

**DEPARTMENT OF FORENSIC SCIENCE**  
**COLLEGE OF CRIMINAL JUSTICE**



**Capstone Research**

***Updated: 18 September 2025***

## Academic Year 2024-2025

Analysis of  $\Delta^8$ -THC and its Metabolites in Dried Urine Spots (DUS) using Liquid Chromatography-Triple Quadrupole-Mass Spectrometry (LC-MS/MS)

Analysis of DNA Preservation in Human Remains Embedded in Solid Building Materials

Analysis of Ruhemann's Purple Developed by Ninhydrin from Fingerprint Residues and Bloodstains Using Raman Microscopy

Benzodiazepine and Opioid Mixtures (Benzo-dope) in Forensic Matrices

Comparison of Manual Interpretation and the Inverted Library Search Algorithm (ILSA) for the Identification of Isobaric Methyl-Substituted Fentanyl Analogs

Development of SERS-MIP Substrates for the Detection of Illicit Substances

DNA Transfer Between Persons in Close Proximity

Evaluation of a Microhaplotype Panel on Burned Skeletal Remains

Evaluation of DNA Recovery from Fingernails Post-hair Washing and in Personal Care Products

Hand-held Raman Spectroscopy and HS-SPME/GC-MS Identification and Classification of Hydraulic Fluid Contaminants in Jet Fuel

QIAxcel vs. qPCR: Evaluating Versatility for Forensic DNA Screening

Quantitative Analysis of 12 Cannabinoids from Cannabis Samples using UPLC-UV-MS

Testing the Efficiency of Sampling Techniques for TNT in Post-blast Debris using Gas Chromatography-Mass Spectrometry (GC-MS)

The Relationship Between the Ridge Patterning and the Frequency of Minutiae on the Interdigital Area of Palmprints

Thermal Desorption Direct Analysis in Real Time Mass Spectrometry (TD-DART-MS) of Seized Drug Mixtures

Utilizing Y-screening in Sexual Assault through Investigator® Casework GO! and Investigator® Quantiplex® Pro FLX

## Academic Year 2023-2024

Assessment of a Combined Portable Raman Spectroscopy and Mass Spectrometry Approach for the Analysis of Seized Drugs

Development and Validation of a Combined Selected Ion Monitoring-Scan GC-MS Method for Nitazene Analogs

Detection and Validation of Novel and Traditional Benzodiazepines in Blood using Liquid Chromatography Quadrupole/Time-of-Flight Mass Spectrometry (LC-Q/TOF-MS) and Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)

Development of an Artificial Intelligence Model for the Classification of Biological Fluids using Raman Spectroscopy

Development of an Extraction and Detection Method for 2-Amino-2-thiazoline-4-carboxylic acid (ATCA) in Biological Matrices Using Liquid-Chromatography Tandem Mass Spectrometry (LC-MS/MS)

Evaluating the Capabilities of Spectroscopic and DART-MS Approaches for the Analysis of Architectural Paints

Evaluation of Infrared Spectroscopy and Chemometrics for the Discrimination of Electrical Tape Backings

Evaluation of Three Extraction Techniques on Human Skeletal Remains with Various Insults Identification of Inorganic Oxidizing Salts in Consumer Pyrotechnics using Microscopy, Recrystallization, Micro-Raman Microscopy, and SEM/EDS

Investigating the Degradation of Designer and Traditional Benzodiazepines using UV-Visible (UV-Vis) Spectrophotometry and Gas Chromatography-Mass Spectrometry (GC-MS)

Strengthening Analysis of Sexual Assault Evidence and Understanding Long-Term Y-Screening Sample Stability

Structural Characterization of Nitazene Analogs Using Electron Ionization-Mass Spectrometry (EI-MS)

## Academic Year 2022-2023

Assessment of Field-Portable Instrumentation for the Detection of Intact Explosives

