

Evento organizzato nell'ambito di Engineering  
Physics Colloquia



Università  
Ca' Foscari  
Venezia

Dipartimento di  
Scienze Molecolari  
e Nanosistemi

# Basic concepts on topological insulators and their chemistry at the interface with metals

**18 gennaio 2024**, ore 11.00

Aula D, Edificio Zeta - Campus Scientifico Via Torino, Mestre

ed in videoconferenza al link: <https://unive.zoom.us/j/86894211522>  
password: seminar1

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Topological insulators (TIs) are materials with non-trivial band structure topology. Due to this, while they have a band gap in the bulk, they also have conductive topological states at the surface (TSS), which are robust because they are symmetry-protected. Further, TSS have other intriguing properties (e.g. spin-vs-k locking), which makes TIs widely investigated for spintronic and low-power electronic applications. The interfaces between metals and TIs are present almost everywhere when TIs are used in prototypes and applications, from catalysis to spintronics, down to the

fabrication of simple electric contacts. The interface structure is of crucial importance since the special properties of TIs reside in the topological electronic states at their surface. However, in many cases, such an interface is far from being a stable and peaceful neighbourhood between the metal and the TI crystal. In this presentation, the first part is dedicated to introducing the basic concept of topological insulators, while in the second part, the results of our investigation (mostly by electron microscopy) on the interfacial properties of metal/TI systems are presented.

Gli organizzatori offriranno  
coffee & cookies ai  
partecipanti!