

## **Contributions of nanoscience in designing innovative vectors for agrochemical delivery**

Clemente Ilaria

*Department Chemistry and CSGI, University of Florence, via della Lastruccia 3, Sesto Fiorentino, 50019, I*

In recent years, the application of nanosystems and nanomaterials to agronomic research is gaining interest, even though this area is still largely underexplored. Nanotechnology represents a powerful tool to face the challenges of current times, and can also be used to address issues such as the need to reduce the use of pesticides and agrochemicals while still producing quantity and quality products. Consequently, the quest for novel delivery methods of natural adjuvants to cultivations in a safe, non-toxic way has become a priority. A number of strategies have been proposed for this aim, by means of either inorganic or organic innovative carriers, with specific concern about the biocompatibility and the sustainability of the process. Here we propose a summary of recent methods and physico-chemical techniques, which are focused on the exploitation of green sources and materials for the development and characterization of nanocarriers through eco-friendly, safe and easy-to-scale procedures for agricultural applications.