

Third Laureate Applied Research



- **Research Work Title:** Manufacture of Mesonanocarrier systems using Mozafari Method

- **Researcher:** Prof. Mohammad-Reza Mozafari
- **Nationality:** I.R. of Iran
- **Field:** Nanobiotechnology
- **Position:** Founder and Head of “Australasian Nanoscience and Nanotechnology Initiative” & University Professor
- **Scientific Affiliation:** Australasian Nanoscience and Nanotechnology Initiative, Monash University, Victoria, Australia.

Abstract:

A novel scalable method capable of producing carrier systems for the encapsulation and delivery of drugs, cosmetics and food ingredients has been developed. The technique enables manufacture of different carrier systems, including nanoliposomes, niosomes, vesicular gels, cochleates and archaeosomes. A significant aspect of the methodology is that the carriers can be prepared without using high-shear force treatments or toxic solvents in one step using a single vessel. Particle size can be controlled by the concentration, type and ratio of ingredients as well as the stirring rate and time. These defined process parameters are responsible for reproducible results with respect to particle size and entrapment efficiencies. Another important advantage of this method is the suitability for the entrapment of many different bioactive substances regardless of their size, charge and solubility.

Biography:

Dr. Mozafari, Nanobiotechnologist, graduated from the School of Pharmacy and Chemistry, Liverpool John Moores University in 2005. He has more than 100 publications, including 5 Books, most of which are pioneers in the field of Pharmaceutical Nanotechnology and Nanobiotechnology. His book “Nanoliposomes: from fundamentals to recent developments” is the very first book ever written on Nanoliposomes. He has developed and patented 3 methods and apparatus for the manufacture of nanocarrier systems and has developed another method in his name (i.e. “Mozafari Method”). The mentioned methods can be used to prepare several different types of micro- and nano-delivery systems including liposomes, nanoliposomes, niosomes, cochleates, vesicular gels, Archaeosomes, etc. Dr Mozafari has over 19 years of research and teaching experience both academic and industrial, in different countries including England, New Zealand, Turkey, Malaysia and Australia. Currently he is the President of the Nanoscience and Nanotechnology Initiative in Melbourne, Australia.