

Gabriella Di Genova, Ph.D.

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📖 Dip. di Chimica, Biologia e Biotecnologie, Via Elce di Sotto 8, 06123, Perugia - Italy

🌐 <https://gabrielladigenova.github.io/gabrielladigenova/>

Academic Interests

My interdisciplinary work combines the fields of chemistry, theoretical chemistry and astrophysics to tackle some of the open questions of astrochemistry with the ultimate goal to learn about fundamental chemical processes in our Universe.





Education

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|-------------------|---|
| 2022 – 2025 | 📖 Ph.D. in Chemical Sciences
Università degli Studi di Perugia - Dipartimento di Chimica, Biologia e Biotecnologie
<i>Curriculum: Theoretical Chemistry and Computational Modelling. Ph.D Supervisors: Prof. Nadia Balucani, Prof. Cecilia Ceccarelli, Prof. Marzio Rosi</i> |
| 09/2021 – 04/2022 | 📖 Master in Theoretical Chemistry and Computational Modeling - TCCM
Université Toulouse III - Paul Sabatier, Department of Chemistry |
| 09/2020 – 07/2022 | 📖 Master's degree - LM-54 2nd level degree
Università degli Studi di Perugia - Dipartimento di Chimica, Biologia e Biotecnologie
<i>Thesis title: Theoretical study of the impact of metals on (Star)dust formation: focus on Ag-PAH clusters.</i> |
| 2017 – 2020 | 📖 Bachelors's degree - L27 1st level degree
Università degli Studi di Perugia - Dipartimento di Chimica, Biologia e Biotecnologie
<i>Thesis title: An experimental study of the reaction between atomic nitrogen in the excited ²D state with cyanoacetylene and implication for the atmospheric chemistry of Titan.</i> |

Research Abroad

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|-------------------------|--|
| 07/01/2025 – 31/01/2025 | 📖 Universitat Autònoma de Barcelona, Departament de Química.
Faculty of Sciences 08193 - Barcelona, Spain.
During this period I worked with Albert Rimola on the characterization of structures, and energetics, of interstellar grains. |
| 01/06/2024 – 30/09/2024 | 📖 Institut de Planetologie et d'Astrophysique de Grenoble (IPAG).
122 rue de la Piscine, 38041 Grenoble - France.
During this period I worked with Cecilia Ceccarelli on the theoretical modeling for reactions of astrochemical relevance. |




Research Abroad (continued)

01/11/2023 – 30/11/2023	 Universitat Autònoma de Barcelona, Departament de Química. Faculty of Sciences 08193 - Barcelona, Spain. During this period I worked with Albert Rimola on the characterization of structures, and energetics, of interstellar grains.
11/04/2023 – 15/07/2023	 University of Gothenburg, Department of Chemistry. Kemigården 4, 412 96 Göteborg, Sweden. During this period I worked with Gunnar Nyman on the investigation of astrochemical relevant molecules formation by radiative association.
19/02/2023 – 20/03/2023	 Institut de Planetologie et d'Astrophysique de Grenoble (IPAG). 122 rue de la Piscine, 38041 Grenoble - France. During this period I worked with Cecilia Ceccarelli on the theoretical modeling for reactions of astrochemical relevance.
01/02/2022 – 30/04/2022	 Université Toulouse III - Paul Sabatier, Quantum Chemistry and Physics Laboratory - LCPQ. 118 Route de Narbonne, 31062 Toulouse, France. During this period I worked on my Master's degree with Aude Simon on the study of the impact of metals in stardust formation.

Scholarships










01/06/2024 – 30/09/2024	 Erasmus+ Traineeship Institut de Planetologie et d'Astrophysique de Grenoble (IPAG). Grenoble, France <i>Supervisor: Cecilia Ceccarelli</i>
15/05/2023 – 15/07/2023	 Erasmus+ Traineeship University of Gothenburg - Department of Chemistry. Gothenburg, Sweden <i>Supervisor: Gunnar Nyman</i>
19/02/2023 – 20/03/2023	 Erasmus+ Traineeship Institut de Planetologie et d'Astrophysique de Grenoble (IPAG). Grenoble, France <i>Supervisor: Cecilia Ceccarelli</i>
01/09/2021 – 30/04/2022	 Erasmus+ Université Toulouse III - Paul Sabatier. Toulouse, France
2017 – 2022	 A.Di.S.U. Scholarship for University education
2021 – 2022	 A.Di.S.U. For international mobility

Employment History

- 2022 – 2025  **Student support**, Università degli Studi di Perugia, Via Elce di Sotto 8 - Perugia 06123, Italy.
Provided teaching support for first-year bachelor's students for the "Chimica Generale e Inorganica I" course (60 hours) and served as a Buddy for Erasmus outgoing and incoming students (150 hours).
- 03/2021 – 08/2021  **Secretary at student's welcome desk**, A.Di.S.U. Perugia, Via Benedetta, 14 - 06123 Perugia, Italy.
Support to the offices of the agency in charge of reception and orientation for Italian and foreign students.
- 2020  **Undergraduate Internship**. Master-Up S.r.l., Via Elce di Sotto 8 - Perugia 06123, Italy.
Contribution to the improvement of a computer software useful for the purposes of online tests.

