LORENZO SPADA, PhD

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ACADEMIC STUDIES

2007-2010: Bachelor Degree in Chemistry (110/110) – ALMA MATER STUDIORUM – University of Bologna. Thesis title: "Studio di complessi tra molecule di interesse atmosferico ed acqua". Supervisor: Prof. Walther Caminati.

2010-2012: Master Degree in Chemistry (110/110 summa cum laude) – ALMA MATER STUDIORUM – University of Bologna. Thesis title: "Characterization of noncovalent inter- and intra-molecular interactions by using rotational spectroscopy". Supervisor: Prof. Walther Caminati, Co-supervisor: Dr. Luca Evangelisti.

2013-2016: Doctor of Philosophy (PhD) in Chemistry – ALMA MATER STUDIORUM – University of Bologna. Thesis title: "Conformational equilibria, non-bonding interactions and chirality from rotational spectroscopy". Supervisor: Prof. Walther Caminati, Co-supervisor: Dr. Assimo Maris.

STUDIES AND EXPERIENCES ABROAD

1) *Visiting Ph.D. Student*: Department of Chemistry, University of the Basque Country, Bilbao (Spain) February – April 2014 (E. J. Cocinero Group).

2) *Visiting Ph.D. Student*: Department of Chemistry, University of Virginia, Charlottesville (Virginia, USA), February – April 2015 (B. H. Pate Group).

3) *Visiting Postdoc:* Department of Chemistry, University of Valladolid, Valladolid (Spain), July 2017 (J. L. Alonso Group).

4) *Visiting Postdoc*: Institut für Physikalische Chemie und Elektrochemie, Leibniz University of Hannover, 17-29 March 2018 (J.-U. Grabow Group).

AWARDS AND SCHOLARSHIPS

1) Winner of the "Marco Polo" scholarship which allowed me to spend 3 months in the group of Prof . Brooks H. Pate at the University of Virginia (USA).

2) Winner of scholarship to participate at the "41st Chemical Physics Congress" of the Italian Chemical Society. June, 23-27 2013, Alessandria, Italy

CONFERENCES AND SEMINARS

1) Given Talk at the International conference: "*Theory, experiments and modelling of chemical processes, dynamics and molecular interactions*". Talk title: "*Conformational equilibria and*

internal motions in diols: a rotational study of 1,4 butanediol". November 29th 2012, Bologna, Italy.

2) Poster presentation entitled:" *How water interacts with anesthetics: the rotational spectrum of isoflurane-water*" at "41st Chemical Physics Congress" of the Italian Chemical Society, June, 23-27 2013, Alessandria, Italy.

3) Given Talk at the International conference: "Bologna 2014 - The 23rd International Conference on High Resolution Molecular Spectroscopy" of the study entitled: "*Halogen bond features revealed in the gas phase by rotational spectroscopy*". September, 2-6 2014 Bologna, Italy.

4) Given Talk at the "25th Italian National Congress" of the Italian Chemical Society". Talk title:" *Halogen bond features revealed in the gas phase by rotational spectroscopy*". September, 7-12 2014, Arcavacata (CS), Italy.

5) Given Talk at the " ERC AdG – Barone DREAMS: final meeting - Advances in computational modelling: from isolated molecules to soft matter". Talk title: "*Noncovalent Interactions and Internal Dynamics in Pyridine–Ammonia: A Combined Quantum-Chemical and Microwave Spectroscopy Study*". November 29 – December 2, 2017, Pisa, Italy.

6) Given Talk at the "*II Italian Workshop on Astrochemistry*". Talk title: "*Prebiotic molecules from in silico experiments to laboratory spectroscopy toward space: cyanomethanimine as a case study*". June 13 – 16, 2018, Follonica, Italy.

7) Given Talk at the "*25th International Conference on High Resolution Molecular Spectroscopy*". Talk title: " *The nitrogen-nitrogen noncovalent interaction in the gas phase*". September 3 – 7, 2018, Bilbao, Spain.

8) Local organizing committee member of the International conference: "*Bologna 2014 - The 23rd International Conference on High Resolution Molecular Spectroscopy*". September, 2-6 2014 Bologna, Italy.

9) Organizing committee member of the Workshop: "*ASTRO-Winter Modeling - Advances in computational & experimental modeling: Application to Astrochemistry*". February, 15-16, 2018, Bologna, Italy.

10) Organizing committee member of the "4th COST MOLIM GENERAL MEETING". 27 th February-1st March, Bologna, Italy.

11) Chair of the "Young researchers meet molecular spectroscopy" conference, 4 - 5 April 2019, Pisa (Italy).

