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Application of Emerging Nonthermal Technologies in the Food Industry

Guest Editors:

Prof. Dr. Zhong Han

College of Food Sciences and Engineering, South China University of Technology, Guangzhou 510640, China

Prof. Dr. Xinan Zeng

College of Food Sciences and Engineering, South China University of Technology, Guangzhou 510640, China

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Message from the Guest Editors

Dear Colleagues,

In the past, thermal processing technologies were widely used to sterilize and enhance the flavor of food. However, during thermal processing, some toxic substances such as acrylamide and furan are easily released, which are considered to be carcinogens by the WHO. Recently, emerging nonthermal processing technologies, such as high-pressure processing, radiation, pulsed electric fields, pulsed light, and cold plasma, have been found to largely ensure the quality and freshness of foods, especially to avoid the generation of carcinogens. In addition, nonthermal technologies have been used to extract active substances from fruit, vegetables, and industrial crop residues, which facilitate the utilization of food and its byproducts. Current studies focus on combination treatment which may be a more effective processing technique for the food industry. Clarifying the mechanisms, optimizing the processes, producing industrial scale equipment, analyzing potential risks, and designing safety rules will be essential for promoting nonthermal processing technologies in the future.

Prof. Dr. Han Zhong

Guest Editor



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Special Issue



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Prof. Dr. Arun K. Bhunia

Department of Food Science,
Department of Comparative
Pathobiology (Courtesy), Purdue
University, West Lafayette, IN,
USA

Message from the Editor-in-Chief

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Foods Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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