

PERSONAL INFORMATION**Raffaele PIRONE**

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- Scopus Author ID: 7004041564

SSD: ING-IND/27; SC: 09/D3

Sex Male | *Date of birth* 27/09/1967 | *Nationality* Italian

Enterprise	University	EPR
<input type="checkbox"/> Management Level	<input checked="" type="checkbox"/> Full professor	<input type="checkbox"/> Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
<input type="checkbox"/> Mid-Management Level	<input type="checkbox"/> Associate Professor	<input type="checkbox"/> Level III Researcher and Technologist
<input type="checkbox"/> Employee / worker level	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

WORK EXPERIENCE

From the 27st of January 2011

Full Professor of Industrial and Technological Chemistry

Politecnico di Torino (www.polito.it), Corso Duca degli Abruzzi 24, I-10129 Torino (Italia)

- Rector's Advisor for the Implementation of the "Transition Engineering" Educational project
- Chair of the Chemical and Material engineering College (until October 2021)
Sectors: heterogeneous catalysis, after-treatment processes, bio-refinery concepts, biofuels production, biomass valorisation, CO₂ activation

From the 1st of January 2002 to the 26th of January 2011

Senior Researcher (Primo Ricercatore) at Research Institute on Combustion of the National Council of Researches (IRC/CNR)

IRC-CNR (www.irc.cnr.it), Piazzale V. Tecchio, 80, 80125 Napoli

- Chair of the Hydrogen Project in the Department of Energy of CNR
Sectors: heterogeneous catalysis, deNO_x processes, mathematical modelling, catalytic combustion, oxidative dehydrogenation of alkanes

From the 1st of August 1996 to the 31st of December 2001

Junior Researcher (Ricercatore) at Research Institute on Combustion of the National Council of Researches (IRC/CNR)

IRC-CNR (www.irc.cnr.it), Piazzale V. Tecchio, 80, 80125 Napoli

- Tutor of granted students
Sectors: heterogeneous catalysis, De-NO_x catalytic processes, oscillations in catalysis, zeolites, transient operation of catalytic reactors

EDUCATION AND TRAINING

January, 9th 1997

Ph.D. in Chemical engineering

Università degli Studi di Napoli Federico II, Napoli (Italy)

- Heterogeneous catalysis, zeolites, abatement of nitrogen oxides, dynamics of catalytic reactors.
- Title of the thesis "Catalytic Decomposition of Nitrogen Oxides"

July, 29th 1992

Master Degree in Chemical engineering

110/110 cum laude

Università degli Studi di Napoli Federico II, Napoli (Italy)

- Heterogeneous catalysis, abatement of nitrogen oxides, reaction kinetics
- Title of the thesis "Selective Catalytic Reduction of Nitrogen Oxides"

WORK ACTIVITIES

Organisational / managerial skills

- 2021-to date: Rector's Advisor for the Implementation of the "Transition Engineering" Educational project
- 2015-2021 "College Chairman" in the College of Chemical and Materials Engineering at the Polytechnic of Turin. The appointment is elective and three-year duration
- 2015-2021 Member of the Academic Senate Preliminary Investigation Commission - Investigation Commission for the Coordination of Educational and Training Activities
- 2012-2015 "Reference Faculty" for the following graduation Courses: Chemical and Food Engineering (Bachelor's Degree), Chemical Engineering and Sustainable Processes (Master's Degree), Textile Engineering (Master's Degree), all belonging to the aforementioned College of Chemical and Materials Engineering at the Polytechnic of Turin

Main projects

- Principal Investigator for the Turin Polytechnic Unit for the Research Project within the 7th Framework Program for Research: "Integrated High Temperature Electrolysis and Methanation for Effective Power to Gas Conversion" (Call ID: FCH-JU-2013-1; Proposal number: 621210; acronym: HELMETH). 2014-2017
- Principal Investigator for the Turin Polytechnic Unit for the international ERASMUS MUNDUS doctorate: SINCHEM Project (Sustainable INDUSTRIAL CHEMistry), PhD program offered by a Consortium of 26 partners (7 full partners and 19 associate members) for five years. 2014-2019
- Principal Investigator for the Turin Polytechnic Unit for the national Research Project PRIN 2010-2011: Innovative processes for the conversion of algal biomasses for the production of jet fuel and green diesel; 2013-2016
- Principal Investigator for the Turin Polytechnic Unit for the Industrial Research Project: Development of a catalytic converter for the reduction of methane emissions from engines with compressed natural gas (CNG) supply; 2012-2013
- Project Manager ET.P04.003 - Catalytic processes for the conversion of hydrocarbons in H₂ and its combustion, of the Project "Hydrogen: production, transport, distribution and use" (CNR Department of Energy and Transport). 2006-2011
- Director of the IRC/CNR Unit of the Executive Project "Integrated systems of hydrogen production and its use in the distributed generation" of the Special Integrative Fund for Research of the Strategic Program NEW ENERGY PRODUCTION AND MANAGEMENT SYSTEMS (Project-Objective: Hydrogen Vector). 2006-2008.
- Principal investigator for the contract stipulated by the Research Institute on Combustion with ENEL "Polo Termico di Pisa" (SER/RATXS0661.00) for research on the topic: Study of catalytic systems for the reduction of NO with CO. 1998
- Principal investigator for the project "Realization of a catalytic fluid bed combustor for energy recovery from organic compounds deriving from industrial processes", proposed by the Research Institute on Combustion and funded by the Campania Region (Annuity 1998)

