This communication deals with the synthesis and characterization of nanohybrid materials issued from clay minerals. More precisely, the presentation is focused in the first step on the elaboration of efficient adsorbents from several types of clays including kaolinite [1], smectite [2] and sepiolite [3], in view of exploiting them for the elimination by adsorption of pesticides, heavy metals or dyes present in agricultural and industrial wastewaters. This is achieved by chemically modifying the starting clay minerals by the grafting on their surface of selected organic molecules bearing functional groups (amine, thiol, carboxylic) that display chemical affinity towards target species. In the second step, amperometric sensors (modified electrodes) are elaborated from the previously prepared organoclays and used as analytical devices for the electroanalysis of wastewater and aqueous media contaminated by various pollutants.


Keywords: Nanohybrid materials, organoclays, electroanalytical applications