Cybergenetics

October Newsletter

Better Justice Through Better Science ™

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Cybergenetics News

[Cybergenetics 30th Anniversary!](#)

This year is Cybergenetics' 30th anniversary! We are celebrating three decades of groundbreaking innovation that has redefined DNA forensic analysis!

Since its founding in 1994, Cybergenetics has stood at the forefront of forensic science with its best-in-class TrueAllele® technology. Our software has aided thousands of investigations, from cracking cold cases to exonerating the innocent.

With continued innovation and commitment to science, Cybergenetics is proud to set the gold standard in forensic technology while contributing to a safer and more just world. Here's to 30 more years of transforming science and serving justice!
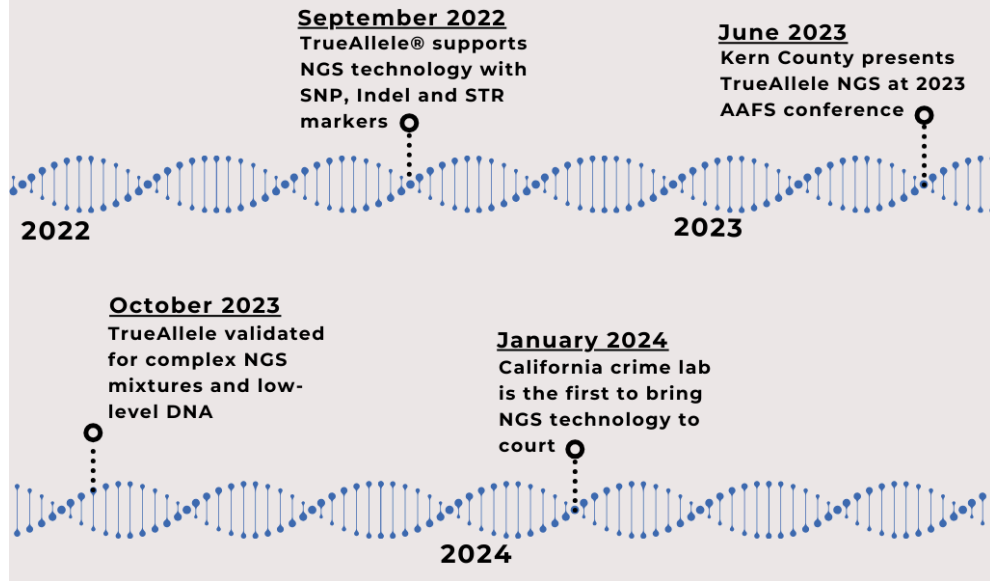
History

Technology Developments

[Cybergenetics NGS Timeline](#)

Cybergenetics Next Generation Sequencing NGS Timeline (2022-2024)

September 2022
TrueAllele® supports NGS technology with SNP, Indel and STR markers

June 2023
Kern County presents TrueAllele NGS at 2023 AAFS conference

2022

2023

October 2023
TrueAllele validated for complex NGS mixtures and low-level DNA

January 2024
California crime lab is the first to bring NGS technology to court

2024

With TrueAllele and NGS, scientists can now extract more information from degraded and mixed DNA evidence. This means better suspect identification and faster solved cases.

Cybergenetics TrueAllele software can input and process NGS data. This pathway brings autosomal STR data into the TrueAllele Casework process. Please contact Cybergenetics for more details about NGS technology or SNP markers for your TrueAllele forensic process.

Newsroom

Case Developments

Cybergenetics Analyst Testifies

Earlier this month, a Cybergenetics analyst testified in court in a [shooting case](#) in York City, PA. After an hour deliberation, the Jury found Tyrell Christian, 30, guilty of manslaughter and possession of a firearm in the 2022 shooting of 19-year-old Ethan Mooney.

Cybergenetics TrueAllele analyst Kari Danser testified – for the first time – about weapons involved in the shooting. Danser said that the "TrueAllele results showed the defendant was *not statistically present* on the cartridge casings or firearm." The prosecutor wanted to present thorough and transparent DNA results, even if the evidence did not help the state's case.

Other evidence placed Christian at the scene of the crime. He was convicted; sentencing is in mid-November.

Congratulations to Kari for qualifying as an expert witness! She recently gave a scientific [talk](#) and [poster](#) on TrueAllele getting useful DNA information from "uninterpretable" shell casings.

Trial Page

Monthly Observance

World Statistics Day

Why did the DNA helix apply for a statistics job? Because it made great points on replicating success!

Cybergenetics recognizes *World Statistics Day* as an opportunity to celebrate the impact of data analysis and statistical innovation on science, society, and justice. Our breakthrough TrueAllele probabilistic genotyping method uses ALL the data to objectively interpret "impossible" DNA problems. Other software can only input limited data, so cannot solve these problems.

Sophisticated mathematics lets TrueAllele software delivers transparent and reproducible results for data-driven investigative and legal decision-making. Our celebration of *World Statistics Day* highlights the important role that statistical advancements like TrueAllele play in the forensic community, ensuring accuracy, objectivity, and trust in forensic science.

