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Autore	Alex Biedermann
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Sommario/riassunto	From ABO typing during the first half of the 20th century, to the use of enzymes and protein contained in blood serums and finally direct DNA typing, biology has been serving forensic purposes for many decades. Statistics, in turn, has been constantly underpinning the discussions of the probative value of results of biological analyses, in particular when defendants could not be considered as excluded as potential sources because of different genetic traits. The marriage between genetics and statistics has never been an easy one, though, as is illustrated by fierce arguments that peaked in the so-called "DNA wars" in some American courtrooms in the mid-1990s. This controversy has contributed to a lively production of research and publications on various interpretative topics, such as the collection of relevant data, foundations in population genetics as well as theoretical and practical considerations in probability and statistics. Both DNA profiling as a technique and the associated statistical considerations are now widely accepted as robust, but this does not yet guarantee or imply a neat transition to their application in court. Indeed, statistical principles applied to results of forensic DNA profiling analyses are a necessary, yet not a sufficient

preliminary requirement for the contextually meaningful use of DNA in the law. Ultimately, the appropriate use of DNA in the forensic context relies on inference, i.e. reasoning reasonably in the face of uncertainty. This is all the more challenging that such thought processes need to be adopted by stakeholders from various backgrounds and holding diverse interests. Although several topics of the DNA controversy have been settled over time, some others are still debated (such as the question of how to deal with the probability of error), while yet others - purportedly settled topics - saw some recent revivals (e.g., the question of how to deal with database searches). In addition, new challenging topics have emerged over the last decade, such as the analysis and interpretation of traces containing only low quantities of DNA where artefacts of varying nature may affect results. Both technical and interpretative research involving statistics thus represent areas where ongoing research is necessary, and where scholars from the natural sciences and the law should collaborate. The articles in this Research Topic thus aim to investigate, from an interdisciplinary perspective, the current understanding of the strengths and limitations of DNA profiling results in legal applications. This Research Topic accepts contributions in all frontiers article type categories and places an emphasis on topics with a multidisciplinary perspective that explore (while not being limited to) statistical genetics for forensic scientists, case studies and reports, evaluation and interpretation of forensic findings, communication of expert findings to laypersons, quantitative legal reasoning and fact-finding using probability.