## A125 Optimization of Automation Strategies Through Improved User Interfaces

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After attending this presentation, attendees will understand the opportunities for increased automation adoption through improved user interfaces.

This presentation will impact the forensic science community by showing the capabilities of well integrated automation strategies.

Many forensic laboratories are turning to automation not only to increase sample throughput, but also to improve reliability and reproducibility across the entire laboratory workflow. The use of automated DNA extraction and analysis can be an effective means of addressing these needs. Currently, only a portion of forensic DNA laboratories in the U.S. have successfully implemented automated sample analysis. A number of factors are responsible for the limited use of such systems, including (1) general lack of familiarity with automated liquid handlers; (2) difficulty of integrating information handling between steps in the DNA workflow; (3) complexity of software interfaces which reduce accessibility; and, (4) lack of flexibility required to integrate automated liquid handling with laboratory practices for handling of samples and controls. The development of flexible forensic-specific workflow automation and simplified user interfaces, compatible with multiple robotic platforms, can significantly increase the ease of implementing automation in the forensic laboratory. Examples of full automation strategies will be presented employing forensic-specific interfaces for sample extraction, quantitation, normalization and STR analysis. In addition the potential impact of these measures in reducing adoption and validation times for automated instrumentation will be highlighted.

**Automation, User Interface, STR Analysis**

 ** Presenting Author*