The Detection and Quantitation of Ketamine in *Cochliomyia macellaria* (Fabricius) (Diptera: Calliphoridae) by GC-MS

Detection of Forensically Relevant Nitazenes Using Liquid Chromatography – Tandem Mass Spectrometry (LC-MS/MS)

Differentiation of  $\Delta^9$ -THC and CBD Using Ag-Ligand Ion Complexation and ESI-MS/MS

Differentiation of New and Used Transmission Fluids Using FT-IR and ICP-OES

Evaluation of Evidence MultiSTAT for Detection of Opioids in Urine & Oral Fluid

Evaluation of OpiumPlex for Genetic Profiling of Opium Poppy

Probabilistic Tools for Improved Database Searching and Investigative Leads

Investigating the Capability of Micro-Raman Spectroscopy for the Analysis of Authentic Cannabis Samples

Investigating the Effect of Substitution Location on Fentanyl Analog Identification for Methyl-Substituted Fentanyl Analogs Using GC-EI-MS

Investigation of the Metabolism of  $\Delta^9$ -THC-O-Acetate

Quantitative Color Analysis of Burned Bone to Predict DNA Quantity, Quality, and Genotyping Success

## Academic Year 2021-2022

Characterizing Magnetic Bead Capture of Spermatozoa by Sperm-specific Biomolecules

Detection and Validation of Opioids in Dried Plasma Spots (DPS)

Determination of Psilocybin, Psilocin, and Psilacetin in Plasma using LC-MS/MS

Development and Validation of a LC-MS Method for Detection of N, N-dimethyltryptamine and its Metabolites in Plasma

Development of Polymer Coated Gold Nanoparticles to Augment a Handheld Raman Analyzer for Trace Chemical Detection

The Efficiency of Three Swab Types and a Direct Lysis Approach for the Recovery of Touch DNA

Evaluation of the Casework Direct Kit and Investigator Casework GO! Kit for Direct Lysis Processing of Challenging Samples

Identifying the Similarity Between In-source Collision-induced Dissociation (IS-CID) Fragment Ion Spectra and Tandem Mass Spectrometry (MS/MS) Product Ion Spectra Used for Seized Drug Identifications

Inter-laboratory Probabilistic Genotyping Parameters for Improved Forensic DNA Database Searching and Interpretation of DNA Mixtures

Optimized Recovery of DNA from Exhaled Breath Devices; from Drug Detection to Human Identification

Quantitative Color Analysis of Burned Bone to Predict DNA Quantity, Quality, and Genotyping Success

Multifactoral Analysis of Soil Composition and DNA Typing from Buried Bones

Understanding the Transfer, Persistence, Prevalence, and Recovery of DNA in a Real-life Social Setting

## Academic Year 2020-2021

Development of SERS Evidence Swabs for Forensic Applications using a Silver Nanoparticle Biosynthesis

Differentiation of Synthetic Cathinone Isomers Using GC-EI-MS and Multivariate Analysis

Characterization of Automotive Greases via Scanning Electron Microscopy-Energy Dispersive X-Ray Spectroscopy (SEM-EDS)

Comparison of DNA Extraction Techniques for the Recovery of Bovine DNA from Maggots

Examining Partition Efficiency of Cell Types Following QIAcube/EZ1® Advanced XL Differential Extraction

Fentanyl Analogs in Dried Plasma Spots; A Novel Technique

A More Effective, Automatable Differential Extraction Method for Processing Sexual Assault Samples

Optimization of InnoXtract™ Extraction and Purification System for DNA Extraction from Skeletal Samples

Optimization of Sperm Capture Method using Three Antibodies in Conjunction with Magnetic Beads

Rapid Classification of Gasoline by Using a Handheld Raman Spectrometer

Visualization of Seminal Stains on Dark Textiles

Reevaluation of Reflective Index Dispersion Measurements to the Differentiation of Automotive Glass

