



CYCLE DE CONFÉRENCES DE CHIMIE

*Avec le concours de : Université Clermont Auvergne
INP Clermont Auvergne*

Lundi 16 mars à 16 h
Amphi Rémi (site des Cézeaux)

Chiara BISIO

Dipartimento di Scienze e Innovazione Tecnologica DISIT
Università del Piemonte Orientale "A. Avogadro" Alessandria (Italy)

Layered intercalation materials: versatile platforms for environmental remediation and decontamination

Environmental pollution has reached critical levels, driving intensive efforts to find effective solutions for contaminant removal and degradation. Layered intercalation materials offer remarkable potential for environmental remediation due to the possibility of finely tuning their physico-chemical properties. This allows for enhanced affinity with target contaminants (e.g., heavy metals, pesticides, and toxic industrial chemicals) and superior stability under working conditions. Effective utilization requires an accurate characterization of the material's structure, surface, and textural properties, alongside a deep understanding of the interfacial phenomena between the solid and the contaminants. This contribution highlights examples of optimizing and applying natural and synthetic intercalation compounds for environmental purposes. The applications span from the efficient removal of toxic metals from water media to the catalytic decomposition of harmful molecules. Furthermore, the development of multifunctional layered solids for the simultaneous sensing and abatement of toxic agents will be presented.

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