PANEL DISCUSSION

Sheila Willis and DNA Mixture Resource Group Members

Panel Discussion – Bruce's Experience

"We are building the plane as we are flying it." NIST

"The likelihood ratio of a likelihood ratio is a likelihood ratio." Statistician

"If you don't take journal articles home and read them on your personal time, you are not committed to this field." Resource Group participant

We have published papers discussing how alleged activity and transfer issues should be included in statistical calculations.

We have published papers discussing how the DNA analyst should not be made aware of case specifics as this is introducing potential for bias.

As a practitioner, how do I balance these two diametrically opposed ideas?

"All likelihood ratios are personal." Statistician #1

"No they are not." Statistician #2

SWGDAM Verbal Scale document states that only LR value of 1 is uninformative.

But, data shown in this group for some complex mixtures demonstrated equal number of false support for 'inclusion' of true non-contributors as for true support for 'inclusion' of true contributors with LR value down around 30. Isn't this LR value uninformative for such mixtures?

I still can't recall what 'ROC' stands for, and have never been given a straight answer as how to use it to consider if it demonstrates a model is reliable… just that one model is better than another. It shows **how reliable** the model is….

"All models are wrong, but some are useful." Statistician George Box

    But I already knew that one before starting this whole process…..

Panel Discussion - Roger's Comments

A great opportunity to share our approach to casework and absorb other perspectives from the community. A few tidbits:

- Casework does not begin or end with a DNA profile
- Scientists need to challenge a hypothesis
- DNA mixtures require deconvolution
- It is my/our job to understand and communicate all limitations surrounding DNA testing
- The community as a whole is beginning to embrace this approach

Thank you to NIST for all the support and taking this on challenge.

Panel Presentation – Ray's Experience

- Real opportunity for interactive forensic expertise input
  - Variety of viewpoints
  - Multiple face to face discussions
  - Iterative process
  - Time to digest and provide feedback
  - View of draft working products over multiple drafts
  - All opinions are considered and included
- True input builds consensus
- Builds trust and acceptance of the forensic community
- Contrast to other initiatives lacking an iterative true input process which is divisive and does not gain acceptance
- Creates a model for other disciplines

Eugene Lien, NYC-OCME, Department of Forensic Biology

- NIST Team has a huge task, and the process was a bit overwhelming
  - While the scope is "DNA Mixture Interpretation", I feel that it is such a broad topic that there's a lot to say. (From training, number of contributors, mixture deconvolution, statistics, and reporting/testimony.)
  - We all thought the Review would be complete by Summer 2018, but it's a lot of work and a lot of discussion.
- Looking forward to reading how the NIST Team tackles limitations since it differs in each lab.
- Hope it's not just a simple foundation review, but rather a review that can help labs improve and can provide new DNA Technical Leaders some guidance.
- Good that the Group contains an interesting mix of people.