

DEPARTMENT OF FORENSIC SCIENCE
COLLEGE OF CRIMINAL JUSTICE



Dissertation Research

Updated: 18 September 2025

Academic Year 2024-2025

Comparison of Traditional and Novel Screening Workflows for Nitazene Analogs

– Dr. Amanda Pacana

A Comprehensive Study of Hallucinogens and Sedative-hypnotics of Forensic and Clinical Interest Using LC-MS/MS and LC-Q/TOF-MS

– Dr. Munchelou Gomoni

DNA Applications to Forensic Entomology

– Dr. Cesar Cantu

Forensic DNA Analysis of Non-traditional Sample Types

– Dr. Natalia Czado

Investigation of DNA Extraction, Purification, and Downstream Processing Techniques for Challenging Skeletal Remains

– Dr. Jennifer Snedeker

Multifaceted Development of Alternative Sexual Assault Evidence Analysis Methods

– Dr. Julia Wang

Academic Year 2023-2024

The Analysis of Intact Explosives and Explosive Residues Using Confocal Raman Microscopy and DART-QTOF

– Dr. Jared Estevanes

Differentiation of Hemp from Marijuana: Genetic and Chemical Challenges

– Dr. Ya-Chih “Jessica” Cheng

Development of Nanomaterials in Solid Phase Microextraction and Application of Artificial Intelligence for Ignitable Liquids Detection and Classification in Forensic Fire Debris Analysis

– Dr. Ting-Yu Huang

DNA Recovery from Challenging Forensic Samples Using Alternative Markers and Next Generation Sequencing

– Dr. Lucio Avellaneda

Identification of Fentalogs in Forensic Toxicology Investigations

– Dr. Madison Schackmuth

Academic Year 2022-2023

The Evaluation of the Combined Use of UV-VIS Microspectrophotometry and Plane-Polarized Microscopy for the Forensic Examination and Discrimination of Textile Fibers

– Dr. Andra Lewis

Academic Year 2021-2022

Development and Validation of Toxicological Methods for Cognitive Stimulants in Traditional and Alternative Matrices

– Dr. Christina Smith

Forensic Applications of DNA Sequencing to Combat Drug Trafficking and Biothreats

– Dr. Kari Graham

High Resolution Mass Spectrometry Drug Screening in Forensic Toxicology: A Cost Benefit Analysis

– Dr. Jessica Ayala

Academic Year 2020-2021

Alternative Sample Processing Techniques for Rootless Hair Shafts and Other Challenging Samples

– Dr. Ryan Gutierrez

Development and Applications of Analytical Methods for Fentanyl Analogs in Traditional and Alternative Matrices

– Dr. Kaitlyn Palmquist

Development and Validation of a Technique for Analysis of Toner Printed Documents Using Magnetic Flux Measurements

– Dr. Carrie Polston

Development of Magnetic Carbon Nanotubes Facilitated Dispersive-Micro Solid Phase Extraction (MAG-CNTS/D- μ SPE) for Forensic Applications

– Dr. Sun Yi “Norris” Li

Academic Year 2019-2020

Alternate DNA Extraction and STR Profiling Strategies for Skeletal and Other Challenging Samples

– Dr. LeAnn Michelle Harrel

Applications of Forensic Plant Science in Drug Trafficking and Environmental Crimes

– Dr. Madeline Roman

Identification and Metabolism of Suvorexant: Implications for Forensic Toxicology

– Dr. Britni Skillman

Identifying the Challenges of Emerging Novel Psychoactive Substances

– Dr. Michael Truver

Improved Detection of Kratom Alkaloids in Forensic Toxicology

– Dr. Stephanie Basiliere

Academic Year 2018-2019

Collection, Direct Amplification, and Alternate Genotyping Methods for DNA Recovered from Pipe Bombs and Firearms

– Dr. Esirioghene Tasker

Development and Evaluation of miRNA and mRNA Panels for Body Fluid Identification

– Dr. Carrie Mayes

Enhanced Sample Preparation and Data Interpretation Strategies Using Massively Parallel Sequencing for Human Identification in Missing Persons' and DVI Casework

– Dr. Kyleen Elwick

Influence of Genetic Variation on Social Behaviors and Frontal Cortex Differences in Generalized Anxiety Disorder

– Dr. Elizabeth Chesna

Metabolism and Analysis of Desomorphine

– Dr. Jessica Winborn

Academic Year 2017-2018

The Collection, Preservation, and Processing of DNA Samples from Decomposing Human Remains for More Direct Disaster Victim Identification (DVI)

– Dr. Amy Sorensen Holmes

Development of a Comprehensive Genetic Tool for Identification of *Cannabis Sativa* Samples for Forensic and Intelligence Purposes

– Dr. Rachel Houston

Identification and Stability of Synthetic Cathinones in Biological Samples

– Dr. Lindsay Glicksberg