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Ashok R. Patel

# Alternative Routes to Oil Structuring



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# Preface

Ooh what about gels? This is embarrassing to admit, but I haven't even thought about gels.

(The Simpsons, Covercraft 2014)

In the last few years, oleogels and oleogelation have transformed from relatively unheard terms to a well-explored research domain in food lipid science. The sudden rise in the interest in this area is clearly indicated from a rapid increase in the number of oleogel-related publications appearing in both field-specific (food and lipid science journals) and multi-disciplinary journals. At least from a basic research perspective, oleogelation has been hailed as a promising oil structuring strategy that can help us formulate food products with significantly lowered levels of saturated fats. Besides the industrial need for such an approach, the main driver for such increased interest in this area has to do with the interesting properties of oleogel systems that make them an attractive subject for fundamental and explorative research.

Considering the enormous potential of oleogels, it is currently regarded as a 'hot-topic' among food researchers and if the current trend is anything to go by, more concrete applications of oleogels in commercial food systems are expected in the near future.

The purpose of this *Springer Brief* is to give an overview of some recent research in the area of oleogelation with the main focus of providing practical guidelines for new researchers starting their work in this area. Chapter 1 gives a concise but comprehensive overview on different categories of structuring agents that have been researched so far, followed by chapters where structurants such as natural waxes, hydrophilic food polymers, and colloidal particles are discussed individually, to have a detailed understanding about characterization of oleogels. Potential food applications of oleogels covered in Chap. 5 should be of particular interest to industrial scientists working in the area of healthy structuring of foods. This book ends with a discussion on general considerations in terms of advantages and drawbacks of some of the most promising and researched oleogel systems.

It is an honest attempt of the author to provide a succinct account on edible oleogels from a practical point of view such that new researchers starting their work in the area of oil structuring can use this information as general guidelines. I believe this *Springer Brief* will be of interest to both academic and industrial scientists working in the area of lipid science and technology.

Gent, Belgium

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