Tim Kalafut, Ph.D.
Associate Professor of Forensic Science
College of Criminal Justice
Sam Houston State University

Degrees Earned

PhD in Toxicology, Department of Biochemistry and Biophysics, Texas A&M University, College Station, 1999

BA Chemistry, Whitworth College, Spokane, WA, 1990

Peer-Review Publications

J. Buckleton, J.-A. Bright, D. Taylor, J. Curran, T. Kalafut, Extending the discussion on inconsistency in forensic decisions and results, Journal of Forensic Sciences, 2024;69 (4):1125-1137 https://doi.org/10.1111/1556-4029.15558.

Safia Boodoosingh, Hannah Kelly, James Curran, Tim Kalafut, (2024) An inter-laboratory comparison of probabilistic genotyping parameters and evaluation of performance on DNA mixtures from different laboratories, Forensic Science International: Genetics 71 (2024) 103046. https://doi.org/10.1016/j.fsigen.2024.103046.

Joanne B. Sgueglia, Hailey Holt, Erin Hanson, Justina Nichols, Tim Kalafut, Mah-ro Khan, Thomas Walsh, Megan Foley, Hiromi Brown, Jack Ballantyne and Sudhir K. Sinha, (2023) Interlaboratory Comparison of SpermX™ and Conventional Differential Extractions Indicated High Male DNA Recovery by the SpermX Method, Forensic Sciences, 2023;(3):592-610. https://doi.org/10.3390/forensicsci3040043.

Tim Kalafut, James M. Curran, Michael D.Coble, John Buckleton, (2023) Commentary on: Thompson WC. Uncertainty in probabilistic genotyping of low template DNA: a case study comparing STRmix™ and TrueAllele™, Journal of Forensic Sciences, 2023;68 (3):1049–63. https://doi.org/10.1111/1556-4029.15405.

Todd Bille, Michael D. Coble, Tim Kalafut, John Buckleton, (2022) Study of CTS DNA Proficiency Tests with Regard to DNA Mixture Interpretation: A NIST Scientific Foundation Review, Genes, Volume 13, Issue 11, 2022, 2171 https://doi.org/10.3390/genes13112171.

John Buckleton, Tim Kalafut, James Curran, (2022) Guiding proposition setting in forensic DNA interpretation, Science & Justice, Volume 62, Issue 5, 2022, Pages 540-546 https://doi.org/10.1016/j.scijus.2022.08.002.

Ryan Gutierrez, Madeline Roman, Rachel Houston, Tim Kalafut. Detection and Analysis of DNA Mixtures with the MiSeq FGx®, (2022) Science & Justice, Volume 62, Issue 5, 2022 Pages 547-555 https://doi.org/10.1016/j.scijus.2022.07.008.

Tim Kalafut, Jo-Anne Bright, Duncan Taylor, John Buckleton, (2022) Investigation into the effect of mixtures comprising related people on non-donor likelihood ratios, and potential practises to mitigate providing misleading opinions, Forensic Science International: Genetics 59 (2022) 102691. https://doi.org/10.1016/j.fsigen.2022.102691.

Tim Kalafut, Simone Pugh, Peter Gill, Sarah Abbas, Marie Semaan, Issam Mansour, James Curran, Jo-Anne Bright, Tacha Hicks, Richard Wivell, John Buckleton (2022) A mixed DNA profile controversy revisited. Journal of Forensic Sciences 2022;67:128-135 https://doi.org/10.1111/1556-4029.14912.

John Buckleton, Bernard Robertson, James Curran, Charles Berger, Duncan Taylor, Jo-Anne Bright, Tacha Hicks, Simone Gittelson, Ian Evett, Simone Pugh, Graham Jackson, Hannah Kelly, Tim Kalafut, Frederick R. Bieber (2020) A review of likelihood ratios in forensic science based on a critique of Stiffelman "No longer the Gold standard: Probabilistic genotyping is changing the nature of DNA evidence in criminal trials". Forensic Science International 310 (2020) 110251 https://doi.org/10.1016/j.forsciint.2020.110251.

John Buckleton, Jo-Anne Bright, Anne Ciecko, Maarten Kruijver, Benjamin Mallinder, Alan Magee, Simon Malsom, Tamyra Moretti, Steven Weitz, Todd Bille, Sarah Noel, Rachel Oefelein, Brian Peck, Tim Kalafut, Duncan Taylor (2018) Response to: Commentary on: Bright et al. (2018) Internal validation of STRmix™ – A multi laboratory response to PCAST, Forensic Science International: Genetics, 34: 11–24, Forensic Science International: Genetics 44 (2020) 102198 https://doi.org/10.1016/j.fsigen.2019.102198.

Curt Schuerman, Tim Kalafut, Clint Buchanan, Joel Sutton, Jo-Anne Bright (2020) Using the Nondonor Distribution to Improve Communication and Inform Decision Making for Low LRs from Minor Contributors in Mixed DNA Profiles. Journal of Forensic Sciences 2020; 65(4):1072-1084 https://doi.org/10.1111/1556-4029.14306.

Tim Kalafut, Curt Schuerman, Joel Sutton, Tom Faris, Luigi Armogida, Jo-Anne Bright, John Buckleton, Duncan Taylor (2018) Implementation and validation of an improved allele specific stutter filtering method for electropherogram interpretation. Forensic Science International: Genetics 35 (2018) 50-56 https://doi.org/10.1016/j.fsigen.2018.03.016.

Jo-Anne Bright, Rebecca Richards, Maarten Kruijver, Hannah Kelly, et al (2018) Internal validation of STRmix™ – A multi laboratory response to PCAST. Forensic Science International: Genetics 34 (2018) 11-24 https://doi.org/10.1016/j.fsigen.2018.01.003.

Simone Gittelson, Tim Kalafut, Steven Myers, Duncan Taylor, Tacha Hicks, Franco Taroni, Ian W. Evett, Jo-Anne Bright, John Buckleton (2016) A practical guide for the formulation of propositions in the Bayesian approach to DNA evidence interpretation in an adversarial environment. Journal of Forensic Sciences 2016; 61(1): 186-195 https://doi.org/10.1111/1556-4029.12907.

