

Kevin G. Shanks, M.S., D-ABFT-FT
 Forensic Toxicologist and Consultant

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EDUCATION AND CERTIFICATION

American Board of Forensic Toxicology Diplomate of the ABFT – Forensic Toxicology (D-ABFT-FT)	2012
Master of Science, Forensic Toxicology (Veterinary Medical Sciences) University of Florida, Gainesville, FL	2011
Bachelor of Arts, Biology Franklin College, Franklin, IN	2003

PROFESSIONAL EXPERIENCE

Dose Makes the Poison: Toxicology Consulting Forensic Toxicologist and Consultant	2021 - Present
Axis Forensic Toxicology Forensic Toxicologist	2016 – Present
AIT Laboratories Forensic Toxicologist	2011 – 2016
Assistant Technical Director, R&D	2010 – 2011
Department Manager, MS Screening / Trace Analysis	2009 – 2010
Department Manager, Forensics Department	2008 – 2009
Senior Chemist, Research and Development	2005 – 2008
Analytical Chemist, Research and Development	2003 – 2005

Professional Affiliations

Society of Forensic Toxicologists (SOFT)	2008 – Present
SOFT Postmortem Toxicology Committee	2021 – Present
SOFT NPS / Designer Drugs Committee	2017 – Present
SOFT Young Forensic Toxicologists Committee	2014 – 2021
SOFT ToxTalk “From the Toxicology Literature” editor	2015 – Present
American Academy of Forensic Sciences (AAFS)	2018 – Present
American Academy of Clinical Toxicology (AACT)	2015 – 2017
Midwest Association for Toxicology and Therapeutic Drug Monitoring (MATT)	2013

Science Communication

The Dose Makes the Poison: The Toxcast. Podcast. Creator, editor, producer, and host.
<https://anchor.fm/the-dose-makes-the-poison-cast>. 2019 – Present.

Teaching Experience

“Toxicology of Designer Drugs”. FIS49600. Indiana University – Purdue University – Indianapolis.
Department of Chemistry. Forensic and Investigative Sciences Program. 2017, 2019.

Selected Publications

“Toxicological Drug Screening Using Paper Spray High-Resolution Tandem Mass Spectrometry (HR-MS/MS)”. J. Mckenna, R. Jett, K. Shanks, N.E. Manicke. *J Anal Tox*, Article in Press (2018).

“Three Cases of Fatal Acrylfentanyl Toxicity in the United States and a Review of the Literature”, D.C. Butler, K. Shanks, G. Behonick, D. Smith, S.E. Presnell, L.M. Tormos. *J Anal Tox*. Article in Press (2017).

“Detection of Carfentanil by LC-MS-MS and Reports of Associated Fatalities in the USA”. K. Shanks, G. Behonick. *J Anal Tox*. 41: 466-472. (2017)

“Carfentanil Identified in Two Driving Under the Influence of Drugs Cases”. N.B. Tiscione and K. Shanks. ToxTalk, Society of Forensic Toxicologists, Inc. Vol. 40, No. 4, pp. 14-17 (2016).

“Rapid Screening and Identification of Novel Psychoactive Substances Using PaperSpray Interfaced to High Resolution Mass Spectrometry”. J. Kennedy, K. Shanks, K. Van Natta, M.C. Prieto Conaway, J.M. Wiseman, B. Laughlin, M. Kozak. *Clin Mass Spectrometry*, 1, 3-10 (2016)

“Synthetic Cannabinoid Product Surveillance by LC/ToF in 2013-2015”. K. Shanks, G. Behonick. *J Forensic Toxicol Pharmacol*, 4: 3 (2016)

“Death After Use of the Synthetic Cannabinoid 5F-AMB”. K. Shanks, G. Behonick. *For Sci Int*, 262, e21-e24 (2016)

“Death Associated with the Use of the Synthetic Cannabinoid ADB-FUBINACA”. K. Shanks, W. Clark, G. Behonick. *J Anal Tox*, 40: 3, 24-242 (2016)

