

Abstract - Peter Langborg Wejse, Arla Foods

Title: Scale of the Problem

Abstract: Most foods are inherently complex due to their biological origin. They are chemically and physically organised at a vast range of length scales. Much of our current understanding of food characteristics stem from simplified systems and food models as well as from highly controlled laboratory experiments. Such knowledge is invaluable when developing new food products as well as for improving and troubleshooting existing production processes. However, extrapolating the knowledge from such simplified systems into truly understanding and describing real world applications leaves a lot of room for improvement. Exemplified by milk fat crystallisation and casein micelle structural dynamics and their influence on dairy foods' rheological functionality challenges are lined up showcasing the scales of time, size and complexity that needs to be adressed to truly understand and control food production.