Probabilistic Genotyping Systems

Recommended Best Practices and Guidelines

To ensure safeguarding privacy, civil rights, and civil liberties, and ensure that any use of such technologies is regularly assessed for accuracy in the specific deployment context; does not have a disparate impact on the basis of race, ethnicity, national origin, religion, sex (including sexual orientation and gender identity), or disability

Rebecca Wexler, Assistant Professor of Law, University of California, Berkeley, School of Law

Presentation to the National Academies Committee on Law and Justice, March 13, 2024

PGS Systems Should be Subject to Peer Review by Independent Researchers

- More studies are needed by "independent research groups not connected with the developers of the methods and with no stake in the outcome.” – 2016 PCAST Report.
- ”[S]ufficient data are not publicly available for an independent assessment of reliability" for "most peer-reviewed articles that describe validation experiments" for probabilistic genotyping software tools. – 2021 NIST Report.
- **PGS systems should be subject to peer review by independent researchers with no stake in the outcome.**

---------- Forwarded message ---------
From: **Ria David** <[redacted]@cybgen.com>
Date: Wed, Mar 24, 2021, 6:35 AM
Subject: Re: Research License for TrueAllele
To: Rediet Abebe <[redacted]@berkeley.edu>

Dear Prof. Abebe,

Thank you for your inquiry. Cybergenetics does not provide research licenses.

Kind regards. Ria

==========
Ria David, PhD
President
Cybergenetics

[redacted] (c)
[redacted]@cybgen.com
www.cybgen.com

> On Mar 19, 2021, at 3:03 PM, Rediet Abebe <[redacted]@berkeley.edu> wrote:
>
> Hi there,
>
> My name is Rediet Abebe and I'm an assistant professor of computer science at UC Berkeley working in algorithms and AI.
>
> I'm interested in conducting independent research into quality assurance and validation of various forensic software systems. I would like to purchase a research license to study TrueAllele. Would you happen to have a process for this? And do you have a rough timeline?
>
> Please let me know and many thanks in advance for your time,
> Rediet
>
>
> --
> Rediet Abebe, Ph.D.
> Assistant Professor, University of California Berkeley
> Junior Fellow, Harvard Society of Fellows
> https://www.cs.cornell.edu/~red/

Trade Secret Claims Should Not Block Adversarial Scrutiny by Expert Witnesses

- For an example of the problem, see *People v. Lopez*, 23 N.Y.S. 3d 820, 823, 829 (Sup. Ct. 2015) (denying a defense motion seeking an executable copy of the FST probabilistic genotyping program for independent testing because "the computer program itself is proprietary and the Court is not ordering its disclosure").
- **The trade secret privilege should not empower developers to entirely withhold relevant evidence in a criminal case.**
- ***Instead, the trade secret privilege should merely provide a right to a reasonable protective order and courtroom closure.***

Trade Secret Claims Should Not Block Adversarial Scrutiny by Expert Witnesses

- Model language for ensuring that trade secrets do not impede discovery of relevant evidence in criminal cases: “There shall be no trade secret evidentiary privilege to withhold relevant evidence in criminal proceedings in the United States courts.”
  - *The Justice in Forensic Algorithms Act of 2024*

Accuracy is an Equity Issue

- Erroneous results will disproportionately harm communities that are already overrepresented in the criminal legal system.

Key Takeaways

- PGS Systems Should be Subject to Peer Review by Independent Researchers With No Stake in the Outcome, and Vendors Must Not use Contract Law to Block Independent Peer Review
- Trade Secret Claims Should Not Impede Electronic Discovery Obligations to Disclose Relevant Evidence in Criminal Cases
- Federal Procurement Guidelines and Conditions for Federal Grants to Local, State, Territorial, and Tribal Law Enforcement Agencies Should Require Procurement from Vendors That Make Their Tools Available to Independent Peer Reviewers and Waive Assertions of the Trade Secret Evidentiary Privilege to Entirely Withhold Relevant Evidence in Criminal Cases