A83 Robotics vs. Organic Extraction for DNA Casework Laboratories

Kathleen A. Mayntz-Press, BS, MSFS, Arizona Department of Public Safety, PO Box 6638, Mail Drop #1150, Phoenix, AZ 85005-6638; and Scott C. Milne, BS, 2102 West Encanto Boulevard, Phoenix, AZ 85009-2847*

After attending the presentation, attendees will understand the utilization of robotic platforms in the forensic DNA casework setting in contrast to the more traditional organic extraction.

This presentation will impact the forensic community by illustrating a method to increase productivity while maintaining the current high standards in the DNA field.

In forensic casework laboratories nationwide, DNA backlogs have increased causing proportional demands on the forensic system. The increase in casework volume has a definite strain on the analysts due to the gold standard techniques universally utilized. In order to meet the demands, robotic platforms are entering the DNA casework system in greater numbers. Currently, the gold standard extraction technique, phenol: chloroform with the addition of a filter concentrator, yields a moderately clean extraction product. However, this laborious technique generates hazardous waste and must be preformed in a properly filtered chemical hood. In contrast, robotic platforms can be used in a main laboratory setting while extracting more samples with less manual manipulations.

The evaluation and comparison of the QIASymphony platform and Organic Extraction included commonly encountered forensic sample types, with the addition of the more tedious samples; bones, mixtures, low level sperm and trace. The samples were quantified in triplicate and then processed for capillary electrophoresis. The comparison of the techniques was based not only on speed and precision/accuracy but also on the ability to obtain a profile. **Robotics, Extraction, QIASymphony**

 ** Presenting Author*