Duncan Taylor, Jo-Anne Bright, Catherine McGoven, Christopher Hefford, Tim Kalafut, John Buckleton (2016) Validating multiplexes for use in conjunction with modern interpretation strategies. Forensic Science International: Genetics 20 (2016) 6–19 https://doi.org/10.1016/j.fsigen.2015.09.011.

Tim Kalafut, Melinda E. Wales, Vipin K.Rastogi, Rimma P. Naumova, Soniya K. Zaripova, James R. Wild (1998) Biotransformation Patterns of 2,4,6 Trinitrotoluene by Aerobic Bacteria. Current Microbiology 36(1):45-54 https://doi.org/10.1007/s002849900278.

Funded External Grants

Evaluation of the effect of the use of universal STRmix™ parameters on the ability to discern CODIS-eligible profiles from mixed DNA samples. FBI Programs Research and Standards Unit (PRSU) under the WVU Cooperative Research Agreement. 6/2025-6/2026 (tentative dates), $184,529. Principal Investigator: Tim Kalafut Ph.D. (Sam Houston State University), Co- Principal Investigator: Frank Liu, Ph.D. (Sam Houston State University) – Note that this grant was awarded but funding rescinded in February 2025

Research and Evaluation of the Implementation and Use of Continuous Probabilistic Genotyping Software to Improve the Interpretation of Forensic DNA Mixtures. National Institute of Justice. Award #: 15PNIJ-21-GG-02710-SLFO. 1/2022-12/2023, $150,427. Co-Principal Investigator: Tim Kalafut, Ph.D. (Sam Houston State University) via University of Texas Health Science Center at Fort Worth, Principal Investigator: Michael Coble, Ph.D. (University of Texas Health Science Center at Fort Worth).

Evaluation of ForenSeq MaintstAY Kit for mixed forensic DNA samples. Center for Advanced Research in Forensic Science (National Science Foundation); 1/2022-12/2022, $25,000. Principal Investigator: Tim Kalafut, Ph.D. (Sam Houston State University).

Evaluation of inter-laboratory probabilistic genotyping parameters for improved forensic DNA database searching. Forensic Sciences Foundation Douglas M. Lucas Research Grant; 1/2022-12/2022, $6,000. Principal Investigator: Tim Kalafut, Ph.D. (Sam Houston State University).

Submitted External Grants

Population Genetics Issues for Next Generation DNA Profiles. National Institute of Justice, Solicitation Number: O-NIJ-2024-171962. Principal Investigator: Tim Kalafut, Ph.D. Co-Principal Investigators: Rachel Houston, Ph.D. Kevin Cheng, Ph.D. (Institute of Environmental Science and Research), Jo-Anne Bright, Ph.D. (Institute of Environmental Science and Research), Amount Requested: $604,599. – Not selected for funding.

Development of a noise-free NGS pipeline for simplified data interpretation and mixture deconvolution using probabilistic genotyping. National Institute of Justice, Solicitation Number: O-NIJ-2024-171962. Principal Investigator: Rachel Houston, Ph.D. Co-Principal Investigators: Tim Kalafut, Ph.D. Sheree Hughes, Ph.D. Amount Requested: $419,082. – Not selected for funding.

Analysis and Characterization of Self-collected Swabs to Inform Transfer, Persistence, Prevalence, and Recovery Factors for the Evaluation of DNA Results Given Activity Propositions in Sexual Assault Cases. National Institute of Justice, Solicitation Number: O-NIJ-2023-171606. Principal Investigator: Tim Kalafut, Ph.D. Co-Principal Investigator: Michael Coble, Ph.D. (University of Texas Health Science Center at Fort Worth). Co-Investigators: Melissa Lewis, Ph.D. and Dana Litt, Ph.D. (University of Texas Health Science Center at Fort Worth), James Curran, Ph.D. (University of Auckland). Amount Requested: $1,214,132. – Not selected for funding.

Implementing a noise-free NGS pipeline for simplified interpretation compared to legacy systems; National Institute of Justice. Solicitation Number: O-NIJ-2023-171606. Principal Investigator: Rachel Houston, Co-Principal Investigators, Tim Kalafut, and Sheree Hughes (Sam Houston State University). Amount Requested: $442,355 – Not selected for funding.

Implementing a noise-free NGS pipeline for simplified interpretation compared to legacy systems. National Institute of Justice, Application Number: GRANT13605139 for Solicitation Number: O-NIJ-2022-171186. Co-

Principal Investigators: Tim Kalafut, Ph.D. and Sheree Hughes, Ph.D. Principal Investigator: Rachel Houston. Amount Requested: $379,528.00. – Not selected for funding.

Development of Secure Raw Data Formats for Forensic Science. National Institute of Justice, Application Number: GRANT13334160 for Solicitation Number: O-NIJ-2022-171186. Co-Principal Investigators: Tim Kalafut, Ph.D. and Rachel Houston, Ph.D. Principal Investigator: Brian Young (NicheVision, LLC). Amount Requested: $206,984. – Not selected for funding.

Development of Secure Raw Data Formats for Forensic Science. National Institute of Justice, Application Number: GRANT13334160 for Solicitation Number: O-NIJ-2021-45003. Co-Principal Investigators: Tim Kalafut, Ph.D. and Rachel Houston, Ph.D. Principal Investigator: Brian Young (NicheVision, LLC). Amount Requested: $436,377. – Not selected for funding.

