Preface

Every book is a source of knowledge and this one is no exception. The idea that led to the conceptualization of this book was the fact that the world is advancing rapidly; which makes it crucial to document the progress in every field. I am aware that a lot of data is already available, yet, there is a lot more to learn. Hence, I accepted the responsibility of editing this book and contributing my knowledge to the community.

Gene regulatory networks are composed of molecular regulators such as transcription factors which bind short, non-coding DNA sequences. These sequences are also called cis-regulatory elements and are located in the promoter region of a gene. Transcription regulators form an interconnected regulatory network which integrates endogenous and environmental signals into changes in gene expression. Gene regulatory networks provide an insight about organization of plant cells and their functions. They consist of thousands of connections between the target genes and transcription factors. Together, they regulate many cellular functions. They also help in understanding the regulation of genes under various conditions. The book studies, analyses and upholds the pillars of gene regulatory networks and its utmost significance in modern times. From theories to research to practical applications, case studies related to all contemporary topics of relevance to this field have been included herein. As this field is emerging at a rapid pace, the contents of this book will help the readers understand the modern concepts and applications of the subject.

While editing this book, I had multiple visions for it. Then I finally narrowed down to make every chapter a sole standing text explaining a particular topic, so that they can be used independently. However, the umbrella subject sinews them into a common theme. This makes the book a unique platform of knowledge.

I would like to give the major credit of this book to the experts from every corner of the world, who took the time to share their expertise with us. Also, I owe the completion of this book to the never-ending support of my family, who supported me throughout the project.

Editor