

Curriculum Vitae – PUZZARINI CRISTINA

• PERSONAL INFORMATION

Puzzarini, Cristina

Professor of Physical Chemistry

Dept. Chemistry “Giacomo Ciamician”, Università di Bologna

E-mail: cristina.puzzarini@unibo.it

<https://site.unibo.it/rotational-computational-spectroscopy/en>

<http://star.sns.it/>

Date of Birth: 2 Dec 1969

Nationality: Italian

Researcher ID: E-4640-2015

ORCID ID: 0000-0002-2395-8532

Scopus Author ID: 7003775904

• EDUCATION

Ph.D. (Chemistry), Università di Bologna, 1997 (Supervisor: Prof. P. Palmieri).

M.Sc. (Chemistry), Università di Bologna, 1993 (cum laude).

• CURRENT POSITIONS

– *Full Professor of Physical Chemistry*, University of Bologna, 2018 – to date.

– *Director*, Interuniversity Center for Astrochemistry STAR, 2018 – to date.

– *Visiting Research Professor*, Department of Physics – Center for Nanophysics and Advanced Materials, University of Maryland, November 2018 – to date.

• PREVIOUS POSITIONS

Associate Professor of Physical Chemistry, University of Bologna, 2012 – 2017.

Assistant Professor of Physical Chemistry, University of Bologna, 2006 – 2012.

Research Associate (molecular spectroscopy), University of Bologna, 2000 – 2006.

Postdoctoral Scholar (theoretical chemistry), University of Bologna, 1998 – 2000.

Postdoctoral Scholar (theoretical chemistry), University of Marne-la-Vallée, 1997.

Ph.D. fellowship (theoretical chemistry), University of Bologna, 1994 – 1996.

• FELLOWSHIPS AND AWARDS

Invited Professor, University of Valladolid, 2017.

Invited Professor (LabEx fellowship), Université Paris-Est, 2016.

Research Associate (Galilei fellowship), Université de Lille I, France, 2004.

Visiting Professor, Université de Lille, France, 2004.

Visiting Research Associate (Marco Polo fellowship), Washington State University, 2004.

Visiting Research Associate, Universität Göttingen, 2001.

• RESEARCH INTERESTS

Research activity is characterized by the synergic interplay of experiment and theory, often combined with synergistic international collaborations:

- Astrochemistry: spectroscopic support to astronomical observations, chemistry of the interstellar medium, fundamental questions about the origin of life.
- Molecular physical chemistry: studied via the fields of rotational spectroscopy and state-of-the-art computational methods.
- Effective communication of science through presentations and writing (e.g. an educational book on Astrochemistry will be published by a popular newspaper in 2019 and outreach talks).

The leading expertise in both experimental and computational fields at a national and international level applied to astrochemistry has led to the coordination as principal investigator (national coordinator) of two national projects (PRIN 2009 Project (2011-2013) "*Molecular Spectroscopy for Atmospheric and Astrochemical Research: Experiment, Theory and Applications*" and PRIN 2012 Project (2014-2017) "*STAR: Spectroscopic and computational Techniques for Astrophysical and atmospheric Research*").

- **PUBLICATIONS, TALKS AND SEMINARS**

More than 210 papers (4421 citations, 3662 since 2009; H-index = 31), almost all in the areas of high-resolution rotational and computational spectroscopy, astrochemistry, quantum chemistry. About seventy papers in the last five years, including three review articles.

I have given about 100 presentations at scientific meetings. Of these, only 15 have been in national conferences, while the remaining lectures have been given at international meetings. I am frequently chosen to present lectures on the interface between spectroscopy and theory. More and more frequently, I participate or am invited at astrophysical conferences.

- **TEACHING ACTIVITIES**

I am fiercely committed to the process and communication of science, and my teaching activities reflect my broad background in both experimental and theoretical chemical physics. Courses that I have taught at my university include those covering molecular spectroscopy (theory and lab), computational chemistry, and physical chemistry. My teaching has been recognized, and I have also been invited to give courses at Scuola Normale Superiore di Pisa (at master and Ph.D. level) and University of Firenze (at the astrophysics graduate school).

- **SUPERVISION OF STUDENTS AND POSTDOCTORAL FELLOWS**

2006 – to date I have supervised several undergraduate and graduate students as well as postdocs at both my home institution and, in the last years, at Scuola Normale Superiore di Pisa.

