

Marco Parriani, Postdoctoral Researcher

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Employment History

- 2024 –  **Postdoctoral Researcher.** University of Perugia, Department of Chemistry, Biology and Biotechnology, Experimental studies of reactions between atomic (N, O, S, C) or radical (CN, OH) species and aromatic/aliphatic hydrocarbons or other organic compounds (alcohols, amines, nitriles, aldehydes) using the crossed molecular beam technique, project manager Professor Nadia Balucani.
- Nov 2022 – Nov 2023  **Visiting PhD student.** University of Perugia, Department of Civil and Environmental Engineering, University of Gothenburg, Visiting PhD student at Gothenburg University, working with Professor Raimund Feifel's group on the synthesis of molecules and analysis of the double photoionization products. Usage of synchrotron light and helium discharge lamp.
- Jan 2021 – Jun 2021  **Research Fellow.** University of Perugia, Department of Civil and Environmental Engineering, Scholarship relating to the Umbria rural development program 2014/2020, Omega project, in the specific research work for the study and treatment of punctual pollution resulting from the management of waste water, project manager Professor Giovanni Gigliotti.

Education

- 2021 – 2024  **University of Perugia, Department of Civil and Environmental Engineering, PhD.** Thesis title: *Characterization and reactivity of ionic and excited species with atoms, molecules and radicals of environmental interest*, tutor Professor Stefano Falcinelli and Professor Giovanni Gigliotti, international tutor Professor Raimund Feifel, University of Gothenburg.
- 2018 – 2020  **University of Perugia, Department of Chemistry, Biology and Biotechnology,** Master's degree in Chemical Sciences, 110/110 with honors, Level 7 EQF CFU 180. Thesis title: *Studio strutturale del contenuto di acqua in sistemi DES idrofilici e idrofobici*, thesis supervisor Professor Raimondo Germani, co-supervisor Professor Paulo Ribeiro Claro, Universidade de Aveiro.
- 2014 – 2018  **University of Perugia, Department of Chemistry, Biology and Biotechnology,** Bachelor's degree in Chemistry, 101/110, Level 6 EQF CFU 180. Thesis title: *Effetto dell'acqua sulle proprietà del sistema DES binarioacido glicolico/trimetilglicina*, thesis supervisor Professor Raimondo Germani..
- 2009 – 2014  **Liceo Scientifico Galileo Galilei,** High School Diploma, 80/100.

Research Publications

Journal Articles

- 1 M. Wallner, E. Olsson, V. Ideböhn, *et al.*, "Structure and fragmentation of doubly ionized HNCS," *The Journal of Chemical Physics*, vol. 161, no. 4, 2024.
- 2 S. Falcinelli, M. Parriani, F. Vecchiocattivi, and F. Pirani, "The selective role of the orbital angular momentum on the reaction stereo-dynamics," *The European Physical Journal D*, vol. 77, no. 4, p. 65, 2023.
- 3 L. Schio, M. Alagia, R. Richter, *et al.*, "Double photoionization of nitrosyl chloride by synchrotron radiation in the 24–70 eV photon energy range," *Molecules*, vol. 28, no. 13, p. 5218, 2023.
- 4 S. Falcinelli, F. Vecchiocattivi, B. G. Brunetti, *et al.*, "Basic features of Ne⁺–HX (X= Cl, Br) chemi-ionization reactions," *RSC advances*, vol. 12, no. 12, pp. 7587–7593, 2022.

- 5 S. Falcinelli, A. Capriccioli, M. Rosi, C. Marti, M. Parriani, and A. Laganà, "Methane production from $\text{H}_2 + \text{CO}_2$ reaction: An Open Molecular Science Case for Computational and Experimental Studies," *Physchem*, vol. 1, no. 1, pp. 82–94, 2021.

Conference Proceedings

- 1 M. Parriani, A. Giustini, M. Alagia, *et al.*, "Data analysis of molecular dications fragmentation processes by double photoionization with synchrotron radiation," in *International Conference on Computational Science and Its Applications*, Springer, 2024, pp. 55–70.
- 2 M. Parriani, M. Alagia, R. Richter, *et al.*, "Fragmentation Dynamics of Astrochemical Molecules Induced by UV and EUV Photons," in *International Conference on Computational Science and Its Applications*, Springer, 2023, pp. 693–704.
- 3 M. Parriani, F. Vecchiocattivi, F. Pirani, and S. Falcinelli, "Stereo-Dynamics of Autoionization Reactions Induced by $\text{Ne}^*(^3\text{P}_{0,2})$ Metastable Atoms with HCl and HBr Molecules: Experimental and Theoretical Study of the Reactivity Through Selective Collisional Angular Cones," in *International Conference on Computational Science and Its Applications*, Springer, 2022, pp. 270–280.
- 4 S. Falcinelli, M. Rosi, M. Parriani, and A. Laganà, "Free-methane-from the ionosphere of mars towards a prototype methanation reactor: A project producing fuels via plasma assisted carbon dioxide hydrogenation," in *Computational Science and Its Applications–ICCSA 2021: 21st International Conference, Cagliari, Italy, September 13–16, 2021, Proceedings, Part V 21*, Springer, 2021, pp. 594–607.

Skills

Languages	■ Excellent reading, writing and speaking competencies for English. Basic level for Spanish, basic understanding of Swedish.
Coding	■ Python, $\text{\LaTeX}$, Matlab, Igor
Misc.	■ Academic research, teaching, training, consultation, $\text{\LaTeX}$ typesetting and publishing.

Miscellaneous Experience

Awards and Achievements

- 2024 ■ **Best Paper Award**, Data Analysis of Molecular Dications Fragmentation Processes by Double Photoionization with Synchrotron Radiation, ICCSA 2024, Hanoi, Vietnam.

References

Available on Request

Parriani Marco