UNIVERSITÀ DEGLI STUDI DI TRIESTE

Dipartimento di Scienze Chimiche e Farmaceutiche

Dottorato in Chimica

CICLO DI SEMINARI

Metodi non convenzionali nella preparazione di nuovi materiali

Prof. Ester Vázquez

Universidad de Castilla-La Mancha
Instituto Regional de Investigación Científica Aplicada Ciudad Real, Spain

Part 1. Green Chemistry. Microwaves in Organic Synthesis

Part 2. Microwaves for the modification and purification of carbon nanostructures

Part 3. Ball milling methodologies in dry media. Application to the preparation of 2D materials

13-14-15-16 giugno 2022 ore **11.00 – 13.00, Sala del Consiglio**

Online on Teams at link https://bit.ly/3PQO1mz

Il Direttore
Prof. Paolo Tecilla

Professor Vázquez has focused her research efforts on the functionalization and purification of carbon nanostructures using non-conventional methodologies, demonstrating how scaling-up of the modified carbon nanostructures is possible using green protocols. Her group uses microwave radiations for the activation of carbon nanostructures in solvent-free conditions, preparing multifunctional derivatives that can serve as versatile synthons in materials science and biological applications. She has also applied ball milling methodologies in dry media to shorten and functionalize carbon nanotubes, and for the preparation of graphene and other 2D materials. The ball milling approach allows the production of highly dispersed graphene in organic solvents, and it is one of the best ways of producing graphene suspensions in water, which enables, for instance, the study of interactions of graphene with living bodies and the incorporation of graphene in smart gels with applications on controlled drug delivery, tissue engineering and soft robotics.
Her expertise in these synthetic methodologies can be of great interest for PhD students increasing their knowledge in the stage of methodologies for the environmentally friendly preparation of smart materials. The possibility of using processes that avoid the generation of waste and save energy, contributes positively to the development of projects within the European Green Deal policies.