“Fatal Intoxications with 25B-NBOMe and 25I-NBOMe in Indiana during 2014”. K. Shanks, T. Sozio, G. Behonick. *J Anal Tox*, 39: 602-606 (2015)

“Case Reports of Synthetic Cannabinoid XLR-11 Associated Fatalities”. K. Shanks, D. Winston, J. Heidingsfelder, G. Behonick. *For Sci Int*, 252, e6-e9 (2015)

“Four Postmortem Case Reports with Quantitative Detection of the Synthetic Cannabinoid, 5F-PB-22”. G. Behonick, K. Shanks, D. Firchau, G. Mathur, C. Lynch, M. Nashelsky, D. Jaskierny, C. Meroueh. *J Anal Tox*, 38, 559-562 (2014)

“A Guide for the Interpretation of Postmortem Methamphetamine Findings: A Series of Case Reports”. K. Quigley, K. Shanks, G. Behonick, A. Terrell. *J Forensic Toxicol Pharmacol*, 3:2 Doi: 10.4172/2325-9841.1000117 (2014)

“Identification of Novel Third Generation Synthetic Cannabinoids in Products by Ultra Performance Liquid Chromatography and Time of Flight Mass Spectrometry”. K. Shanks, T. Dahn, G. Behonick, A. Terrell. *J Anal Tox*, 37: 517-525 (2013)

“Detection of Synthetic Cannabinoids and Synthetic Stimulants in First- and Second-Generation Legal Highs by Ultra Performance Liquid Chromatography with Time of Flight Mass Spectrometry (UPLC/ToF)”. K. Shanks, T. Dahn, G. Behonick, A. Terrell. *J Anal Tox*, 36: 360-371 (2012)

“Detection of JWH-018 and JWH-073 by UPLC/MS/MS in postmortem whole blood casework”. K. Shanks, T. Dahn, A. Terrell.. *J Anal Tox*, 36: 145-152 (2012)

Selected Poster Presentations

“The Ever-Changing Scope of Synthetic Cannabinoids in Toxicology Casework II (2016 – 2020)”. K. Shanks, G. Behonick – Society of Forensic Toxicologists, Nashville, TN, 2021.

“Postmortem Toxicology in Kentucky: Looking Back at 2020”. K. Shanks. G. Behonick, W. Ralston. – Society of Forensic Toxicologists, Nashville, TN, 2021.

“A Snapshot of Fentanyl Analogs and Designer Opioids: Butler County, Ohio (2016-2018)”, K. Shanks, G. Behonick, L. Mannix – Society of Forensic Toxicologists, San Antonio, TX, 2019.

“Detection of Three Synthetic Cannabinoid Butanoic Acid Metabolites in Postmortem Blood by LC-MS/MS”. K. Shanks, G. Behonick – Midwest Association of Toxicology and Therapeutic Drug Monitoring, Cleveland, OH, 2019.

“Detection of the Synthetic Cannabinoid, 5F-ADB, in Postmortem Toxicology”, K. Shanks, G. Behonick – Midwest Association of Toxicology and Therapeutic Drug Monitoring, Indianapolis, IN, 2018.

“Analysis of AB-CHMINACA in Hair by Solid Phase Extraction and Liquid Chromatography-Tandem Mass Spectrometry”, C. Soni, D. Engelhart, E.S. Lavins, K. Shanks, C.K. Naso-Kaspar, T.P. Gilson – Midwest Association of Toxicology and Therapeutic Drug Monitoring, Milwaukee, WI, 2016.

“Detection of Synthetic Cannabinoids in Two E-Cigarette Liquids”, K. Shanks – Society of Forensic Toxicologists, Atlanta, GA, 2015

“Postmortem Tissue Distribution of AB-CHMINACA Following Lethal Intoxication Compared with AB-CHMINACA Concentrations in Impaired Drivers”, E.S. Lavins, K. Shanks, D.E. Englehart, H.E. Schueler, D.A. Galita, A.D. McCollum, C.H. Soni, P.D. Boggs, D.E. Rohde, C.K. Naso-Kaspar, S. Sofalvi, M. Hansbrough, C. Carroll-Pankhurst, T.P. Gilson. – Society of Forensic Toxicologists, Atlanta, GA, 2015