The Sexome: Evaluating the Effectiveness of Microbial DNA Extraction Kits for Intimate Samples

## Academic Year 2019-2020

Characterization of Nylanthrene Dyes in the Differentiation of Macroscopically Similar Black Fibers using Light Microscopy and UV-vis Microspectrophotometry

Detection of Five Kratom Alkaloids in Blood Using Agilent Ultivo Liquid Chromatography/Triple Quadrupole – Mass Spectrometry System

Development of a Five-channel Insertion-deletion Multiplex for Human Identification Purposes

Development of a Five Dye Insertion/Deletion (INDEL) Panel for Ancestry Determination

Development of a Neural Network for the Detection and Differentiation of Pollen Grains for Forensic Analysis

Development of a Novel Finger-trigger Interface for Trigger Pull Measurement

Differentiation of Hemp from Marijuana using a Qualitative Decision-point Assay

Evaluation of Three Swab Types for the Collection of Touch DNA

Evaluation of the trnK-matK-trnK, ycf3, and accD-psal Chloroplast Regions to Differentiate Crop Type and Biogeographical Origin of Cannabis sativa

Quantitative Determination of Caffeine in Nootropic Dietary Supplements Performed by LC-MS/MS using Liquid-liquid Extraction

Screening of Tier One Drugs in Blood for DUID by LC-QqQ

Study of the Degradation of Artistic Varnishes due to Light Exposure by Pyrolysis Gas Chromatography/Mass Spectrometry (py-GCMS) and Fourier Transform Infrared (FTIR) Spectroscopy

## Academic Year 2018-2019

Analysis of Colored Felt-tipped Blending Markers Using Video Spectral Data, Gray Value Measurements, Thin-Layer Chromatography, and Raman Spectroscopy

Collection and Storage of DVI Samples with MicroFLOQ® Swabs for Direct Amplification

Comparison of Extraction Methods for Novel Synthetic Opioids in Blood

Data Fusion from Spectroscopic Techniques for the Discrimination of Colored Automotive Paint Mixtures

Development of a STR Multiplex for Forensic Identification of *Papaver somniferum* Fluorescent Components in Gunshot Residue

Glass Transfer and Persistence in Rubber-soled Shoes

Human DNA Analysis of Crop Contents from Fly Larvae on Decomposing Cadavers

Quantification of Buprenorphine/Naloxone (Suboxone) in Breastmilk and Plasma

Quantitative Identification of Mitragynine in Blood by Gas Chromatography-Mass Spectrometry

Quantitative Identification of Mitragynine in Urine using Gas Chromatography-Mass Spectrometry

Transmembrane Protein in Blood Clotting as an Indicator of Deep Neck Trauma



## Academic Year 2017-2018

The Application of Gold Nanoparticles for Detecting Controlled Substances with Surface-Enhanced Raman Spectroscopy (SERS) Using Portable Raman

The Characterization and Discrimination of Vehicular Greases, Transmission Fluids, and Brake Fluids

Comparing Factors that Influence Non-specific Amplification in Current Generation Commercially Available STR Genotyping Kits

The Comparison of the Repeatability and Discrimination of the Yellow, Blue, and Red Filters for Refractive Index Measurements Using the Hot-Stage Method

Design and Optimization of a Cost Effective, Massively Parallel Sequencing Workflow for Identifying Genetic Variants in the Carboxylesterase 1 Gene (CES1)

Detection of Fentanyl Using Headspace Chemical Analysis

Development of Magnetic Carbon Nanotubes for Dispersive Solid Phase Extraction of Cyanide Metabolite (2-aminothiazoline-4-carboxylic acid) in Biological Samples

Forensic Application of Microsatellite Markers to Dog DNA Testing

Heated Headspace SPME-GC/MS for the Screening of Residual Psychoactive Substances in the Oral Cavity

