

Food seen through the eyes of a condensed matter physicist

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Food science and technology have started to enormously profit from parallel developments made in the physics of soft condensed matter, materials science and nanotechnology. Our understanding of complex food systems has made considerable progress in selected areas due to the application of analogies drawn to classical soft condensed matter sciences, combined with the use of novel techniques that allow for non-invasive and time-resolved investigations of complex, soft and fragile food systems. I will demonstrate the striking analogies between seemingly unrelated scientific and technological disciplines such as ceramics processing, metallurgy, fractal geometry and cheese and yoghurt making. A special emphasis will be given to the discussion of basic concepts used in soft condensed matter physics and their application to food processing and cooking.