

**VCU Department of Forensic Science Faculty and Graduate Student
Presentations and Publications**

2014-2015

Publications

Ehrhardt, C.J., *Murphy, D.M.*, Bannan, J., Robertson, J.M. Fatty Acid Biomarkers for Growth Medium Formulation in *Bacillus cereus* T-Strain Spores. *Journal of Forensic Science*, (Accepted March, 2014; Publication date July 2015). doi: 10.1111/1556-4029.12771

Dean, L., Kwon, Y.J., Philpott, M.K., Stanciu, C.E., Seashols-Williams, S.J., Dawson Cruz, T., Sturgill, J., Ehrhardt, C.J. Separation of Whole Blood Mixtures for Single Source STR Profiling Using Fluorescently-labeled HLA Probes and FACS. *Forensic Science International-Genetics*. 17:8-16. DOI:10.1016/j.fsigen.2015.03.003.

Wang, C., Stanciu, C., **Ehrhardt, C.J.**, Yadavalli, V. Morphological and mechanical imaging of *Bacillus cereus* spore formation at the nanoscale. *Journal of Microscopy*. 258(1): 49-58. doi: 10.1111/jmi.12214.

J Goss, E.J. McCullough, C Stanciu, V K. Yadavalli, C J. Ehrhardt. In press. Effect of Water Washing Purification on the Surface Morphology of Bacillus cereus Spores. Journal of Nature and Science. [1-6-e116-2015](#).

Simmons, T, Goodburn, B and Singhrao, S *In press* Decision Tree Analysis as a Supplementary Tool to Enhance Histomorphological Differentiation when Distinguishing Human from Non-human Cranial Bone in both Burnt and Unburnt States: A feasibility study. *Medicine, Science and the Law* (accepted 8 May 2015; publication expected 2016)

Moffatt, C, **Simmons, T** and Lynch-Aird, J *In press* An Improved Equation for TBS and ADD: Establishing a Reliable Postmortem Interval Framework Casework and Experimental Studies. *Journal of Forensic Sciences*(accepted 2 February 2015; publication expected March 2016)

Reber, S and **Simmons, T** *In press* Interpreting Injury Mechanisms of Blunt Force Trauma from Butterfly Fracture Formation. *Journal of Forensic Sciences* (accepted 8 October 2014; publication expected September 2015)

**VCU Department of Forensic Science Faculty and Graduate Student
Presentations and Publications**

Lynch-Aird, J, Moffatt, C and **Simmons, T** *In press* Decomposition Rate and Pattern in Hanging Pigs. *Journal of Forensic Sciences* (accepted 7 August 2014; publication expected September 2015)

Card, A, Cross, P, Moffatt, C and **Simmons, T** *In press* The Effect of Clothing on the Rate of Decomposition and *Diptera* Colonization on *Sus scrofa* Carcasses. *Journal of Forensic Sciences* (accepted 26.2.2014); publication expected July 2015

Moffat, C and **Simmons, T** 2015 Forensic entomology research at the University of Central Lancashire's TRACES decomposition facility. *Antenna (Journal of the Royal Entomological Society)* Special Edition, pp.114-115

Singh Rao, S, Harding, A, **Simmons, T**, Robinson, S, Kesavalu, L, Crean, S. 2014 Oral inflammation, tooth loss, risk factors and association with progression of Alzheimer's disease. *Journal of Alzheimer's Disease* 42: 723–737

Dean L, Kwon YJ, Philpott MK, Stanciu CE, **Seashols-Williams SJ, Dawson Cruz T, Sturgill J, Ehrhardt CJ**. Separation of uncompromised whole blood mixtures for single source STR profiling using fluorescently-labeled human leukocyte antigen (HLA) probes and fluorescence activated cell sorting (FACS). *Forensic Sci Int Genet.* 2015 Mar 12;17:8-16. doi: 10.1016.

JL Poklis, A. *Goldstein* and **A. Poklis**. Detection and quantification of methadone and its metabolite 2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP) in urine pain management compliance testing by high pressure liquid chromatography with tandem mass spectrometry. *J. Liquid Chromatog.Related Technol.* . 37:1004-1015, 2014

JL. Poklis, **CE Wolf**, *Ol ElJordi*, K, Liu, S Zhang and **A. Poklis**. Analysis of First and Second Generation Raving Dragon Novelty Bath Salts Containing Methydone and Pentedrone. *J. Forensic Sci.* 60:S234-S240, 2015.

JL Poklis, *DJ Clay*, BM Ignatowska-Jankowska, C Zanato, RA Ross, IR Greig, RA Abdullah, MA Mustafa, AH Lichtman, **A Poklis**. HPLC/MS/MS Determination of ZCZ-011, a Novel Pharmacological Tool for Investigation the Cannabinoid Receptor in Mouse Brain Using Clean Screen FAST™ Column Extraction. *J. Anal. Toxicol.* 39(5):353-358, 2015.

