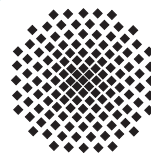


# Stuttgarter Physikalisches Kolloquium

Max-Planck-Institut für Festkörperforschung  
Max-Planck-Institut für Intelligente Systeme  
Fachbereich Physik, Universität Stuttgart

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Dienstag, 4. Dezember 2018

16.15 Uhr

Hörsaal 2D5

Stuttgarter Max-Planck-Institute, Heisenbergstraße 1, 70569 Stuttgart-Büsnau

## From binary to ternary oxide compounds at the 2D limit

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### Abstract

Oxides have become a hot subject among physicists since the discovery, a decade ago, of the existence of a confined electron gas at the interface between two insulating oxides. Actually it was known for long that, thanks to the variety of their crystallographic and electronic properties, oxides possess a rich spectrum of physical and chemical properties, which expands even more when dimensionality decreases or when they are doped/mixed. Oxide ultra-thin films, without any doubt, will play a major role in the future in what is already called oxitronics, but they are also of particular relevance in heterogeneous catalysis and in other fields of applications.

This seminar will focus on the unusual properties of binary and ternary oxide compounds at the two-dimensional limit, including composition, atomic and electronic structures. The interplay of these effects results in nano-scale oxide objects with unique characteristics which substantially differ from their bulk counterparts.

- C. Noguera, J. Goniakowski, in *Oxide Materials at the Two Dimensional Limit*, ed. F.P. Netzer and A. Fortunelli, Springer Series in Material Science 234, 201, Springer (2016)
- L. Giordano, G. Pacchioni, C. Noguera, and J. Goniakowski, *ChemCatChem* **6**, 185-190 (2014)
- Wu, Chen; Castell, Martin R.; Goniakowski, J.; Noguera, C. *Phys. Rev. B* **91**, 155424 (2015)
- Le, H.-L. T.; Goniakowski, J.; Noguera, C. *Phys. Rev. Mat.* **2**, 085001 (2018)
- J. Goniakowski, C. Noguera Intrinsic Properties of Pure and Mixed Monolayer Oxides in the Honeycomb Structure:  $M_2O_3$  and  $MM'O_3$  ( $M, M' = Ti, V, Cr, Fe$ ). *J. Phys. Chem. C*, (2018) under press