

Shrikaant Kulkarni
A. K. Haghi
Sonali Manwatkar *Editors*

Novel Technologies in Biosystems, Biomedical & Drug Delivery

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Preface

Novel technologies include precision systems which although cover entire gamut of activities extended to various walks of life. The need of such technologies is a must for advancing the quality of life of human beings. Biosystems or Biological systems involve a host of systems like organs, tissues to various earth support systems. The right and delicate balance among the components, preserving the identity of the biosystems is a must for healthy sustenance of the earth planet and to retain it as liveable. Coexistence and sustenance of living organisms is possible provided the environment is conducive although excessive human intervention has posed a threat to very survival and sustenance of biosystems. Although there are numerous biosystems still this book is confined to a few. It discusses and deliberates on how biosystems function, their role in our everyday life and applications thereof. The book further ponders upon various drug delivery systems, the way they work and how are they better placed as compared to conventional systems like chemotherapy. The precision and clinical way of functioning of these different types of drug delivery systems, the materials used therein and their architectures employed in delivering and release of drugs to targeted cancer cells in a reproducible manner without affecting the healthy cells so as to attain efficiency and efficacy of drugs. This edited volume also comprises different perspectives of expert academicians, researchers and professionals on various aspects and facets of biosystems, drug delivery systems and extensive applications in the field of biomedicine. The book will not only enlighten the students, academicians and researchers but will also enrich their knowledge base as well as it will make a sound value addition to the subject domain of medicine and pharmacy in particular. It will encourage researchers to get necessary inputs to kick-start their research as well as to further it to the next level and will pave the way for creating and advancing healthy biosystems for healthy life on earth.

This book is divided into four parts. First part is dedicated to biosystems. Second part is devoted to Biomedicine. Third Part is aimed to Drug delivery systems while fourth part is meant for Proteomics. First part contains three chapters. Chapter “[Editorial: Bio-Systems: Relevance, Reflection and Impact](#)” is an editorial on biosystems, their relevance, reflection and impact. Chapter “[Potential of Biotechnology in Cancer Management](#)” is aimed at exploring potential of biotechnology in cancer

management. Chapter “[Biosimilars: Promising and Rapidly Emerging Biotherapeutics](#)” sheds light on potential of bio-similars as bio-therapeutic agents. Second part has four topics in it. Chapter “[Applications of Nanomaterials in Medicine: Current Status and Future Scope](#)” discusses present and future scope of nanomaterials in the field of biomedicine. Chapter “[Biomedical Applications of Nanofluids in Drug Delivery](#)” throws light on applications of nanofluids in drug delivery systems in the field of biomedicine. Chapter “[Metagenomics for Drug Discovery](#)” deliberates on role of Metagenomics in Drug discovery application. Chapter “[Potential of Heterocyclic Compounds as EGFR-TK Inhibitors in Cancer Therapy](#)” promise of Heterocyclic compounds as EGFR-TK Inhibitors in Cancer Therapy. Third part contains two topics. Chapter “[Potential of Nanocrystalline Drug Delivery Systems](#)” entails Potential of Nanocrystalline Drug Delivery Systems. Chapter “[Novel Techniques in Pulmonary Drug Delivery Systems](#)” is dedicated to adoption of novel techniques in Pulmonary drug delivery Systems the fourth part is the concluding part of this volume containing two topics. Chapter “[Proteomics in Oncology: Retrospect and Prospects](#)” gives an account of the role of proteomics in Oncology: Retrospects & Prospects while the last chapter “[Proteomics Novel Prospects in Target Therapy for Infectious Diseases](#)” is aimed at explaining proteomics, their novel prospects in target therapy for Infectious Diseases. Thus the volume is a balanced, meaningful and productive learning material.

Pune, India
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