JL Poklis, *SK Dempsey*, K Liu, JK. Ritter, C Wolf, S Zhang and **A Poklis**. Identification of Metabolite Biomarkers of the Designer Hallucinogen 25I -NBOMe in Mouse Hepatic Microsomal Preparations and Human Urines Associated with Clinical Intoxication. *J. Anal. Toxicol.* in print Oct 2015

**VCU Department of Forensic Science Faculty and Graduate Student
Presentations and Publications**

JL Poklis, SA Raso, KN Alford, A Poklis and MR Peace. Analysis of 25I-NBOMe, 25B-NBOMe, 25C-NBOMe and Other Dimethoxyphenyl-N-[(2-methoxyphenyl)methylethanamine] Derivatives on Blotter Paper. *J. Anal. Toxicol.* in print Oct 2015

Presentations

Murphy J, **Peace MR.** Taking F.A.C.T.S. (Forensic Application of Critical Thinking Skills) to Middle Schools. Gulf South Summit on Service Learning and Civic Engagement through Higher Education, Little Rock, AR, March 2015.

Stanciu, C., Goss, J.M., Jessup, D.K., Lapatovich, E.L., Cooley, A. **Ehrhardt, C.J.** Extracellular Fatty Acid Analysis for the Forensic Attribution of Bacillus Spores. Pittcon. New Orleans, LA (Abstract #200-2). March 2015.

Yocca, S., Zimmerman, A.M., Harrold, S., Jones, M., Turner, J., Rutan, S., **Ehrhardt, C.J.** Trace Chemical Signatures of Calcium Hypochlorite; Implications for the Attribution of Hypergolic Mixtures. Pittcon. New Orleans, LA. (Abstract #1390-6). March 2015.

Spain, T., Stanciu, C., Cooley, A., **Ehrhardt, C.J.** Characterization of *Yersinia pestis* in a Soil-based Medium by Fatty Acid Methyl Ester (FAME) Profiling and Cellular Viability probes. ASM-Biodefense Conference, Washington D.C. Poster Presentation (Control #199). Feb 2015.

Cooley, A. Stanciu, C., Spain, T., **Ehrhardt, C.J.** Forensic Characterization of *Bacillus* ACT Spores Using Extracellular Fatty Acid Profiles. ASM-Biodefense Conference, Washington D.C. Poster Presentation (Control #204). February 2015.

Stanciu, C., Kwon, Y., Ingram, S., Bustamante, E., **Seashols, S., Dawson Cruz, T., Ehrhardt, C.J.** Separation of Epithelial Cell Mixtures Using Fluorescently Labelled Antibodies and Flow Cytometry. Poster Presentation (Abstract #B13). AAFS, Orlando, FL. February, 2015.

Yocca, S., Zimmermann, A., Harrold, S., Jones, M., Turner, J., Rutan, S., **Ehrhardt, C.J.** Trace Chemical Signatures of Calcium Hypochlorite. Poster Presentation (Abstract #B63). AAFS, Orlando, FL. February 2015.

VCU Department of Forensic Science Faculty and Graduate Student Presentations and Publications

C. Calloway, N Peace, A Albornoz, C Hayes, S Fleming, Q Wu, K Sharma, J Gentry, ZE Zehner and **SJ Seashols-Williams**. Investigation of Next Generation Sequencing Data for Constitutive and Body Fluid Specific MicroRNAs in forensically relevant body fluids. Talk, Mid-Atlantic Association of Forensic Scientists Annual Meeting, May 2015.

K Kuehnert, N Hong, SJ Seashols-Williams, TW Bille, S Weitz, T Dawson Cruz. Development of a Pre-Screening qPCR Mixture Detection Assay Using High-Resolution Melting Curve Analysis of the Short Tandem Repeat (STR) Loci D5S818 and D18S51. Talk, Mid-Atlantic Association of Forensic Scientists Annual Meeting, May 2015.

K Kuehnert, N Hong, TW Bille, S Weitz, T Dawson Cruz. Development of a Pre-Screening qPCR Mixture Detection Assay Using High-Resolution Melting Curve Analysis of the Short Tandem Repeat (STR) Loci D5S818 and D18S51. Poster, American Academy of Forensic Sciences Annual Meeting, February 2015.

T Layne, ZE Zehner, SJ Seashols-Williams. Stability and Variation of microRNAs for Body Fluid Identification. Talk in the Young Forensic Scientists "Bring your own slides" Forum, American Academy of Forensic Sciences Annual Meeting, February 2015.

S Seashols-Williams, A Albornoz, C Hayes, S Fleming, C Calloway, N Peace, Q Wu, K Sharma, J Gentry, and ZE Zehner. The use of high throughput sequencing to identify potential normalization microRNAs found in eight forensically relevant body fluids. Poster, "Bring Your Own Poster" Session, American Academy of Forensic Sciences Annual Meeting, February 2015.

CE Stanciu, YJ Kwon, LM Dean, SJ Seashols, T Dawson Cruz, CJ Ehrhardt. Separation of Complex Biological Mixtures Using Human Leukocyte Antigen Probes and Fluorescence Activated Cell Sorting. Poster presentation, International Symposium of Human Identification, October 2014.