Proceedings

Tim Kalafut, Amber Rasmussen, STRmix Testimony 101: When The Going Gets Tough – Using STRmix and Testifying at Court, 2025 MAAFS Annual Meeting, Richmond, VA – May 2025

Tim Kalafut, Amber Rasmussen, Lisa Schiermeier-Wood, Gray Collins, Graham Stolle, STRmix Admissibility Challenges: The Tough Get Going – Preparing for Admissibility Hearings, 2025 MAAFS Annual Meeting, Richmond, VA – May 2025

Simone Gittleson, Franco Taroni, Tim Kalafut, John Buckleton, Back to the Future: Applying Decades-Old Probabilistic Models to Today's DNA Results When Activities Are of Interest, American Academy of Forensic Sciences 77th Annual Scientific Meeting, Baltimore, MD – February 2025

Tim Kalafut, The Development of Universal STRmix Parameters for Legacy Kits, American Academy of Forensic Sciences 77th Annual Scientific Meeting, Baltimore, MD – February 2025

Agnes Winokur, Tiffany Rodriguez, Christopher Palenik, Joseph Remy, Claude Roux, Tim Kalafut, Ken Williams, Criminalistics Gone Wild (in the Courtroom)—Human Factors, Activity Level, and Probability, Oh My!, Panel Discussion, American Academy of Forensic Sciences 77th Annual Scientific Meeting, Baltimore, MD – February 2025

Tim Kalafut, Simone Gittelson, 35th International Symposium on Human Identification; Beyond the "Who Done It…" DNA Interpretation Given Activity Level Propositions; Full Day Workshop, San Antonio, TX – September 2024

Tim Kalafut, Did they or didn't they? What role should the DNA expert have when activities are of interest?, Green Mountain DNA Conference, Burlington, VT – July 2024

Tim Kalafut, Did He or Didn't He? Should We or Shouldn't We? When the Court is Interested in Activity Level Propositions, The Art of DNA AFDAA Summer 2024 Meeting, Dallas, TX – July 2024

Tim Kalafut, What's the Probability that DNA Evidence Isn't Relevant Anymore? Is Anything Possible?, 23rd Annual Forensic DNA Conference Bode 2024, Atlanta, GA – June 2024

Tim Kalafut, Simone Gittelson, Mid-Atlantic Association of Forensic Scientists Annual Meeting Workshop 11: Beyond the "Who Done It…" DNA Interpretation Given Activity Level Propositions; Full Day Workshop, Pittsburgh, PA – May 2024

Tim Kalafut, Simone Gittelson, American Academy of Forensic Sciences 76th Annual Scientific Meeting Workshop W13: Beyond the "Who Done It…" DNA Interpretation Given Activity Level Propositions; Full Day Workshop, Denver, CO – February 2024

Tim Kalafut*, 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, American Academy of Forensic Sciences 76th Annual Scientific Meeting, Denver, CO – February 2024

Damani Johnson*, Tim Kalafut; An Exploration of a Sequence-Specific Stutter Model for STR Analysis in Next Generation Sequencing, American Academy of Forensic Sciences 76th Annual Scientific Meeting, Denver, CO – February 2024

Tim Kalafut, The Real Action at Court Has Always Been Activity, American Academy of Forensic Sciences 76th Annual Scientific Meeting, Denver, CO – February 2024

Tim Kalafut, When it's not a "Whodunit": The case for activity level evaluation of DNA evidence, Potomac Regional Symposium on Forensic DNA Analysis, Fairfax, VA – October 2023

Michael Coble*, Tim Kalafut; An Exploration of Two Software Programs to Convey the Strength of Low Likelihood Ratios, 34th International Symposium on Human Identification, Denver, CO – September 2023

Brian Young*, Christina Burns, Daman Johnson, Lucio Avellaneda, Julia Rieger De Mello Sousa, Rachel Houston, Tim Kalafut, Michael Marciano, Bruce McCord, Understanding the Second Generation of PCR-MPS Kits, Green Mountain DNA Conference 2023, Burlington, VT – July 2023

Damani Johnson, Lucio Avellaneda, Rachel Houston, Tim Kalafut; Forensic Evaluation of the Verogen PrepStation and ForenSeq™® Workflows for Implementation in Crime Laboratories, Society for Laboratory Automation and Screening SLAS2023 International Conference and Exhibition, San Diego, CA – February 2023

Damani Johnson*, Lucio Avellaneda, Rachel Houston, Tim Kalafut; The Evaluation of the ForenSeq™ MainstAY Kit for Mixed Forensic DNA Samples, American Academy of Forensic Sciences 75th Annual Scientific Meeting, Orlando, FL – February 2023

Patrick Buzzini, PhD; Tim Kalafut*, PhD*; "Back to the Future" – Bayes' Theorem Goes Around, Comes Around, American Academy of Forensic Sciences 75th Annual Scientific Meeting, Orlando, FL – February 2023

Sudhir Sinha, PhD*; Joanne Sgueglia, BA*; Hailey Holt, BS; Erin Hanson, PhD; Justina Nichols, MSFB; Tim Kalafut, PhD; Mah-Ro Khan, MS; Thomas Walsh, MSFS; Megan Foley, MSFS; John (Jack) Ballantyne, PhD; Hiromi Brown, PhD; An Interlaboratory Comparison of SpermX™ and Conventional Differential Extractions for DNA Analysis of Sexual Assault Samples, American Academy of Forensic Sciences 75th Annual Scientific Meeting, Orlando, FL – February 2023

Tim Kalafut*; John Buckleton and James Curran; Guiding proposition setting in forensic DNA interpretation. 7th Science and Justice Research Seminar, Chartered Society of Forensic Sciences, Virtual – January 2023

Safia Boodoosingh, Hannah Kelly, James Curran, Tim Kalafut*, Evaluation of Inter-laboratory Probabilistic Genotyping Parameters. 33rd International Symposium on Human Identification, Washington, DC - November 2022

Damani Johnson*, Ryan Gutierrez, Tim Kalafut, Rachel Houston, Detection and analysis of DNA mixtures with the MiSeq FGx™, Proceedings from the 29th Congress of the International Society for Forensic Genetics, Washington, DC – August/September 2022

Tim Kalafut, An Early Look at an Inter-Laboratory STRmix Concordance Study; Association of DNA Analysts and Administrators Summer Meeting, Houston, TX – July 2022

