Record Nr. UNINA9910770272203321 Autore Dash Hirak Ranjan **Titolo** Advancements in Forensic DNA Analysis / / by Hirak Ranjan Dash, Kelly M. Elkins, Noora Rashid Al-Snan Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2023 Pubbl/distr/stampa **ISBN** 981-9961-95-5 [1st ed. 2023.] Edizione Descrizione fisica 1 online resource (161 pages) 614.1 Disciplina Soggetti Genetics Forensic sciences Molecular genetics Genotype Forensic Science Molecular Genetics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Includes bibliographical references. Nota di bibliografia Nota di contenuto Ch 1. Current status and advancements of forensic DNA analysis -- Ch 2. Use of advanced molecular techniques for human body fluids detection -- Ch 3. Technological advancements in DNA extraction and quantification of forensic samples -- Ch 4. Advanced Emerging techniques for forensic DNA analysis: STRs, SNPs, and mtDNA analysis -- Ch 5. Fast, high-sensitive and high-resolution DNA techniques --Ch 6. Advancements in non-human forensic DNA analysis -- Ch 7. Applications of NGS technology in forensic DNA analysis -- Ch 8. Statistical Interpretation of Forensic DNA Evidence -- Ch 9. Role of forensic DNA databases in criminal identification -- Ch 10. Guidelines. Ethical issues and other challenges of forensic DNA analysis -- Ch 11. Application of Forensic DNA Technology in Analyzing Real-Time Casework Samples -- Ch 12. Future Directions of Forensic DNA Analysis.

This textbook for undergraduate and postgraduate students discusses

published. It presents conventional and latest serological and molecular

advancements in forensic DNA analysis since early texts were

biological methods for body fluid identification. This book also

Sommario/riassunto

describes the applications and advantages of next-generation sequencing (NGS) compared to conventional methods in forensic DNA analysis. It also defines the growing importance, techniques, and applications for the analysis of non-human DNA in forensic sciences. Further, the book examines the role of DNA databases in forensic interpretation and criminal investigations. Towards the end, this textbook reviews the application of forensic DNA technology in analyzing real-time casework samples and presents the guidelines, ethical issues, and other challenges of forensic DNA analysis. This textbook is an essential resource for students and practitioners interested in gaining knowledge of up-to-date forensic techniques and their applications in forensic DNA analysis.