



Université Claude Bernard



Lyon 1

HABILITATION A DIRIGER DES RECHERCHES

Date de la soutenance : **28 mars 2023**

Nom de famille et prénom de l'auteur : **Monsieur DOUGKAS Anestis**

Titre de la thèse : « *Explorer comment les propriétés nutritionnelles et sensorielles des repas influencent l'appétit, la prise alimentaire et la santé* »



Résumé

Eating behaviour encompasses all the factors that determine food selection, motivation, preferences, and food intake in response to environmental or physiological stimuli. Food intake has been the focus of my research work and has been linked to homeostatic and hedonic principles of regulating the amount and quality of food eaten, nutrients ingested, and consequently, their effects on physiology, metabolism, and health.

My previous research work performed as a PhD student at the University of Reading, UK, and a post-doc fellow at Lund University, Sweden, explored the homeostatic regulation of food intake within the context of obesity, enabling me to better characterise the role of certain food groups such as dairy and nutrients on the physiologic regulation of appetite. We showed in my PhD that there is no definitive evidence to support a concern to limit dairy products by both adults and children on the grounds that they may promote increased food intake and obesity. Furthermore, using novel experimental designs in appetite intervention studies within a laboratory context in Sweden, we demonstrated clearly the highest satiating capacity of proteins (milk proteins) relative to carbohydrates and fat.

More recently, my research at the Institut Paul Bocuse Research Centre (IPBR), France, encompassed the hedonic regulation of appetite by exploring the relationship between the sensory properties of food with food reward, appreciation, and intake. The work conducted by PhD students under my co-supervision enabled to study food preferences and sensory abilities alterations by integrating the sensory and reward domain of eating behaviour in vulnerable populations. The Baria-Taste collaborative project showed that food preferences were different between bariatric surgery patients with and without sensory alterations and were linked with the weight loss outcome. The Cancer-Sens collaborative project highlighted the high inter-individual variation regarding food preferences, which was linked with their sensory perceptive abilities in cancer patients undergoing chemotherapy.

My future research work will be the follow up of those on-going projects aiming to go further into deciphering the psycho-biological mechanisms involved in appetite and food intake regulation and to study the modulation of the sensory and nutrition profile of meals considering inter-individual diversity in relation to food intake and weight status in obesity and cancer. Finally, I plan to explore and test strategies to increase

healthy eating by balancing meal enjoyment and nourishment in a variety of populations and cultures. My double affiliation at both IPBR and CarMen/CRNH-RA laboratory and involvement in international consortia such as the I-eAT, which addresses gastronomic solutions for altered taste, support those multidisciplinary approaches, and set the foundation for future projects. Within, these research lines, I plan to follow up on the methodological development work using direct measures of eating behaviour by analysing the microstructure of the meal (digital tools) and incorporating metabolic, sensory, and psychosocial approaches combined for a holistic understanding of eating behaviour and styles in both ecological living labs and real-life eating environments.

Collectively, my research work is using a novel and multidisciplinary approach, and a diversity of observational and interventional methods to move forward the knowledge about the impact of the nutritional and sensorial properties of meals on food intake. This knowledge will lead to more tailored nutritional management to ultimately strengthen the health at both the individual and the general population level.