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Nota di contenuto	Front Cover; Contents; Preface; Editor; Contributors; Chapter 1: Microwave and Radio Frequency Heating of Food Products: Fundamentals, Modeling, and Applications; Chapter 2: Emerging Drying Technologies for Agricultural Products; Chapter 3: Osmo-Concentration of Foods; Chapter 4: Membrane Processing of Food Materials; Chapter 5: High Hydrostatic Pressure Processing of Food Materials; Chapter 6: High-Voltage Pulsed Electric Field Processing of Foods; Chapter 7: Cold Pasteurization of Fruit Juices Using Pulsed Electric Fields; Chapter 8: Ultrasonic System for Food Processing Chapter 9: CA and MA Storage of Fruits and Vegetables Chapter 10: Innovation in Food Packaging; Chapter 11: Nanotechnology in Food Processing; Chapter 12: Computational Fluid Dynamics in Food Processing; Chapter 13: Safety and Quality Management in Food Processing; Chapter 14: Biosensors for Food Safety; Chapter 15: Machine Vision Systems for Food Quality Assessment; Chapter 16: Vibrational Spectroscopy for Food Processing; Chapter 17: Chemosensor (Electronic Nose) for Food Quality Evaluation; Chapter 18: Waste Management in Food Processing

Sommario/riassunto

Food is a complex product of biological nature comprised of various macro- and micro-nutrients. All food materials are available in various forms, such as solid, liquid, colloid, and viscous forms, which are processed prior to their consumption. Various processing technologies are employed for these purposes, and these technologies improve the shelf life as well as maintain the nutritional, sensory, physicochemical, and biological qualities of a food. Therefore, food process engineering has a major role in transforming raw materials into final products. As food process engineering becomes more advanced and sophisticated, there is a huge need for specific knowledge of raw materials and effects of various processing treatments on them rather than the specific commodity technology. In this context, the present book Fundamentals of Advanced Food Process Engineering is intended as a general reference book for students and others who are interested in various aspects of processing, packaging, storage, quality control, and assessment systems. The book describes the basic principles and major applications of emerging food processing technologies of the modern research in the field of food process engineering. The above processes are systematically described in three sections through 20 novel chapters in total from different areas of food process engineering. All the chapters have been prepared by high-profile, internationally renewed, and well-experienced professors and scientists throughout the world--