ansja Nazionale delle Roerche - OR tittuto di Chimica della Materia Condens di Tecnologie per l'Energia













Dipartimento di Scienze Chimiche - Lunedì 29 marzo 2021, ore 15.00 - 16.30 https://unipd.zoom.us/j/763282419

Università degli Studi di Padova - UNIPD Dipartimento di Scienze Chimiche - DiSC

Luca Dell'Amico

Unlocking the Synthetic Potential of Light-Excited Aryl Ketones – Applications in Direct Photochemistry and Photoredox Catalysis

Ketones and aldehydes are arguably the most versatile functional groups in organic chemistry. They can easily evolve into diverse functionalities including animes, alchools, alkenes or alkanes. Over the past, their utilization in synthesis has witnessed a continues growth. This also thanks to their utilisation in aldol- and aldol-type reactions – where the ketone or aldehyde is involved as the electrophilic or pronucleophilic partner.



By shining light on these molecules, it is possible to obtain their corresponding excited states – which are characterized by unprecedent and completely different reactivity with respect to the ground states. Recently, significant attention has been paid towards the investigation and use of these highly reactive excited state intermediates into synthetic organic chemistry.

Consiglio Nazionale delle Ricerche - CNR Istituto di Chimica della materia Condensata e di Tecnologie per l'Energia - ICMATE

Enrico Verlato

An electrochemical approach to CO₂ "recycling"

 CO_2 is the principal greenhouse gas in the atmosphere with a rapidly increasing concentration generated mainly by human activities; but at the same time carbon dioxide is a cheap and abundant source of carbon that could be converted to important compounds used in industrial processes as well as fuels. Electrocatalytic processes can convert CO_2 into useful liquid and gas products with very high selectivity and purity. The challenge is to enhance the efficiency of processes by studying reaction mechanisms involved. Our work consists mainly on studying electrochemical reduction of CO_2 ; in particular, we focus on composite materials based on graphene and metal nanoparticles, and on materials prepared with an electro-precipitation process to obtain ceria-based compound supported on boron dope diamond electrodes.

Il Direttore DiSC Michele Maggini Il Direttore DSCTM Lidia Armelao Il Direttore ICMATE Vincenzo Buscaglia