Conferences and Schools






Attended

- 1 "ACO - Chemical Processes in Solar-type Star-Forming Regions," Toulouse, France 5-9/06/2023, **Poster contribution**.  URL: <https://aco-conference2023.sciencesconf.org/>.
- 2 "DCTC - VIII Congresso Nazionale della Divisione di Chimica Teorica e Computazionale della SCI," Pisa, Italy 20-22/09/2023, **Selected Oral contribution**.  URL: <https://www.skies-village.it/dctc2023/>.
- 3 "EGU General Assembly 2024," Vienna, Austria 14-19/04/2024, **Selected Oral contribution**.  URL: <https://www.egu24.eu/>.
- 4 "EPSC, Europlanet Science Congress 2024," Berlin, Germany 8-13/09/2024, **Selected Oral contribution**.  URL: <https://www.epsc2024.eu/>.
- 5 "IMAMPC'2024 – 13th International Meeting on Atomic and Molecular Physics and Chemistry," Warsaw, Poland 9-12/07/2024, **Selected Oral contribution**.  URL: <https://www.imampc2024.pl/>.
- 6 "Quantumgrain Workshop: Emerging Horizons in the Chemistry of the Universe," Barcelona, Spain 9-12/06/2024, **Selected Oral contribution**.  URL: <https://workshop.quantumgrain.eu/>.
- 7 "School of Scientific Communication in Astronomy," Bertinoro, Italy 2-6/10/2023.  URL: <https://andymelandri.wixsite.com/scia2023>.
- 8 "SECSmol - Southern European Conference on the Science of Molecules," Perugia, Italy 27-29/09/2023, **Selected Oral contribution**.  URL: <http://www.dccb.unipg.it/en/secsmol>.
- 9 "XIX Congresso Nazionale di Scienze Planetarie," Bormio, Italy 5-9/02/2024, **Selected Oral contribution**.  URL: <https://www.scienzeplanetarie.it/congresso-nazionale-bormio-2024/>.




Research Production

Publications

- 1 R. Dahmani, C. Alauzet, **Di Genova, Gabriella**, F. Spiegelman, and A. Simon, "Adsorption of silver clusters on naphthalene: Theoretical insights into structural, energetic, electronic, and infrared properties," ACS Publications, 2025.  URL: <https://doi.org/10.1021/acs.jpca.5c00436>.

- 2 **Di Genova, Gabriella**, N. Balucani, L. Mancini, M. Rosi, S. Dimitrios, and C. Ceccarelli, “Gas-phase formation routes of dimethyl sulfide in the interstellar medium,” in *Astronomy and Astrophysics (in press)*, 2025.  URL: <https://doi.org/10.48550/arXiv.2504.16236>.
- 3 **Di Genova, Gabriella**, J. Perrero, M. Rosi, C. Ceccarelli, A. Rimola, and N. Balucani, “Hot Sulfur on the Rocks: The Reaction of Electronically Excited Sulfur Atoms with Water in an Ice-Surface Model,” in *ACS Earth and Space Chemistry*, 2025.  URL: <https://pubs.acs.org/doi/10.1021/acsearthspacechem.4c00351>.
- 4 M. Rosi, D. Capisi, **Di Genova, Gabriella**, O. Gervasi, C. Ceccarelli, and N. Balucani, “Formation routes of interstellar metal oxides: A computational chemistry approach,” in *International Conference on Computational Science and Its Applications (accepted)*, Springer, 2025.
- 5 L. Giani, M. Šimsová née Zámečníková, **Di Genova, Gabriella**, C. Ceccarelli, N. Balucani, and G. Nyman, “Isotope effect on the formation of CN by radiative association reactions,” in *AIP Advances*, vol. 14, 2024.  URL: <https://pubs.aip.org/aip/adv/article-lookup/doi/10.1063/5.0192682>.
- 6 A. Giustini, **Di Genova, Gabriella**, N. Balucani, C. Ceccarelli, M. Rosi, and A. Lombardi, “Theoretical Insights on the $S(^1D) + H_2O$ Reaction and Implications on the Chemistry at the Surface of Ice in Extraterrestrial Environments,” in *International Conference on Computational Science and Its Applications*, Springer, 2024, pp. 274–282.  URL: https://doi.org/10.1007/978-3-031-65343-8_19.
- 7 A. Giustini, **Di Genova, Gabriella**, D. Skouteris, C. Ceccarelli, M. Rosi, and N. Balucani, “Gas-Phase and Model Ice-Surface Reactions of $S(^1D)$ with Water and Methanol: A Computational Investigation and Implications for Cosmochemistry/Astrochemistry,” in *ACS Earth and Space Chemistry*, vol. 8, 2024, pp. 2318–2333.  URL: <https://pubs.acs.org/doi/10.1021/acsearthspacechem.4c00229>.

Skills

Languages	 Native: Italian. Strong reading, writing and speaking competencies for: English, Catalan, Romanian. Basic reading, writing and speaking competencies for Spanish and French.
Coding	 Fortran77, Python, R, \LaTeX ,
Misc.	 Presentation Software (advanced), Spreadsheets (advanced), Word processors (advanced), Network architecture (basic), Operating systems (advanced), Data modeling tools (intermediate).

References

Prof. Nadia Balucani

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Via Elce di Sotto, 8 - 06123 Perugia - Italy
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Prof. Marzio Rosi

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<https://www.unipg.it/personale/marzio.rosi>

Prof. Gunnar Nyman

University of Gothenburg
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<https://www.gu.se/en/about/find-staff/gunnarnyman>

Prof. Cecilia Ceccarelli

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122 rue de la Piscine, 38041 Grenoble - France
<https://ipag.osug.fr/french/recherche/equipes/interstellaire/>

Prof. Aude Simon

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Quantum Chemistry and Physics Laboratory - LCPQ
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<https://www.lcpq.ups-tlse.fr/spip.php?article1130>

Prof. Albert Rimola

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