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SÉRIE DE SÉMINAIRES

SEMINAR SERIES

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Title | **Novel Materials Chemistry for Energy and Environmental Applications**

Abstract | 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.

Bio | Nicola Pinna received his Ph.D. in physical chemistry from the Université Pierre et Marie Curie (Paris) in 2001. He has since worked at the Fritz Haber Institute of the Max Planck Society (Berlin), the Max Planck Institute of Colloids and Interfaces (Potsdam), the Martin Luther University of Halle-Wittenberg, the University of Aveiro (Portugal), and the Seoul National University (Korea). In July 2012 he joined the Department of Chemistry of the Humboldt University of Berlin as professor of inorganic chemistry. From July

2016 to April 2021, he was also head of the Department. In 2021 he co-founded BC Berlin Catalysts GmbH. His research activity focuses on the development of novel materials chemistry routes to nanostructured materials for energy and environmental applications.

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