Identification of Novel Synthetic Benzodiazepines by GC-MS

Identifying Polymorphisms in the Carboxylesterase 1 (CES1) Gene Among a Juvenile Attention Deficit Hyperactivity Disorder (ADHD) Population Associated with Responses to Methylphenidate

Quantification of Novel Synthetic Opioids in Blood Using LC-MS/MS

Quantification of U-47700 and Metabolites in Plasma by LC-MS/MS

Screening for Fentanyl Analogs and Metabolites Utilizing Portable Raman and Immunoassay Techniques

Screening of Fentanyl Analogs in Whole Blood Using LC-QTOF Analysis

## Academic Year 2016-2017

Alternate DNA Extraction and STR Profiling Strategies for Skeletal Samples

Detection of Cannabinoids from Buccal Swabs Using One Vial Headspace Derivatization Coupled with SPME-GC-MS

Determination of Methamphetamine and Amphetamine in Urine Using CSP-HRMS

DNA Degradation in Decomposing Cadavers and Gene Expression in Blood Deposits as Indicators of Postmortem Interval

Evaluation of Instrument Sensitivity and Stability for Magnetic Flux Measurement Relative to Toner Area as a Screening Tool for Casework Application

Genetic Analysis of Oxytocin and Serotonin-related Single Nucleotide Polymorphisms (SNPs) and Behavioral Assessment in Two U.S. Populations

Optimized Extraction of Endogenous Gamma Hydroxybutyrate (GHB) in Hair Using LC/MS/MS

Physicochemical Properties of Synthetic Cathinones: Implications for Postmortem Toxicology

Preparation of Cannabis and its Botanical Structures for Analysis by SPME-GC-MS

Quantification of Morphine, Codeine, and Thebaine in Home-Brewed Poppy Seed Tea by LC-MS-MS

Quantification of Suvorexant (Belsomra) in Blood Using LC-Q-TOF MS

Swab Collection and Room Temperature Preservation of DNA from Decomposing Human Skin

Using Microbial Clocks in Human Cadaver Ribs to Estimate the Postmortem Interval

The Variation in Time of the Chemical and Morphological Properties of Postmortem Root Banding of Human Hair using Raman Spectroscopy and Microscopical Examinations

## Academic Year 2015-2016

- Analysis of a New Hypnotic (Suvorexant, Belsomra®) in Biological Samples Using GC/MS
- Analysis of a New Hypnotic (Suvorexant, Belsomra) in Biological Samples Using LC-Q/TOF-MS
- Analysis of DNA from Post-blast Pipe Bomb Fragments for Identification and Determination of Ancestry
- Analysis of Single Nucleotide Polymorphisms in Genes Affecting Dopamine Turnover in a Sample of Caucasian Males
- Changes to Human Bone During Decomposition in a Subtropical Humid Environment: An Experimental Histological Approach
- Chemical Profiling of Street-seized Cannabis sativa L. Samples Using GC-MS Analysis
- Comparative STR Success of Challenging Samples When Using the Small Versus the Large Autosomal Target in the Quantifiler® Trio Kit
- Comparative Tolerance of Short Tandem Repeat and Massively Parallel Sequencing Chemistries to Inhibited Samples
- Development and Evaluation of a miRNA System for Forensically Relevant Body Fluids Using Capillary Electrophoresis
- Developmental Validation of a Chloroplast DNA Quantification System for Cannabis sativa Using Synthetic DNA as Reference Standards
- Direct Examination of Synthetic Cannabimimetic Materials Using Ion Mobility Spectrometry for In-field Investigations
- The Effect of Impact on High Intensity Discharge (HID) Headlight Systems
- Genetic Study of Single Nucleotide Polymorphisms (SNPs) within Genes of Oxytocin (OXT) and Serotonin Transporter (5-HTT) in a Caucasian Male Student Population
- Headspace Chemical Analysis of Water Samples Contaminated with Early Stage Human Decomposition
- Identification of Regioisomers via Gas Chromatography Coupled with Vapor-Phase Infrared Detection

