

Access to STRmix™ Software by Defence Legal teams

STRmix™ is available for purchase by all parties, including scientific experts that act on behalf of defence legal teams. Such scientific experts can (and have) attended paid STRmix™ training workshops, which are held regularly, where they receive a time-limited trial version of the software. In addition, many papers describing the biological model, mathematics and performance of STRmix™ have been published internationally (see References [1-12] below), contributing to the information available to all parties. Comparison with other methods has been undertaken in conjunction with third parties (see References [12-13] below).

The developers consider that the STRmix™ software is best tested by examining the Extended Output for the compiled STRmix™ software, rather than the source code. The Extended Output of STRmix™ contains the intermediate steps of the STRmix™ interpretation process, allowing individual forensic laboratories, or experts for the defence, to verify the accuracy of STRmix™.

On a day to day basis, defence legal teams may access the production version of the STRmix™ software and more particularly the Extended Output in the same way as forensic DNA laboratories, by:

- Attending a paid STRmix™ training workshop to receive full STRmix™ training (a condition of STRmix™ use for casework) which includes a time-limited trial version of STRmix™
- Purchasing STRmix™ (training additional).

Where STRmix™ has been used to generate scientific evidence for the prosecution in a case being heard in a court of law (“the Case”), defence expert witnesses retained by the accused in the Case (“the Recipient”) can request in writing access for inspection of any or all of the following:

- STRmix™ source code,
- a time limited trial version of the production version of the STRmix™ software,
- developmental validation records, and
- the STRmix™ User’s Manual.

(“the STRmix™ documentation”)

ESR (“the Discloser”) will disclose the STRmix™ documentation or part thereof to the Recipient, only under the following conditions:

1. The Recipient cannot be a developer of, and cannot have any direct or indirect commercial or employment interest in, competing software products, and

2. The inspection of the the STRmix™ documentation is to be carried out by the Recipient provided the Recipient is an expert witness retained by the accused in the Case, and
3. The inspection of the STRmix™ documentation will only occur after receipt of a STRmix™ confidentiality agreement, signed by the Recipient and
4. The STRmix™ documentation or part thereof released to the Recipient under this Agreement will be limited to that STRmix™ version used in the Case, and
5. Costs of disclosure will be recoverable by the Discloser from the Recipient, and
6. Where the source code is being disclosed, it will be produced for inspection at such a location and between such dates as agreed between the Discloser and the Recipient, in accordance with the following conditions:
 - a. Under direct supervision in the room in which the disclosure occurs, by a representative of the Discloser, during the full period of the disclosure
 - b. By means of a stand-alone computer to be supplied by the Discloser, which will include the following:
 - i. STRmix™ source code in Java programming language format;
 - ii. software used to view the code;
 - c. no photographic devices including mobile telephones or tablet devices will be permitted in the room with the stand-alone computer;
 - d. the stand-alone computer will not be enabled to accept storage devices such as USB stick or CD; and
 - e. only the taking of handwritten notes is permitted during the disclosure.
7. Where the trial version of the STRmix™ software is being disclosed, the Recipient agrees to adhere to the licence terms of the trial version of the Software as outlined at Paragraph 7b) below and the disclosure shall be made by means of an installation link emailed to the Recipient by a representative of the Discloser on receipt of a fee of USD150. The disclosure will include the following:
 - a. a limited, revocable, non-exclusive, non-transferable, royalty-free license to install and use one copy of the STRmix™ software on a single computer, device, workstation, terminal, or other digital electronic or analog device for 60 days; and
 - b. a copy of the following document in PDF: “STRmix™ TRIAL SOFTWARE LICENSE AGREEMENT- 60 Day Trial License for STRmix™” which the Recipient hereby agrees shall govern the Recipient’s use of the trial version of the STRmix™ software.
8. Where the STRmix™ User’s Manual is being disclosed the disclosure shall be made by means of email from the Discloser which will include the following:
 - a. the STRmix™ User’s Manual in PDF format, watermarked for use only by the Recipient.
9. Where the developmental validation records are being disclosed the disclosure shall be made by means of email from the Discloser which will include the documents in PDF format.

For additional information on access to STRmix™ please contact bjorn.sutherland@esr.cri.nz

References

- [1] Taylor D, Bright J-A, Buckleton J. The interpretation of single source and mixed DNA profiles. *Forensic Science International: Genetics*. 2013;7:516-28.
- [2] Taylor D, Bright J-A, Buckleton J. Interpreting forensic DNA profiling evidence without specifying the number of contributors. *Forensic Science International: Genetics*. 2014;13:269-80.
- [3] Taylor D, Bright J-A, Buckleton J. Considering relatives when assessing the evidential strength of mixed DNA profiles. *Forensic Science International: Genetics*. 2014;13:259-63.
- [4] Taylor D, Bright J-A, Buckleton J. The 'factor of two' issue in mixed DNA profiles. *Journal of Theoretical Biology*. 2014;363:300-6.
- [5] Taylor D, Bright J-A, Buckleton J, Curran J. An illustration of the effect of various sources of uncertainty on DNA likelihood ratio calculations. *Forensic Science International: Genetics*. 2014;11:56-63.
- [6] Taylor D, Buckleton JS. Do low template DNA profiles have useful quantitative data? *Forensic Science International: Genetics*. 2015;16:13-6.
- [7] Bright J-A, Stevenson KE, Coble MD, Hill CR, Curran JM, Buckleton JS. Characterising the STR locus D6S1043 and examination of its effect on stutter rates. *Forensic Science International: Genetics*. 2014;8:20-3.
- [8] Bright J-A, Stevenson KE, Curran JM, Buckleton JS. The variability in likelihood ratios due to different mechanisms. *Forensic Science International: Genetics*. 2015;14:187-90.
- [9] Bright J-A, Taylor D, Curran J, Buckleton J. Searching mixed DNA profiles directly against profile databases. *Forensic Science International: Genetics*. 2014;9:102-10.
- [10] Bright J-A, Taylor D, Curran JM, Buckleton JS. Developing allelic and stutter peak height models for a continuous method of DNA interpretation. *Forensic Science International: Genetics*. 2013;7:296-304.
- [11] Bright J-A, Taylor D, J.M. C, Buckleton JS. Degradation of forensic DNA profiles. *Australian Journal of Forensic Sciences*. 2013;45:445-9.
- [12] Bille TW, Weitz SM, Coble MD, Buckleton JS, Bright J-A. Comparison of the performance of different models for the interpretation of low level mixed DNA profiles. *ELECTROPHORESIS*. 2014;35:3125-33.
- [13] http://www.cstl.nist.gov/strbase/pub_pres/Coble-ISFG2013-Investigation-of-Software-Programs.pdf