



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA



CENTER FOR
CHEMICAL CATALYSIS

27th September 2022, 14:00

Seminar programme @C3

Aula IV Ciamician, via Selmi 2, Bologna

Teams [seminario Prof. Llobet](#)

Chair: Professor Francesco Paolucci

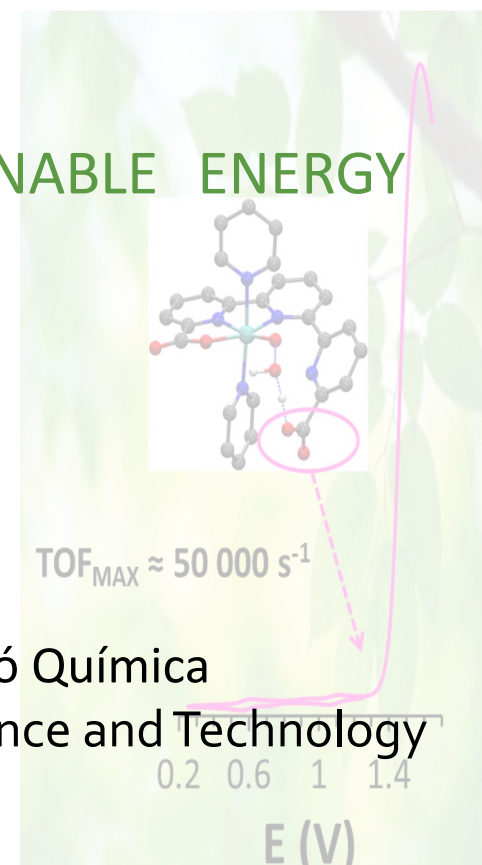
"MOLECULAR ANODES FOR GREEN AND SUSTAINABLE ENERGY APPLICATIONS"



Prof. **Antoni Llobet**

ICIQ – Institut Català d'Investigació Química

BIST – Barcelona Institute of Science and Technology



The replacement of fossil fuels by a clean and renewable energy source is one of the most urgent and challenging issues our society is facing today, which is why intense research is devoted to this topic. Nature has been using sunlight as the primary energy input to oxidize water and generate carbohydrates (a solar fuel) for over a billion years. Inspired, but not constrained by nature, artificial systems can be designed to capture light and oxidize water and reduce protons or other compounds such as CO₂ to generate useful chemical fuels. One of the key aspects for the efficient design of useful devices for the making solar fuels is the understanding and mastering of the anodic reaction involving the oxidation of water to dioxygen. The talk will describe the initial development up to the state of the art, of molecular water oxidation catalysts and their anchoring on conductive surfaces. The latter is crucial for the generation of powerful hybrid molecular anodes for the production of solar fuels.



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UNIVERSITÀ DI BOLOGNA
DEPARTMENT OF INDUSTRIAL CHEMISTRY
"TOSO MONTANARI"



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UNIVERSITÀ DI BOLOGNA
DEPARTMENT OF CHEMISTRY
"GIACOMO CIAMICIAN"

Contacts: Francesco.paolucci@unibo.it; segreteria.c3@unibo.it

<https://centri.unibo.it/c3/en>