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## **Pedigree-based Inference of Missing Person Identification from DNA Data**

Using forensic DNA tools to identify human remains in mass disaster or missing person situations have shown to be feasible. When personal reference samples are not available, pedigree family members' DNA become the means by which identification can possibly be made. The more family members available for DNA typing, and the closer the relationship to the missing person, the more accurate the identification can be made. In this presentation, we present a pedigree based likelihood ratio approach in the identification of missing persons. We present simulation results of distributions of Pedigree-Likelihood-Ratios for pedigrees with various mix of family members to assess the relative power of discrimination in identifying the right remain to be the missing person. A ranked list of pedigree member mix is given, ranked with respect to their relative discrimination power in identifying the right missing person. In addition, we present some new results in probability study of total allele and shared allele count between pairs of relatives. Results of which can be used as an upfront tool to filter out the unlikely candidates for the missing person.