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Editorial: 17th Food Colloids conference: "Application of Soft Matter Concepts" April 8-11, 2018, University of Leeds, Leeds, UK

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The series of biennial Food Colloids conferences has thrived on a long-standing history of bringing together scientists from many disciplines, emphasizing the importance of approaching the physical chemistry of complex foods from different perspectives. The conference series aims to expand knowledge of the state-of-the-art science in food colloids, on how interactions between food components create multi-phase structures and the fate of those colloidal structures during oral-to-gastrointestinal processing on different length scales.

The 17th Food Colloids Conference (April 8 - 11, 2018) was held at the University of Leeds at Leeds (UK), where it was originally founded in 1986. The conference was a major success with 302 international delegates from 29 nations and 5 continents. The overall theme of this conference was “Application of Soft Matter Concepts”. The scientific sessions covered a series of cutting-edge research topics illustrating the strong interplay between fundamental colloid science research and more applied soft matter research, under five themes:

- Interfacial design
- Colloidal aspects of eating and digestion
- Relating structure to properties (macro-meso-micro-nano)
- Biopolymer interactions
- Processing of novel structures for functionality

The welcoming address was given by Prof. Eric Dickinson (University of Leeds, UK), the founder of this conference series, who highlighted how 'Food Colloids' has expanded and evolved over the years. Besides 5 keynote presentations, 43 research talks and 2 technical talks, a record-breaking number of high quality posters (179) were presented in two poster sessions. For the first time, poster prizes were awarded to student presenters, after review of all posters by 18 expert judges. The three winners were Morfo Zembyla (University of Leeds, UK), Judith Wemmer (ETH Zurich, Switzerland) and Mamisoa Nomena (University of Amsterdam, Netherlands).

The scientific session themes covered emerging research questions in the domain of food colloids; for instance, designing new colloidal structures and kinetic evolution of those structures during processing, storage and consumption. Strong emphasis emerged on applying sophisticated scattering, microscopic and mechanical techniques at multiple length scales to investigate the structural organization of food and allied soft matter systems. Often a multidisciplinary approach, combining experimental data, theoretical considerations and simulations, was used to gain fundamental understanding of the structural organization of the complex food systems. These systems included emulsions, foams, microgel, particles, foams, hydrogels, mixed gels, bijels, liposomes and a variety of lipoidal and proteinaceous self-assembled structures.

A key emphasis was on the properties of the interface separating the different phases, with a focus on particle-stabilized (Pickering) systems and a number of examples demonstrated how the interface can be designed to target food functionality. One of the main functionalities discussed was Oral to Gastrointestinal processing of colloidal structures. The techniques ranged from the use of oral tribology as a tool to harmonized INFOGEST digestion protocol for understanding *in vitro* processing of multiphasic structures in the oral phase to the gastrointestinal tract, respectively. It is worth highlighting that the presence of both academic and industry participants, engaging together in the active poster sessions, ensured a lively exchange of knowledge and scientific advances in this highly interdisciplinary field.

In addition to the conference, a workshop of the INFOGEST network was organized on the following 2 days (April 12 - 13, 2018), which aimed at discussing current issues and gaps in our knowledge of how to accurately simulate and apply *in vitro* human digestion conditions to foods to understand their dynamic re-structuring post consumption.

We would like to take this opportunity to thank all the participants at the conference, who all contributed to its tremendous success, but of course particularly our invited speakers,

who all gave excellent keynote presentations. Thank you also to the International Committee (Björn Bergenståhl, Miguel A. Cabrerizo Vilchez, Martin Leser, Richard Ipsen, Reinhard Miller, Taco Nicolai, Elke Scholten and Ulrike van der Schaaf) for giving us the opportunity to organize this conference at University of Leeds and for their great help in the planning. We also gratefully acknowledge our sponsors: Stable Micro Systems, Formulaction, Anton Paar, Data Physics, Biolin Scientific, Postnova, Arla, Nestlé Research, Malvern Panalytical, Elsevier's journal *Colloids and Surfaces A: Physicochemical and Engineering Aspects* and the RSC's journal *Food and Function*. Finally, we must express our special gratitude to the staff and students of the Food Colloids and Processing Group plus other members of the School of Food Science and Nutrition at the University of Leeds, for all their valuable efforts: their support and assistance was the basis of the successful organization of this conference.

This Special Issue of *Colloids and Surfaces: Physicochemical and Engineering Aspects*: '*Food Colloids*' contains selected original scientific contributions that illustrate the depth and diversity highlighted of the scientific program at the 17th Food Colloids Conference at the University of Leeds, UK. It is with high expectations therefore, that we look forward to the 18th Food Colloids Conference, to be held April, 19 - 22, 2020, hosted by Lund University, Sweden.