THESIS CO-SUPERVISOR:

1) Candidate: GIULIO BOSI. Title:"Competizione tra legami a idrogeno deboli O-H···F e C-H···F: il caso del complesso difluorometano-tert-butil alcool". ACADEMIC YEAR: 2015-2016.

2) Candidate: ALESSIO MELLI. Thesis Title:"Prebiotic molecules in space: The cases of ethanimine and C-cyanomethanimine". ACADEMIC YEAR: 2016-2017.
3) Candidate: SILVIA ALESSANDRINI. Thesis Title:"Spectroscopic characterization of new sulfur-containing molecules for astrochemical purposes". ACADEMIC YEAR: 2016-2017.
4) Candidate: FILIPPO SILVESTRINI. Thesis Title:"Indagine sui legami idrogeno della serina: uno studio di spettroscopia computazionale". ACADEMIC YEAR: 2016-2017.
5) Candidate: ROBERTA PASCAZIO. Thesis Title:"Prebiotic molecules in space: the cases of isopropylimine and isopropylamine". ACADEMIC YEAR: 2017-2018.
6) Candidate: RICCARDO AGUTI. Thesis Title:"Caratterizzazione spettroscopica di molecule di interesse astrochimico: gli isomeri di H_2C_3O e l'isopropilammina". ACADEMIC YEAR: 2017-2018.

PUBLICATIONS

1) L.B. Favero, L. Evangelisti, G. Feng, L. Spada, W. Caminati, Chemical Physics Letters, 517, 139 - 143 (2011).

2) L. Evangelisti, Q. Gou, L. Spada, G. Feng, W. Caminati, Chemical Physics Letters, 556, 55 - 58 (2013).

3) L. Spada, Q. Gou, M. Vallejo - López, A. Lesarri, E. J. Cocinero, W. Caminati, Physical Chemistry Chemical Physics, 16, 2149 - 2153 (2014).

4) M. Vallejo – López, L. Spada, Q. Gou, A. Lesarri, E. J. Cocinero, W. Caminati, Chemical Physics Letters, 591, 216 - 219 (2014).

5) Q. Gou, L. Spada, M. Vallejo - López, Z. Kisiel, W. Caminati, Chemistry an Asian Journal, 9, 4,1032-1038 (2014).

6) L. Kang, S. E. Novick, Q. Gou, L. Spada, M. Vallejo - López, W. Caminati, Journal of Molecular Spectroscopy, 297, 32 - 34 (2014).

7) Q. Gou, L. Spada, M. Vallejo - López, L. Kang, S. E. Novick, W. Caminati, Journal of Physical Chemistry A, 118, 1047 – 1051 (2014).

8) Q. Gou, G. Feng, L. Evangelisti, M. Vallejo - López, L. Spada, A. Lesarri, E. J. Cocinero, W. Caminati, Chemistry a European Journal, 20, 1980 – 1984 (2014).

9) Q. Gou, L. Spada, M. Vallejo - López, A. Lesarri, E. J. Cocinero, W. Caminati, Physical Chemistry Chemical Physics, 16, 13041 – 13046 (2014).

10) Q. Gou, L. Spada, E. J. Cocinero, W. Caminati, Journal of Physical Chemistry Letters, 5, 1591 – 1595 (2014).

11) L. Spada, Q. Gou, S. Tang, W. Caminati, New Journal of Chemistry, 39, 2296 – 2299 (2015).

12) Q. Gou, G. Feng, L. Evangelisti, M. Vallejo - López, L. Spada, A. Lesarri, E. J. Cocinero, W. Caminati, Chemistry a European Journal, 21, 4148 – 4152 (2015).

13) Q. Gou, L. Spada, Y. Geboes, W. A. Herrebout, S. Melandri, W. Caminati, Physical Chemistry Chemical Physics, 17, 7694 – 7698 (2015).

14) Q. Gou, L. Spada, J. C. López, J.-U. Grabow, W. Caminati, Chemistry an Asian Journal, 10, 5, 1198 – 1203 (2015).

15) L. B. Favero, W. Li, L. Spada, L. Evangelisti, G. Visentin, W. Caminati, Chemistry a European Journal, 21, 15970 – 15973 (2015).

16) I. Uriarte, P. Écija, L. Spada, E. Zabalza, A. Lesarri, F. J. Basterretxea, J. A. Fernández, W. Caminati, E. J. Cocinero, Physical Chemistry Chemical Physics, 18, 3966 – 3974 (2016).

17) L. B. Favero, I. Uriarte, L. Spada, P. Écija, C. Calabrese, W. Caminati, E. J. Cocinero, Journal of Physical Chemistry Letters, 7, 1187 – 1191 (2016).

