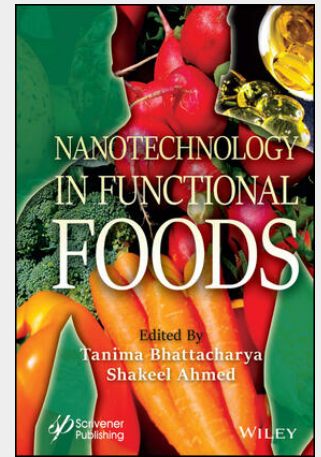


Nanotechnology in Functional Foods

NANOTECHNOLOGY IN FUNCTIONAL FOODS The broad applicability of bioactive delivery systems for improving food quality, safety, and human health will make this book a valuable resource for a wide range of readers in industry, research, and academia. Functional foods is an emerging trend in the food industry, whose potential value is determined by whether they are safe with respect to consumer health. Nanotechnology in Functional Foods was written to help the reader better understand the benefits and concerns associated with these foods. In addition to giving an overview of the current state-of-the-art in functional foods, different aspects of the advanced research being conducted on their extraction, synthesis, analysis, and biological effects are presented. Besides focusing on several synthesis techniques, the book also discusses the application of nanoparticles in nutrient delivery and pharmaceuticals, such as nano-emulsions, solid lipid nanoparticles, and polymeric nanoparticles; their properties and interactions with other food components and their impact on the human body; the consumer acceptance and diversification of these nutrients. Moreover, new trends are discussed concerning the application of artificial intelligence in screening various components of functional foods. Audience The book will be central to food scientists, materials scientists, biotechnologists, medicinal chemists, pharmacists, and medical professionals. Tanima Bhattacharya, PhD, is a formulation scientist, who completed her Doctoral degree in Food Processing & Nutrition Science from the Indian Institute of Engineering Science and Technology, Shibpur, West Bengal, India and gained overseas post-doctoral experience from the College of Chemistry and Chemical Engineering Hubei University of China. She has published several scientific research articles in international peer-reviewed journals, and her research interests include the fabrication of biocompatible nanostructures and studying their properties and applications in the area of food science, technology, and biomedical sciences. Shakeel Ahmed, PhD, is an assistant professor of Chemistry at the Higher Education Department, Government of Jammu and Kashmir, India. His PhD degree in Chemistry is from Jamia Millia Islamia, A Central University, New Delhi. He has published several research publications in the area of green nanomaterials and biopolymers for various applications including biomedical, packaging, and water treatment. He has published more than 20 books in the area of nanomaterials and green materials.

The broad applicability of bioactive delivery systems for improving food quality, safety, and human health will make this book a valuable resource for a wide range of readers in industry, research, and academia. Functional foods is an emerging trend in the food industry, whose potential value is determined by whether they are safe with respect to consumer health. Nanotechnology in Functional Foods was written to help the reader better understand the benefits and concerns associated with these foods. In addition to giving an overview of the current state-of-the-art in functional foods, different aspects of the advanced research being conducted on their extraction, synthesis, analysis, and biological effects are presented. Besides focusing on several synthesis techniques, the book also discusses the application of nanoparticles in nutrient delivery and pharmaceuticals, such as nano-emulsions, solid lipid nanoparticles, and polymeric nanoparticles; their properties and interactions with other food components and their impact on the human body; the consumer acceptance and diversification of these nutrients. Moreover, new trends are discussed concerning the application of artificial intelligence in screening various components of functional foods. Audience The book will be central to food scientists, materials scientists, biotechnologists, medicinal chemists, pharmacists, and medical professionals. Tanima Bhattacharya, PhD, is a formulation scientist, who completed her Doctoral degree in Food Processing & Nutrition Science from the Indian Institute of Engineering Science and Technology, Shibpur, West Bengal, India and gained overseas post-doctoral experience from the College of Chemistry and Chemical Engineering Hubei University of China. She has published several scientific research articles in international peer-reviewed journals, and her research interests



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