



Università degli Studi di Padova

## Seminario

Aula L1, Dipartimento di Scienze Chimiche 31.10.2023, ore 14.30

## **Novel Materials Chemistry for Energy and Environmental Applications**

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The current trend in various energy applications, ranging from batteries to electrolizers, lays in the control of structural, physicochemical and morphological properties of materials and their interfaces. During this presentation, recent scalable strategies for nanostructured materials synthesis, targeting energy and environmental applications will be discussed. Especially, we will focus on one-pot strategies for the fabrication of hybrid and complex nanomaterials focusing on the importance of the organic-inorganic and inorganic-inorganic interfaces. Among the examples presented, we will discuss the synthesis of complex nanostructures and the stabilization of metastable phases for applications in energy storage and conversion. We will see that nowadays the available strategies allow a control in terms of composition, crystalline structure, morphology and nanostructuration that would have been unimaginable just few years ago. Finally, the open challenges the field is currently facing and possible further developments which are needed to meet the always growing demand for high performing materials will be also discussed.

Prof.ssa Silvia Gross (DiSC)

Il Direttore del Dipartimento di Scienze Chimiche Prof. Stefano Mammi