Nano-Enabled Strategies for the Controlled Release of Agrochemicals

The combined pressures of a growing global population and climate change pose significant challenges for modern agriculture. Estimates indicate that food production must increase significantly to meet the demands of the global population, highlighting the urgent need to develop new technologies for the agricultural sector. Currently, nano-enabled materials are being developed with the potential to enhance crop yields and minimize environmental contamination since they can protect active ingredients from abiotic and biotic factors through controlled release mechanisms. In this talk, we will explore the development of some nano-enabled materials produced in our group for the controlled release of pesticides and fertilizers and their potential effects on plants and soil. We will also discuss the strategic design to create novel materials, focusing on innovative products that promote environmentally friendly and sustainable agricultural practices.

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