

Curriculum Vitae

Sonia Melandri
Università di Bologna
Dipartimento di Chimica "G. Ciamician", via Selmi, 2- 40126 Bologna (Italy);
Tel: 0039 051 2099502;
Sonia.melandri@unibo.it

Sonia Melandri is Associate Professor in Physical Chemistry at the University of Bologna since March 2011 and Deputy Head of the Dipartimento di Chimica "G. Ciamician" since May 2015.

She received her degree in Chemistry from the University of Bologna (110/110 summa cum laude) in 1990 and her PhD title in Chemical Sciences in 1994. From 1994 to 1998 she worked at the CNR and at the University of Bologna as a postdoctoral fellow and from 1998 to 2011 as Researcher at the University of Bologna.

Sonia Melandri was visiting scientist at various universities: Valladolid (Spain), Hannover (Germany), Coimbra (Portugal), Bilbao (Spain) and at the Elettra synchrotron in Trieste (Italy). Her research activity is focused on the study of conformational and tautomeric equilibria, large amplitude motions and non covalent interactions in molecules and weakly bound molecular complexes of chemical, biological and astrophysical interest by spectroscopic and theoretical methods.

Her studies In particular concern:

- Spectroscopic and theoretical characterization of molecules and molecular complexes of chemical, biological and astrophysical interest (complex conformational and tautomeric equilibria, large amplitude motions).
- Effects of intra and intermolecular non-covalent interactions and microsolvation (water, rare gases, ammonia) on the structure and dynamics of molecules and molecular complexes
- Quantum chemical methods (ab initio, DFT) and other methods (flexible model, distributed polarisability model and electrostatic models) to characterize conformational minima and potential energy surfaces.
- Design assembly and upgrading of microwave spectrometers in supersonic expansions.

Area of expertise: mainly microwave spectroscopy in free jet expansions but also other spectroscopies (FTIR, XPS, NEXASF) in thermally equilibrated systems, and in rare gas matrixes. Use of quantum mechanical spectroscopic models and quantum chemical theoretical calculations. Also, design, assembly and upgrading of microwave spectrometers in supersonic expansions.

Co-author of 113 papers in refereed international journals. H-index is 21 (WOS), Total citations number about 1700.

ISI list of publications can be seen at the URL: <http://www.researcherid.com/rid/D-9600-2014>.

Participation in many international congresses and schools (also invited).

Participation in research projects

- Participant in Human Capital and Mobility program Participant (University of Valladolid, Spain 1996)
- Participant in Aciones Integrada/MIUR bilateral program (University of Valladolid, Spain 2002)
- Participant in DAAD/MIUR VIGONI bilateral program (University of Hannover, Germany 2003)

- PI of "Gas-phase conformational equilibria of biomolecules by photoelectron spectroscopy". Elettra Synchrotron (Italy) Proposal n. 20095123 (2009).
- PI of "Gas-phase conformational equilibria of biomolecules by photoelectron spectroscopy". Elettra Synchrotron (Italy) Proposal 20100422 (2010).
- PI and visiting scientist Access User Training for Advanced Optical Techniques in Bioimaging and Bio-processing (OPTBIO): "Laser-induced photochemistry of neurotransmitters and their model compounds" (2011).
- Group member of 10 National project (PRIN)
- Deputy coordinator in 1 National project (PRIN)
- Group member of 20 projects financed by the University of Bologna
- Coordinator of 3 three RFO scientific local projects at the University of Bologna

Participation in training programmes:

- Teacher of bachelor and master's course in Physical Chemistry at the University of Bologna
- Supervisor of master thesis University of Bologna (6 thesis)
- Supervisor in Ph.D program in "Chemical Sciences" University of Bologna (2 thesis)
- Member of training board for Ph.D. course in "Chemistry" University of Bologna
- Professor and thesis supervisor in Erasmus Mundus Course: "Chemical Innovation and regulation". University of Bologna and other partners (1 thesis)
- Invited Professor at the Winter School organized by Centre for Ultrafast Imaging of the University of Hamburg- Obergurgl 2013

Memberships, reviewer activity and organization of events:

- Member of the Società Chimica Italiana (1990-present)
- Secretary of the Sez. Emilia Romagna of Società Chimica Italiana (2012-2014)
- Referee of the following journals:
Journal of Physical Chemistry, Journal of Molecular Structure, Molecular Physics, Physical Chemistry Chemical Physics, Journal of Chemical Physics Letters.
- Review Editor of Frontiers in Physical Chemistry and Chemical Physics online open-access journal
- Panel referee for the following organizations:
-Italian Ministry for Education and University: PRIN 2012,
-Research Foundation Flanders (FWO)
-Israel Science Foundation
- Member of the Organizing Committee: XII Giornata della Chimica organizzata dalla Sezione Emilia Romagna della Società Chimica Italiana. Bologna 18 December 2013
- Member of the Organizing Committee for the Workshop: Theory, Experiments and Modelling of Chemical Processes, Dynamics and molecular interactions" PRIN (Prot. 2008KJX4SN_001) Bologna 29 November 2012.
- Co-chair of local organizing committee: The 23rd International Conference on High Resolution Molecular Spectroscopy; Bologna, 2-6 September, 2014.
- 2016-present Member of International Steering Committee of the "International Conference on High Resolution Molecular Spectroscopy" conference series
- 2016-present Member of International Scientific Committee of "Chemistry and Physics at Low Temperatures" conferences series
- 2017-present Member of Editorial Board Journal of Molecular Spectroscopy