

PREFACE TO THE SECOND EDITION

The second edition of "Molecular Developmental Biology" is prompted by the phenomenal advancements made in certain aspects such as evolutionary and ecological developmental biology as well as stem cell biology. The earlier edition already gives extensive coverage of these topics. Nevertheless, more recent developments in these fields continue to improve our understanding of developmental mechanisms and their role in morphological evolution as well as phenotypic deviations in response to environmental variables. Increased awareness on the teratogenic effects of certain drugs and environmental chemicals has led to focus attention on the birth defects and congenital diseases. Therefore, a new chapter on teratogenesis and medical embryology has been added. Another chapter to detail the genetic and molecular mechanisms of cancer formation has also been included. Recent research on cancer stem cells has paved way for new therapeutic interventions in arresting cancer spread. Hence, this chapter will be of immense use to students of molecular biology and medical sciences. Stem cell biology is another area in which new discoveries are added almost every day, making the regenerative medicine and bench to bedside therapy, a truly possible dream. In addition to revision and expansion of this chapter, a new section exclusively dealing with the methodology of stem cell harvesting for therapeutic application has been added. As a whole, the revised edition of this book will have a new look covering modern topics in developmental biology. The students and teachers of developmental biology, ecology, evolutionary biology, biotechnology and medical sciences will find this book useful for their course work and for reference. In another perspective, this book will serve as a ready source of current information and hallmark discoveries on developmental biology and related subjects such as ecology, evolution and genetics to any biologist.

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