Education

Cybergenetics History
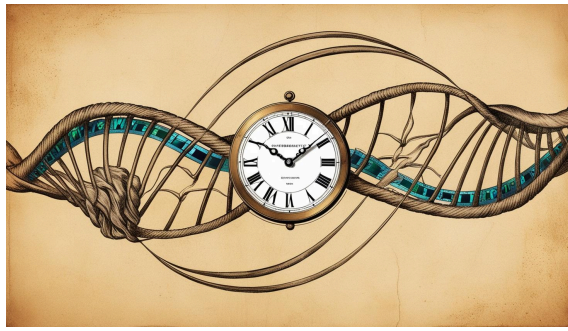
Validated for 10 Contributor Mixtures

Five years ago, the *Journal of Forensic Sciences* (JFS) published an open-access [peer-reviewed study](#) "Validating TrueAllele® Interpretation of DNA Mixtures Containing up to Ten Unknown Contributors" by David Bauer, Nasir Butt, Jennifer Hornyak, and Mark Perlin. The study found that "TrueAllele is a reliable method for analyzing DNA mixtures containing up to ten unknown contributors."

Most DNA evidence is a mixture of two or more people. But much of this evidence goes unreported, lost to criminal justice. When unable to fully interpret DNA data from mixtures of more than several people, artificial limits give "inconclusive" results. The result is injustice – criminals go free, while innocents are imprisoned.

This new study showed that human limits preventing DNA evidence interpretation are unnecessary. TrueAllele computer interpretation of crime laboratory data can draw reliable conclusions from previously "inconclusive" DNA evidence. Better science delivers better justice – criminals are convicted, and innocents go free.

Publication

Legal Corner

Teaching Judges Science

The *National Courts and Science Institute* (NCSI) convened a two-day October workshop for judges in Kansas City, MO on Artificial Intelligence (AI) and the law. Cybergenetics Chief Scientist Dr. Mark Perlin spoke to them for two hours about "Finding truth in evidence using computational

intelligence."

The foundation was Dr. Perlin's expert witness testimony in *NY v. Wakefield*, the DNA mixture [homicide case](#) that established TrueAllele precedent in New York. The expert reviewed judicial decisions by the trial court, Supreme Court, and High Court. He explained how Bayesian data analysis extracts and preserves more DNA information than other approaches.

The NCSI judges saw courtroom testimony, demonstrative aids for the jury, validation studies establishing TrueAllele scientific reliability, ground-breaking DNA convictions, and justice-delivering exonerations from previously "uninformative" DNA evidence. Dr. Perlin showed how accurate and objective Bayesian AI finds new truth in old evidence.

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Maryland Affirms Admissibility

Back in October 2021, the *MD v. Harvin* trial court ruled that Cybergenetics' TrueAllele technology met the *Daubert* reliability standard. The computer was deemed testable, published, and generally accepted. In September of 2024, the Maryland Appellate Court *affirmed* the lower court's [admissibility decision](#), establishing a state-wide precedent.

Maryland is the seventh state to affirm TrueAllele at the appellate level, joining Florida, Georgia, Nebraska, New York, Pennsylvania, and Tennessee.

Admissibility Rulings

Conferences

Cybergenetics speaks with hundreds of crime investigators at conferences, conventions, and trade shows about how TrueAllele technology and services can help them solve their toughest cases.
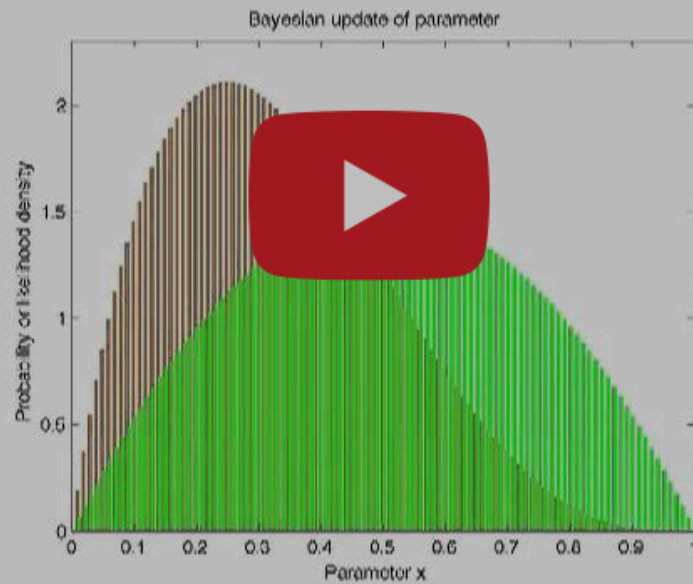
DECEMBER

- *IHIA - 2024 Cold Case Conference* (International Homicide Investigator's Association)
  - Location: Horseshoe Bay, TX
  - Dates: December 3-5

Stop by our trade booth to learn how TrueAllele technology can help you solve your most complex DNA cases.

Observe 1 count in 2 trials

When there is uncertainty, our beliefs are expressed as probabilities. In science, we turn to data as a way of increasing our certainty in some hypotheses over others. Bayes theorem is the mathematical way we update our beliefs by examining data. This lecture visualizes Bayesian update, using coin tossing and medical diagnosis as examples.

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