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# *Preface*

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Nanotechnology is a field that has been developed some decades ago, and has been expanding rapidly; the importance of this science came from the combination of synthetic chemistry to fabricate nanoscale building blocks that could be functional on their own, or in combination with other materials. Recently, industries have commenced to exploit and make use of nanotechnology; new devices have been fabricated and used, e.g. new processors, fuel cells, energy storage devices in batteries, LEDs and photoelectrochemical cells.

The term nanotechnology came from the very famous talk of Feynman on December 29<sup>th</sup>, 1959, at the annual meeting of the American Physical Society that took place in California. Feynman, the 1965 noble prize winner, suggested in his talk the possibility to manipulate molecules and atoms directly. Furthermore, the actual coining of the term nanotechnology is credited to Norio Taniguchi in 1974 where he first defined it in the following phrase: "*Nano-technology mainly consists of the processing of separation, consolidation, and deformation of materials by one atom or one molecule*".

At King Abdullah International Medical Research Center, at the Developmental Medicine Department-Therapy Development Lab. We are applying nanotechnology in Drug Delivery, Gene therapy, cancer diagnostics, personalized Medicine, and development of 'smart' materials. The authors of this book, are experts in the field of Drug Delivery, and are currently active in the state of the art developments of Nanotechnology and Drug Delivery Systems. In this book we are presenting different research models as a most exciting reading material whilst shedding the light on cutting edge techniques as well as challenges and limitations in this field. This book is targeting experts in the field, students and general readership. Nanotechnology in Drug Delivery is a highly inspiring field that will move research from bench to bedside.

I anticipate that you will find this book engaging, valuable and enjoyable and that it stimulates you to explore the field of Drug Delivery further.

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