



# Indianapolis-Marion County Forensic Services Agency Now Using STRmix

*Organization Is 79th in U.S. To Employ Software to Interpret Crime Scene Evidence*

WASHINGTON, DC, UNITED STATES, March 30, 2023 /EINPresswire.com/ -- STRmix™ is now being used by 79 organizations in the U.S., with the Indianapolis-Marion County Forensic Services Agency the latest forensic laboratory to employ the ground-breaking software in its scientific testing of [crime scene evidence](#).

Renowned for its ability to resolve mixed [DNA](#) profiles previously regarded as too complex or degraded to interpret, STRmix™ has produced usable, interpretable, and legally admissible DNA evidence in more than 380,000 criminal cases worldwide since its introduction in 2012.

STRmix™ co-developer John Buckleton DSc, FRSNZ, Principal Scientist at the New Zealand Institute of Environmental Science and Research (ESR), notes that the software's ability to use more information in a DNA profile and resolve DNA results faster than the previous binary interpretation method "has made it particularly effective in resolving violent crime and sexual assault cases, as well as cold cases in which evidence originally dismissed as inconclusive was able to be reexamined."

STRmix™ also includes a function that enables the software to match mixed DNA profiles directly against a database. "This represents a major advance for cases in which there are no suspects and there is DNA from multiple contributors in one sample," according to Dr. Buckleton.

These capabilities factored into the Indianapolis-Marion County Forensic Services Agency's (I-MCFSa) decision to use STRmix™. As the primary forensic agency serving the Marion County criminal justice system, I-MCFSa provides forensic services related to crime scene processing, autopsy documentation and evidence collection, blood alcohol analysis, latent print processing and examination, document examination, seized drugs analysis, fire debris analysis, firearms examination, NIBIN, serology and DNA analysis.

In addition to the U.S. organizations using STRmix™ – which include the forensic laboratories operated by the FBI and the Federal Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) – the software is now being used by 26 forensic laboratories internationally. These include labs in Canada, the United Kingdom, Europe, Asia, the Middle East, and the Caribbean, as well as all state and territory forensic labs in New Zealand and Australia.

STRmix™ works by assessing how closely multitudes of proposed profiles resemble or can explain an observed DNA mixture. Applying the same statistical methods routinely used in computational biology, physics, engineering, and weather prediction, STRmix™ calculates the probability of the observed DNA evidence by assuming the DNA originated from either a person of interest or an unknown donor. These probabilities are then presented as a likelihood ratio (LR), inferring the value of the findings and level of support for one proposition over the other.

In late 2022, the STRmix™ team launched the latest version of its [forensic software](#), STRmix™ v2.10, following extensive technical development and testing. Version 2.10 contains a number of new features, including the introduction of a Visualize Weights module to help forensic analysts investigate DNA interpretation results and additional improvements to dropout modelling which will allow crime labs using FaSTR™ DNA to set a low, or even no, analytical threshold.

FaSTR™ DNA, which was also developed by the STRmix™ team, seamlessly integrates with STRmix™ (when in use) to rapidly analyze DNA profiles and assign a Number of Contributors (NoC) estimate.

In addition to STRmix™ v2.10 and FaSTR™ DNA, the STRmix™ team developed and previously launched DBLR™, an application that when used with STRmix™ allows forensic labs to undertake superfast database searches, visualize the value of DNA mixture evidence, and carry out mixture-to-mixture matches and extensive kinship analyses. Together, FaSTR™ DNA, STRmix™, and DBLR™ complete the full workflow from analysis to interpretation and database matching.

For more information, visit <http://www.strmix.com>.

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