyme Immunoassay Kit.**Proceedings of the American Academy of Forensic Sciences (Feb 2012).
- Nicole Harre, Ashley Pipkin, Jorn Chi-Chung Yu and Colin Anderson. **Extraction of Methamphetamine from Postmortem Blood Samples by Molecularly Imprinted Polymers for Selective Solid Phase Extraction.** Proceedings of the American Academy of Forensic Sciences (Feb 2012).
- Steve Noser, Ashleigh Gallaway, Angela Rippley, Kevin Derr, Joe Trevino III and Joan Bytheway. Estimation of the Postmortem Interval of Human Remains in a Subtropical Humid Environment Using Accumulated Degree-Days and Total Body Scoring. Proceedings of the American Academy of Forensic Sciences (Feb 2012).
- Yuanwei Gao, Seongshin Gwak and Jorn Chi-Chung Yu. **Preparation of Molecularly Imprinted Monolithic Polymers as the Stationary Phase for Liquid Chromatography.** Proceedings of the American Academy of Forensic Sciences (Feb 2012).

- Sarah Kerrigan. **Designer Amphetamines in Forensic Toxicology Casework.** Technical Report, U.S. Department of Justice, Award Number 2008-DN-BX-K126 (2012).
- Ilona Petrikovics, David Thompson, Gary Rockwood, Brian Logue, Sarah Martin, Prashanth Jayanna and Jorn Chi-Chung Yu. **Organ-distribution of the Metabolite 2-aminothiazoline-4-carboxylic acid in a Rat Model Following Cyanide Exposure.** Biomarkers, 16(8), 686-690 (Dec 2011).
- Sarah Kerrigan, Monica Brady-Mellon, Stephanie Banuelos and Crystal Arndt. **Evaluation of Commercial Enzyme Linked Immunosorbent Assays to Identify Psychedelic Phenethylamines.** Journal of Analytical Toxicology, 35, 10-21 (Sept 2011).
- Sarah Kerrigan, Stephanie Banuelos, Laura Perrella and Brittany Hardy. Simultaneous Detection of Ten Psychedelic Phenethylamines in Urine by Gas Chromatography-Mass Spectrometry. Journal of Analytical Toxicology, 35, 1-8 (Sept 2011).

### Academic Year 2010-2011

- Sheree Hughes-Stamm, Kevin Ashton and Angela van Daal. **Assessment of DNA Degradation and the Genotyping Success of Highly Degraded Samples.**International Journal of Legal Medicine, 125(3), 341-348 (Apr 2011).
- Brittney Gonzalez, Pablo Noseda, and David Gangitano. **STR Data for Three Closely Linked X-Chromosomal Markers in an Argentinean Population.** Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Charity Owings, Nicole Larison and Joan Bytheway. **Taphonomic Changes Observed on Skeletal Remains in Southeast Texas.** Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Emily Young, Ayodele Collins and James Bourland. **Evaluation of Enzymatic Hydrolysis Efficiency for Buprenorphine Analysis.** Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Francisco Ortiz, Breanna Jatzlau, Ashley Mullings, Kelsie Bryand and Sarah Kerrigan.

  Simultaneous Detection of Psychedelic Amphetamines in Urine by LC/MS/MS.

  Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Francisco Ortiz, Jeffrey Walterscheid, Terry Danielson and Ashraf Mozayani. **Toxicological Analysis of Synthetic Cannabinomimetic "Spice" Drugs.** Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Jordan Williams, Laura Perrella, Andrew McWhorter and Jennifer Watson. **Optimization of Touch DNA Collection.** Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Kristina Scott and David Gangitano. **Application of a Handheld Vacuum-Filter Device for Differential Sperm Separation.** Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Laura Perrella, Jordan Williams, Andrew McWhorter and Jennifer Watson. **Optimizing Sperm Cell Recovery from Cotton Swabs prior to Christmas Tree Staining and p30 Test.** Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Lyndsi Ayers and Sarah Kerrigan. **Quantitative Analysis of Salvinorin A (***Salvia***) in Blood.**Proceedings of the American Academy of Forensic Sciences (Feb 2011).

- Mallory Foster, Jorn Chi-Chung Yu and Darrell Stein. The Use of Infrared Imaging to Facilitate Fired Cartridge Case and Bullet Comparisons. Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Sarah Martin, Jessica Nasr, Jorn Chi-Chung Yu and Ilona Petrikovics. **Study of L-2-Aminothiazoline-4-Carboxylic Acid as a Biomarker for Cyanide Poisoning by LC-MS/MS Analysis.** Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Seongshin Gwak, Ayodele Collins, Cade Park, Scot Chester and James Bourland.

