

Leonardo Marchese

Curriculum vitae

PERSONAL DATA

Born in Stigliano (MT), Italy, on 1960, August 1st.

Lives in Grugliasco (TO), Italy

Mobile phone: + 39 3351053862

BIO AND EDUCATION

Leonardo Marchese graduated in Industrial Chemistry at the University of Torino (July 1985) with top marks (110/110 magna cum laude), and in the same University obtained the Ph Doctor (PhD) degree in Chemical Science (September 1990).

UNIVERSITY CAREER

2005-	Full Professor of Physical Chemistry, University of Piemonte Orientale
1998-2005	Associate Professor of Physical Chemistry, University of Piemonte Orientale
1994-1998	Researcher of Physical Chemistry, University of Torino
1992-1994	Assistant Researcher, University of Torino

UNIVERSITY POSITIONS

2015-	Member of the Senate, Università del Piemonte Orientale
2015-	Director of the Department of Science and Technological Innovation, Università del Piemonte Orientale
2011-2015	Vice-Director of the Department of Science and Technological Innovation, Università del Piemonte Orientale
2011-2015	President of the course "Science of materials", Università del Piemonte Orientale
2008-2013	Director of the Master "Materials for Energy and Environment", Università del Piemonte Orientale
2008-2011	Director of the Department of Science and Advanced Technologies", Università del Piemonte Orientale
2005-2008	President of the courses of Chemistry and Chemical Sciences, Università del Piemonte Orientale

SCIENTIFIC POSITIONS

2005-	Coordinator of the Nano-SiSTeMI Interdisciplinary Centre, Università del Piemonte Orientale
2005-	Member of the Technical and Scientific Board of the Proplast Consortium
2013-2016	Coordinator of the European Project (7 th FP) "Global solar spectrum harvesting through highly efficient photovoltaic and thermoelectric integrated cells" (GLOBASOL)
2009-2012	Coordinator of the European Project (7 th FP) "Innovative Materials for Future Generation Excitonic Solar Cells" (INNOVASOL)
2005-2008	Coordinator of the European Project (6 th FP) "Novel Inorganic Nanostructured Materials and Devices with Enhanced Photoemission Activity and Thermal Stability" (STABILIGHT).
2016	Guest Editor of the theme issue of "Catalysis Today" (Elsevier) devoted to the recent advances of porous materials for the heterogeneous catalysis
2013	Guest Editor of the theme issue of "Physical Chemistry Chemical Physics" (Royal Society of Chemistry) titled "Physical-chemistry at the cross-road of advanced oxide materials".
2009	Guest Editor of the theme issue of "Journal of the Material Chemistry" (Royal Society of Chemistry) titled "Layered materials: Structure and Properties"
2008	Guest Editor special issue of "Microporous and Mesoporous Materials" (Elsevier) titled "Innovative Applications of Layered Materials, from Catalysts to Nanotechnology".

MAIN FIELDS OF INTEREST

1. Physical-chemistry of solid state and surfaces
2. Nanomaterials for health, environment and energy
3. Heterogeneous catalysis
4. Porous materials for storage and separation of gases
5. Experimental and theoretical study of host-guest interactions

CURRENT ISSUES OF RESEARCH

1. Development of innovative materials for the environmental and heterogeneous catalysis

Experimental and theoretical physical-chemistry study of innovative materials for environmental catalysis and for the preparation of fine chemicals. Design, preparation and characterisation of nanostructured heterogeneous catalysts for the catalytic abatement or the decontamination of chemical and biological hazardous agents.

2. Development of porous materials for capture, separation or storage of gases or compounds of energetic or environmental relevance

Preparation and optimization of polymeric, inorganic and hybrid organic/inorganic porous solids for environment protection, with particular reference to: i) materials for capture and storage of CO₂ and CH₄ and ii) adsorbents for the removal of hydrocarbons or antibiotics from polluted water. Experimental and theoretical study of the host-guest interactions for the evaluation of the surface properties of adsorbent materials.

3. Novel materials for the production of energy through processes with low environmental impact

Preparation of materials with different structure and chemical composition that can be exploited for the optimization of devices for the production of energy with low environmental impact (photovoltaic cells, fuel cells...)

4. Organic/inorganic luminescent nanomaterials for biomedical applications.

Development of luminescent multifunctional nanomaterials for biomedical applications (photodynamic therapy and theranostic).

CURRENT FUNDED PROJECTS

PROGRAMME	FUNDED PROJECT
EU: 7th Framework Program	Global solar spectrum harvesting through highly efficient photovoltaic and thermoelectric integrated cells (GLOBASOL)
SOL group	Sviluppo di materiali adsorbenti per lo stoccaggio di gas
PRIN 2012	Meccanismi di attivazione della CO ₂ per la progettazione di nuovi materiali per l'efficienza dell'energia e delle risorse

TOP FIVE PAPERS

1. L. Smith, L. Marchese, A.K. Cheetham, J.M. Thomas, P.A. Wright, J. Chen and R.E. Morris, "On the Nature of Water Bound to a Solid Acid Catalyst", *Science*, 271 (1996) 799-802.
2. F. Carniato, C. Bisio, G. Gatti, E. Boccaleri, L. Bertinetti, S. Coluccia, O. Monticelli and L. Marchese, "Titanio-Silsesquioxanes Embedded in Synthetic Clays as a Novel Hybrid Materials for Polymer Science", *Angew. Chem. Intern. Ed.*, 48 (2009) 6059-6061
3. I. Braschi, G. Gatti, G. Paul, C.E. Gessa, M. Cossi and L. Marchese, "Sulfonamide Antibiotics Embedded in High Silica Zeolite Y: A Combined Experimental and Theoretical Study of Host-Guest and Guest-Guest Interactions.", *Langmuir*, 26 (2010) 9524-9532
4. M. Errahali, G. Gatti, L. Tei, G. Paul, G. A. Rolla, L. Canti, A. Fraccarollo, M. Cossi, A. Comotti, P. Sozzani and L. Marchese, "Microporous hyper-crosslinked aromatic polymers designed for methane and carbon dioxide adsorption", *J. Phys. Chem. C*, 118 (2014) 28699-28710
5. B. M. Estevao, I. Miletto, L. Marchese, E. Gianotti, "Optimized Rhodamine B labeled mesoporous silica nanoparticles as fluorescent scaffolds for the immobilization of photosensitizers: a theranostic platform for optical imaging and photodynamic therapy", *Phys. Chem. Chem. Phys.*, 18 (2016) 9042-9052

FURTHER INFORMATION

L. Marchese co-authored over **230 publications** on high impact international journals or books of wide international diffusion and **6 patents**. He is in the list of the top 3000 most cited Italian researchers having over 200 articles with more than **5900 citations (h-index 42)**, and among these 15 articles received 100 citations and 32 articles more than 50 citations.