“Rapid Screening and Identification of Designer Drugs in Powders or Plant Materials Using Paper Spray Ionization-Mass Spectrometry”, J.H. Kennedy, K. Shanks, K. Van Natta, M.C. Prieto Conaway, B. Laughlin, J.M. Wiseman, M. Kozak – American Association for Mass Spectrometry, St. Louis, MO, 2015

“Evaluation of Postmortem Methamphetamine Concentrations: A Series of Case Studies”, K.M. Kitts, G.S. Behonick, K. Shanks – American Academy of Forensic Sciences, Seattle, WA, 2014

“Detection of Alpha-PVP in Postmortem Blood Casework by UPLC/MS/MS”, K. Shanks, G.S. Behonick, A.R. Terrell – Society of Forensic Toxicologists, Orlando, FL, 2013

“Case Report: Identification of 8-hydroxyquinoline Cannabinoids in Herbal Products”, K. Shanks, G.S. Behonick, A.R. Terrell – Society of Forensic Toxicologists, Orlando, FL, 2013

“Evaluation of Postmortem Methamphetamine Concentrations”, K. Kitts, G. Behonick, K. Shanks – Midwest Association of Forensic Scientists, Dayton, OH, 2013

“Death by ‘Legal Psychedelic Phenethylamines’: Postmortem Tissue Distribution of Desoxypipradrol (2-DPMP) and 4-chloro-2,5-dimethoxyamphetamine (DOC)”, E.S. Lavins, M. Pietrangelo, K. Shanks, C. Cushman, S. Sofalvi, J. Felo, J.F. Wyman, T.P. Gilson - American Academy of Forensic Sciences, Washington D.C., 2013

“Methylenedioxypropylvalerone (MDPV) Postmortem Blood Concentrations: A Series of Suicide Case Reports”, G.S. Behonick, K. Shanks, A.R. Terrell – American Academy of Forensic Sciences, Washington, D.C., 2013

Selected Oral Presentations

“Emergence of the Novel Opioid Metonitazene in Postmortem Toxicology and Detection by LC-QToF-MS and LC-MS/MS. K. Shanks, G. Behonick, L. Mannix. Society of Forensic Toxicologists, Nashville, TN, 2021.

“Synthetic Cannabinoid Receptor Agonists (2020-2021)”. K. Shanks. London Toxicology Group (LTG) Virtual Meeting. 2021.

“Novel Psychoactive Substances: A Look at 2020”. K. Shanks. Midwest Association for Toxicology and Therapeutic Drug Monitoring, Virtual Meeting, 2021.

“Detection of Kavain in Powder: Death Scene Evidence and Postmortem Blood Analysis”. G. Behonick, K. Shanks, L. Tormos. American Academy of Forensic Scientists, 2021.

“Postmortem Toxicology in Kentucky: A Look Back At 2020”. K. Shanks. Kentucky Coroner’s Association Conference. Louisville, KY, 2021.

“Toxicology of Plant-Based Poisons: A Brief Survey of Analytical Methods and Case Reports”. K. Shanks. Society of Forensic Toxicologists, San Antonio, TX, 2019.

“Fentanyl Analogs in Butler County, Ohio (2016-2018)”. K. Shanks, G. Behonick, and L. Mannix. Midwest Association of Toxicology and Therapeutic Drug Monitoring, Cleveland, OH, 2019.

“Medical-Legal Death Investigation in the Age of Designer Opioids”. K. Shanks. Michigan State University Pharmacology and Toxicology Seminar. Lansing, MI, 2019.

“Not So Fast, My Friends: Toxicological Detection of the Synthetic Cannabinoids, 5F-ADB and FUB-AMB”. K. Shanks, G. Behonick. Society of Forensic Toxicologists, Minneapolis, MN, 2018.

“Medical-Legal Death Investigation in the Age of Designer Opioids”. K. Shanks. Kentucky Coroner’s Association Conference, Louisville, KY, 2018.

“The Elephant (Tranquilizer) in the Room” K. Shanks, G. Behonick. Society of Forensic Toxicologists, Boca Raton, FL, 2018.

