



MATERIALS SCIENCE

UNIVERSITY OF ROME
TOR VERGATA



MATERIALS SCIENCE SEMINAR

13/10/2017 2.30 pm

Department of Chemistry
Seminar room

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Hybrid Organic-Inorganic Halide Perovskites: a novel class of materials for the renaissance of renewables. A theoretical standpoint.

Three dimensional organic-inorganic halide perovskites (OIHPs) are compounds with stoichiometric relation AMX_3 (A=organic cation; M=Ge, Sn, Pb; X=halide) whose hybrid nature is conferred by the presence of organic cations that fit the semiconductor network cavities according to well established tolerance size parameters. The interest towards 3D OIHPs derives from their superior features as light harvester in photovoltaic (PV) devices due to their manifold unique properties.

In the first part of my talk I will provide an overview of the structural, electronic, and optical properties of 3D- OIHPs, while the second part will mainly focus on results concerning 0D OIHP and also on the work in progress about interfaces and OIHP surface molecular passivation.