

# Curriculum Vitae et Studiorum & List of Publications of:

**Stefano Marchesi, Ph.D./Dr.**



Ph.D./Dr. Stefano Marchesi (S.M.) was born in Voghera (Pavia) on 23.08.1990. He graduated in Materials Science-Chemistry (108/110) at the University of Piemonte Orientale in Alessandria (2013). He obtained a Master in Materials for Energy and Environment with top mark (110/110 with laude) at the University of Piemonte Orientale in Alessandria in collaboration with the Consorzio Università ed Impresa Vercelli (Univer) (2014). He graduated in Chemical Science at the University of Piemonte Orientale in 2016 (110/110). He graduated with the title of Doctor of Philosophy (Ph.D.) in "Chemistry & Biology" (XXXII cycle) at the University of Piemonte Orientale in Alessandria (2016-2020).

Since 2013, S. M. has focused his studies on the synthesis of molecular organosilica compounds (POSS) and layered materials with controlled chemical

composition and on their structural, morphological, spectroscopic, thermogravimetric and relaxometric characterization. Large attention has been devoted to the functionalization of these materials with different molecular entities following several synthetic methodologies, such ionic exchange reactions for example, in order to obtain multifunctional materials of interest for several applications.

Currently, S. M. is involved in the study (synthesis and multidisciplinary multi-technique characterization) of novel advanced hybrid materials with luminescent, paramagnetic and catalytic properties and high-surface materials, which are suitable for a wide range of scientific and technological applications.

### ➤ **Main Fields of Interest**

- Inorganic-organic hybrid materials
- Paramagnetic and optical nanoparticles
- Coordination chemistry
- Luminescent materials
- Materials (*i.e.* catalyst...) for environmental remediation
- Synthesis and physico-chemical characterization of porous and layered materials, by means of several analytical techniques (*i.e.* x-ray diffraction, IR and UV spectroscopy, spectrofluorimetry, NMR relaxometry...)

### ➤ **Current Issues of Research**

- Synthesis and characterization of multifunctional inorganic/organic nanoparticles with catalytic, paramagnetic and luminescent properties
- Preparation of advanced layered materials for paramagnetic, optical, catalytic and environmental applications

### ➤ **Publications and Editorial Activity**

S.M. is author of 6 original publications on international scientific journals, published in *New Journal of Chemistry*, *Dalton Transaction* and *ChemPlusChem*.

S.M. participated to several national and international congresses and schools with 4 oral presentation and 6 posters in the three years of PhD program, with 2 more posters and 3 more oral presentations by Prof.ssa Chiara Bisio and Dr.ssa Daniela Lalli containing material from the XXXII cycle of Ph.D. program in "*Chemistry & Biology*".

### ➤ **Membership of Professional Societies**

S.M. is a member of the Italian Chemical Society (SCI) and the Italian Discussion Group on Magnetic Resonance (GIDRM). He is affiliated to the COST Action CA15209 "Eurelax" (European Network on NMR relaxometry, Working Groups WG2-Medical applications).

### ➤ **Scientific Publications of Associated Investigators**

#### **A. Published:**

- 1) S. Marchesi, F. Carniato, M. Guidotti, M. Botta, L. Marchese and C. Bisio, "*Synthetic saponite clays as promising solids for lanthanide ions recovery*", *New J. Chem.*, **2020**, Advance Article for Themed Issue "*Sustainability from Intercalation Compounds*" + **Back-Cover**.
- 2) S. Marchesi, C. Bisio, E. Boccaleri and F. Carniato, "*Luminescent Polysilsesquioxane Obtained by Self-Condensation of Anionic Polyhedral Oligomeric Silsesquioxanes (POSS) and Europium(III) Ions*", *ChemPlusChem*, **2020**, 85, 176-182.

- 3) S. Marchesi, F. Carniato, C. Bisio, L. Tei, L. Marchese and M. Botta, "*Novel Paramagnetic Clays obtained through intercalation of Gd<sup>3+</sup>-Complexes*", *Dalton Trans.*, **2018**, 47, 7896-7904 + **Back-Cover**.
- 4) S. Marchesi, F. Carniato, L. Marchese, E. Boccaleri, "*Luminescent Mesoporous Silica Built through Self-Assembly of Polyhedral Oligomeric Silsesquioxane and Europium(III) Ions*", *ChemPlusChem*, Issue 6, **2015**, 80, 915-918.
- 5) S. Marchesi, F. Carniato, L. Palin, E. Boccaleri, "*POSS as building-blocks for the preparation of polysilsesquioxanes through an innovative synthetic approach*", *Dalton Trans.*, Issue 5, **2015**, 44, 2042-2046.
- 6) S. Marchesi, F. Carniato, E. Boccaleri, "*Synthesis and characterisation of a novel europium(III)-containing heptaisobutyl-POSS*", *New J. Chem.*, Issue 6, **2014**, 38, 2480-2485.

**B. Work in progress:**

- 1) S. Marchesi *et al.*, "*Solution and Solid-State NMR Study of Synthetic Saponite Materials Intercalated with Lanthanide Chelates*", in preparation
- 2) S. Marchesi *et al.*, "*Novel Bifunctional Eu<sup>(III)</sup> and Nb<sup>(V)</sup>-containing Saponites for the Optical Detection and Catalytic Abatement of Chemical Warfare Agents in Aqueous Conditions*", in preparation
- 3) S. Marchesi *et al.*, "*Inclusion of Paramagnetic and Luminescent Lanthanide Ions in the Framework of Synthetic Saponite Clays*", in preparation
- 4) S. Marchesi *et al.*, "*Enhancing the Luminescence Properties of Gd(III) & Eu(III)-containing Saponites through Intercalation of Phenanthroline*", in preparation
- 5) S. Marchesi *et al.*, "*Introduction of Tb(III) & Eu(III) Elements in the Structure of Synthetic Saponite Clays: A Novel Luminescent Sensing Layered Platform*", in preparation