
CV of Prof. Nadia Balucani

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Prof. Nadia Balucani
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Born on

EDUCATION

1993: PhD in Physical Chemistry, University of Perugia

1989: Laurea in Chemistry, University of Perugia (Magna cum Laude)

PROFESSIONAL POSITIONS

2016-present: Teaching Director of Undergraduate and Master Studies in Chemistry (Presidente del corso di Laurea in Chimica e LM in Scienze Chimiche)

2018-present: Full Professor, University of Perugia

2004-2018: Associate Professor, University of Perugia

2013: National qualification for the position of Full Professor (ASN 2012) by three panels (03/A2, 03/B1, 03/B2)

1993-2003: Associate Researcher, University of Perugia

2018-22: Affiliated scientist of the Institut de Planétologie et d'Astrophysique de Grenoble, Université Grenoble Alpes; formal role: expert of gas-phase chemistry for the ERC-AdG project DOC (PI: C Ceccarelli)

2015-2016: Associate Member of INAF Osservatorio di Arcetri

2009-present: Member of the Doctorate School (5 PhD students supervised in the last 5 years)

1994/1995: Postdoc (CNR fellowship) with Prof RJ Saykally, University of California Berkeley, USA

SCIENTIFIC APPOINTMENTS

- Professeur Invité in France: 2019 Université Grenoble Alpes; 2015 Université Grenoble Alpes; 2013 Université J Fourier, Grenoble; 2013 Université de Rennes; 2007 Université de Rennes; 2002 Université Bordeaux (Maitre de Conference)

- Visiting Professor: 2012 Universidad del Pais Vasco, E; 2012 University of Hawaii at Manoa, USA; 2009 Universidade de Brasilia, Brazil

- Visiting Scientist: 2000 Universitat Stuttgart, D; 2000 Universidad Complutense Madrid, E; 1999 Institute of Atomic and Molecular Sciences, Taiwan (Group of Prof YT Lee, Nobel Laureate 1986)

- Erasmus Professor: Universidad del Pais Vasco, E (2017, 2016, 2015, 2011); Université de Bordeaux, F (2014); Universidad de Salamanca, E (2013)
- 2015-20: Member (substitute) of the Management Committee of the European COST Action CM1404: Chemistry of Smart Energy Carriers and Technologies (also Local Team Leader)
- 2014-19: Member of the Management Committee of the European COST Action CM1401: Our AstroChemical History (also Local Team Leader; Nov 14 – Jun 16 chair of the WG1 Gas Phase Chemistry & Core Group Member)
- 2010-14: Member of the Management Committee of the European COST Action CM0901: Detailed chemical kinetic models for cleaner combustion (also Local Team Leader)
- 2009-13: Member (substitute) of the Management Committee of the European COST Action CM0805: The Chemical Cosmos: Understanding Chemistry in Astronomical Environments (also Local Team Leader)
- 2016 - present: Member of SOLEIL Synchrotron Peer Review Committee 1 «Diluted Matter»
- 2012-17: Member of the Scientific Committee of the Italian Astrobiology Society
- 2018 – present: Member of the Executive Committee of the Italian Astrobiology Society
- 2015-18: Member of the Italian Space Agency (ASI) panel of experts for Astrobiology
- 2014-18: KIDA (Kinetic Database for Astrochemistry) expert for neutral-neutral reactions in astrochemistry
- 2016 - present: Member of the International Advisory Committee of the International Symposium on Molecular Beams
- 2014-16: Member of the Editorial Advisory Board of the International Journal of Chemical Kinetics
- 2016: Guest Editor of the J Phys Chem A special issue dedicated to Prof. P Casavecchia & A Laganà
- Referee of International Journals: Phys Chem Chem Phys, J Phys Chem A, Chem Phys, Chem Phys Lett, J Chem Phys, Chem Soc Rev, Int Rev Phys Chem, Nature Chemistry, Journal of Organic Chemistry, New Journal of Chemistry, ChemComm, Rapid Commun Mass Spectrometry, Eur Phys J D, Energy, Planet Space Science, Astrobiology, Icarus, Molecular Astrophys, Astrophysical Journal, Nature Astronomy, MNRAS, Astronomy and Astrophysics.
- Reviewer of Scientific Proposals for the funding Agencies: Department of Energy USA, French ANR, NASA USA, Czech Science Foundation, Netherlands Organization for Scientific Research (Chemical Sciences), SIR-MIUR, The Israel Science Foundation, ERC Consolidator Grant 2017 (PE9)
- Member of Gruppo Esperti Valutatori GEV-VQR 2011-14 (ANVUR), Scienze Chimiche

BIBLIOMETRICS

The results of her research are documented by >170 scientific publications, of which >140 published in well-renowned international journals with high impact factor (including Science, Nature, JACS, Phys Rev Lett, PNAS). She has contributed to important review papers published in Chem Rev, Acc Chem Res, Int Rev Phys Chem, Annu Rev Phys Chem. She is the sole author of a review on nitrogen reactions in prebiotic chemistry for Chem Soc Rev. Her publications have received more than 5300 citations on ISI WoS (Feb 2020) and 6400 on GoogleScholar (Feb 2020), H-index=48 on ISI WoS (Feb 2020) and 49 on GoogleScholar (Feb 2020). Included in the Top Italian Scientists list (<http://www.topitalianscientists.org>) since 2011. She has written several book chapters and contributions for collective volumes, including the Encyclopedia of Astrobiology.