Tim Kalafut*, Damani Johnson, Lucio Avellaneda, Rachel Houston, Sheree Hughes. Evaluation of ForenSeq MainstAY Kit for mixed forensic DNA samples. CARFS Meeting, Livermore, CA – June 2022

Tim Kalafut, An overview of the proposed OSAC Human Forensic Biology Best Practices for Evaluative DNA Testimony, Southern Association of Forensic Scientists, Virtual – April 2022

Tim Kalafut, Great Expectations; Do experts have any expertise? Southern Association of Forensic Scientists, Virtual – April 2022

Tim Kalafut, An overview of the proposed OSAC Human Forensic Biology Best Practices for Evaluative DNA Testimony, Association of DNA Analysts and Administrators, Spring Meeting, Virtual – April 2022

Tim Kalafut, Great Expectations; Do experts have any expertise? Association of DNA Analysts and Administrators Spring Meeting, Virtual – April 2022

Tim Kalafut*, Jo-Anne Bright, Duncan Taylor and John Buckleton, Interpreting DNA Mixtures with Extreme Allele Overlap; American Academy of Forensic Sciences 74th Annual Scientific Meeting, Seattle, WA – February 2022

Damani Johnson* and Tim Kalafut, The Effect of Pull-Up on Allele Peak Heights and Weights of Genotypes for Minor Donors; American Academy of Forensic Sciences 74th Annual Scientific Meeting, Seattle, WA – February 2022

Rachel Houston*, Tim Kalafut and Ryan Gutierrez, The Detection and Analysis of DNA Mixtures with the MiSeqR FGx™; American Academy of Forensic Sciences 74th Annual Scientific Meeting, Seattle, WA – February 2022

Tim Kalafut*, Rachel Houston, Sheree Hughes. Evaluation of ForenSeq MainstAY Kit for Mixed Forensic DNA samples, Poster Presentation CARFS Section, American Academy of Forensic Sciences 74th Annual Scientific Meeting, Seattle, WA, February 2022

Rachel Houston*, Tim Kalafut and Ryan Gutierrez, The Detection and Analysis of DNA Mixtures with the MiSeqR FGx™; American Academy of Forensic Sciences 74th Annual Scientific Meeting, Seattle, WA – February 2022

Tim Kalafut, Great Expectations; 20th Annual Forensic DNA Conference – Bode 2021, Denver, CO – October 2021

Badiah Hannon*, Rachel Houston and Tim Kalafut, Examining Partition Efficiency of Cell Types Following QIAcube/EZ1® Advanced XL Differential Extraction; 32nd International Symposium on Human Identification Orlando, FL – September 2021

Tim Kalafut, Hard Mixtures!: Should I report this or not? What would Reverend Bayes say?, 3rd Annual Northeast Forensic Laboratory Probabilistic Genotyping Users Group Meeting – April 2021

Sheila Willis, Rebecca E. Bucht, Simone Gittelson, Tim Kalafut, Tacha Hicks, Jonathan Whitaker, American Academy of Forensic Sciences 73rd Annual Scientific Meeting Workshop W10 (Half-day Workshop): When "Who" Doesn't Matter as Much as "How"—DNA Testimony Given Activity-Level Propositions; Virtual – February 2021

Tim Kalafut, Bayesian Framework and the Court—Do They Go Together?; American Academy of Forensic Sciences 73rd Annual Scientific Meeting, Virtual – February 2021

Michael D. Coble, Patrick Buzzini, Tim Kalafut American Academy of Forensic Sciences 73rd Annual Scientific Meeting Workshop W2: Interpreting and Communicating DNA Evidence in a Probabilistic Genotyping Universe; Half Day Workshop, Virtual – February 2021

Tim Kalafut, Adventitious vs. False Inclusions, LR Magnitudes, and What They Mean; American Academy of Forensic Sciences 73rd Annual Scientific Meeting, Virtual – February 2021

Tim Kalafut – Setting Propositions; American Academy of Forensic Sciences 73rd Annual Scientific Meeting, Virtual – February 2021

Tim Kalafut, Bayes' Theorem, Forensic Science, and the Law: Long-Lost Relatives or Feuding Family?; American Academy of Forensic Sciences 73rd Annual Scientific Meeting, Virtual – February 2021

Curt Schuerman, Tim Kalafut, Clinton D. Buchanan, Joel D. Sutton, Jo-Anne Bright, Brian Higgins*, How to Deal With Low Likelihood Ratios (LRs) in Mixed DNA Samples, American Academy of Forensic Sciences 73rd Annual Scientific Meeting, Virtual – February 2021

Tim Kalafut, The Problem of Low LRs – A Sample Specific Solution Activity LR Workshop, HID University; Clayton State University, Morrow, GA – February 2019

Tim Kalafut, Stutterific – A new and improved way to see your mixtures; 129th California Association of Criminalists Seminar, Spring 2017 Seminar, San Francisco, CA – May 2017

Tim Kalafut, Probabilistic Genotyping and the Bench Scientist; Green Mountain DNA Conference, Burlington, VT – August 2016

Joel Sutton*, Tim Kalafut, Lindsey Smith, Curt Schuerman, David Diekema, The Dangers of not Assuming Contributors – Why the Goal of "Conservative" in Forensic DNA Statistics Should be Dropped in Favor of Being "Informative"; 26th International Symposium on Human Identification Grapevine, TX – October 2015

Tim Kalafut*, Curt Schuerman, Lindsey Smith, David Diekema, Joel Sutton, Genotypes and Conservative Statistics: Allowing for More Contributors in the Interpretation Should Give a More Conservative Number; 26th International Symposium on Human Identification Grapevine, TX – October 2015

Tim Kalafut*, Joel D. Sutton, Robert M. Goor, Douglas Hoffman, George R. Riley, Luigi Armogida, Validation and Implementation of OSIRIS for Forensic DNA Casework and Incorporation Into Laboratory Work Flow; American Academy of Forensic Sciences 66th Annual Scientific Meeting Seattle, WA – February 2014

