

Prof. Vincenzo Barone, FRSC

Scuola Normale Superiore
Piazza dei Cavalieri 7 - 56126 Pisa, Italy
Tel: +39 050 509134 Fax: +39 050 563513
Mob. +39 3316267214
e-mail: vincenzo.barone@sns.it
url: <http://dreams.sns.it>



Vincenzo Barone was born in Ancona, Italy on November 8, 1952. After graduating in chemistry (1976, *summa cum laude*), he continued his formation at the Universities of Marseille, Grenoble, Paris, Erlangen-Nuremberg, Montreal and Berkeley. In 1982 he became Associate Professor and in 1994 Full Professor in Physical Chemistry at the Federico II University of Naples. Since 2008 he is Full Professor in Theoretical and Computational Chemistry at the Scuola Normale Superiore of Pisa.

The main research interests of Vincenzo Barone are related to a theoretical microscopic approach for the study of structural, dynamic, electronic and spectroscopic properties of complex systems (materials, nanostructures, biomolecules, “soft matter”), as well as of their reactivity. This analysis is based on the development of an integrated tool for the accurate description of physical-chemical processes in condensed phases, including a general and powerful electronic model (the result of the development of original and effective approaches in the framework of the density functional theory), an accurate description of solute-solvent interactions (through mixed discrete-continuum models), and the inclusion of the most important effects of nuclear motions (vibrational averaging of physical-chemical observables, reaction rates, vibronic structures, slow motions).

The research activity has been then infused with an innovative philosophy: (a) a global perspective, able to capture the most promising methodological developments, and to exploit its potential in the context of chemical applications of great interest; (b) a marked sensitivity to the interpretation of experimental data, enriched in constant interaction with most leading experimental groups; (c) the constant effort to develop general and integrated computational procedures, and make them available not only to specialists, but to a wider scientific community, such as taking care of their implementation in user-friendly software packages and for wide dissemination; (d) awareness of the importance of technological developments in computing architectures (including grid computing), also in the perspective of long-term developments.

The scientific activity of Vincenzo Barone and his group, and his research leadership in the field of theoretical/computational chemistry is evidenced by the large number of contributions to the most influential scientific journals in chemistry (*Chem. Rev.*, *Accounts Chem. Res.*, *Proc. Natl. Acad. Sci. USA*, *Chem. Soc. Rev.*, *Angew. Chem. Int. Edit.*, *J. Am. Chem. Soc.*, *Chem-Eur. J.*), with special reference to chemical physics and theoretical chemistry (*J. Phys. Chem.*, *J. Chem. Phys.*, *J. Comput. Chem.*, *Chem. Phys. Lett.*, *ChemPhysChem.*, *Phys. Chem. Chem. Phys.*, *J. Chem. Theory Comput.*). Barone has authored more than 700 publications in international journals, and during the last 10 years has given more than 80 invited lectures at Italian and foreign institutions (with a total of more than 150 during his whole career). His publications have received over 42000 citations (3435, 3918, 4240, 4420, and 3483 in 2011, 2012, 2013, 2014, and 2015 respectively), with an h-index of 77 (58 for papers published since 2000 and 26 since 2010). His papers have an average of 72 citations per paper; 8 papers have been cited more than 1000 times, and 55 papers more than 100 times. Both the number of citations and the h-index has been hugely increasing in the last years.

The scientific activity has been accompanied by an intense and incessant efforts in promoting the role of chemistry in Italy, both in relation to other disciplinary communities and with respect to the more generally public perception.

As a more recent example of openness to other communities, just mention the realization, at the Scuola Normale Superiore, of the DreamsLab Centre, the virtual reality laboratory headed by Prof. Barone, which includes a virtual “microscope” and “telescope”, based on 3D Cave Automatic Virtual Environment technology, capable of enabling interactive manipulation of virtual “objects” ranging from the cosmological to the molecular scales. The approaches of virtual reality are in fact a fertile ground of junction with the humanities, another traditional area of excellence within the SNS, such as with applications for the reconstruction of archaeological contexts.

