

## **PREFACE**

Right from the inception of Atomic Energy Establishment under the inspiring leadership of Dr. Homi Jehangir Bhabha, Bio-science research has been an integral part of the R&D activities of the centre. Dr. Gopal-Ayengar who was a founding member of the Atomic Energy Establishment laid the foundation stone for Bioscience program which has expanded in size and scope over the years. This book is an attempt to chronicle the seventy-five years of glorious journey of bioscience research and look forward to the future with a greater sense of dedication to achieve the Amritkaal objectives of the Nation. This compendium encompasses an account of the rich legacy of research and development activities by the predecessors, a bird's-eye view of the current activities and a forecast of future directions.

Beginning with a historical perspective of the Bio-Science research in BARC, achievements in important research areas contributing to food security (such as nuclear agriculture and food irradiation and preservation) healthcare (radioprotectors, cancer biology, immunology, diagnostics), environmental research related to agriculture (soil health, bioremediation, waste management) and high impact basic research are covered in this book. In addition, significant contributions have been made towards societal applications through several spin-off technologies. This demonstrates the amalgamation of basic research and its translational potential which are being highlighted in this book. An attempt has been made to structure the articles in such a way that it can be understood by someone who may not have the domain knowledge. Each article provides a historical perspective, an account of current research and a brief account of the way forward. Further, we have attempted to present the chapters thematically and also made an effort to showcase the multidisciplinary nature of the department. We believe this book will serve as an inspirational archive for the younger generations to reflect on the rich legacy and also as a reference guide for future activities.

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While we have made all efforts to make it error-free, we will be highly thankful to the readers to bring to our notice any inadvertent errors that might have crept in.

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