Tim Kalafut, Technical Leaders Meeting: From CPI to fully continuous: The USACIL Journey to better mixture interpretation; 24th International Symposium on Human Identification Atlanta, GA – October 2013

Tim Kalafut, ArmedXpert User Group: The use of ArmedXpert for analysis of your most complex mixtures; 24th International Symposium on Human Identification Atlanta, GA – October 2013

Tim Kalafut*, Joel Sutton, Luigi Armogida, How the automation of DNA data interpretation using ArmedXpert software has benefited the United States Army Criminal Investigation Laboratory (USACIL); 24th International Symposium on Human Identification Atlanta, GA – October 2013

Tim Kalafut*, Joel Sutton, Robert M. Goor, Douglas Hoffman, George R. Riley, Luigi Armogida, Evaluation of OSIRIS for forensic DNA casework and incorporation into laboratory workflow; 24th International Symposium on Human Identification Atlanta, GA – October 2013

Tim Kalafut*, Joel Sutton, Luigi Armogida, The development of a validation module in ArmedXpert: An improvement in the life of the DNA Technical Leader; 24th International Symposium on Human Identification Atlanta, GA – October 2013

Tim Kalafut*, Joel Sutton, John Buckleton, Jo Bright, Luigi Armogida, A user friendly likelihood ratio (LR) calculator that estimates and incorporates the probability of dropout (PrD); 24th International Symposium on Human Identification Atlanta, GA – October 2013

Tim Kalafut*, Joel Sutton, John Buckleton, Jo Bright, Luigi Armogida, A user friendly likelihood ratio (LR) calculator that estimates and incorporates the probability of dropout (PrD); 25th World Congress of the International Society for Forensic Genetics, Melbourne, Australia – September 2013

Joel Sutton*, Tim Kalafut, How the automation of DNA data interpretation using ArmedXpert software has benefited the United States Army Criminal Investigation Laboratory (USACIL); 25th World Congress of the International Society for Forensic Genetics, Melbourne, Australia – September 2013

Tim Kalafut*, Joel Sutton, Robert M. Goor, Douglas Hoffman, George R. Riley, Luigi Armogida, Evaluation of OSIRIS for forensic DNA casework and incorporation into laboratory workflow; 25th
World Congress of the International Society for Forensic Genetics, Melbourne, Australia – September 2013

Joel Sutton*, Tim Kalafut, Luigi Armogida, The development of a validation module in ArmedXpert: An improvement in the life of the DNA Technical Leader; 25th World Congress of the International Society for Forensic Genetics, Melbourne, Australia – September 2013

Debra Glidewell, Debra Figarelli, Tim Kalafut, Joel Sutton, American Academy of Forensic Sciences 64th Annual Scientific Meeting Workshop W3: Advanced DNA Mixture Interpretation and Statistical Approaches; Two Day Workshop Atlanta, GA – February 2012

Tim Kalafut, Workshop W16: DNA Mixture Interpretation: Principles and Practice in Component Deconvolution and Statistical Analysis – DNA_DataAnalysis Software, American Academy of Forensic Sciences 60th Annual Scientific Meeting, Washington, DC – February 2008

Tim Kalafut, DNA_DataAnalysis Software; Southern Association of Forensic Sciences, Atlanta, GA – September 2007

Tim Kalafut, DNA_DataAnalysis Software; 6th Annual Advanced DNA Technical Workshop, Bode Technology Group, East Meeting Captiva Island, FL – May 2007

Tim Kalafut, DNA_DataAnalysis Software; 4th Annual Advanced DNA Technical Workshop, Bode Technology Group, West Meeting San Diego, CA – April 2007

Tim Kalafut*, Melinda Wales, James Wild, Cellular and Enzymatic Biotransformation of 2,4,6-Trinitrotoluene by Aerobic Bacteria, American Chemical Society National Meeting, Dallas, TX – March 1998

Tim Kalafut*, Melinda Wales, James Wild, Enzymatic Biotransformation of 2,4,6-Tritnitrotoluene by a Bacillus sp., Gulf Coast Society of Toxicology Annual Meeting, College Station, TX - November 1997

Tim Kalafut*, Melinda Wales, James Wild, The Purification of a TNT-Reducing Enzyme, National Society of Toxicology Meeting, Anaheim, CA, March 1996

Tim Kalafut*, Melinda Wales, James Wild, Microbial Degradation of Trinitrotoluene Under Aerobic Conditions, National Society of Toxicology Meeting, Baltimore, MD – March 1995

Tim Kalafut*, Melinda Wales, James Wild, Aerobic Microbial Degradation of Trinitrotoluene, International Symposium on the Biodegradation of Aromatic Compounds, Las Vegas, NV – May 1994

Student Theses, Dissertations, and Committees

Chaired – Masters

1. Alexa Cassman, DNA Transfer Between Persons in Close Proximity, Master Thesis 2025
2. Tyra Volney, Evaluation of DNA Recovery from Fingernails Post-Hair Washing and in Personal Care Products, Master Thesis 2025
3. Amanda Walisch, Evaluation of Three Extraction Techniques on Human Skeletal Remains with Various Insults, Master Thesis 2024
4. Graciela Montes, Strengthening Analysis of Sexual Assault Evidence and Understanding Long-Term Y-Screening Sample Stability, Co-Chair, Master Thesis 2024
5. Cesar Garza-Sanchez, Probabilistic tools for improved database searching and investigative leads, Master Thesis 2023
6. Paola Gandara, Understanding the transfer, persistence, prevalence, and recovery of DNA in a real-life social setting, Master Thesis 2022

7. Safia Boodoosingh, Evaluation of Inter-laboratory Probabilistic Genotyping Parameters for Improved Forensic DNA Database Searching and Interpretation of DNA Mixtures, Master Thesis 2022
8. Mah-Ro Kahn, A More Effective, Automatable Differential Extraction Method for Processing Sexual Assault Samples, Co-Chair, Master Thesis 2021
9. Badiah Hannon, Examining Partition Efficiency of Cell Types Following QIAcube/EZ1® Advanced XL Differential Extraction, Co-Chair, Master Thesis 2021

