

## SHORT BIO:

### Dr. Giuseppe FIERRO

*Research Scientist of CNR (National Research Council) - Institute for the Study of Nanostructured Materials (ISMN), Research Unit at Dept. of Chemistry, 'Sapienza' University of Rome, Rome, ITALY*

- PERSONAL DATA  
 Born on January 29<sup>th</sup>, 1961, in Ariano Irpino (AV), Italy.
- EDUCATION  
 # Diploma of High Grammar School (SY 1973/74 – 1978/79);  
 # Italian Doctor Degree in Chemistry (AY 1979/80 – 1984/85) received with Magna cum Laude on March 27<sup>th</sup>, 1985, from the Faculty of Science, 'SAPIENZA' University of Rome, Rome, Italy.
- WORK EXPERIENCE  
 # 1989 -today: **Consiglio Nazionale delle Ricerche** (CNR), Rome, Italy.  
 # 1985-1989: **Centro Sviluppo Materiali** (CSM, former Centro Sperimentale Metallurgico), Rome, Italy;  
 # 1985: **ENEA** - Casaccia Research Area, Rome, Italy.
- PERIOD OF ACADEMIC STUDY AND RESEARCH ABROAD  
 # CNR Abroad Scholarship - **UNIVERSITY OF PITTSBURGH, Department of Chemistry**, Pittsburgh, PA, USA (Catalysis Lab. directed by Prof. W. Keith Hall (1993-94);  
 - Visiting Scientist – **UNIVERSITY OF PITTSBURGH, Chevron Science Center, Department of Chemistry**, Pittsburgh, PA, USA (1994);  
 - Visiting Scientist – **SOPHIA UNIVERSITY, Department of Chemistry**, Tokyo, Japan, Catalysis Lab. directed by Prof. Koichi Segawa (2006);  
 - Visiting Scientist - **UNIVERSITY OF PIERRE & MARIE CURIE - Institut de Recherche de Chimie Paris** (IRCP), Paris, France (2017);  
 - Visiting Scientist - **UNIVERSITY OF MONTPELLIER - Institut Charles Gerhardt** – Montpellier, France (2017).
- PUBLICATIONS  
 # 140 publications as papers published on ISI (56) or national (4) journals, or as Abstracts (80) in the Proceedings of international and national conferences.
- PROJECTS  
 # Project Leader, PI and co-investigator of CNR, CSM, ILVA-Italsider projects as well as of 'Sapienza' University projects (FIRB, PRIN, Faculty of Science and Ateneo Projects) and of EU projects (BRITE, CECA).
- EDITORIAL WORK  
 # **Guest Editor** of 10 Special Issues of ISI Journals;  
 # **Reviewer** of more than 20 ISI journals in the fields of catalysis, surface science, solid state

chemistry, nanoscience and nanotechnology, coatings technology, physics and chemistry of solids.

- MOST RELEVANT ADVANCED TRAINING COURSES

- 1) WORKSHOP ON **"CATALYST DESIGN"** - International Institute for Pure and Applied Chemistry, U.N.I.D.O, Trieste, 10-14 November, 1992;
- 2) **"CERAMICS AND COMPOSITE MATERIALS"** - Spring College in Materials Science, International Centre for Theoretical Physics (ICTP), Trieste, 17 April-26 May, 1989;
- 3) **"THE INTERACTION OF ATOMS AND MOLECULES WITH SOLID SURFACES"** - Spring College in Condensed Matter Physics, International Centre for Theoretical Physics (ICTP), Trieste, 25 April-17 June, 1988;
- 4) **"METALLIC MATERIALS"** - Spring College in Materials Science, International Centre for Theoretical Physics (ICTP), Trieste, 11 May - 19 June, 1987;
- 5) WORKSHOP ON **"SURFACE SCIENCE AND CATALYSIS"** - International Centre for Theoretical Physics (ICTP), Trieste, 4 - 9 May, 1987.

- HONORS

- # Invited Scientist - **GORDON RESEARCH CONFERENCE ON CATALYSIS**, Plymouth State College, Plymouth, PA, USA, 20-25 July, 1997;
- # Invited Speaker - **216th AMERICAN CHEMICAL SOCIETY NATIONAL MEETING**, Boston, USA, 23-27 August, 1998, Symposium in Honor of Prof. W. Keith Hall;
- # **ELSEVIER AWARD 2013** – Certificate of Excellence in Reviewing – Vacuum Journal;
- # **NANOSMAT-USA 2014** – Member of the International Advisory Board – **Honorary Chairman: Prof. Sir Harold W. Kroto, Nobel Laureate in Chemistry (1996)**;
- # **ELSEVIER AWARD 2015** – Certificate of Outstanding Contribution in Reviewing – Applied Surface Science Journal;
- # **ELSEVIER AWARD 2017** – Certificate of Outstanding Contribution in Reviewing – Applied Surface Science Journal.

- TEACHING, SEMINAR, TUTOR ACTIVITY (graduate, Ph.D. students), INVITED LECTURE

- # Department of Chemistry, 'Sapienza' University of Rome, Rome, Italy;
- # Department of Chemical Engineering, Materials and Environment, 'Sapienza' University of Rome, Rome, Italy;
- # Department of Chemistry, "Cà Foscary" University, Venice, Italy;
- # Department of Chemistry, Chevron Science Center, Pittsburgh, PA, USA;
- # Department of Chemistry, 'SOPHIA' University, Tokyo, Japan;
- # Lecturer at the 1st INTERNATIONAL NANOSMAT SCHOOL hold at the PIERRE AND MARIE CURIE UNIVERSITY, Paris, France (2017);
- Lecturer at the 2nd INTERNATIONAL NANOSMAT SCHOOL hold at the GDANSK UNIVERSITY OF TECHNOLOGY, Gdansk, Poland (2018);
- Invited Lecture – NANOSMAT -5 Conference, Reims, France, (2010);
- Invited Lecture – NANOSMAT-6 Conference, Krakow, Poland, (2011);
- Invited Lecture – NANOSMAT -7 Conference, Prague, Czech Republic, (2012);
- Invited Lecture – NANOSMAT -8 Conference, Granada, Spain, (2013);
- Invited Lecture – NANOSMAT -9 Conference, Dublin, Ireland, (2014);
- Invited Lecture – NANOSMAT -10 Conference, Manchester, UK, (2015);
- Invited Lecture – NANOSMAT -11 Conference, Aveiro, Portugal, (2016).

- ACTUAL RESEARCH FIELDS OF INTERESTS AND ACTIVITY

The professional skills acquired over the years through research and study activities at ENEA, CSM, and CNR primarily concern the following scientific areas:

- i) Heterogeneous Catalysis;
- ii) Materials Chemistry (a) metallic, (b) ceramic, (c) inorganic for heterogeneous catalysis;
- iii) Science and Technology of Metallic and Ceramic Materials;
- iv) Surface Chemistry;
- vi) Solid State Chemistry;
- vii) Chemistry and Physical-chemistry applied to Cultural Heritage.

The research activity is actually mainly devoted to the Preparation, Characterization, and Study of the Catalytic Behavior of Mixed Oxide-Based Catalysts, supported or not, based on transition metal ions, mixed oxides of titania, zirconia, ceria, alumina containing noble metal

oxides (Pt, Pd, Rh), and micro- and mesoporous Molecular Sieves containing transition metal ions. These systems are investigated for industrial reaction applications of interest for Green Chemistry and Environmental Catalysis (like, for instance, removal of gaseous pollutants as  $\text{N}_2\text{O}$  and  $\text{NO}$ , separately or simultaneously).

marine deployment will be discussed.