The managerial activities carried out at national and international levels is evidenced among other things by the many positions held within the framework of the Italian Chemical Society: he was Coordinator of the Group Interdivisional Computational Chemistry (2004-2006), Chairman of the Division of Physical Chemistry (2007-2009), President of the Italian Chemical Society (2011-2013).

The research activity of Vincenzo Barone has attracted numerous grants from commercial and academic institutions, the Italian Ministry of Education, University and Research and the EU (he was awarded of an ERC Advanced Grant in 2012).

He is correspondence member of the Accademia dei Lincei, Fellow of the Royal Society of Chemistry, member of the American Chemical Society, of the International Academy of Quantum Molecular Sciences and of the European Academy of Sciences. He is member of the Editorial Boards of Theoretical Chemistry Accounts, Phys.Chem-Chem.Phys., Spectrochimica Acta A, Journal of Computational Chemistry, and Open Chemistry.

In 2016, he has been appointed as Director of the Scuola Normale Superiore.

Essential Data

- 2016-: Director of the Scuola Normale Superiore
- 2015-: Dean of the Faculty of Sciences of the Scuola Normale Superiore
- 2015-: Recipient of the "Gian Battista Bonino" Medal
- 2014-: Recipient of the "Cesare Pisani" Medal
- 2013-: Recipient of an Ideas ERC Advanced Grant (DREAMS)
Fellow of the Accademia dei Lincei
- 2012-: Fellow of the European Academy of Sciences
Appointed as Member of the National Committee of Research Guarantors (CNGR)
President of the Chemistry Panel, National Agency for Research Evaluation (ANVUR)
- 2011-: President of the Italian Chemical Society (SCI) for the period 2011-2013
Director of the CECAM node at the Scuola Normale Superiore di Pisa
Member of the Editorial Board of Spectrochimica Acta A
Member of the Advisory Editorial Board of Open Chemistry
Fellow of the Academy of Sciences of Bologna
- 2010-: President of the Computer Center, Scuola Normale Superiore di Pisa (CEIC)
Coordinator of the Pisa Unit, TO61 Project, National Institute for Nuclear Physics (INFN)
Coordinator of M3-Village network, National Consortium for Material Sciences (INSTM)
Chair of the CM1002 - CODECS COST Action
- 2009-: Thomson-Reuters ISI Highly Cited Researcher
Recipient of the "Sacconi" Medal
Chairman of the Congress of the Italian Chemical Society
Member of the Scientific Board of the SCoPE Data Centre (Naples)
Full Professor of Theoretical and Computational Chemistry, Scuola Normale Superiore of Pisa
Fellow of the Royal Society of Chemistry (FRSC)
Member of the Editorial Board of Physical Chemistry Chemical Physics
National Coordinator of Project 7 (Computational Modelling), Molecular Design Department of the Italian National Research Council (DPM-CNR)
- 2008-: Fellow of the International Academy of Quantum Molecular Sciences (IAQMS)
Member of the Scientific Council of the Chemistry Department of CNRS (France)
Member of the Scientific Council of the CASPUR Supercomputer Centre (Rome)
Director of CNR-IPCF
- 2007-: Member of the Editorial Board of Journal of Computational Chemistry
- 2007-2009: President of the Chemical Physics Division of the Italian Chemical Society
- 2005-2007: Coordinator of the Computational Chemistry Group of the Italian Chemical Society
- 2000-: Member of the Editorial Board of Theoretical Chemistry Accounts
- 1990-2000: Visiting Professor at the Ecole Normale Supérieure (Paris) and CEA-CEN (Grenoble)
- 1994-2008: Full Professor of Physical Chemistry, Federico II University of Naples
- 1982-1993: Associate Professor of Physical Chemistry, Federico II University of Naples
- 1978-1981: Assistant Professor of General Chemistry, University of Calabria
- 1978-1983: Post-docs in Erlangen-Nuremberg (Germany), Montreal (Canada), Grenoble (France)
- 1976: Degree in Chemistry
- 1952: Born in Ancona, Italy