



Special Issue: *Gastrophysics* – International Journal of Food Design

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The emerging science of gastrophysics aims to integrate diverse perspectives on gastronomical sciences into a unified field of academic inquiry. As suggested by Barham (2013, p. 3) “... gastrophysics should be to gastronomy as astrophysics is to astronomy. Astronomers observe the planets and stars, they note how they move and even predict future movements; but astrophysicists explain why the stars are where they are and how they got there, and they also supply the sound scientific basis for the whole subject.”

According to one definition, gastrophysics combines gastronomy and psychophysics in order to understanding what happens in the diner’s mind, in relationship to what happens in their mouths, as well as everything else (Spence, 2017). In other words, the focus is on the science of the mind of the diner rather than on the science of the kitchen or cuisine (Spence & Youssef, 2018). To date, much of the gastrophysics research has focused not so much on the relationships between the components of the food and perception, but rather on ‘the everything else’, that influence our multisensory food experiences. This includes the role of plateware, glassware, cutlery, multisensory atmospheres, brand touchpoints, food aesthetics, as well as numerous other

factors (Spence, 2017). As argued by Moller (2013), though, flavour “is not all in the brain”. For instance, hunger and satiety modulate hedonic perception. Interoceptive states modulate flavour appreciation, and food preferences are shaped by culture as well as education. Gastrophysics should therefore also be thought of as encompassing the study of everything from internal states to cultural influences on food experiences (Laudan, 2013; Visser, 1991).

Furthermore, it has also been suggested that gastrophysics is aligned with biophysics and chemistry, in that it aims to study the complex interactions in the science of cooking (Myhrvold, Young, & Bilet, 2011; Mouritsen, 2012), the physics of food, ingredients, food processing and food technology (Knorr & Watzke, 2019), and aspects of the physical basis for food quality, flavour, appreciation and adsorption in the human body (Mouritsen & Risbo, 2012; though see also Spence & Youssef, 2018).

With this Special Issue announcement, we call for investigations in the field of gastrophysics. Given the aims and scope of the journal, we are particularly interested in papers that incorporate aspects of applied insight and design. In particular, we are interested in works that integrate food design with other disciplinary approaches, such as experimental psychology, cognitive neuroscience, design, marketing, economics, anthropology, and culinary arts, among others, in the context of gastrophysics. As gastrophysics aims to expand our knowledge on the phenomena observed in gastronomy, we are also interested in evidence-based solutions to urgent human and planetary health issues. Our hope is that at the intersection of science and design we can foster awareness, behaviour change, and inspire strategies for innovation. We welcome empirical and theoretical work, as well as case studies documenting initiatives relevant to the field. We welcome research that looks into topics such as:

- Psychological and physicochemical influences of plateware, cutlery and glassware on food experiences.
- Multisensory food experiences.
- Multisensory marketing and food experiences.
- Digital technologies in the context of gastrophysics.
- Social aspects of dining.
- Gastrophysics in the times of self-isolation.
- Food aesthetics influences on food experience design.
- Gastrophysics for special needs groups, such as children and the elderly.
- Gastrophysics to improve health and wellbeing in cases of anosmia (aging populations, cancer patients, etc.)
- Gastrophysics to promote healthy and sustainable food consumption behaviours.
- Bringing back Home Economics: Gastrophysics for education.

- Using gastrophysics to reduce food waste and/or promoting plant-based diets.
- Gastrophysics and public policy strategies to promote human and planetary health (e.g., solutions in light of the climate crisis).
- Ethics of sensory nudging in the world of food and drink.

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The Journal

The International Journal of Food Design (IJFD) is the first academic journal entirely dedicated to Food Design research and practice. The journal aims at creating a platform for researchers operating in the various disciplines that contribute to the understanding of Food Design: Design applied to food and eating, or food and eating investigated from a Design perspective. The upcoming issues in IJFD will be published open access free of charge. See <https://www.intellectbooks.com/international-journal-of-food-design>

Submission of papers

A double-blind review process will be used for this special issue.

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