

DNAmix 2021 — Request for participation

DNAmix 2021 is a large-scale independent study being conducted to evaluate the extent of consistency and variation among forensic laboratories in interpretations and statistical analyses of DNA mixtures, and to assess the effects of various potential sources of variability.

*If two labs are given the same mixture (as an electropherogram) and the same person of interest, how consistent are the statistical responses and categorical interpretations?
And what factors explain any differences in responses?*

Phases

The study will be composed of four phases:

- 1) *Policies and Procedures (P&P) Questionnaire* — Online questionnaire to assess laboratory policies and procedures relevant to DNA mixture interpretation (notably systems, types of statistics reported, and parameter settings used).
- 2) *Casework Scenario Questionnaire* — Online questionnaire presenting a number of casework-derived scenarios (without DNA data), asking participants to assess how they would conduct analysis for each scenario.
- 3) *Number of Contributors (NoC) Subtest* — Assessment of suitability and number of contributors, given electropherogram data for 12 mixtures.
- 4) *Interpretation, Comparison, and Statistical Analysis (ICSA) Subtest* — Interpretations and statistical analyses, given electropherogram data for 8 mixtures, each provided with DNA profiles of potential contributors.

Laboratories are encouraged to participate in the early phases even if they cannot commit to the later phases.

The samples will be selected to be representative of actual DNA mixture casework. All mixture samples and contributors provided in this study will be created using actual human DNA.

Participation

Participation is open to all forensic laboratories that conduct DNA mixture interpretation as part of their SOPs; non-U.S. laboratories are welcome to participate if they report interpretations in English.

Participation in this study requires the participants to agree to use the same diligence in performing these analyses as used in operational casework, and to use their laboratory's SOPs in performing these analyses.

Results will be confidential: anonymity of participants will be maintained and results will not be associated with specific participants; the results will not be aggregated in any way that compromises anonymity. A coding system will be used that will allow your laboratory to see its individual results after the study is published, if desired.

Benefits

The results, which will be published in a peer-reviewed journal, are intended to be used to assess the foundational validity of the analysis and interpretation of DNA mixtures, and to demonstrate the effectiveness of different approaches to mixture interpretation and statistical analysis. The study will serve the DNA community by providing data in response to issues raised in the NIST MIX13 study and the PCAST report. The results will be of value in Daubert/Frye challenges, and to laboratory managers in assessing policies, training, or quality assurance procedures.

The study is being conducted by Noblis and Bode Technology, under NIJ grant # 2020-R2-CX-0049.



Interested? Register at <https://dnamix.edgeaws.noblis.org>

Questions? Contact DNAmix@noblis.org

