Scuola di Dottorato
di **SCIENZE NATURALI E INGEGNERISTICHE**

Corso di Dottorato in Nanoscienze e tecnologie avanzate

"The Reactivity of Halides of High-Valent Group 5 and 6 Elements with Organic Compounds: Coordination Chemistry and Unusual Activation Reactions"

May 16, 2017 - h. 15.00

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Abstract

Niobium and tantalum pentahalides, molybdenum pentachloride and tungsten hexachloride are easily available solid compounds. We have been involved in the exploration of the reactivity of these halides with stoichiometric amounts of oxygen- and/or nitrogencontaining organic species [1]. The coordination to the metal centre may represent the preliminary step for the transformation of the organic substrate. In a number of cases, the process results in the formation of stable metal-anion salts containing otherwise reactive organic cations [2]. The metal-halide bond energy value and the availability to the metal centre of a one-electron reduced oxidation state are the two key factors which drive the activation reactions, and provide uniqueness with respect to the parallel chemistry exhibited by high-valent main group element halides [3]. Examples will be given with reference to arenes, α-aminoacids, ureas and nitrogen compounds.

The lecture will take place at 15.00 – Sala Verde – Cà Vignal – Strada Le Grazie, 15

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