SJ Seashols-Williams, A Albornoz, C Hayes, S Fleming, Q Wu, K Sharma, J Gentry, ZE Zehner. High-throughput miRNA sequencing of 8 forensically relevant biological fluids. Poster presentation, International Symposium of Human Identification, September 2014.

Baird T, Poklis J, Smith N, Turner JBM, Poklis A, Peace MR. "Nicotine Content in Electronic Cigarette Formulations Using Direct Analysis in Real Time (DART)

**VCU Department of Forensic Science Faculty and Graduate Student
Presentations and Publications**

AccuTOF™ Mass Spectrometry and High Pressure Liquid Chromatography Triple Quadrupole Mass Spectrometry (HPLC/MS/MS)". Poster Presentation, AAFS, Orlando, February 2015.

C Calloway. High Throughput Sequencing of MicroRNAs in Forensically Relevant Biological Fluids for the Identification of Body Fluid Specific miRs. Poster, "Bring Your Own Poster" Session, American Academy of Forensic Sciences Annual Meeting, February 2015.

C Dugger. A New Gas Chromatography-Mass Spectrometry Method for the Analysis of Lamotrigine in Postmortem Blood, Urine, and Solid Tissues. Poster, "Bring Your Own Poster" Session, American Academy of Forensic Sciences Annual Meeting, February 2015.

*S Dempsey**, JL Poklis, **C Wolf II**, **A Poklis**. The "I's" Have It: A High-Performance Liquid Chromatography Tandem Mass Spectrometry Method for the Determination of 25I-NBOH, 25I-NBOMe, and 2C-I in Urine. Talk, American Academy of Forensic Sciences Annual Meeting, February 2015.

*W Simpson**, C Davis, C Holt, **T Dawson Cruz**, K Stephens. Highly Multiplexed Analysis of STRs and SNPs Using Massively Parallel Sequencing: Concordance With Current Methodologies. Talk, American Academy of Forensic Sciences Annual Meeting, February 2015.

*S Yocca**, *A Zimmermann*, S Harrold, M Jones, JB. McGee Turner, SC. Rutan, **CJ. Ehrhardt**. Trace Chemical Signatures of Calcium Hypochlorite: Implications for the Attribution of Hypergolic Mixtures. Talk, American Academy of Forensic Sciences Annual Meeting, February 2015.

*K Kuehnert**, *N Hong*, **S Seashols**, T Bille, S Weitz, **T Dawson Cruz**. Development of a Pre-Screening qPCR Mixture Detection Assay Using High-Resolution Melting Curve Analysis of the Short Tandem Repeat (STR) Loci D5S818 and D18S51. Talk, American Academy of Forensic Sciences Annual Meeting, February 2015.

*K Winters**, M Evans. The Effects of Burning and Mold Growth on the Analysis of Fire Logs. Talk, American Academy of Forensic Sciences Annual Meeting, February 2015.

**VCU Department of Forensic Science Faculty and Graduate Student
Presentations and Publications**

*A Mohs**, J Poklis, **C Wolf II**, **M Peace**, **A Poklis**. Detection of Drugs in Pharmaceutical Preparations Where Diversion Can Occur by Direct Analysis in Real-Time AccuTOF™-Mass Spectrometry (DART®-MS). Talk, American Academy of Forensic Sciences Annual Meeting, February 2015.

*A Burnett**, D DeGaetano, R Wagner. Elemental Analysis of Presumptive Clandestine Laboratory Evidence Using Laser-Induced Breakdown Spectroscopy (LIBS). Talk, American Academy of Forensic Sciences Annual Meeting, February 2015.

A McClain, **M Miller**, **T Dawson Cruz***. Obtaining STR-Quality Touch DNA From Archived Latent Fingerprints. Talk, American Academy of Forensic Sciences Annual Meeting, February 2015.

Durham, L., Plache, B., Hendershot, J. "Speeding Towards an enRICHed advising experience with Google Drive", Preconference Workshop, NACADA Region 2 Conference. Richmond, VA. March 2015.

Durham, Lyndsay. "Google Driving Advising Forward", Concurrent Session, NACADA Virginia State Drive-In Conference. Roanoke, VA. October 2014.

Durham, Lyndsay. "Promoting faculty engagement in a meaningful advising program", Concurrent Session, NACADA New Jersey State Drive-In Conference, Mahwah, NJ. June 2014.

Cooley, AM, Spain, T. Stanciu, CE, **Ehrhardt, CJ**. "Forensic Characterization of Bacillus ACT Spores Using Extracellular Fatty Acid Profiles". VCU Poster Symposium For Undergraduate Research and Creativity, April 2015

Harrold,S, Jones,M., **Ehrhardt, CJ**. "Chemical Profiling of Self-Igniting Mixture Residues - Implications for the Forensic Analysis of Arson-Related Crimes" VCU Poster Symposium For Undergraduate Research and Creativity, April 2015

T. Dawson Cruz. One Model: VCU & VA-DFS presented in Academic/Practitioner Collaboration Workshop: Getting the most out of Research Collaborations and Playing Well in the Sandbox. Mid-Atlantic Association of Forensic Scientists, 2015 Annual Meeting, Cambridge, MD, May, 2015