## Sample Collection of Fire Debris from Burned Cadavers for Ignitable Liquid Analysis

## Academic Year 2014-2015

Chemical Profiling of Seized Marijuana Samples of Headspace Solid-Phase Microextraction Coupled with Gas Chromatography-Mass Spectrometry

Comparison of DNA Yield & STR Success Rates from Different Tissues in Embalmed Bodies

The Effectiveness of Various Whole Genome Amplification & Repair Methods to Improve STR Analysis of Formaldehyde-damaged DNA from Embalmed Cadavers

The Effect of Decomposition on the Shooting Distance Determination of Cranial Gunshot Wounds

Evaluation of a Simple One-Step DNA Extraction Method for Low Template Samples

Identification of Mitragynine and its Metabolite in Biological Samples using High Resolution Mass Spectrometry

The Identification of Synthetic Cathinones Using LC-q-TOF-MS

Genetic Study of SNPs in the Oxytocin Receptor

Metabolomics Approach for the Identification of Human Urine Stain Samples

Method Development and Validation Studies: Chemical Profiling of Simulated Cannabis Samples Utilizing Gas Chromatography-Mass Spectrometry for Forensic Science Investigations of Street-Seized Samples

Rapid Detection and Characterization of Cannabimimetic Materials: Efficacy of Using Ion Mobility Spectrometry for Field Investigations

Using DNA Profiling to Discriminate Marijuana Sources

## Academic Year 2013-2014

The Ability of the UV-IR Camera to Capture Latent Print Detail Following Chemical Enhancement

Analysis of Non-Derivatized Synthetic Cathinones in Biological Samples using GC/MS

Determination of Salvinorin A and Salvinorin B in Urine

DNA Preservation of Forensically Relevant Insects without Refrigeration

Elemental Soil Analysis of the Cadaver Island Using Inductively Coupled Plasma-Optical Emission Spectrometry

Evaluation of Tissue Damage, STR Profiling Success and DNA Extraction Efficiencies for Incinerated Human Teeth

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

Identification and Separation of Compounds Structurally Related to the Synthetic Cannabinoid N-(1-amino-3 methyl-1 oxobutan-20yl) -1-(4-flurobenzyl) -1H-indazole-3 carboxamine (AB-Fubinaca)

Improved Decontamination and DNA Extraction Methods for Teeth

Marijuana Profiling Using Headspace Solid Phase Microextraction Coupled with Gas Chromatography/Mass Spectrometry

Preservation and High Throughput Methods For Human Tissue Samples in Tropical Climates; An Improved DVI Approach

The Postmortem Interval Formula for Southwest Texas Using Total Body Score and Accumulated Degree Days on Human Cadavers

Optimization and Validation of a Rapid PCR Method for the PowerPlex 16 HS System for Forensic DNA Profiling

Stability of Synthetic Cathinones: Implications for Forensic Analysis

Toxicological Detection of Synthetic Cathinones using Novel Derivatization

Using SNP's to Determine the Association Between OXT, OXTR and SERT Genotypes and Aggressive Behavior

## Academic Year 2012-2013

Composition of the Maggot Mass Determined by Sequencing Data

Detection Of The “Legal High” Kratom (Mitragynine) In Biological Samples

Differentiating Between Antemortem and Postmortem Blood: A Comparison Study Via Headspace Solid-Phase Microextraction Methodology

Improved Detection of Synthetic Cathinone Designer Drugs in Forensic Toxicology Samples Using Gas Chromatography/Mass Spectrometry (GC/MS)

Optimization and Validation of a rapid PCR Method for the PowerPlex® S5 System for Forensic DNA Profiling

Pollen DNA: Application of STR Profiling to Discriminate Pollen at the Regional and Local Levels

Stability of  $\Delta^9$ -Tetrahydrocannabinol (THC) and 11-Nor-9-carboxy- $\Delta^9$ -tetrahydrocannabinol (THC-COOH) in Whole Blood

