

About the Book

The book deals with the study of *Chromosome*, which is basic to genetics in aspects of growth, differentiation, reproduction and evolution. The structural components of chromosomes, both physical and chemical, include morphology, euchromatin, heterochromatin, functional segments, nucleosomes and molecular architecture. The genes and their subdivisions unique and repeated DNA and mobile sequences are included within the components. The cell cycle, normal and aberrant chromosome behavior and their implications in the study of phylogeny, biodiversity and evolution have been covered. Special chapters deal with sex chromosomes, nuclear DNA in evolution and chromosomes in differentiation. The identification of chromosome sequences and their mapping through *in situ* molecular hybridization are given special attention. This book will serve as a text-cum-reference book for students of genetics, evolution and biodiversity.

About the Authors

Professor Archana Sharma, PhD, DSc, FNA, FASc, FNASc, Honorary Scientist (INSA) and former Head, Department of Botany, University of Calcutta is internationally known for her pioneering contributions on Chromosome Techniques, Environmental Mutagenesis and Genetic Toxicology. She has received numerous awards and was National Environment Fellow, Government of India; General President, Indian Science Congress Association and President of the Indian Botanical Society. Her numerous contributions include authorship/editorship of several books *Chromosome Techniques* (Butterworths, 1965, 1972, 1980), *Chromosomes in Evolution* (CRC Press, 1984), *Chromosome Technique A Manual* (Harwood Academic, 1994), *Plant Chromosomes: analysis, manipulation and engineering* (Harwood Academic, 1999) and *Chromosome Painting* (Kluwer Academic, 2001).

Professor Sumitra Sen, PhD, DSc, FNASc, UGC Emeritus Fellow and former Head and Programme Coordinator, Centre of Advanced Study, Department of Botany, University of Calcutta has developed an active School for research on chromosomes in relation to evolution and differentiation. She has utilized tissue culture for propagation and enrichment of genetic diversity in medicinal species. She has numerous publications and is author of several chapters in books on Chromosome Research.