  Prevalence of Norhydrocodone in Authentic Hydrocodone Urine Specimens.

  Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Shahida Flores and David Gangitano. **Collection of Touch DNA by a Handheld Vacuum Device.** Proceedings of the American Academy of Forensic Sciences (Feb 2011).
- Natalie Lindgren, Jeffrey Kelly, Alan Archambeault, Sybil Bucheli and Joan Bytheway. Exclusion of Forensically Important Flies Due to Burying Behavior by the Red Imported Fire Ant (Solenopsis invicta) in Southeast Texas. Forensic Science International, 204(1-3), e1-3 (Jan 2011).
- Sarah Kerrigan. **Sampling, Storage and Stability** *in Clarke's Analysis of Drugs and Poisons*, 4th Ed. Pharmaceutical Press, London, UK. Eds. A.C. Moffat, M.D. Osselton and B. Widdop (2011).
- David Gangitano. **SNPs as Predictors of Eye/Hair Color.** Proceedings of the International Symposium on Human Identification (Oct 2010).

## Academic Year 2009-2010

- Joan Bytheway and Ann Ross. A Geometric Morphometric Approach to Sex Determination of the Human Adult Os Coxa. Journal of Forensic Science, 55(4), 859-864 (Jul 2010).
- Sibyl Bucheli, Joan Bytheway and David Gangitano. **Necrophagous Caterpillars Provide Human mtDNA Evidence.** Journal of Forensic Science, 55(4), 1130-1132 (Jul 2010).
- Jorn Chi-Chung Yu and Edward Lai. **Molecularly Imprinted Polymers for Ochratoxin an Extraction and Analysis.** Toxins, 2(6), 1536-1553 (Jun 2010).
- Alvaro Munoz, David Gangitano, Christopher Smith, Timothy Boone and George Somogyi.

  Removal of Urothelium Affects Bladder Contractility and Release of ATP but Not Release of NO in Rat Urinary Bladder. BMC Urology, 10(1), 10 (May 2010).
- Ridhima Rao and Sarah Kerrigan. **Determination of Salvinorin A in Urine by GC/MS.**Proceedings of the California Association of Toxicologists (May 2010).
- Jorn Chi-Chung Yu, Ilona Petrikovics, Randy Jackson and Katelyn Stafford. Analytical Method Development for Determining the Biomarker Cyanide Metabolite 2-Aminothiazoline-4-Carboxylic Acid in Mice Liver After Cyanide Exposure. Proceedings of the Society of Forensic Toxicologists (Mar 2010).
- Phillip Stout, Kelsie Simons and Sarah Kerrigan. Quantitative Analysis of Gamma-Hydroxybutyrate (GHB) at Endogenous Concentrations in Hair using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS). Journal of Forensic Sciences, 55(2), 531-537 (Mar 2010).
- Randy Jackson, Edward Lai, Ilona Petrikovics and Jorn Chi-Chung Yu. Molecularly Imprinted Polymer Stir Bar Sorption Extraction and Electrospray Ionization Tandem Mass Spectrometry for Determination of 2-Aminothiazoline-4-Carboxylic Acid as a Marker for Cyanide Exposure. Analytical Methods, 2, 552-557 (Mar 2010).
- Breanna Mead and David Gangitano. Study on SNPs Relating to Ethnicity and Hair/Eye Pigmentation in a Population of Texas. Proceedings of the American Academy of Forensic Sciences (Feb 2010).
- Harry Ehmann. The Forensic Assessment of HID (Xenon) Headlights: Determining Energization State and Identifying Illegal Vehicle Modifications. Proceedings of the American Academy of Forensic Sciences (Feb 2010).

