



AVVISO – ASSEGNO DI RICERCA

Bando DR 6179 del 27.12.2023
scadenza 26.1.2024 - ore 12.00
<https://unige.it/concorsi/assricerca>

N. 1 assegno - Durata anni 1 (rinnovabile) – Importo lordo annuo: € 23.250,00 FASCIA 2

Titolo

Waste biomass valorization for green H₂ production by application of new TiO₂-Carbon Dots photocatalysts

Descrizione

Hydrogen is a highly sought-after energy carrier. Photocatalytic production by water splitting or reforming of organic molecules using sunlight, biomass derivatives, and wastewater is a promising field for further research. The project addresses the synthesis, characterization, and application of different TiO₂-based photocatalysts coupled with carbon dots supported on magnetic zeolites obtained from industrial waste for H₂ production, in accordance with circular economy and green chemistry principles and with a multivariate approach. The synthesized systems will then be used in a plant to produce H₂ from sugary wastewater under both simulated and natural sunlight.

Settore scientifico-disciplinare: CHIM/02 – CHIMICA FISICA

Responsabile scientifico: Prof. Maurizio Ferretti

Sede: Dipartimento di Chimica e Chimica Industriale (DCCI)

Titolo di studio richiesto:

Laurea Magistrale in SCIENZE CHIMICHE LM-54, Laurea Magistrale in SCIENZA E TECNOLOGIA DEI MATERIALI LM-SCI.MAT.

Argomenti del colloquio

Discussion of the project and previous research experiences; Synthesis of nanoparticles, chemical-physical characterization techniques, hydrogen production, synthesis and characterization of porous materials, carbon-dots, characterization and treatments of waste water

Il/La candidato/a dovrà dimostrare la conoscenza della lingua inglese.