
Preface

Marine genomics includes all aspects of genes and genomes of marine organisms aimed at understanding their evolution, function, biodiversity and environmental interactions. The field of genomics has been revolutionized by next generation sequencing, providing novel insights into one of the largest biomes on our planet.

In this book, we present the latest protocols for both laboratory and bioinformatics based analyses in the field of marine genomics. The chapters presented here cover a wide range of topics, including the sampling and genomics of bacterial communities, DNA extraction in marine organisms, high-throughput sequencing of whole mitochondrial genomes, phylogenomics, SNP discovery, SNP arrays for species identification, digital PCR-based quantification methods, environmental DNA for invasive species surveillance and monitoring, microarrays for the detection of waterborne pathogens, DNA barcoding of marine biodiversity, metabarcoding protocols for marine eukaryotes, analytical protocols for the visualization of eukaryotic diversity, and applications of genomic data to benthic indices for environmental monitoring.

These trusted protocols provide detailed step-by-step instructions, reagents and materials as well as tips and troubleshooting, making this volume a valuable resource for researchers, students, and policy makers in the field of marine biology.

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Marine Genomics

Methods and Protocols

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