- Jeffrey Kelly and Jorn Chi-Chung Yu. **Analysis of Non-Toxic Ammunition by Double Shot Pyrolysis Gas Chromatography/Mass Spectroscopy (DY-PY GC/ MS).**Proceedings of the American Academy of Forensic Sciences (Feb 2010).
- Jeffrey Kelly, Natalie Lindgren, Alan Archambeault, Sybil Bucheli and Joan Bytheway. **Insect Succession Model for Southeast Texas in Early Spring.** Proceedings of the American Academy of Forensic Sciences (Feb 2010).
- Jennifer Sycalik and David Gangitano. **Pollen DNA: A New Tool for Forensic Investigations.**Proceedings of the American Academy of Forensic Sciences (Feb 2010).
- Joan Bytheway and Ann Ross. **Precision of Coordinate Landmark Data Acquired from the OS Coxa.** Proceedings of the American Academy of Forensic Sciences (Feb 2010).
- Joan Bytheway. Southeast Texas Applied Forensic Science Facility (STAFS) at Sam Houston State University: A New Forensic Anthropology Human Decomposition Facility. Proceedings of the American Academy of Forensic Sciences (Feb 2010).
- Katelyn Stafford, Jorn Chi-Chung Yu, Ilona Petrikovics and Randy Jackson. **Analytical Method Development for Determining the Biomarker, 2-Aminothiazoline-4-Carboxylic Acid (ATCA), in Mice Liver after Cyanide Exposure.** Proceedings of the American Academy of Forensic Sciences (Feb 2010).
- Katelyn Stafford, Nicole Larison, Angela Rippley, Natalie Lindren and Joan Bytheway.

  Postmortem Interval of Surface Remains in Spring Season in Southeast Texas.

  Proceedings of the American Academy of Forensic Sciences (Feb 2010).
- Mario Galioto, David Gangitano and Joan Bytheway. Comparative Study on Stability of DNA in Alternative Sample Tissues for Use in the Identification of Decomposed Cadavers. Proceedings of the American Academy of Forensic Sciences (Feb 2010).
- Mario Galioto, Diana Morales and Cassie Carradine. **Internal Validation of an Automated Extraction Robot.** Proceedings of the American Academy of Forensic Sciences (Feb 2010).
- Nicole Paes and David Gangitano. **Application of mini-STRs to Low Copy Number DNA Samples.** Proceedings of the American Academy of Forensic Sciences (Feb 2010).
- Rebecca Girardet, Kelly Bolton, William Arnold, Breanna Mead, Nicole Paes, Sheela Lahoti, Reena Isaac and Angelo Giardino. **The Collection of Forensic Evidence from Prepubescent Victims of Sexual Assault.** Proceedings of the American Academy of Forensic Sciences (Feb 2010).



- Sarah Kerrigan and Bruce A. Goldberger. **Opioids** *in Principles of Forensic Toxicology*, 3rd Ed., AACC Press, Washington, D.C., Ed. B. Levine (2010).
- Sarah Kerrigan and Bruce A. Goldberger. **Forensic Toxicology** *in Forensic Nursing*, Second Ed. Elsevier Mosby, St. Louis, MO. Eds. V. Lynch and J. Barber Duval, (2010).
- Sarah Kerrigan. **The Use of Alcohol to Facilitate Sexual Assault.** Forensic Science Review, 22(1), 16-32 (Jan 2010).
- Jorn Chi-Chung Yu and Edward Lai. **Molecularly Imprinted Polymer Nanomaterials for Mycotoxin Extraction.** American Chemical Society Mycotoxin Prevention and Control in Agriculture Symposium Series, 1031(19), 277-292 (Dec 2009).
- Katelyn Stafford, Randy Jackson, Jorn Chi-Chung Yu and Ilona Petrikovics. **Analytical Method Development for Determining the Biomarker, 2- Aminothiazoline-4-Carboxylic Acid (ATCA), in Mice Liver after Cyanide Exposure.** Proceedings of the American Chemical Society Southwest Regional Meeting (Nov 2009).
- Coral Luce, Shawn Montpetit, David Gangitano and Patrick O'Donnell. **Validation of the AMPFISTR MiniFiler PCR Amplification Kit for Use in Forensic Casework.** Journal of Forensic Science, 54(5), 1046-1054 (Sept 2009).
- Harry Ehmann and Jorn Chi-Chung Yu. **Determination of Energization State of Xenon High Intensity Discharge Automobile Headlights.** Forensic Science Journal, 8(1), 13-28 (Sept 2009).

