## DOCTORATE SCIENCES AND TECHNOLOGIES OF CHEMISTRY AND MATERIALS

## **RESEARCH THEME (LOOP PROJECT)**

## Synthesis and electrochemical characterization of metal-semiconductor junctions for photoreductive degradation of perfluorinated pollutants in water

## Supervisor: Paola Lova (DCCI)

As part of the LOOP project, funded by the Italian Ministry of University and Research through the Fondo Italiano per la Scienza – Starting Grant (FIS 2) program, a PhD position is available on the following topic: Synthesis and Electrochemical Characterization of Semiconductor–Metal Junctions for the Photoreductive Degradation of Perfluorinated Compounds in Water.

The research project aims to develop sol-gel synthesis methods for thin films based on semiconductor oxides and their alloys, doped with metal nanoparticles for photocatalytic applications. The selected candidate will carry out morphological, chemical, and electrochemical characterization of the materials using techniques such as AFM, KPFM, SEM, EDX, and cyclic voltammetry. The photocatalytic performance will be assessed in photoreductive processes targeting model perfluorinated substrates in aqueous media.

For further details concerning the research theme, please contact: loop-project@unige.it