Chaired – Doctoral

1. Damani Johnson, Optimizing Workflows for the Detection and Strategic Evaluation of Mixtures using Next Generation Sequencing and Capillary Electrophoresis, Doctoral Dissertation (on-going)

Committee Member – Masters

1. Joshua Boster, Utilizing Y-screening in sexual assault through Investigator® Casework GO! And Investigator® Quantiplex® Pro FLX
2. Kayli Carrillo, Optimized Recovery of DNA from Exhaled Breath Devices; from Drug Detection to Human Identification, Master Thesis 2022
3. Sabrina Hodge, Evaluating the efficiency of three swab types and a direct lysis approach for the recovery of touch DNA, Master Thesis 2022
4. Kendall Hartline, Master Thesis 2022
5. Samantha Davis, Optimization of a sperm capture method using three antibodies in conjunction with magnetic beads, Master Thesis 2021
6. Cesar Cantu, Comparison of DNA extraction techniques for the recovery of bovine DNA from maggot crops, Master Thesis 2021

Committee Member – Doctoral

1. Julia Wang, Multifaceted Development of Alternative Sexual Assault Evidence Analysis Methods Doctoral Dissertation 2025
2. Jennifer Snedeker, Investigation of DNA Extraction, Purification, and Downstream Processing Techniques for Challenging Skeletal Samples, Doctoral Dissertation 2024
3. Natalia Czado, Emerging Techniques in DNA Analysis to Identify Human Remains, Shooters, and Drug Evidence for Forensic Intelligence Purposes, Doctoral Dissertation 2024
4. Lucio Avellaneda, DNA Recovery From Challenging Forensic Samples Using Alternative Markers and Next Generation Sequencing, Doctoral Dissertation 2024
5. Kari Graham, Forensic Applications of DNA Sequencing to Combat Drug Trafficking and Biothreats, Doctoral Dissertation 2022
6. Ryan Gutierrez, A Novel Workflow for Maximizing Information from Genetic Analysis of Forensic Hair Samples 2021

Committee Member – Portfolio

1. Kayli Carrillo, Collection, extraction, and downstream processing of low template DNA from forensic evidence, Doctoral Portfolio 2023
2. Julia Wang, Multifaceted Development of Alternative Sexual Assault Evidence Analysis Methods, Doctoral Portfolio 2022
3. Jennifer Snedeker, Investigation of DNA Extraction, Purification, and Downstream Processing Techniques for Challenging Skeletal Samples, Doctoral Portfolio 2021

4. Natalia Czado, Emerging Techniques in DNA Analysis to Identify Human Remains, Shooters, and Drug Evidence for Forensic Intelligence Purposes, Doctoral Portfolio 2021
5. Grace Rutledge, The Genital Microbiome and Its Potential Use in Sexual Assault Cases, Doctoral Portfolio 2021

Work or Professional Experiences

Sam Houston State University, College of Criminal Justice, 2020 – present
Associate Professor, Department of Forensic Science

- Instructor for graduate level course work in forensic DNA
- Research focus on DNA mixture interpretation for CE and MPS platforms and activity level propositions
- Oversee graduate student research project for Masters and PhD level students

U.S. Army Criminal Investigation Laboratory; Defense Forensic Science Center, 2002-2020
Forensic DNA Analyst

- Perform all aspects of Serological and DNA Forensic Analysis
- Provide expert witness testimony as required concerning testing results

Southwestern Institute of Forensic Science, Dallas, TX, 1999-2001
Forensic DNA Analyst

- Perform all aspects of Serological and DNA Forensic Analysis
- Provide expert witness testimony as required concerning testing results
- Assisted with validation of STR technology for DNA Analysis

Department of Biochemistry and Biophysics, Texas A&M University, 1994-1998
Graduate Research Assistant

- Characterized three strains of TNT metabolizing aerobic bacteria
- Designed protein purification scheme and purified TNT reducing enzymes
- Isolated and sequenced TNT-active genes

Department of Chemistry, Texas A&M University, 1991-1993
Graduate Teaching/Research Assistant

- Taught six sections of general, freshman honors, and organic chemistry labs of 30 students each
- Conducted research using Plasma Desorption Mass Spectrometry

BSK and Associates Analytical Laboratories, Fresno, CA, 1990-1991
Chemist

- Performed inorganic environmental testing of water, wastewater and soil samples
- Analyzed for fluoride, carbonates, sulfides, TOC, turbidity, flash point and bacterial contamination
- Streamlined data reporting and analysis procedures while consolidating the work of two full time positions

Chemistry Department, Whitworth College, 1987-1990
Student Worker Coordinator

- Coordinated TAs, reagent preparation, and instrument maintenance and repair for lab courses
- Served as departmental tutor for general, analytical, organic and biochemistry

Honors and Awards

2021-2022 Top Cited Article, Journal of Forensic Sciences;

Tim Kalafut, Simone Pugh, Peter Gill, Sarah Abbas, Marie Semaan, Issam Mansour, James Curran, Jo-Anne Bright, Tacha Hicks, Richard Wivell, John Buckleton (2022) A mixed DNA profile controversy revisited. Journal of Forensic Sciences 2022;67:128-135 https://doi.org/10.1111/1556-4029.14912

2021 Top Downloaded Article, Journal of Forensic Sciences;

Tim Kalafut, Simone Pugh, Peter Gill, Sarah Abbas, Marie Semaan, Issam Mansour, James Curran, Jo-Anne Bright, Tacha Hicks, Richard Wivell, John Buckleton (2022) A mixed DNA profile controversy revisited. Journal of Forensic Sciences 2022;67:128-135 https://doi.org/10.1111/1556-4029.14912

2020 Meritorious Civilian Service Medal, Department of the Army

2017 Commander's Award for Civilian Service, United States Army Criminal Investigation Command Innovation Award

2015 Federal Laboratory Consortium Award for Excellence in Technology Transfer for ArmedXpert™ DNA Deconvolution Software