SCIENTIFIC COLLABORATIONS

During her career, she has collaborated with theoretical reaction dynamics groups (JM Bowman, Emory University, USA; DG Truhlar, University of Minnesota, USA; GC Schatz, Northwestern University, USA; DC Clary, Oxford University, UK; MH Alexander, University of Maryland, USA; H Guo, University of New Mexico, USA; H-J Werner, Universität Stuttgart, D; J-M Launay, Université de Rennes 1, F; FJ Aoi, L Banares, Universidad Complutense, Madrid, E), with other experimental groups in reaction dynamics (RI Kaiser, University of Hawaii, USA; TK Minton, Montana State University, USA; M Costes, Université Bordeaux, F) and chemical kinetics (IR Sims, Université de Rennes 1, F; A Bergeat, K Hickson, Université Bordeaux I, F). More recently, she has started collaborations with astrophysicists (S Viti, UCL, UK; C Ceccarelli, IPAG, F; C Codella, Osservatorio di Arcetri), planetary scientists (V Vuitton, IPAG, F) and with P Ugliengo (Univ Turin) & A Rimola (Autonoma Barcelona, E).

AWARDS AND MEMBERSHIPS

- 2001 XIII Premio Nazionale Federchimica per un Futuro Intelligente
- Member of Italian Chemical Society, International Society for the Study on the Origin of Life, American Chemical Society; Royal Society of Chemistry, Italian Astrobiology Society
- 2007-2012 Member of the Regional SCI Committee (Direttivo Sezione Umbria)

INVITED SEMINARS @

1993 Max-Planck-Institut für Strömungsforschung, Göttingen; 1998 Universidad de Salamanca; 1999 Institute of Atomic and Molecular Sciences, Taipei; 2000 Universität Stuttgart; 2002 Université Bordeaux; 2007 Université de Rennes; 2009 Universidade de Brasília; 2011 Università di Roma La Sapienza; 2012 Osservatorio Astrofisico di Arcetri; 2012 University of Hawaii at Manoa (USA); 2012 Universidad del País Vasco, Vitoria; 2013 Osservatorio Astrofisico di Trieste; 2013 Institut de Physique de Rennes; 2013 Université J. Fourier, Grenoble; 2014 Observatoire de Grenoble; 2014 Université Bordeaux; 2014 Università di Roma La Sapienza; 2015 Scuola Normale Superiore, Pisa; 2015 Università G. d'Annunzio; 2015 Universidad del País Vasco, Vitoria; 2016 Scuola Normale Superiore, Pisa; 2016: Universidad Barcelona, 2017 Université Paris-Sud.

CONFERENCES ATTENDED

Her scientific reputation is witnessed by 42 invited talks worldwide (including prestigious conferences such as Pacifichem, Gordon Conference, IAU General Assembly, 2 ACS National Meetings, Collision Dynamics Meeting, ISSOL Meeting) and 43 contributed talks. She participated in the Nobel Symposium on Cosmochemistry (2006) upon invitation.

CONFERENCE ORGANIZATION

- Chairperson: Co-Organizer (with RI Kaiser) of the Inaugural Astrochemistry Symposium, 246th ACS National Meeting (Indianapolis, 8-12/9/13); 4th Annual Meeting of the COST Action CM0901 Detailed Chemical Kinetic Models for Cleaner Combustion (Perugia, 16-18/9/13); The role of oxygen in planetary systems (Perugia, 17-18/9/12); From astrophysics to astrochemistry towards astrobiology – IV Workshop of the Italian Astrobiology Society (Perugia, 19-21/9/12)
- SOC Member: First General Meeting of the COST Action CM1401 Our Astrochemical History (Prague, Czech Rep, 25-29/5/15); CHITEL 2015 (Turin, 26-31/7/2015); Life in a Cosmic Context – V Workshop of the Italian Astrobiology Society (Trieste, 15-17/9/15); Complex organic molecules in space: gas-phase routes and isotopic enrichment – I meeting WG1-4 COST Action CM1401 (Pisa, 7-8/3/16); Summer School

Astrochemistry: From Space To Earth (Grenoble, 29/8-9/9/16); XVII International Conference on Science, Arts and Culture Sailing through the Wonders of Astrobiology (Veli Lošinj, Croatia, 25-29/9/17); Astrochemical Conference KIDA (Bordeaux, 26-29/9/17); Computational Astrochemistry Workshop @ ICCSA2018 (Melbourne, Australia, 2-5/7/18); Conference on Combustion Physics and Chemistry (Samara, Russia, 24-28/7/18);); Computational Astrochemistry Workshop @ ICCSA2019 (St. Petersburg, Russia, 1-4/7/19).

- LOC Member of 9 international/national conferences

SCIENTIFIC ACTIVITY

Her main field of expertise is gas-phase chemistry. In the first part of her career, NB was mainly involved in crossed molecular beam (CMB) studies of the reaction dynamics of simple systems of interest from a fundamental point of view. The possibility of comparing detailed experimental results with state-of-the-art dynamical calculations performed by various groups led to the publications of papers with numerous citations. During her stay in Berkeley, she has worked on IR emission spectroscopy of polycyclic aromatic hydrocarbons. Once returned to Perugia, she has applied the CMB technique to the study of systems of interest in astrochemistry, atmospheric chemistry, combustion chemistry. In recent years, her main research interests have focused on astrochemistry and prebiotic chemistry. Her research group has participated in EU networks, such as Astrophysical Chemistry (97-02), Reaction Dynamics (98-02), Molecular Universe (04-08), Europlanet (05-08), COST Actions CM0805, CM0901, CM1401, CM1404.

Nadia Balucà