

Abstract

This bachelor's thesis analyses kinship testing in identification genetics, which is a discipline enabling the genetic identification of individuals and the determination of genetic relatedness between them. This thesis covers a wide range of applications from forensic analysis through genealogical studies to biodiversity conservation. This field has been rapidly growing and gaining on importance since the 1980s, when the foundations of DNA fingerprinting were laid based on the discovery of hypervariable minisatellite regions in the genome. This thesis aims to provide an overview of methods and techniques that are used for genetic identification and kinship testing. The thesis discusses genetic markers such as STRs or SNPs, which are the basis for genetic profiling, are discussed. In addition statistical methods for evaluating genetic match and methodologies for determining the probability of kinship are also discussed. Finally, practical applications of identification genetics are presented, including its use in forensic science or in case of solving genealogical questions. The potential and future development of the technologies and their impact on society is discussed at the end of the thesis. Thus, the thesis contributes to a better understanding of the importance and opportunities of identification genetics in modern science.