



AVVISO DI SEMINARIO

Il giorno giovedì 25 Giugno 2026, ore 11:30.

nell'Aula Pietro Gismondi

Il Prof. Mehmet Kayhan

Associate Professor of Inorganic and Physical Chemistry
Uşak University

Terrà un seminario dal titolo

“Synthesis-Driven Materials Science: Photoactive Tungstates, Photochromic Ceramics, and Functional Carbon Microspheres for Collaborative Research”

Erasmus Mobility

Abstract

This presentation outlines the research expertise and collaborative potential of **Mehmet Kayhan** (Assoc. Prof, Uşak University). Materials science thrives at the intersection of precise synthesis and targeted application. This presentation introduces the research activities and synthetic capabilities of the Uşak University Scientific Analysis, Technological Application and Research Center (UBATAM) at Uşak University, with a focus on photoactive and functional inorganic materials developed for environmental and optical applications.

The core of this talk highlights recent advances in the hydrothermal and co-precipitation synthesis of transition metal tungstates — including manganese tungstate (MnWO_4) and bismuth tungstate (Bi_2WO_6) — investigated for their photocatalytic degradation of organic dyes and photochromic behavior under visible light irradiation. The role of synthesis parameters, surfactant selection, and morphology control in tuning functional properties will be discussed. Additionally, the synthesis of $\text{Fe}(\text{OH})_3$ nanoparticles as low-cost photocatalysts and the comparative hydrothermal synthesis of carbon microspheres from sugar and carboxymethyl cellulose precursors will be presented as examples of the group's expanding synthetic portfolio.

A key objective of this presentation is to outline opportunities for collaborative research built on a synthesis-application partnership model: our group provides well-characterized, tailor-made inorganic materials — tungstates, metal hydroxides, photochromic ceramics, and carbon-based microspheres — while prospective collaborators contribute complementary expertise in areas such as advanced characterization, device fabrication, photocatalytic reactor design, or biological and environmental applications.

Researchers interested in joint publications, Erasmus+ student exchanges, or co-supervised thesis projects are warmly invited to connect.