

NH State Police Is World's First Lab to Use STRmix™, FaSTR™ DNA to Analyze Crime Scene Evidence on New Platform

Laboratory Validates Software for Use with Spectrum CE System

WASHINGTON, DC, UNITED STATES, October 15, 2025 /EINPresswire.com/ -- The New Hampshire State Police Forensic Laboratory (NHSPFL) is the first laboratory in the world to go live with



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Judi Morawitz

STRmix[™] probabilistic genotyping software and FaSTR[™] DNA using the Promega PowerPlex[®] 35GY 8-dye kit on the Spectrum CE System.

Introduced in 2012 to resolve mixed DNA profiles previously regarded as too complex or degraded to interpret, STRmix™ has established a highly successful track record in producing usable, interpretable, and legally admissible DNA evidence in more than 690,000 criminal cases worldwide. STRmix™ has proven to be particularly successful in resolving violent crime, sexual assault, and cold cases.

FaSTR™ DNA, meanwhile, combines an intuitive, user-friendly graphical interface with easily understandable and laboratory-customizable rules to seamlessly integrate with STRmix™ (when in use) to rapidly analyze raw DNA data generated by genetic analyzers and standard STR DNA profiling kits, and assign a number of contributors (NoC) estimate.

"We are very excited by this significant achievement, given that we worked so closely with the New Hampshire State Police Forensic Laboratory to enhance FaSTR™ DNA for this new platform," explains Judi Morawitz, Integration Lead for the STRmix team.

"We are grateful for the significant work that NHSPFL has undertaken and look forward to working with them in the future. This is a great example of how collaborating with our users to incorporate their feedback has benefits for everyone," Morawitz continues.

Using FaSTR™ DNA, forensic labs are able to quickly and efficiently convert the raw data obtained at a crime scene into useful intelligence, carrying out sample-to-sample or sample-to-database

comparison checks, as well as full concordance testing on positive and negative controls. With this information in hand, STRmix™ – which fully integrates with FaSTR™ DNA – can be used to deconvolute DNA mixtures, enabling labs to separate combined DNA signals to reveal individual genetic profiles in low-level, degraded, or mixed samples from multiple contributors

Unlike previous methods of DNA analysis, which are more subjective and depend entirely on the application of fixed stochastic thresholds and other biological parameters to manually analyze DNA samples, STRmix™ uses a fully continuous model that makes better use of the information available within a DNA profile. It proposes hundreds of thousands of different profiles, assesses and weighs how closely these resemble the observed DNA mixture, and then assigns a likelihood ratio (LR) – the widely accepted standard statistical approach for conveying weight of evidence information – should a person of interest's sample be available.

NHSPFL is New Hampshire's premier forensic science facility and the sole provider of traditional forensic laboratory services in the state. Employing about 50 forensic scientists, evidence technicians, and administrators, NHSPFL routinely utilizes state-of-the-art technology to analyze evidence from more than 220 city and town police departments, nine state law enforcement agencies including the State Police, 10 county sheriff departments, numerous city and town fire departments, and, on occasion, federal law enforcement agencies conducting criminal investigations in the state. NHSPFL holds international accreditation through ANAB to ISO/IEC 17025:2017 standards for Forensic Testing and Calibration Laboratories.

STRmix[™] is currently being used for DNA analysis in 96 federal, state, local, and private organizations in the U.S. and 21 forensic laboratories internationally, including labs in Canada, the United Kingdom, Europe, Asia, the Middle East, the Caribbean, and all nine state and territory forensic labs in New Zealand and Australia.

The team behind STRmix[™] and FaSTR[™] DNA has also developed two related software applications:

- DBLR™, an application which when used with STRmix™ allows forensic laboratories to undertake extensive kinship analysis, carry out rapid database searches, visualize the value of their DNA mixture evidence, and carry out mixture-to-mixture matches;
- STRmix[™] NGS, fully continuous mixture interpretation and likelihood ratio generation software for profiles generated using Next Generation Sequencing (NGS).

In combination with STRmix[™], FaSTR[™] DNA and DBLR[™] complete the full workflow from analysis to interpretation and database matching, while STRmix[™] NGS broadens the range of profile types that can be interpreted.

For more information about STRmix™ or FaSTR™ DNA, visit http://www.strmix.com.

STRmix – A global leader in forensic DNA interpretation, trusted by more than 120 forensic laboratories worldwide.

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