

Probabilistic Genotyping  
Webcast (Part 1)  
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# Concluding Thoughts

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# NIST and NIJ Disclaimer

## Past and Present Funding: Interagency Agreement between the **National Institute of Justice** and NIST Office of Law Enforcement Standards

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# Concluding Thoughts

- We need to move away from the interpretation of mixtures from an “allele-centric” point of view.
- Methods to incorporate probability will be necessary as we make this transition and confront issues of low-level profiles with dropout.

“Just as logic is reasoning applied to truth and falsity, probability is reasoning with uncertainty”

-Dennis Lindley

# Concluding Thoughts

- The LR is a method to evaluate evidence that can overcome many of the limitations we are facing today.

“I didn’t think it would end this way.”



Lord of the Rings: Return of the King

“End?”



Lord of the Rings: Return of the King

“No, the journey doesn’t end here”



Lord of the Rings: Return of the King

“The grey rain-curtain of this world rolls back and all turns to silver glass.”



Lord of the Rings: Return of the King



“And then you see it...”



Lord of the Rings: Return of the King

“What Gandalf?”  
“See What?”



Lord of the Rings: Return of the King

“White shores“  
“And beyond...”



Lord of the Rings: Return of the King

“A far green country under a swift sunrise.”



Lord of the Rings: Return of the King



Lord of the Rings: Return of the King

“Where people use Likelihood Ratios to interpret complex DNA mixtures.”



Lord of the Rings: Return of the King

“Well, that isn’t so bad.”



Lord of the Rings: Return of the King

“No, no it isn’t.”



Lord of the Rings: Return of the King



# Concluding Thoughts

- The LR is a method to evaluate evidence that can overcome many of the limitations we are facing today.
- Probabilistic software solutions may be the way forward (not every mixture may be resolved!) ... however, we need to better understand this process and be able to explain the statistics as a community.

# Interest in Probabilistic Software



MIDWESTERN ASSOCIATION OF **FORENSIC SCIENTISTS**

## MAFS 2014 Summer Workshop Announcement

Workshop Announcement: DNA Mixture Interpretation Software  
June 9th - 13th St. Charles Community College – Police  
Academy

This five full day workshop revolves around continuous method DNA mixture interpretation software. Each attendee will be given thirty-day trial versions of the five software programs being discussed: STRmix, TrueAllele, LRmix, Armed Xpert, and Lab Retriever. Attendees must be able to supply their own laptop. Upon completion of registration, directions for downloading and installing the software programs will be sent to the attendee. The software must be loaded prior to attending the workshop.



Each day of the workshop will focus on one software system. The morning session will involve lecture on the software including topics such as the development and theory behind the software, the installation and setup involved with the software, ideas for validating the software, and instruction on how to navigate the software. The afternoon session would be hands-on involvement with processing mixtures through the software and attendees are encouraged to bring mixtures from their laboratories.

# Interest in Probabilistic Software

## Almost Everything You Wanted to Know About Probabilistic Software (But Were Afraid to Ask)

### Workshop Chairs:

- Charlotte Word
- Michael Coble (National Institute of Standards and Technology)

### Additional Speakers:

- Dr. Charles Brenner (DNA-VIEW & UC Berkeley): DNA-VIEW Mixture Solution
- Dr. David Balding (UCL Genetics Institute): LikeLTD
- Dr. Roberto Puch-Solis (LGC Forensics): LiRa and LiRaHt
- Dr. Norah Rudin (SCIEG): Lab Retriever
- Dr. Hinda Haned (Netherlands Forensic Institute): LRmix.studio
- Luigi Armogida (NicheVision): ArmedXpert™
- Jo-Anne Bright (ESR Ltd): STRmix™
- Dr. Mark Perlin (Cybergenetics): TrueAllele® Casework



# Probabilistic Genotyping – Part 2

- Will be presented sometime in September
- Planned discussions: True Allele Casework, DNA-View Mixture Solution, LikeLTD, Armed Expert, and others – depending on logistics.
- Sign up at <http://www.nist.gov/forensics/nist-dna-analyst-webinar-series-pt1.cfm> for email alerts.

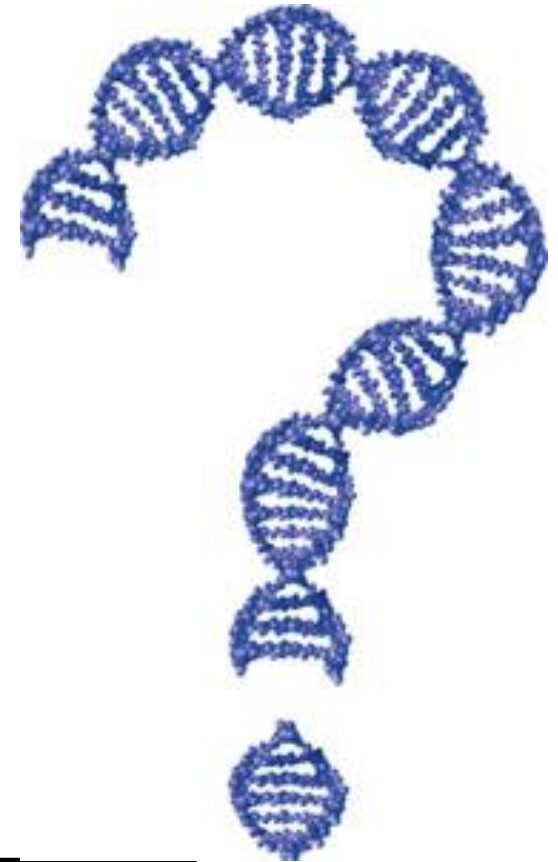
# This Webcast

- Will be archived for at least 6 months (approximately 1-2 weeks from now).
- Save the date! August 6, 2014 – next webcast will be on Validation – new kits, new instruments.
- Give us feedback on topics for future webcasts.
  - John Paul Jones - [john.jones@nist.gov](mailto:john.jones@nist.gov)
  - Mike Coble – [mcoble@nist.gov](mailto:mcoble@nist.gov)

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