18) P. Écija, I. Uriarte, L. Spada, B. G. Davis, W. Caminati, F. J. Basterretxea, A. Lesarri, E. J. Cocinero, Chemical Communications, 52, 6241 – 6244 (2016).

19) L. Evangelisti, L. Spada, W. Li, A. Ciurlini, J.-U. Grabow, W. Caminati, Journal of Physical Chemistry A, 120, 2863 – 2867 (2016).

20) L. Spada, Q. Gou, Y. Geboes, W. A. Herrebout, S. Melandri, W. Caminati, Journal of Physical Chemistry A, 120, 4939–4943 (2016).

21) L. Spada, Q. Gou, B. M. Giuliano, W. Caminati, Journal of Physical Chemistry A, 120, 5094–5098 (2016).

22) C. Calabrese, Q. Gou, L. Spada, A. Maris, W. Caminati, S. Melandri, Journal of Physical Chemistry A, 120, 5163–5168 (2016).

23) Q. Gou, L. Spada, M. Vallejo - López, S. Melandri, A. Lesarri, E. J. Cocinero, W. Caminati, ChemistrySelect, 1, 1273 – 1277 (2016).

24) W. Li, L. Spada, L. Evangelisti, W. Caminati, Journal of Physical Chemistry A, 120, 4338−4342 (2016).

25) G. Feng, Q. Gou, L. Evangelisti, L. Spada, S. Blanco, W. Caminati, Physical Chemistry Chemical Physics, 18, 23651-23656 (2016).

26) L. Evangelisti, L. Spada, W. Li, S. Blanco, J. C. López, A. Lesarri, J.-U. Grabow, W. Caminati, Physical Chemistry Chemical Physics, 19, 204-209 (2017).

27) L. Evangelisti, L. Spada, W. Li, F. Vazart, V. Barone, W. Caminati, Angewandte Chemie International Edition 56, 3872 –3875 (2017).

28) L. Spada, N. Tasinato, F. Vazart, V. Barone, W. Caminati, C. Puzzarini, Chemistry - A European Journal 23, 4876 – 4883 (2017).

29) L. Spada, N. Tasinato, G. Bosi, F. Vazart, V. Barone, C. Puzzarini, Journal of Molecular Spectroscopy 337, 90–95 (2017).

30) D. Licari, N. Tasinato, L. Spada, C. Puzzarini, V. Barone, Journal of Chemical Theory and Computation, 13(9), 4382-4396 (2017).

31) M. Melosso, A. Melli, C. Puzzarini, C. Codella, L. Spada, L. Dore, C. Degli Esposti, B. Lefloch, R. Bachiller, C. Ceccarelli, J. Cernicharo, V. Barone, Astronomy&Astrophysics 609, A121 (2018).

32) L. Evangelisti, L. Spada, W. Li, I. Federici, W. Caminati, Molecular Physics, Molecular Physics, 116, 3503-3506 (2018).

33) A. Melli, M. Melosso, N. Tasinato, G. Bosi, L. Spada, J. Bloino, M. Mendolicchio, L. Dore, V. Barone, C. Puzzarini, The Astrophysical Journal 855, 123 (2018).

34) C. Puzzarini, N. Tasinato, J. Bloino, L. Spada, V. Barone, Physical Chemistry Chemical Physics, 21, 3431-3439 (2019).

35) L. Spada, I. Uriarte, W. Li, L. Evangelisti, E. J. Cocinero, W. Caminati, Physical Chemistry Chemical Physics, 21, 3545-3549 (2019).

36) W. Li, L. Spada, N, Tasinato, S. Rampino, L, Evangelisti, A, Gualandi, P. G. Cozzi, S. Melandri, V. Barone, C. Puzzarini, Angew. Chem. Int. Ed. https://doi.org/10.1002/anie.201807751.

37) D. A. Obenchain, L. Spada, S. Alessandrini, S. Rampino, S. Herbers, N. Tasinato, M. Mendolicchio, P. Kraus, J. Gauss, C. Puzzarini, J.-U. Grabow, V. Barone, Angew. Chem. Int. Ed. DOI: 10.1002/anie.201810637

38) M. Juanes, W. Li, L. Spada, L. Evangelisti, A. Lesarri, W. Caminati, Physical Chemistry Chemical Physics 21, 3676-3682 (2019).

39) L. Spada , L. Evangelisti , W. Li, R. Orlacchio, W. Caminati, Journal of Physical Chemistry A, 123, 1785–1789 (2019).

15/04/2019

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