“Not Your Father’s Heroin: Forensic Toxicology in the Age of Fentanyl and Fentanyl Analogs”. K. Shanks. Separation Science. Advances in Forensics and Toxicology eSeminar. 2017.

“LC/ToF Method Development and Validation” K. Shanks, Toxicology Method Development and Validation Workshop – Northern California, California Office of Traffic Safety, Rancho Cordova, CA. 2017.

“Fentanyl Analogs and Designer Opioids: To Go Where No One Has Gone Before.” K. Shanks. Missouri Medical Examiner and Coroner’s Training Conference, Jefferson City, MO, 2017.

“Not Your Father’s Heroin: Fentanyl and Analogs”, K. Shanks. Kentucky Coroner’s Association Annual Training Meeting, Louisville, KY, 2017.

“Synthetic Cannabinoids: Here Today, Gone Tomorrow”, K. Shanks. Midwest Association of Toxicology and Therapeutic Drug Monitoring (MATT) Annual Meeting, Rosemont, IL, 2017.

“LC/ToF Method Development and Validation” K. Shanks, Toxicology Method Development and Validation Workshop – Southern California, California Office of Traffic Safety, Santa Ana, CA. 2017.

“Postmortem Tissue Distribution of U47700 Following Lethal Intoxication and Novel Scheduling in the State of Ohio”, E. Lavins, D.E. Rohde, K. Shanks, C.H. Soni, I.T. Brooker, E.C. Reed, J.J.

Kucmanic, E.M. Worrell, L.E. Lemmerbrock, M.E. Fowler, J.A. Felo, A. McCollum, D.A. Englehart, H.E. Schueler, T.P. Gilson. American Academy of Forensic Sciences, New Orleans, LA, 2017.

“New Psychoactive Substances: Synthetic Cannabinoids to Fentanyl Analogs”, K. Shanks, Illinois Coroner and Medical Examiner’s Association, Peoria, IL, 2016.

Forensic Chemistry Reddit AMA (Ask Me Anything): American Chemical Society, National Chemistry Week, 2016.

https://www.reddit.com/r/science/comments/583fbs/american_chemical_society_ama_hi_reddit_in_kevin/

“New Psychoactive Substances: Synthetic Cannabinoids to Fentanyl Analogs”, K. Shanks, 33rd Annual Forensic Science Seminar, Minneapolis, MN, 2016.

“The Every Changing Scope of Synthetic Cannabinoids in Toxicology Casework (2011-2015)”, K. Shanks, G. Behonick. Society of Forensic Toxicologists, Dallas, TX, 2016.

“The Current Heroin and Fentanyl Analog Epidemic: A Toxicological Perspective”, K. Shanks, Medicolegal Death Investigator Training, Indiana Coroner’s Association, Indianapolis, IN, 2016

“Toxicology: Trials and Tribulations” Robert Forney Jr., Joseph Jones, K. Shanks. Regional Drugged Driving Summit, AAA and the Ohio Department of Public Safety, Blue Ash, OH, 2016

“New Psychoactive Substances: From Synthetic Cannabinoids to Fentanyl Analogs”, K. Shanks, Wyoming Coroner’s Association. Coroner’s Conference, Sheridan, WY, 2016

“An Introduction and Case Study Related to NBOMes”, K. Shanks and T. Sozio, AIT Laboratories Webinar, Indianapolis, IN, 2016

“New Psychoactive Substances: The Present and the Future”, K. Shanks, California Association of Toxicologists Conference, Lake Tahoe, NV, 2016

“Synthetic Cannabinoids: A Primer”, K. Shanks, AIT Laboratories Webinar, Indianapolis, IN 2016

“Three Fatalities Associated with the Synthetic Cannabinoid AB-CHMINACA”, K. Shanks, Society of Forensic Toxicologists, Atlanta, GA, 2015

“Instrumentation in the Forensic Toxicology Laboratory: Advantages and Disadvantages”, K. Shanks – Society of Forensic Toxicologists, Atlanta, GA, 2015