Patents

- Multilayer catalyst, process for the preparation and use thereof in the partial oxidation of hydrocarbons in gaseous phase
Stefano Cimino, Francesco Donsi, Raffaele Pirone, Gennaro Russo
WO2004105937A1, 2004-12-09
- Process for treating gaseous effluents developed in coffee roasting installation
Stefania FURFORI, Luciano ZATTARIN, Fabio Alessandro DEORSOLA, Samir BENSALID, Nunzio RUSSO, Debora FINO, Raffaele Pirone, Marco PIUMETTI
WO2017064654A1, 2017-04-20

Publications

Nov., 30th 2022

Total number of publications in peer-review journals: 113

Total number of citations: 3174

H index (Scopus): 34

relevant publications

1. Pipitone G., Zoppi G., Bocchini S., Rizzo A. M., Chiaramonti D., Pirone R., Bensaid S. (2020). Aqueous phase reforming of the residual waters derived from lignin-rich hydrothermal liquefaction: investigation of representative organic compounds and actual biorefinery streams. *CATALYSIS TODAY*, vol. 345, p. 237-250
2. SALOMONE, FABIO, Giglio, Emanuele, Ferrero, Domenico, Santarelli, Massimo, Pirone, Raffaele, Bensaid, Samir (2019). Techno-economic modelling of a Power-to-Gas system based on SOEC electrolysis and CO₂ methanation in a RES-based electric grid. *CHEMICAL ENGINEERING JOURNAL*, vol. 377
3. Emanuele Giglio, Fabio Alessandro Deorsola, Manuel Gruber, Stefan Raphael Harth, MOROSANU, EDUARD ALEXANDRU, Dimosthenis Trimis, Samir Bensaid, Raffaele Pirone (2018). Power-to-Gas through High Temperature Electrolysis and Carbon Dioxide Methanation: Reactor Design and Process Modeling. *INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH*, vol. 57, p. 4007-4018
4. Abate, Salvatore, Barbera, Katia, GIGLIO, EMANUELE, DEORSOLA, FABIO ALESSANDRO, BENS Aid, SAMIR, Perathoner, Siglinda, PIRONE, RAFFAELE, Centi, Gabriele (2016). Synthesis, Characterization, and Activity Pattern of Ni-Al Hydrotalcite Catalysts in CO₂ Methanation. *INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH*, vol. 55, p. 8299-8308
5. ANDREOLI, SILVIA, DEORSOLA, FABIO ALESSANDRO, GALLETTI, CAMILLA, PIRONE, RAFFAELE (2015). Nanostructured MnO_x catalysts for low-temperature NO_x SCR. *CHEMICAL ENGINEERING JOURNAL*, vol. 278, p. 174-182
6. CAPUTO T, LISI L, PIRONE R, RUSSO G (2008). ON THE ROLE OF REDOX PROPERTIES OF CuO/CeO₂ CATALYSTS IN THE PREFERENTIAL OXIDATION OF CO in H₂-RICH GASES. *APPLIED CATALYSIS A: GENERAL*, vol. 348, p. 42-53
7. F. Donsi, PIRONE, RAFFAELE, G. Russo (2002). OXIDATIVE DEHYDROGENATION OF ETHANE OVER A PEROVSKITE-BASED MONOLITHIC REACTOR. *JOURNAL OF CATALYSIS*, vol. 209, p. 51-61
8. S. Cimino, L. Lisi, PIRONE, RAFFAELE, G. Russo, M. Turco (2000). METHANE COMBUSTION ON PEROVSKITES-BASED STRUCTURED CATALYSTS. *CATALYSIS TODAY*, vol. 59, p. 19-31
9. PIRONE R, CIAMBELLI P, MORETTI G, RUSSO G (1996). Nitric oxide decomposition over Cu-exchanged ZSM-5 with high Si/Al ratio. *APPLIED CATALYSIS. B, ENVIRONMENTAL*, vol. 8, p. 197-207
10. M. Turco, L. Lisi, PIRONE, RAFFAELE, P. Ciambelli (1994). EFFECT OF WATER ON THE KINETICS OF NITRIC OXIDE REDUCTION OVER A HIGH-SURFACE-AREA V₂O₅/TiO₂ CATALYST. *APPLIED CATALYSIS. B, ENVIRONMENTAL*, vol. 3, p. 133-149