

Death Needs Answers: The DNA Evidence

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Andrea Niapas Book Launch
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Cybergenetics

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Fingernail DNA Evidence

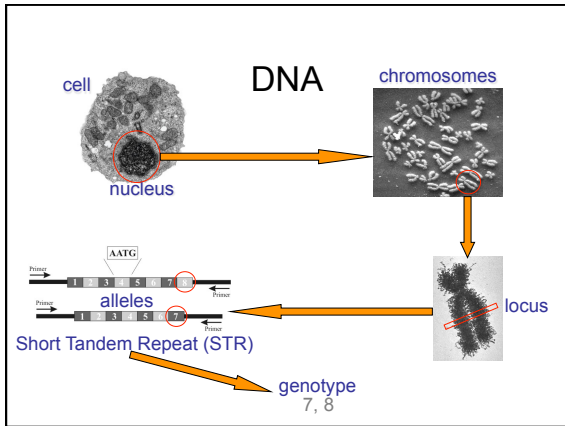


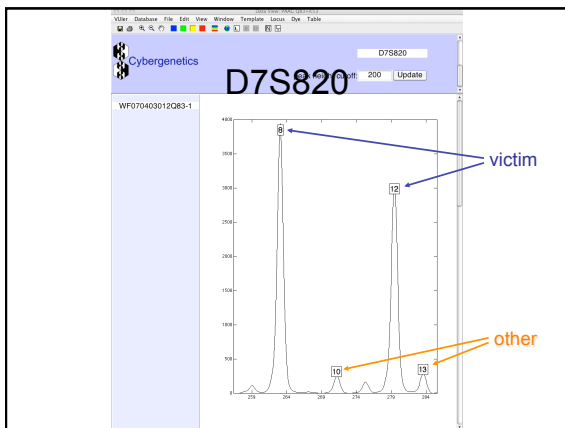
93.3% victim + 6.7% DNA component

Three DNA Match Statistics

<u>Score</u>	<u>Method</u>
13 thousand	inclusion
23 million	subtraction
189 billion	addition

- Why are there different match results?
- How do mixture interpretation methods differ?
- What should be presented in court?





Different Methods

Data Used	<u>inclusion</u>	<u>subtraction</u>	<u>addition</u>
victim profile	NO	YES	YES
original data	NO	NO	YES

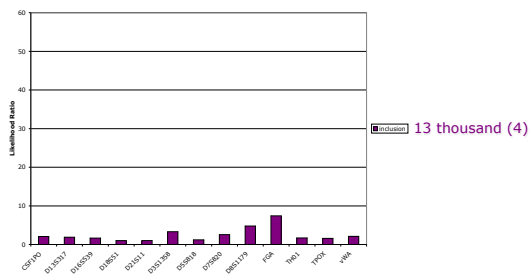
Threshold: all or none



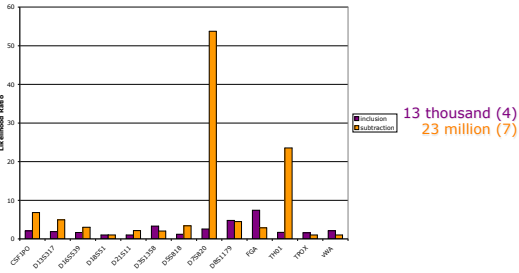
Quantitative: shades of gray



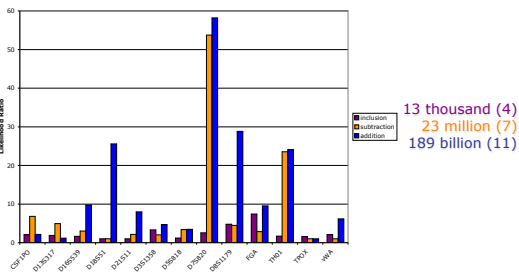
Inclusion DNA Match



Subtraction DNA Match



Addition DNA Match



A Better DNA Microscope

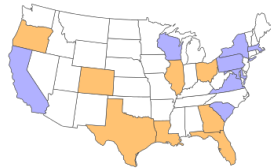
"The less informative methods ignored some of the data, while the TrueAllele computation considered all of the available DNA data."

"A scientist may look at the same slide using the naked eye, a magnifying glass, or a microscope. A computer that considers all the data is a more powerful DNA microscope."



TrueAllele Outcomes

- TrueAllele admitted, DNA match used at trial
- Kevin Foley convicted of Dr. Yelenic's murder
- Sentenced to life imprisonment
- Appeal denied, Pennsylvania precedent
- Allegheny County – rape & homicide cases



Reducing Rape by DNA Prevention



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