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Titolo	DNA Fingerprinting: Advancements and Future Endeavors // edited by Hirak Ranjan Dash, Pankaj Shrivastava, Braja Kishore Mohapatra, Surajit Das
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Descrizione fisica	1 online resource (x, 325 pages) : illustrations
Disciplina	614.1
Soggetti	Forensic sciences Molecular biology Animal genetics Microbial genetics Microbial genomics Forensic Science Molecular Medicine Animal Genetics and Genomics Microbial Genetics and Genomics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Module 1_ Basics of DNA Fingerprinting: Chapter 1. DNA Fingerprinting technique: Discovery, Advancements and Milestones -- Chapter 2. Genetic Basis of DNA Fingerprinting in Humans -- Chapter 3. Comparative Account of the DNA Fingerprinting Techniques: RFLP, STR Typing and NGS -- Module 2_ DNA Fingerprinting: Tools and Techniques: -- Chapter 4. Techniques involved in DNA Fingerprinting: Isolation, Quantification, PCR, Genotyping and Analysis -- Chapter 5. STR Typing and available Kits -- Chapter 6. In-silico techniques for analysis of genetic variation among individuals -- Chapter 7. Statistical tools and techniques in interpretation of DNA sequencing results -- Chapter 8. DNA fingerprinting with homologous multilocus probes and search for DNA markers -- Module 3_ Applications of Genetic Fingerprinting: -- Chapter 9. Analysis of Ancient DNA -- Chapter 10. Wild Life Forensics -- Chapter 11. Molecular Diagnosis of Human

Genetic Diseases: Application of Genetic Fingerprinting -- Chapter 12. Precautions and Recommendations for DNA fingerprinting for forensic applications -- Chapter 13. Legal aspects of DNA fingerprinting -- Module 4\_ DNA Fingerprinting: Case Studies: Chapter 14. Autosomal DNA Typing: Case Studies -- Chapter 15. Y-chromosome testing and case studies -- Chapter 16. Mitochondrial DNA typing with case studies -- Chapter 17. X-chromosome Analysis and Case Studies -- Chapter 18 SNP analysis and Case Studies.

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Sommario/riassunto

This book describes the basics and various applications of DNA fingerprinting, including in actual case studies. The book is divided in four modules; Module 1: Basics of DNA Fingerprinting, Module 2: Applications of DNA Fingerprinting, Module 3: DNA Fingerprinting: Case Studies, and Module 4: Future of DNA Fingerprinting. Each module consists of 4 to 5 chapters, written by reputed researchers, academics and forensic scientists from around the globe. The respective chapters cover e.g. related fields, the tools and techniques used, various genotyping kits, real-world case studies, ancient DNA and wild life forensics, molecular diagnosis of human diseases, legal aspects, microbial forensics and the economics of the DNA fingerprinting technique. The book offers a practical guide for professionals, graduate and post-graduate students in the fields of Forensic Science, Medicine, Genetics, Anthropology, Microbiology, and Zoology. It also serves as a useful reference resource, summarizing major technological advances in the field of DNA fingerprinting, the problems faced in this field of science and possible new solutions to these problems. Presently, DNA fingerprinting is utilized in solving the majority of criminal cases; as such, the book is also helpful for investigating agencies, as it includes representative case studies.

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