Preface

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Nanotechnology has seen an exponential growth in the past five years with more than 1,300 consumer products already in the market in 30 countries including India. It is anticipated that with the increasing demand, nanotechnology will soon become a trillion dollar industry. Nanotechnology has attained significance due to the unique properties it imparts to the material as well as the product. It has revolutionized the industry and is finding wider applications in drug delivery, construction, devices, electronics etc. It has also provided a valuable tool to the researchers in terms of nanosensors to probe different metabolic pathways as well as to detect pathogens in water and other biological fluids. Fluorescent labeled nanoparticles are also being used for intracellular as well as in vivo imaging. Novel MRI contrast agents are being developed using different nanoparticles.

The Government of India launched several R&D initiatives in the area of nanotechnology to give a tremendous boost. The Department of Science & Technology under its Nano Science and Technology Initiative (NSTI) launched in May 2007 provided funding to several institutes and

universities to establish centers of excellence, infrastructure and research facilities in the area of nanotechnology. Indian Council of Medical Research under its Nanotechnology initiative has funded research projects in the area of nanomedicine. The Council of Scientific & Industrial Research (CSIR) under its networked projects has supported research in the area of nano-devices, drug delivery systems and safety assessment in 19 CSIR laboratories throughout the country.

Several institutions are pursuing research in different areas of nanoscience and nanotechnology. The present issue provides a glimpse of the research being conducted in the country in different areas of nanotechnology ranging from agriculture to drug delivery.

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