

MICROBIAL DIVERSITY IN THE GENOMIC ERA

Microbial Diversity in the Genomic Era provides insights in the techniques used for microbial taxonomy and phylogeny, along with their applications and respective pros and cons. Though many advanced techniques for the identification of any unknown bacterium are available in the genomics era, a far fewer number of the total microbial species have been discovered and identified to date. The assessment of microbial taxonomy and biosystematics techniques discovered and practiced in the current genomics era with suitable recommendations is the prime focus of this book.

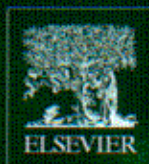
Key Features

- Discusses the techniques used for microbial taxonomy and phylogeny with their applications and respective pros and cons
- Reviews the evolving field of bacterial typing and the genomic technologies that enable comparative analysis of multiple genomes and the metagenomes of complex microbial environments
- Provides a uniform standard methodology for species designation

About the Editors

Dr. Surajit Das is an associate professor at the Department of Life Science, National Institute of Technology, Rourkela, Odisha, India. He received his PhD in Marine Biology for his research work on marine microbiology from Centre of Advanced Study in Marine Biology, Annamalai University, Tamil Nadu, India. He has been the awardee of Endeavour Research Fellowship of Australian Government for carrying out postdoctoral research at University of Tasmania on marine microbial technology. He is currently conducting research as the group leader of Laboratory of Environmental Microbiology and Ecology (LEnME) on biofilm-based bioremediation of PAHs and heavy metals by marine bacteria, nanoparticle-based drug delivery and nano-bioremediation; and the metagenomic approach for exploring the diversity of catabolic gene and immunoglobulins in the Indian Major Carps, with the research grants from the Ministry of Science and Technology, Indian Council of Agricultural Research, Ministry of Environment, Forest and Climate Change, Government of India. He is the academic editor of *PLOS One* and associate editor (Ecological and Evolutionary Microbiology) of *BMC Microbiology*.

Dr. Hirak Ranjan Dash completed his PhD from Department of Life Science, National Institute of Technology, Rourkela, India and currently working as scientific officer (DNA), Forensic Science Laboratory, Sagar, Madhya Pradesh, India. He did his MSc microbiology from Orissa University of Agriculture and Technology, Bhubaneswar, Odisha, India. His research interests include molecular microbiology, microbial bioremediation, marine microbiology, microbial phylogeny, genetic manipulation of bacterial systems, and microbial diversity. He has developed a number of microbial techniques for assessment of mercury pollution in marine environments. Discovery of a novel approach of mercury resistance, i.e., intracellular biosorption in marine bacteria has been reported by him. He has successfully constructed a transgenic marine bacterium for enhanced utilization in mercury removal by simultaneous mercury volatilization and sequestration. He has also worked in the field of genotyping and antibiotic resistance mechanism of pathogenic strains. He has written 2 books and published 28 research papers, 12 book chapters and 13 conference proceedings in his credit.



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