

# Food Processing & Technology

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### Enabling technologies and green processes for the production of high-value bioactives

Extraction is one of the essential processes in the preparation of key ingredients in food and pharma industry. Choosing the best technology and procedure has a significant impact on the selectivity and product quality. The development of enabling technologies for process intensification is a prerequisite to advancing the biorefinery concept and green extraction. The overall goal is the cost-effective production of high-value ingredients and the recovery of co-products from biomass and food processing wastes which see ultrasound, hydrodynamic cavitation, microwaves and ball milling technology playing a pivotal role. Several naturally occurring compounds have progressively moved from the territory of traditional and folklore medicine to rigorous studies aimed at identifying natural preventive therapies for diseases. It should also be mentioned that phytochemical and antioxidant characteristics of some bioactive substances can also be affected by physico-chemical treatments, which may have either positive or negative impacts in their properties. Recent advances on a laboratory or bench-top scale, demonstrate the big advantages offered by cascade processes with enabling technologies generating reproducible results for scaling-up.

### Biography

Giancarlo Cravotto is full Professor of Organic Chemistry at the University of Turin (Italy) and since 2007 he is Director of the Department of Drug Science and Technology and he is the President of the European Society of Sonochemistry. His research activity is documented by more than 300 peer reviewed papers, several book chapters and patents. His group has been partner of several UE projects. Among them ARCADE (FP7), MAPSYN "Highly efficient syntheses using alternative energy forms" (FP7-NMP-2012), "ECOEXTRACTION" (Alcotra 2011) and US4GREENCHEM (Horizon 2020). His research activity is focused on enabling technologies for green chemical processes and extraction from lab scale to industrial applications.

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