



Criminalistics Section – 2010

A14 Study on SNPs Relating to Ethnicity and Hair/Eye Pigmentation in a Population of Texas

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After attending this presentation, attendees will be able to comprehend the workings of a SNP analysis of pigmentation characteristics. Attendees will also be knowledgeable about preliminary data and results from a population study to evaluate the power of prediction of SNPs related to ethnicity and hair/eye pigmentation in Huntsville, Texas, as well as, the correlations that have been found in the literature.

This presentation will impact the forensic science community at large in that it will gain insight into little practiced methodologies when it comes to SNP analysis of ethnicity and hair/eye color pigmentation. By being able to identify phenotypic characteristics based off of a biological specimen, investigators may be able to ascertain more concrete descriptive factors of the ever so common "Jon Doe" or provide characteristics to the public of a criminal that has left evidence behind at a crime scene. By being able to rely on genetically coded characteristics rather than counting on eyewitness accounts of characteristics, it is possible that unidentified victims can be claimed more quickly and this has the potential to apprehend criminals more efficiently.

This research proposes to test the power of prediction using SNPs linked to ethnicity and hair/eye pigmentation in a population within rural

Huntsville, Texas. To do this, a significant number of samples will be gathered and analyzed using a multiplexing system and then compared to correlation studies that are currently available. This study will also focus on a few anti-contamination efforts and how they apply to SNP analysis as well as whether or not one approach is more efficient in reducing contamination than another.

SNP, Pigmentation, Population