

# Nanotechnology: An emerging technology in packaging of food products

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Food packaging is a critical technology addressing the ever-increasing demands for convenience, freshness, ease, shelf-life, safety and security of food products. The main purpose of food packaging is to protect the food from microbial and chemical contamination, oxygen, water vapour and light. The type of packaging used therefore has an important role in determining the shelf-life of the food. Nanotechnology can be intervened to achieve the purpose of food packaging and it will become one of the most powerful forces for innovation in the food packaging industry. Nanoscience and nanotechnology have already been applied in various fields, such as computer electronics, communication, energy production, medicine and the food industry. The nanoscale devices are often manufactured with the view to imitate the nanodevices found in nature and include proteins, DNA, membranes and other natural biomolecules. Nanoscience and nanotechnology are new approaches to research and development that concern the study of phenomena and manipulation of materials at atomic scales, where material properties differ significantly from those at a larger scale. In the food packaging arena, nano materials are being developed with enhanced mechanical and thermal properties to ensure better protection of food from exterior mechanical, thermal, chemical or microbial effects.

**Key Words :** Nanotechnology, Packaging, Nanoscale

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