A17 DNA Laboratory Bailout: No-Cost Methods for Improving Productivity

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After attending this presentation, attendees will have learned how simple macro-based automation using pre-existing spreadsheet software can improve productivity in a DNA laboratory, how to identify the most suitable targets for macro development, and what factors affect the overall impact of macro-based automation.

This presentation will impact the forensic science community by assisting DNA laboratories in identifying and developing no-cost, simple macro-based automation solutions to increase productivity and reduce case backlogs.

When laboratory budgets shrink, funds dissipate for staff expansion, and additional equipment acquisitions despite increasing demands for forensic DNA testing. Any clerical/calculation-based task that is repeated can be automated by developing macro-based solutions using spreadsheet software programs already in use by the laboratory. By substituting time- consuming, repetitive tasks in DNA casework with macro-based automation, productivity and consistency can be enhanced while utilizing existing staff and equipment, affording dwindling budgets more "bang for their buck," and ultimately decreasing total DNA case backlogs with minimal cost adjustments.

Four automation targets were identified based upon expected overall impact and ease of development. Using Microsoft® Office Excel 2007, workbooks were created to interface with commonly-used data collection and statistical analysis software in order to automatically tabulate and evaluate data into a concise, report-ready format. The amount of time required for the original manual procedures versus newly automated procedures was compared and the timesavings were projected to increase productivity by at least ten percent. To fully understand the true overall impact of implementing no-cost, macro-based automated methods into DNA casework, actual time consumption is measured for several batches of various types of cases performed by several analysts using both manual and newly automated procedures. Additionally, this study examines how increased productivity affects DNA case backlogs and what factors limit or increase the expected results.

DNA, Automation, Productivity

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