



Lucio Avellaneda

Dissertation Defense College Criminal Justice Department Forensic Science PhD in Forensic Science

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

The recovery of DNA from challenging samples is crucial for criminal investigations. Traditional short tandem repeat (STR) methods are the standard for DNA identification, but STR typing may be insufficient in cases with challenging sample types, such as with limited DNA, degraded DNA, or samples with inhibitory agents. To address this need, two solutions were explored: 1) the use alternative genetic markers and 2) adoption of alternative technologies such as Next Generation Sequencing (NGS). Phase 1 and 2 of this dissertation focus on developing assays using alternative markers (specifically INDELs) for challenging forensic samples, while the final phase explores the benefits of NGS technology by evaluating the feasibility and effectiveness of the latest NDIS-approved NGS chemistry (ForenSeq MainstAY kit).

Event Information

March 20, 2024 1:00 PM CST Email forensics@shsu.edu to attend

Committee Members

Dr. Rachel Houston (Chair) Dr. Tim Kalafut Dr. Sheree Hughes Dr. Bobby LaRue