Other Competencies

Expert witness testimony in approximately 80 trials to date (Fall 2020); additional testimony hearings as needed

Software Development: ArmedXpert – Key player in the internal development, testing, and implementation of DNA mixture interpretation/case management software

Invited Member, Organization of Scientific Area Committee; Biological Data Interpretation & Reporting committee (OSAC/BDIRC)

Ad hoc Reviewer for:

Forensic Science International: Genetics
Forensic Science International: Synergy
Journal of Forensic Science
WIREs Forensic Science
International Journal of Legal Medicine
WIREs Forensic Science

Associate Member, American Academy of Forensic Sciences, 2021-

Other Competencies/ Speaking Engagements/Training Provided

Tim Kalafut, Sheila Willis, Simone Gittelson, American Academy of Forensic Sciences 77th Annual Scientific Meeting Workshop W14: The longest journey starts with a single step: Evaluating biological results given activity level propositions – The problem, the theory, the solution, and strategies for implementation; Full Day Workshop, Baltimore, MD – February 2025

Activity Level Reporting (ALR); Two Day Workshop, Centre of Forensic Sciences, Toronto, Canada – December 2024

Expert Testimony in a Probabilistic World: The Likelihood Ratio Day Long Workshop; Harris County Institute of Forensic Sciences, Houston, TX – July 2023

Do Actions Speak Louder Than Words? – Lawyers argue a lot about "What Happened" and Volunteer Mock Cross Examination Witness/Discussion, The Perlmutter Center of Cardozo Law School and the National Association of Criminal Defense Lawyers' National Forensic College, New York City, NY – June 2023

Activity Level Reporting of DNA Profiling Results Two Day Workshop, Institute for Forensic Research Training and Innovation, Sam Houston State University, The Woodlands, TX – June 2023

Challenging DNA evidence based on the "How?" question – Why make it easy for 'em – Part 2, Legal Aid Society Invited Talk, Virtual – May 2023

Challenging DNA evidence based on the "How?" question - Why make it easy for 'em? - Part 1. 8th Annual Questioning Forensics Conference, The Legal Aid Society, City University of New York Law School; Long Island City, NY – March 2023

Population Genetics for Forensic Scientists Multi-Day Workshop, California Criminalistics Institute, Richmond, CA – March 2023

Workflow Assessment and Advanced Training in Population Genetics, Mixture Interpretation, and Probabilistic Genotyping – Part 2; Mississippi Forensics Laboratory, Pearl, MS – December 2022

Hierarchy of Propositions and Activity Level Testimony, FDLE Biology Discipline Meeting, Virtual – December 2022

Workflow Assessment and Advanced Training in Population Genetics, Mixture Interpretation, and Probabilistic Genotyping – Part 1; Mississippi Forensics Laboratory, Pearl, MS – December 2022

Population Genetics for Forensic Scientists Multi-Day Workshop, California Criminalistics Institute, Los Angeles, CA – June 2022

Likelihood Ratios & Probabilistic Genotyping and Advanced STRmix Multi-Day Workshop, Division of Criminal Justice Services, Albany, NY – March 2022

Population Genetics for Forensic Scientists Multi-Day Workshop, California Criminalistics Institute, Richmond, CA – January 2022

DNA Mixture Interpretation using Probabilistic Genotyping; Texas DPS Laboratory System, Austin, TX February 2019

Advanced DNA Mixture Interpretation Workshop; Honolulu, HI – February 2018

Advanced DNA Mixture Interpretation Workshop; Georgia Bureau of Investigation, Atlanta, GA – October 2017

Advanced DNA Mixture Interpretation Workshop; Sponsored by National Institutes of Justice Austin, TX – March 2017

Advanced DNA Mixture Interpretation Workshop; Sponsored by National Institutes of Justice San Jose, CA – January 2017

Advanced DNA Mixture Interpretation Workshop; Sponsored by National Institutes of Justice Denver, CO – October 2016

Advanced DNA Mixture Interpretation Workshop; Sponsored by National Institutes of Justice Chicago, IL – September 2016

STRmix User Group; USACIL, Forest Park, GA – August 2016

ArmedXpert User Group; USACIL, Forest Park, GA – April 2016

Advanced DNA Mixture Interpretation for ArmedXpert Users; Pinellas County Forensic Laboratory Largo, FL – October 2015

Advanced DNA Mixture Interpretation Workshop; Sponsored by National Institutes of Justice Albany, NY – August 2015

Advanced DNA Mixture Interpretation Workshop; Sponsored by National Institutes of Justice Baton Rouge, LA – July 2015

Advanced DNA Mixture Interpretation Workshop; Sponsored by National Institutes of Justice West Palm Beach, FL – June 2014

Advanced DNA Mixture Interpretation Workshop; Sponsored by National Institutes of Justice Los Angeles, CA – June 2014

Advanced DNA Mixture Interpretation Workshop; Sponsored by National Institutes of Justice Frankfort, KY – May 2014

Advanced DNA Mixture Interpretation Workshop; Sponsored by National Institutes of Justice Atlanta, GA – May 2014

DNA_DataAnalysis Software and Principles of Mixture Interpretation Workshop; Armed Forces DNA Identification Laboratory Rockville, MD – January 2009

Other Competencies/Trainings Attended

Mid-Atlantic Association of Forensic Scientists Annual Meeting, Pittsburgh, PA – May 2024

American Academy of Forensic Sciences 76th Annual Scientific Meeting; Denver, CO – February 2024

34th International Symposium on Human Identification; Denver, CO – September 2023

American Academy of Forensic Sciences 75th Annual Scientific Meeting; Orlando, FL – February 2023

33rd International Symposium on Human Identification; Washington, DC – November 2022

The 29th Congress of the International Society for Forensic Genetics; Washington, DC – August/September 2022

Evaluative Reporting of Biological Traces Given Activity Level Propositions Workshop; The 29th Congress of the International Society for Forensic Genetics; Washington, DC – August/September 2022

