B141 Updates to the Forensic Research/Reference on Genetics Knowledge Base (FROG-kb) Database

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After attending this presentation, attendees will have an overview of the capabilities and functionality of the FROG-kb as a resource to make allele frequency data for Single Nucleotide Polymorphisms (SNPs) and other genetic polymorphisms more useful in the forensic field.

This presentation will impact the forensic science community by providing an overview of FROG-kb, recent updates to the database including data and website enhancements, and a visual of how to utilize FROG-kb.

FROG-kb (http://frog.med.yale.edu/FrogKB/) is a database that provides tools through its web interface for comparing user-provided data with underlying allele frequencies in populations and serves as a teaching and research web interface. Current SNP panels on FROG-kb include Individual Identification Single Nucleotide Polymorphisms (IISNPs), Ancestry Inference Single Nucleotide Polymorphisms (AISNPs), and Phenotype Interference Single Nucleotide Polymorphisms (PISNPs). The data used in FROG-kb calculations derive from the Allele Frequency Database (ALFRED) (http://alfred.med.yale.edu), a continually updated database of allele frequency data on SNPs and other genetic polymorphisms. SNPs can be valuable for investigative leads when known profiles using STRs are not available and no hits in databases such as the Combined DNA Index System (CODIS) are identified. These investigative leads provided by SNPs can include ancestry and phenotype inference and individual identification, all of which are provided in the FROG-kb database.

Recent updates to FROG-kb have centered on inputting additional data and website enhancements to provide an organized and easily navigated resource for the forensic community. One of these updates was creating a comprehensive user manual that provides users with step-by-step directions on how to use and search FROG-kb from the different SNP panels available. A short video was created to provide users a visual on navigating and searching FROG-kb along with search examples. This presentation will provide an overview of the new infrastructure to utilize the database for forensic purposes, including a user manual to assist in the process, discussion of the results of searches, and what can be done with the data.

Understanding and utilizing SNPs are important as a new area in the forensic field and FROG-kb serves to provide this to the forensic science community as a user-friendly, free, and web-accessible resource.

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