Niranjan - as he is better known - is the Professor of Food Bioprocessing at the University of Reading in UK. A Chemical Engineer by training, he researched at the Universities of Mumbai and Cambridge, and joined Reading in 1989 as a lecturer. He was accorded a Personal Chair in July 2005. He has a strong research portfolio with several publications in a number of areas including bubble containing foods, high pressure processing, and packaging for fresh-cut fruit and vegetable produce; and has research projects funded by leading agencies including multinational companies. He is an editor of the Journal of Food Engineering, a Fellow of the Institute of Food Science and Technology, and a former Chair of the International Society of Food Engineering. He is keen on knowledge transfer and enterprise, and is actively involved in promoting enterprise activities within the University of Reading.

Abstract:

Bubbles are always perceived to represent the best in food and drink. Their presence and characteristics have dominated our perception of the quality of bread, champagne, ice creams, and let’s not forget the good olde beer! In recent years, there has been a constant flow of new bubble containing snack foods into our supermarkets – whipped cream, chocolate, wafers, cakes, meringues, extruded snacks and sparkling drinks - all of which have very novel structures and are perceived to offer lighter alternatives in terms of calories, and are also associated with luxury. Most products manage to gain a positive market image by highlighting bubbles.

Despite widespread practice, the science underpinning the formation of bubble containing food structures, especially the link between processing conditions and dispersion (or foam) quality. This talk will aim to enhance the profile of this rather neglected food processing operation. Using real but adequately characterised examples, principally, chocolate and milk, the talk will present experimental data on bubble-hold up and bubble size distributions deduced from X ray tomography and confocal laser scanning microscopy. The relationship between operating variables, biochemical determinants, and foam properties and stability, will be explored in the case of milk.