For the current members of my group see:

<https://site.unibo.it/rotational-computational-spectroscopy/en/people>

- **MAJOR COLLABORATORS**

A. Ali (NASA, USA)	J.L. Alonso (U. Valladolid, Spain)	D. Ascenzi (U. Trento, Italy)
N. Balucani (U. Perugia, Italy)	V. Barone (SNS, Italy)	M. Biczysko (U. Shanghai, China)
L. Bizzocchi (MPE, Germany)	J. Bloino (SNS, Italy)	P. Caselli (MPE, Germany)
C. Codella (INAF, Italy)	L. Dore (U. Bologna, Italy)	H.D. Drew (U. Maryland, USA)
G.B. Ellison (U. Colorado, USA)	J.S. Francisco (U. Nebraska, USA)	J. Gauss (U. Mainz, Germany)
J.-U. Grabow (U. Hannover, D)	M. Hochlaf (U. Paris-Est, France)	R. Linguerri (U. Paris-Est, France)
G. Mancini (SNS, Italy)	T.E. Murphy (U. Maryland, USA)	K.A. Peterson (WSU, USA)
D. Skouteris (SNS, Italy)	J.F. Stanton (U. Florida, USA)	J. Cernicharo (CSIC, Spain)

- **ORGANISATION OF INTERNATIONAL SCIENTIFIC MEETINGS**

2012 (Sept 12-14)	IMAMPC 2012, Chair, Scuola Normale Superiore di Pisa, Italy
2013 (July 2-5)	IMAMPC 2013, Scientific Advisory Board, Lille, France
2014 (Nov 23-30)	QUITEL 2014, Scientific Advisory Board, Galapagos, Ecuador
2018 (February 15-16)	ASTRO-Winter Modeling, Chair, Bologna, Italy
2018 (June, 13-16)	2 nd Italian Workshop on Astrochemistry, Co-chair, Follonica (GR), Italy
2018 (June, 25-28)	National meeting of the Physical Chemistry Division of the Italian Chemistry Society (SCI), LOC, Bologna, Italy
2018 (July 14-22)	COSPAR - F3.5: The Evolving Universe and the Origin of Life, SOC, Caltech, Pasadena, USA
2018 (Sept 10-12)	Faraday Discussion, Scientific Advisory Board, Edinburgh, UK
2019 (Feb 27-Mar 1)	4 th MOLIM Cost General Meeting, Chair, Bologna, Italy
2019 (March 4-8)	APS Focus Topic Symposium “Bridging the gap between theory and experiment in gas-phase spectroscopy”, Chair, Boston, USA

- **INSTITUTIONAL RESPONSIBILITIES**

2018 – to date Member of the Research Evaluation Committee of the Dept. Chemistry “Giacomo Ciamician”, Univ. Bologna, Italy

2018 – to date Member of the Doctoral School Board, Astrochemistry, Scuola Normale di Pisa, Italy

- 2017 – to date Board member, Theoretical and Computational Chemistry Division, Italian Chemistry Society
- 2016 – to date Member of the Admission and Didactics Committee, Master Degree in Chemistry, Dept. Chemistry “Giacomo Ciamician”, Univ. Bologna, Italy
- 2014 – to date Member of the Research Evaluation Committee, Panel Chemistry, Univ. Bologna, Italy
- 2016 – 2018 Member of the Doctoral School Board, Methods and Models for Molecular Sciences, Scuola Normale di Pisa, Italy
- 2012 – 2016 Member of the Admission and Didactics Committee, Master Degree in Fotochemistry, Univ. Bologna, Dept. Chemistry “Giacomo Ciamician”, Italy
- 2007 – 2011 Board member, Physical Chemistry Division, Italian Chemistry Society

- **REVIEWING ACTIVITIES**

- 2017 – to date Reviewer of international projects (U.S. Department of Energy; ACS Petroleum Research Fund, USA; I-SITE ULNE project excellence in research, Université Lille-Nord, France)
- 2010 – to date Reviewer of the Assessment of Quality in Scientific Research (VQR)
- 2010 – to date Reviewer of national MIUR projects (PRIN, FIRB, SIRI)
- 2016 – to date Editorial Board, Journal of Molecular Structure
- 2010 – 2013 Editorial Board, Journal of Molecular Spectroscopy
- I regularly serve as a reviewer for ACS (JPCA, JCTC, Earth and Space Chemistry), RSC (PCCP), Elsevier (JQSRT, JMS), Wiley-VCH (IJQC), AIP (JCP), OIP (Astrophys. J.) and Astron. Astrophys. I am also the guest editor of the PCCP themed issue “Challenges in spectroscopy: accuracy versus interpretation from isolated molecules to condensed phases” (vol. 21, year: 2019).

- **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

- 2016 – to date Associated Member, INAF, Italy
- 2014 – to date Associated Member, INFN, Italy
- 2009 – to date Associated Member, INSTM Consortium, Italy
- 2015 – to date Management Committee Member, COST Action CM1405 “MOLIM”
- 2015 – to date Member, COST Action CM1401 “Our Astro-Chemical History”

- **CARRIER BREAK**

- 2006 (Jul 8 – Dec 8) Maternity leave (5 months)