

# Preface

The subject of food colloids is the study of multiphase systems containing the main functional ingredients of food at the nanoscale or mesoscopic level. The scientific aim is to use the fundamental concepts of physical chemistry, material science and soft matter physics to understand how the properties of colloidal systems – emulsions, dispersions, gels and foams – are related to the interactions between the constituent macromolecules and particles, both in bulk solution and at fluid interfaces. The practical objective is to improve control of the taste, texture and shelf-life of existing foods, and to formulate new products of high quality using imaginative combinations of ingredients and processing methods. A major challenge emerging for the food industry is the design of novel nanoscale structures for delivery of physiologically active components, in order to provide additional specific health benefits over and above that expected from consuming the nutrients present in a normal diet.

This volume is based on the conference ‘Food Colloids 2006’ held in Montreux (Switzerland) from 23 to 26 April 2006. It was the 11th in the series of biennial European conferences on this subject organized under the auspices of the Food Group of the Royal Society of Chemistry, the first having been held 20 years ago at the University of Leeds. The conference programme was sub-titled ‘Self-Assembly and Material Science’, and there were five main themes: (i) material science concepts in food; (ii) self-assembly in food; (iii) colloidal aspects of nutrition; (iv) understanding electrostatic interactions in foods; and (v) particles at interfaces.

The Montreux conference was attended by more than 200 delegates from 26 different countries, including a large proportion of younger scientists and research students. The technical programme consisted of 42 lectures and around 125 posters. Some 34 of the conference lecture presentations are recorded as edited chapters in this book, beginning with the stimulating review article on ‘Food Structure and Nutrition’ based on the invited lecture of Professor Bruce German. A set of research papers based on selected poster presentations are to appear separately in a special issue of the journal *Food Hydrocolloids* edited by Christophe Schmitt and Raffaele Mezzenga.

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