## Academic Year 2011-2012

Allele and Genotype Frequencies of DXS10074, DXS10075, and DXS10079 Markers in Buenos Aires Population (Argentina)

Analysis of Designer Amphetamines in Blood by LC/MS/MS

Analysis of Postmortem Hair Banding by Raman Microscopy

Analysis of Trace Condom Material with the use of Pyrolysis Gas Chromatography/Mass Spectrometry

Association Between Aggressive Behavior and the Androgen Receptor, Monoamine Oxidase A, and Serotonin Transporter Polymorphisms

A Comparison of Alprazolam Concentrations in the Blood and Urine Using Solid Phase Microextraction

The Detection of ATCA in Human Liver Autopsy Samples by Using LC/MS/MS

Detection of Beta-Keto Amphetamines in Biological Samples

Determination of Endogenous Gamma-Hydroxybutyrate (GHB) in Human Hair

Developmental Validation of the LINE - 1 Marker for Use in a Sensitive Real - Time PCR Quantification Method

Extraction of Methamphetamine and Amphetamine from Postmortem Samples using a Molecularly Imprinted Polymer for Solid Phase Extraction (MIP-SPE)

A Molecular Approach: Species Composition of the Maggot Mass in Human Cadavers in the Pineywoods Ecoregion of Southeastern Texas

Monolithic Polymer Assisted Liquid Phase Microextraction

Using SNPs to Determine the Association Between MAO, COMT, and DBH and Aggressive or Violent Behavior

Validation of DNA Extraction from Tissue Samples for Forensic Casework on the Automated QIASymphony SP Platform



## Academic Year 2010-2011

Application of a Handheld Vacuum-Filter Device for Differential Sperm Separation

Detection of Synthetic Cannabinoids in Biological Samples

Determination of Psychedelic Amphetamines in Urine and Blood by GC/MS

Development of a 10 Multiplex System of Pigmentation-Prediction SNP Markers for Forensic Casework

Genetic Analysis of a Short Tandem Repeat in the Androgen Receptor Gene and a Variable Number Tandem Repeat in the Monoamine Oxidase A Gene for a Male Inmate Population in Texas

Implications of Chemical Detergents in Fire Debris Analysis

Phenotype Informative SNPs as Predictor of Pigmentation Features

Population Study for Three Closely Linked X-Chromosome STR Markers in an Argentinean Population

Population Study for Three Unlinked X-Chromosome STR Markers in an Argentinean Population

The Separation of Chiral Psychedelic Amphetamine by Molecularly Imprinted Monolithic Polymer

Simultaneous Detection of Psychedelic Amphetamines in Urine By LC/MS/MS

The Use of Infrared Imaging to Facilitate Fired Cartridge Case and Bullet Comparisons

## Academic Year 2009-2010

Application of mini-STRs to Low Copy Number Forensic Samples

Assessment of Headspace SPME-GC-NPD in Determining Organic Gun Shot Residues in Different Matrices

Comparative Study on Stability of DNA in Vitreous Humor, Cartilage, Tendons, and Nails for use as Alternative Sample Tissues in the Identification of Decomposed Cadavers

Determination of Psychedelic Amphetamines in Blood and Urine by LC/MS/MS

Developing a Sensitive Real-Time PCR Method for Quantitation of DNA in Low Copy Number Forensic Samples

Endogenous GHB in Human Hair: Comparison of Chemical and Enzymatic Digestion

Quantitative Analysis of Salvinorin A (Salvia) in Biological Samples by LC/MS/MS

Pollen DNA: A New Tool for Forensic Investigations

Psychedelic Amphetamines in Blood and Urine by GC/MS

Study on SNPs relating to Ethnicity and Hair/Eye Pigmentation in a population of Texas

Who is Chas Turner? (Onderdonk Historical Case)

