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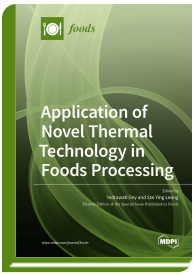
Special Issue Reprint

Application of Novel Thermal Technology in Foods Processing



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Advanced and novel thermal technologies, such as ohmic heating, dielectric heating (e.g., microwave heating and radio frequency heating), and inductive heating, have been developed to improve the effectiveness of heat processing whilst guaranteeing food safety and eliminating undesirable impacts on the organoleptic and nutritional properties of foods. Novel thermal technologies rely on heat generation directly inside foods, which has implications for improving the overall energy efficiency of the heating process itself. The use of novel thermal technologies is dependent on the complexity and inherent properties of the food materials of interest (e.g., thermal conductivity, electrical resistance, water content, pH, rheological properties, food porosity, and presence of particulates). Moreover, there is a need to address the combined use of thermal processing with emerging technologies such as pulsed electric fields, high hydrostatic pressure, and ultrasound to complement the conventional thermal processing of fluid or solid foods.

This Special Issue provides readers with an overview of the latest applications of various novel technologies in food processing. A total of eight cutting-edge original research papers and one comprehensive review paper discussing novel processing technologies from the perspectives of food safety, sustainability, process engineering, (bio)chemical changes, health, nutrition, sensory issues, and consumers are covered in this Special Issue.

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