Contact Traces and DNA Transfer Workshop; The 29th Congress of the International Society for Forensic Genetics; Washington, DC – August/September 2022

Association of Forensic DNA Analysts and Administrators Summer Meeting; Houston, TX – July 2022

American Academy of Forensic Sciences 74th Annual Scientific Meeting; Seattle, WA – February 2022

32nd International Symposium on Human Identification; Orlando, FL – September 2021

American Academy of Forensic Sciences 73rd Annual Scientific Meeting; Virtual – February 2021

HID University; Activity LR Workshop, Morrow, GA – February 2019

Gordon Research Conference on Forensic Analysis of Human DNA; Newry, ME – June 2018

Hierarchy of Propositions and Activity Level Reporting Workshop; Ft. Gillem, GA – November 2017

129th California Association of Criminalists Seminar; San Francisco, CA, Spring 2017 Seminar – May 2017

Green Mountain DNA Conference; Burlington, VT – August 2016

26th International Symposium on Human Identification; Grapevine, TX – October 2015

Analyzing and Utilizing Data from Next-Generation Sequencers in the Forensic Genomics Era, 26th International Symposium on Human Identification; Grapevine, TX – October 2015

Technical Leaders Meeting, 26th International Symposium on Human Identification; Grapevine, TX – October 2015

American Academy of Forensic Sciences 66th Annual Scientific Meeting; Seattle, WA – February 2014

24th International Symposium on Human Identification; Atlanta, GA – October 2013

Advanced Interpretation Workshop Probabilistic Methods and STRmix; ESR, Auckland, New Zealand – May 2013

American Academy of Forensic Sciences 64th Annual Scientific Meeting; Atlanta, GA – February 2012

8th Annual Advanced DNA Technical Workshop, Bode Technology Group, West Meeting; San Diego, CA – April 2011

21st International Symposium on Human Identification; San Antonio, TX – October 2010

Mixture Interpretation Principles, Protocol, & Practices, 21st International Symposium on Human Identification Workshop; San Antonio, TX – October 2010

Technical Leaders Meeting, 21st International Symposium on Human Identification Workshop; San Antonio, TX – October 2010

8th Annual Advanced DNA Technical Workshop, Bode Technology Group, East Meeting; Amelia Island, FL – May 2009

American Academy of Forensic Sciences 60th Annual Scientific Meeting; Washington, DC – February 2008

4th Annual Advanced DNA Technical Workshop, Bode Technology Group West Meeting; San Diego, CA – April 2007

6th Annual Advanced DNA Technical Workshop, Bode Technology Group, East Meeting; Captiva Island, FL – May 2007

17th International Symposium on Human Identification; Nashville, TN – October 2006

Tools for Increasing Laboratory Efficiency, 17th International Symposium on Human Identification Workshop; Nashville, TN, October – 2006

Courtroom Testimony: What You Need to Know, 17th International Symposium on Human Identification Workshop; Nashville, TN – October 2006

American Academy of Forensic Sciences 58th Annual Scientific Meeting; Seattle, WA – February 2006

Advanced Topics in STR DNA Analysis, 58th Annual American Academy of Forensic Sciences Workshop; Seattle, WA – February 2006

Applied Biosystems 3100 Users Training; Foster City, CA – November 2004

Northwest Association of Forensic Scientists Meeting; Missoula, MT – April 2004

Calculating and Presenting DNA Evidence in Court, Northwest Association of Forensic Scientists Meeting Workshop; Missoula, MT – April 2004

Shooting Scene Reconstruction, Northwest Association of Forensic Scientists Meeting Workshop; Missoula, MT – April 2004

14th International Symposium on Human Identification; Phoenix, AZ – October 2003

Basic Principles in Statistics, 14th International Symposium on Human Identification Workshop; Phoenix, AZ – October 2003

Practical Y-STR, 14th International Symposium on Human Identification Workshop; Phoenix, AZ – October 2003

Special Agent Laboratory Training Course conducted by USACIL; Fort Gillem, GA – December 2002

DNA Auditor Training conducted by the FBI; Atlanta, GA – October 2002

Advanced DNA Technology Workshop, Bode Technology Group; Duck Key, FL – May 2002

American Academy of Forensic Sciences 54th Annual Scientific Meeting; Atlanta, GA – February 2002

Forensic Mitochondrial DNA Analysis: A Community Forum, 54th Annual American Academy of Forensic Sciences Workshop; Atlanta, GA – February 2002

Y-Chromosome Analysis and Its Application to Forensic Casework, 54th Annual American Academy of Forensic Sciences Workshop; Atlanta, GA – February 2002

Association of Forensic DNA Analysts and Administrators Meeting; Austin, TX – July 2001

American Academy of Forensic Sciences 53rd Annual Scientific Meeting; Seattle, WA – February 2001

Perkin Elmer User's Group Forum, 53rd Annual American Academy of Forensic Sciences Meeting; Seattle, WA – February 2001

Short Tandem Repeat Analysis Data: Processing, Interpretation and Storage, 53rd Annual American Academy of Forensic Sciences Workshop; Seattle, WA – February 2001

Forensic Mitochondrial DNA Analysis, FBI Training School; FBI Academy Quantico, VA – June 2000

American Academy of Forensic Sciences 52nd Annual Scientific Meeting; Reno, NV – February 2000

Perkin Elmer User's Group Forum, 52nd Annual American Academy of Forensic Sciences Meeting; Reno, NV – February 2000

DNA in the Laboratory and in the Courtroom: Scientific, Technical, and Legal Aspects, 52nd Annual American Academy of Forensic Sciences Workshop; Reno, NV – February 2000

DNA 101: A Non-specialist's Quick Tour of Forensic Applications, 52nd Annual American Academy of Forensic Sciences Workshop; Reno, NV – February 2000

Expert Witness, Southwest Working Group on DNA Analysis Methods Workshop; Austin, TX – January 2000

Statistics, Southwest Working Group on DNA Analysis Methods Workshop; Austin, TX – July 1999

Southwest Working Group on DNA Analysis Methods; Austin, TX – February 1999