## Academic Year 2008-2009

Application of AmpFlSTR® Minifiler™ to Low-Copy Number

Application of Single Nucleotide Polymorphisms (SNPs) in Forensic Casework

Capillary Electrophoresis Screening Method Development for the Identification of Tetrahydrozoline Hydrochloride in Various Specimens

Determination of Designer Amphetamines in Urine using GC/MS

Determination of Designer Amphetamines in Urine using LC/MS/MS

Determination of Endogenous GHB Concentrations in Human Hair using LC/MS/MS

Forensic Analysis of HID (Xenon) Headlights: Determining On/Off State and Identifying Illegal Vehicle Modifications

Forensic Analysis of Non-toxic Ammunition by Double Shot Pyrolysis Gas Chromatography/Mass Spectrometry (PY-GC/MS)

Hollow Fiber Membrane-Liquid-Liquid-Liquid Microextraction (HFM-LLLME) Utilizing Ionic Liquid Membrane Transport for Benzodiazepines from Biological Samples

LC/MS/MS Analysis of Hair for Personal Hair Care Products Utilizing a Soft Wash Extraction Method

Pollen DNA: A New Tool for Forensic Investigations

Quantitative Analysis of Salvinorin A (Salvia) in Biological Samples and Dietary Supplements using GC/MS

Rapid Identification of the Cyanide Metabolite 2-aminothiozoline-4-carboxylic Acid using Molecular Imprinted Polymer Stir Bar Sorption Extraction

## Academic Year 2007-2008

Analysis of New Designer Amphetamines in Urine Using Immunoassay, GC-MS and LC-MS-MS

Determination of Endogenous GHB Concentrations in Human Hair

The Development and Employment of an Analytical Scheme to Determine the Discrimination Value between Automotive Paint Samples

Developmental Validation of – A Extensions by AmpF<sub>+</sub>STR Identifier PCR Amplification Kit

Effects of Alternative Sources of Alcohol on the SCRAM Device

Identification of Ammunition Based on Quantitative Determination of Gun Powder Particles using GC/MS

Investigation of Stability and a Novel Derivatization of GHB using CI-GC-MS

Molecular Characterization of Forensically Significant Insects with Applied Molecular Identification of Skeletal Remains in Southern Texas

Probing Single Stranded DNA using Bioconjugated Quantum Dots

Screening and Quantitation of 24 Common Drugs of Abuse in Whole Blood

Validation of the AmpF<sub>+</sub>STR<sup>®</sup> MiniFiler<sup>™</sup> PCR Amplification Kit and its Application to Identify Human Remains from a 1992 Helicopter Crash

Validation of the MiniFiler Kit: Stability Studies using UV and Other Environmental Factors

Validation Study of Scanning Electron Microscopic (SEM) Examination of Firing Pin Impressions

## Academic Year 2006-2007

An Analysis of Literary and Judicial Challenges on the Credibility and Admissibility of Evidence  
Submitted by Firearm Identification Laboratories

Analysis, Use and Effects of Sedative Hypnotics - Forensic Implications

Current Practices and Advances in Crime Scene Investigation

Driving Behavior and Impairment Symptoms in Cannabinoid Positive Subjects Arrested for  
Driving Under the Influence of Drugs (DUID)

Driving Under the Influence of Methamphetamine: Comparison of Driving Behavior and  
Impairment Symptoms in Subjects Arrested for Driving While Intoxicated (DWI)

Glyphosate: Analytical and Forensic Implications of a Common Herbicide

Methamphetamine Intoxication: Case Studies of Impaired Drivers and Related Fatalities

Quality Assurance/Quality Control Issues Arising with Fingerprint Evidence in a Post-Daubert  
World

Tramadol: Analysis and Interpretation in Human Performance and Death Investigation Casework

Validation Study to Determine the Highest Observed Stutter Peaks for Short Tandem Repeats  
(STRs)