1. Record Nr. UNINA9910367745503321

Autore	Ameur Adam
Titolo	Advances in Single Molecule, Real-Time (SMRT) Sequencing
Pubbl/distr/stampa	MDPI - Multidisciplinary Digital Publishing Institute, 2019
ISBN	3-03921-701-1
Descrizione fisica	1 online resource (128 p.)
Soggetti	Biology, life sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	PacBio's single-molecule real-time (SMRT) sequencing technology offers important advantages over the short-read DNA sequencing technologies that currently dominate the market. This includes exceptionally long read lengths (20 kb or more), unparalleled consensus accuracy, and the ability to sequence native, non-amplified DNA molecules. From fungi to insects to humans, long reads are now used to create highly accurate reference genomes by de novo assembly of genomic DNA and to obtain a comprehensive view of transcriptomes through the sequencing of full-length cDNAs. Besides reducing biases, sequencing native DNA also permits the direct measurement of DNA base modifications. Therefore, SMRT sequencing has become an attractive technology in many fields, such as agriculture, basic science, and medical research. The boundaries of SMRT sequencing are continuously being pushed by developments in bioinformatics and sample preparation. This book contains a collection of articles showcasing the latest developments and the breadth of applications enabled by SMRT sequencing technology.