1. Record Nr. UNINA9910746969403321

Titolo	Current Trends in Green Nano-emulsions : Food, Agriculture and Biomedical Sectors / / edited by Azamal Husen, Rakesh Kumar Bachheti, Archana Bachheti
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2023
ISBN	981-9953-98-7
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (IX, 311 p. 66 illus., 53 illus. in color.)
Collana	Smart Nanomaterials Technology, , 3004-8281
Disciplina	620.19 541.345
Soggetti	Colloids Nanochemistry Nanotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Section A. Basic of Nano-emulsions -- Introduction to Green Nano-emulsions and their properties -- Ultrasonication: A efficient method for synthesis of Nano-emulsions -- Nano-emulsions from essential oil and characterization -- Citrus fruit Nano-emulsions and their application -- Nano-emulsions from seed oil and their characterization -- Section B Food and Agriculture -- Formulation of food-grade Nano-emulsion, and their characterization -- Role of Green Nano-emulsion in controlling food spoilage -- The Use of Nano-emulsion in Food Packaging and Shelf-Life Enhancement -- Nano-emulsions as edible coatings and their application in food industry -- Food grade nano-emulsions for delivery of vitamins -- Nano-emulsions from essential oils as antimicrobial agents in food -- Use of Nano-emulsions in Pesticide Formulation -- Essential oil nano-emulsions as a potential biofungicide -- Plant Growth-Promoting Rhizobacteria nano-emulsions and their applications -- Utilization of nano-emulsions for postharvestapplications -- Section C. Biomedical Application -- Antimicrobial activity of Nano-emulsion Against Drug-Resistant -- Role of Nano-emulsion in Lung Cancer Treatment -- Nano-emulsion-based systems for breast Cancer Treatment -- Treatment of Liver and Gastric Cancer Treatment using Nano-emulsion -- Nano-emulsion

Applications in the Wound-Healing Process -- Nano-emulsion's challenges and future prospects as a drug delivery system.

Sommario/riassunto

This book gives a complete overview of current developments on the green synthesis and extraction of nano-emulsions for numerous uses in food, agriculture, biomedical, and cosmetics sectors. In the food and agriculture section, the book demonstrates the use of nano-emulsions to deliver nutraceuticals, coloring, and flavoring agents, in the development of biodegradable coating, improving the quality of packing films and enhancing the shelf life and nutritional value of foods. It also shows that nano-emulsions are very good for pesticides formulation where it enhances the solubility of poorly water-soluble pesticides, resulting in increased pesticide bioactivity compared to conventional pesticides. In the biomedicine applications section, the chapters show that nano-emulsion can dissolve hydrophobic drugs and is used as a drug delivery system for many cancers treatment such as lung cancer, breast cancer, prostate cancer, liver, and gastric cancer. Also, nano-emulsions are an excellent candidate for encapsulating drugs or imaging probes for targeted delivery and immunotherapy. This book caters to scientists, researchers, and students interested in nanotechnology, nanomedicine, environmental science, plant science, agriculture, chemistry, biotechnology, pharmacognosy, pharmaceuticals, industrial chemistry, and many other interdisciplinary subjects.