### Academic Year 2008-2009

- David Gangitano, Ramiro Salas, Yanfen Teng, Erika Perez and Mariella De Biasi. Progesterone Modulation of Alpha5 nAChR Subunits Influences Anxiety-related Behavior During Estrus Cycle. Genes, Brain and Behavior, 8(4), 398-406 (Jun 2009).
- Delisa Downey and Sarah Kerrigan. Quantitative Analysis of Carisoprodol and Meprobamate in Whole Blood Using Benzylcarbamate and Deuterated Meprobamate as Internal Standards. Journal of Analytical Toxicology, 33(5), 278-282 (Jun 2009).
- Garrett Burleson, Brittany Gonzalez, Kelsie Simons and Jorn Chi-Chung Yu. Forensic Analysis of a Single Particle of Partially Burnt Gunpowder by Solid Phase Microextraction Gas Chromatography-nitrogen Phosphorus Detector. Journal of Chromatography A, 1216(22), 4679-4683 (May 2009).
- Sibyl Bucheli, Joan Bytheway, Stephen Pustilnik and John Florence. **Insect Successional Pattern of a Corpse in Cooler Months of Subtropical Southeastern Texas.** Journal of Forensic Science, 54(2), 452-455 (Mar 2009).
- Amanda Johnson, Joan Bytheway and Stephen Pustilnik. **Skeletal Remains in a Fluvial Environment: Microscopic Evidence of Glycoproteinous Adhesive of Balanus Improvisus on the Occlusal Surface of Mandibular Teeth.** Proceedings of the American Academy of Forensic Sciences (Feb 2009).
- Ann Gordon, Preston Wong and Nikolas Lemos. **PCP and Drug Impaired Driving in San Francisco, California.** Proceedings of the American Academy of Forensic Sciences (Feb 2009).
- Ashraf Mozayani, William Davis, Luis Sanchez and Colin Anderson. **Brake Pad Friction Particles: SEM-EDX Analysis and Comparisons to Gunshot Residue.** Proceedings of the American Academy of Forensic Sciences (Feb 2009).
- Chelsy Wingate, Michelle Parras-Layton, Scot Chester, Cade Park, Israel Reyes and James Bourland. Validation of Opiate Detection and Quantification in Human Urine Using Liquid Chromatography and Tandem Mass Spectrometry (LC/MS/MS). Proceedings of the American Academy of Forensic Sciences (Feb 2009).
- Jamie Jouett and David Gangitano. **Molecular Palynology Study in Central East Texas: A New Approach to Linking Crime Scenes.** Proceedings of the American Academy of Forensic Sciences (Feb 2009).

- Jamie Jouett. A Simple Liquid-Liquid Extraction of Carisoprodol and the Metabolite Meprobamate from Suspected Blood and Urine DUI Specimens for GC/MS Analysis. Proceedings of the American Academy of Forensic Sciences (Feb 2009).
- Jennifer Hogue and Laureen Marinetti. **GC/MS Method Development for the Quantitation of Quetiapine in Various Biological Specimens.** Proceedings of the American Academy of Forensic Sciences (Feb 2009).
- Joan Bytheway, Kathryn Moss and Stephen Pustilnik. What Lies Beneath: Re-Examining a Cold Case Homicide from a Forensic Anthropological Perspective: A Case Report. Proceedings of the American Academy of Forensic Sciences (Feb 2009).
- Nikolas Lemos, Ann Gordon and Preston Wong. **Driving Under the Influence of Methamphetamine in the City & County of San Francisco, California.** Proceedings of the American Academy of Forensic Sciences (Feb 2009).
- Ridhima Rao and Dan Anderson. **Postmortem Analysis of Buprenorphine/Norbuprenorphine from Whole Blood by GC/MS.** Proceedings of the American Academy of Forensic Sciences (Feb 2009).
- Jessica Ayala, Kelsie Simons and Sarah Kerrigan. **Quantitative Determination of Caffeine** and Alcohol in Energy Drinks and the Potential to Produce Positive Transdermal Alcohol Concentrations in Human Subjects. Journal of Analytical Toxicology, 33(1), 27-33 (Jan 2009).
- Ramiro Salas, Adam Main, David Gangitano, Hermona Soreq and Mariella De Biasi. **Chronic Nicotine Relieves Anxiogenic-like Behavior in Transgenic Mice Carrying the Human Acetylcholinesterase-R Gene.** Molecular Pharmacology, 74(6), 1641-1648 (Dec 2008).
- James Spurlin III, Patricia Chapela, Ilona Petrikovics, and Jorn Chi-Chung Yu.

  Encapsulation Efficiency of Organophosphorous Hydrolase in Lecithin

  Liposomes as Determined by Capillary Electrophoresis. Proceedings of the

  American Chemical Society Southwest Regional Meeting (Oct 2008).
- Preston Wong, Sarah Kerrigan, Jon Smith, Ellen Moffatt, Ann Marie Gordon and Nikolas Lemos. Muscle: An Alternative Post-Mortem Specimen for Drug Screening by Enzyme Linked Immunosorbent Assay. Proceedings of the Society of Forensic Toxicologists (Oct 2008).

