# Abstract

Research in the genomics of a handful of fungi has matured at an unprecedented rate to allow their comprehensive review. Developments in fungal genomics should be of great significance to new strategies in fields where disciplinary crossovers of fungal genomics, genes and their regulation, expression, and engineering will have a strongest impact in dealing with agriculture, foods, natural resources, life sciences, biotechnology, informatics, metabolomics, pharmaceuticals and bioactive compounds. This volume analyzes the commonly vised molecular markers systems, and also elaborates the development of biochemical genetics, which provided a model system that established the relationship between genes and enzymes. The current knowledge about the genomic and genetic variability of Candida albicans, the polymorphic fungus that is an opportunistic human pathogen of increasing medical importance, has been covered in detail. Current understanding of the genetics and functional genomic analysis of the most important fungal pathogens of staple food crops, rice and wheat among others was covered including the chapters dealing with the genomics of economically important fungi such as Magnaporthe grisea, Aspergillus, Fusarium, Penicillium, Trichoderma, Rhizoctonia, Mycosphaerella graminicola, and entomopathogenic fungi. With several thousands recent citations, we hope that volume four will serve as a useful reference for knowledgeable veterans and beginners as well as for those crossing disciplinary boundaries and getting into the exciting field of biotechnology, genomics and bioinformatics of fungi.