“Deaths Associated With Synthetic Cannabinoids in the USA”, K. Shanks – Florida Association of Medical Examiner’s Annual Meeting, Daytona Beach, FL, 2015

“Postmortem Toxicology: Specimen Selection, Drug Trends, and The Future”, K. Shanks – Kentucky Coroner’s Association Annual Conference, Louisville, KY, 2015

“Detection of 6-EAPB, 6-MAPB, and 6-APB “Benzofury” Analogues in Postmortem Tissues”, D. Baker, R. Yinger, N. Kelly, R. DeRienz, J. Hogue, K. Gerston, J. Gorniak, K. Shanks, S. Kacinko – The International Association of Forensic Toxicologists, Buenos Aires, Argentina, 2014

“Case Reports: Fatalities Associated with the Synthetic Cannabinoid, AB-PINACA”, K. Shanks, G. Behonick, P. Archuleta, D. Jaskierny – Society of Forensic Toxicologists, Grand Rapids, MI, 2014

“Introduction to Forensic Toxicology”, K. Shanks – Indiana Academy of Mathematics and Sciences, Muncie, IN, 2013

“Designer Drugs: From Product Surveillance to Forensic Casework”, K. Shanks – Michigan Association of Medical Examiners’ Conference, Mt. Pleasant, MI, 2013

“The Forensics of Drug Diversion and Synthetic Drugs”, L. Waugh, A. Mock, K. Shanks – International Symposium on Safe Medicine, Charleston, WV, 2013

“Designer Drugs: Synthetic Cannabinoids, Stimulants, and Psychedelics”. K. Shanks. American Academy of Family Physicians, Corporate Health Directors Network, Washington, D.C., 2013

“Cause of Death – Acute Alcohol Poisoning, Manner of Death – Suicide: A Case Study”, G.S. Behonick, K. Shanks, R. Kulhanek, M.J. Witeck – American Academy of Forensic Sciences, Washington, D.C., 2013

“Scientific Method for Controlled Substance Analog Determination”, L. Reinhold, H.L. Harris, D.E. Forrester, K.P.C. Minbiole, K. Shanks, J.R. Stenzel, J.G. Rankin – American Academy of Forensic Sciences, Washington, D.C., 2013

“K2, Bath Salts and Emerging Toxicology Trends in the Midwest”, G. Behonick and K. Shanks – Iowa Association of County Medical Examiners’ Fall Meeting and Education Expo, Des Moines, IA, 2012

“Designing Disaster: The History of the Designer Drug Movement, 1960s to Present”. K. Shanks. Forensic Science Lecture Series. Indiana Medical History Museum, 2012

“Analytical Challenges of Synthetic Cannabinoids”. K. Shanks. Pharmacology Workshop. Midwest Association of Forensic Scientists, Milwaukee, WI, 2012

“Drug Facilitated Sexual Assault”. K. Shanks. St. Franciscan Sexual Assault Nurse Examiners (SANE) training. 2012.

“New Designer Drugs – Synthetic Cannabinoids and Synthetic Stimulants”. K. Shanks. Indiana Coroner’s Association, Coroner’s Conference, Merrillville, IN, 2012

“New Designer Drugs – Synthetic Cannabinoids and Synthetic Stimulants”. K. Shanks. Colorado Coroner’s Association, Coroner’s Conference, Pueblo, CO, 2012

“New Designer Drugs – Synthetic Cannabinoids and Synthetic Stimulants”. K. Shanks. Wyoming Coroner’s Association, Coroner’s Conference, Sheridan, WY, 2012

“Drug Facilitated Sexual Assault”. K. Shanks. St. Franciscan Sexual Assault Nurse Examiners (SANE) training. 2011.

“New Designer Drugs – Synthetic Cannabinoids and Synthetic Stimulants”. K. Shanks. Kentucky Coroner’s Association, Drug Death Investigation Course, Lake Barkley, KY, 2011

“General Unknown Screening Using ToF-MS: A Reference Lab Perspective”. K. Shanks. The Association for Mass Spectrometry: Applications to the Clinical Laboratory, San Diego, CA, 2011