

Abstract Submitted  
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**Properties of interfaces between metals and binary oxides.** MATIAS NUNEZ, MARCO BUONGIORNO NARDELLI<sup>1</sup>, North Carolina State University — Metallic gate contacts are fundamental components of MOSFET architectures, and understanding their physical properties at a fundamental level is of great importance for the engineering of advanced electronic devices. In this poster we will present preliminary results of a comprehensive ab initio study of the structural and electronic properties of interfaces between metals and high-k dielectrics, mostly crystalline binary oxides. Our primary interest is in the characterization of the influence of lattice matching and chemical composition at the interface on the Schottky barrier formation and properties. In particular we will frame our results in a broad perspective that embraces, at its ends, the Bardeen and Schottky views of the band alignment problem.

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