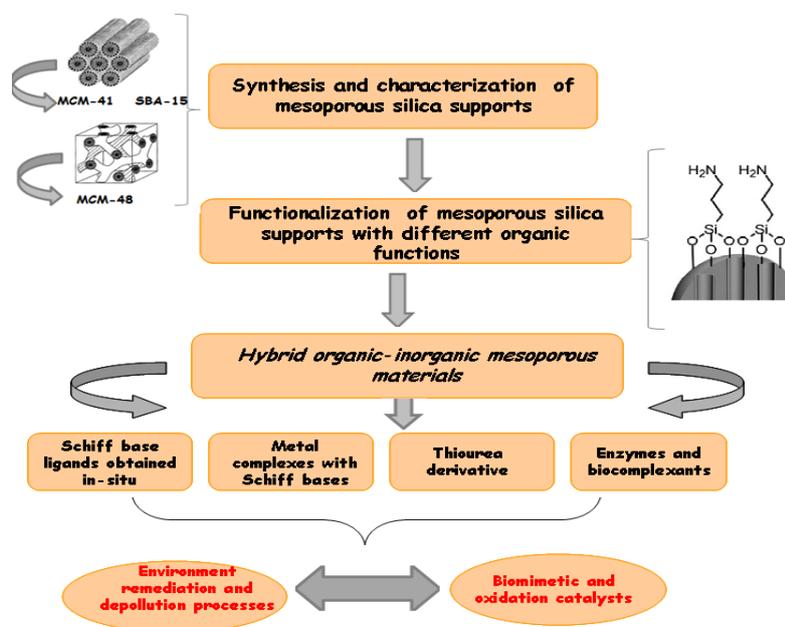


HYBRID (BIO)ORGANIC-INORGANIC NANOCOMPOSITES.

FROM MOLECULAR DESIGN TO GREEN CHEMISTRY APPLICATIONS

During the last decade a great interest has been accorded to the synthesis and applications of a conceptually new class of (bio) organic-inorganic hybrid materials. Although such materials are macroscopically homogeneous, their properties reflect the nature of the chemical building blocks of which they are composed. The blending of organic and inorganic components and the synergism of their properties in one material is particularly useful and leads to multifunctional materials and the properties control from an atomic scale to a nanometric one.

That is why one of this project's objective is the development of new technologies for the hybrid materials synthesis either by grafting the organic component into a mesoporous inorganic substrate or by the sol-gel procedure. These materials could be used either in environmental depollution processes or as catalysts. The selection of the organic component will be correlated with the desired application.



The facilities of our laboratories allow both the synthesis and characterization of the hybrid materials and their testing in the targeted application. This project will be developed under the supervision of Dr. Mihaela MURESEANU and would last for 3 to 9 months.

1. Mureseanu, M; Galarneau, A; Renard, G; et al., *Langmuir*, **2005**, 21(10) 4648-4655.
2. Mureseanu, M; Cioatera, N; Trandafir, I; Georgescu, I; Fajula, F; Galarneau, A; *Micropor. Mesopor.Mater.* **2011**, 146, 141-150.

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