

## When a Calorie is not a Calorie; How Sensory Properties Influence Eating Behaviour and Energy Intake

by **Dr. C.G. Forde**

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### Abstract

**Host: Prof Zhou Weibiao**  
**Date: 4<sup>th</sup> Nov, 2016, Friday**  
**Time: 12 to 1pm**  
**Venue: Seminar Room S14-06-19**

From infancy to adulthood and old age, foods sensory signals play an important role in shaping our eating behaviours and dietary patterns, and can be used to influence health and well-being. Taste, smell, and texture play a central role in food palatability and stimulate our desire to eat. Beyond palatability, sensory signals also influence the amount of food we select and the extent to which a food is experienced as satisfying (McCrickerd and Forde 2016). With experience and repeated consumption humans and other animals learn to link the structural and chemical properties of a food to the underlying nutritional value of its consumption. Through this learning, taste, smell and texture come to play an important functional role in signalling the end of intake (satiation), inhibiting eating for a period of time (satiety), and the longer term regulation of energy intake from meal to meal. Food texture moderates the rate of eating and oral-metering of calorie ingestion through its influence on microstructural patterns of eating, while taste signals the nutrient and energy content of the foods we consume. Even in a highly palatable food environment, equally liked foods with subtle differences in sensory quality and intensity can influence everyday eating behavior and the perception of foods energy. Collectively, these processes are important in moderating energy intake leading to either negative or positive energy balance over time. A deeper understanding of how the sensory properties of foods and beverages influence food choice and ingestion will drive the development of successful behavioural and dietary strategies to manage chronic conditions such as obesity and type-2 diabetes. The implications of perceptual and behavioural factors on nutritional well-being and health will be discussed with examples from the current research by the Sensory Ingestive Behaviour group at the Clinical Nutrition Research Centre.

### About the speaker



**CIARAN FORDE** joined the A\*STAR Singapore Institute for Clinical Sciences as Principal Investigator in Sensory Science and Ingestive Behaviour and as an Associate Professor (Research) in Physiology at the National University of Singapore in late 2014. Dr. Forde has established the 'Sensory and Ingestive Behaviour' lab at the Clinical Nutrition Research Centre and studies how human sensory perception influences food choice and calorie selection, and can impact energy intake within and between meals. (<http://www.nutritionresearch.edu.sg/>).

Prior to this, Dr. Forde worked as a Senior Research Scientist at the Nestle Research Centre in Lausanne Switzerland, leading research focused on sensory and cognitive factors that influence ingestive behaviour and health. Dr. Forde was previously a scientist at Glaxo-Smith-Kline in the UK and also in the Commonwealth Scientific industrial Research Organisation (CSIRO) in Sydney, Australia, where he led a team linking food physical and chemical properties to perceptual and behavioural responses. His main research interest is in the link between sensory perception, ingestive behaviour and dietary learning, as it relates to energy intake regulation and chronic conditions such as obesity. Dr. Forde graduated with a Bachelor in Food Chemistry and completed his PhD. in Sensory Science in the Department of Nutrition in University College Cork in Ireland.