



■ **'DNA - Forensic and Legal Applications'**, Kobilinsky L., Liotti TF., Oeser-Sweat J. 2005 ISBN 0-471-41478-6 £53 [Wiley Publishing Inc](#)

In 1985 forensic science changed forever, with Sir Alec Jeffries' publication regarding the analysis of DNA, and his later description of a DNA 'fingerprint'.

His team's techniques were applied in the Colin Pitchfork case, and in 1988, an historic conference took place at Cold Spring Harbour, USA at which the developing technology was subjected to scrutiny by the assembled experts.

This well written book takes the reader through a logical process of examining the biochemistry and molecular biology of DNA, leading to the evolution of techniques utilised by forensic biologists in order to extract useful identification information from crime scene 'trace' evidence.

'Southern blotting' and the 'polymerase chain reaction' (PCR) are described in detail, and the background to more recent analytical methods such as 'short tandem repeats' (STR) and 'single nucleotide polymorphisms' (SNPs or 'snips') are put into context.

Forensic DNA analysis is clearly becoming increasingly sophisticated, but the interpretation of the results obtained is not straightforward.

Improvements in population statistics and data management have had to evolve alongside the scientific advances, and there is increasing disquiet in some areas regarding the applicability and solidity of some of the interpretations given in courts. This book helps the reader understand how population statistics is applied to forensic DNA issues, and where potential pitfalls exist.

DNA evidence can be irretrievably contaminated at the collection stages of an investigation, and crime scene protocols must reflect this possibility (witness the damage done to the prosecution case in the OJ trial).

Other sources of error are multiplied at the laboratory, and given that small amounts of often poor quality DNA are retrieved from scenes, and then 'amplified' by PCR, the potential for error grows.

Strategies for dealing with these situations are described, and the authors go on to identify areas of interest for defence lawyers to analyse when facing DNA evidence in their client's cases.

The culmination of this well presented book is the utilisation of DNA evidence in court, and hints on how to present this highly complex area of science to a lay jury, without losing their concentration. Practical examples are given, with examples illustrated by means of typical 'court interactions' between scientist and lawyer.

This book is extremely good at taking the reader through a well structured 'journey' from the isolation of DNA, through to the 'matching' process and the presentation of the evidence gained in court, and represents excellent value for money.

Although of most use to those in the legal profession, or forensic scientists, it would also be a useful addition to the bookshelves of forensic pathologists, and may allow medical students undertaking 'student selected components' in applied genetics or forensic medicine understand their subject more easily. It is well worth a read!