- Rebeca Reyna, Brittany Gonzalez, and Jorn Chi-Chung Yu. **Discovery of Molecular Markers for Gunshot Residues by Solid Phase Micro Extraction- Gas Chromatography/Nitrogen Phosphorous Detector (SPME-GC/NPD).** Proceedings of the American Chemical Society Southwest Regional Meeting (Oct 2008).
- Sarah Winslett and Jorn Ch-Chung Yu. A Hollow Fiber Assisted Ionic Liquid Surface for Stir Bar Sorptive Extraction. Proceedings of the American Chemical Society Southwest Regional Meeting (Oct 2008).

#### Academic Year 2007-2008

- Christopher Smith, David Gangitano, Alvaro Munoz, Nilson Salas, Timothy Boone, K. Roger Aoki, Joseph Francis and George Somogyi. **Botulinum Toxin Type A Normalizes Alterations in Urothelial ATP and NO Release Induced by Chronic Spinal Cord Injury.** Neurochemistry International, 52(6), 1068-1075 (May 2008).
- Garrett Burleson and Jorn Chi-Chung Yu. Forensic Analysis of Single Gun Powder Particle by SPME-GC/NPD (Solid Phase Micro-Extraction Gas Chromatography/Nitrogen Phosphorus Detector. Proceedings of the American Chemical Society National Meeting and Exposition (Apr 2008).
- Ayodele Collins, Joseph Monforte, Ying Cheng, Ronald Backer and Sarah Kerrigan. **A Stability Study on Ritalinic Acid in Urine.** Proceedings of the American Academy of Forensic Sciences (Feb 2008).
- Coral Luce, Shawn Montpetit, David Gangitano and Patrick O'Donnell. Validation of the AmpFlSTR® MiniFilerTM PCR Amplification Kit and its Application to Identify Human Remains from a 1992 Helicopter Crashed Analyzed by the San Diego Police Department Crime Laboratory. Proceedings of the American Academy of Forensic Sciences (Feb 2008).
- Shamah Lloyd, Shannon Gross and Jorn Chi-Chung Yu. **Functionalization of Nanocrystals for Latent Fingerprint Development.** Proceedings of the American Academy of Forensic Sciences (Feb 2008).
- Shannon Gross and Jorn Chi-Chung Yu. **Probing Single Strand DNA Using Bioconjugated Quantum Dots.** Proceedings of the American Academy of Forensic Sciences (Feb 2008).
- Sarah Kerrigan and Bruce A. Goldberger. **Specimens of Maternal Origin** *in Drug Testing in Alternate Biological Specimens*, Humana Press, Totowa, NJ. Ed. A.J. Jenkins (2008).
- Ramiro Salas, Adam Main, David Gangitano and Mariella De Biasi. **Decreased Withdrawal Symptoms but Normal Tolerance to Nicotine in Mice Null for the Alpha 7 Nicotinic Acetylcholine Receptor Subunit**. Neuropharmacology, 53(7), 863-869 (Dec 2007).
- Jorn Chi-Chung Yu and Edward Lai. **Determination of Ochratoxin A in Red Wines by Multiple Pulsed Elutions from Molecularly Imprinted Polypyrrole.** Food Chemistry, 105(1), 301-310 (Nov 2007).

- Jorn Chi-Chung Yu and Shannon Gross. A Novel Capillary Electrophoresis Immunoassay for Ochratoxin Detection Using Molecular Probe of Quantum Dot Bioconjugate.

  Proceedings of the American Chemical Society Southwest Regional Meeting (Nov 2007).
- Shannon Gross and Jorn Chi-Chung Yu. Carbodiimide-Mediated Reaction with Self-Assembly Nano-Structured Quantum Dots for Latent Fingerprint Development.

  Proceedings of the American Chemical Society Southwest Regional Meeting (Nov 2007).
- Wei Yun, Qiu Longhui, Jorn Chi-Chung Yu and Edward Lai. **Molecularly Imprinted Solid Phase Extraction in a Syringe Needle packed with Polypyrrole-encapsulated Carbon Nanotubes for Determination of Ochratoxin A in Red Wine.** Food Science and Technology International, 13(5), 375-380 (Oct 2007).
- Jorn Chi-Chung Yu, Amy Hrdina, Christina Mancini and Edward Lai. **Molecularly Imprinted Polypyrrole Encapsulated Carbon Nanotubes in Stainless Steel Frit for Micro Solid Phase Extraction of Estrogenic Compounds.** Journal of Nanoscience and Nanotechnology, 7, 3095–3103 (Sept 2007).
- Laurel Farrell, Sarah Kerrigan and Barry Logan. **Recommendations for Toxicological Investigation of Drug Impaired Driving**. Journal of Forensic Sciences, 52(5), 1-5 (Sept 2007).