



# Gabriella Di Genova

**Work :** Via Elce di Sotto 8, 06123, Perugia, Italy

**Email:** [gabriella.digenova@dottorandi.unipg.it](mailto:gabriella.digenova@dottorandi.unipg.it) **Phone:** (+39) 3280253978

**Website:** <https://gabrielladigenova.github.io/gabrielladigenova/>

**Passport:** YB7641008 **Gender:** Female **Date of birth:** 7 Nov 1998 **Place of birth:** Avezzano, Italy **Nationality:** Italian

## ABOUT ME

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 AND TRAINING

[ 2022 – Current ]

### Ph.D.

**Università degli Studi di Perugia - Dipartimento di Chimica, Biologia e Biotecnologie**

**City:** Perugia | **Country:** Italy | **Field(s) of study:** Chemical Sciences | **Thesis:** Expanding the Astrochemical Canvas: a Computational Exploration of Chemistry Beyond the Second Period of the Periodic Table of Elements

[ Sep 2021 – Apr 2022 ]

### Master

**Université Toulouse III - Paul Sabatier, Department of Chemistry**

**Field(s) of study:** Theoretical Chemistry and Computational Modelling - TCCM

[ Sep 2020 – Jul 2022 ]

### Master's degree - LM-54 2nd level degree

**Università degli Studi di Perugia - Dipartimento di Chimica, Biologia e Biotecnologie**

**City:** Perugia | **Country:** Italy | **Field(s) of study:** Chemical Sciences | **Final grade:** 110/110 Cum Laude | **Thesis:** Theoretical study of the impact of metals on (Star)dust formation: focus on Ag-PAH clusters.

[ Oct 2017 – Sep 2020 ]

### Bachelors's degree - L27 1st level degree

**Università degli Studi di Perugia - Dipartimento di Chimica, Biologia e Biotecnologie**

**City:** Perugia | **Country:** Italy | **Field(s) of study:** Chemistry | **Thesis:** An experimental study of the reaction between atomic nitrogen in the excited 2D state with cyanoacetylene and implication for the atmospheric chemistry of Titan.

## WORK EXPERIENCE

**Università degli Studi di Perugia**

**City:** Perugia | **Country:** Italy

[ 2022 – 2025 ]

### Student support

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).

**A.Di.S.U. Perugia**

**City:** Perugia | **Country:** Italy

[ Mar 2021 – Aug 2021 ] **Secretary at student's welcome desk**

Support to the offices of the agency in charge of reception and orientation for Italian and foreign students.

**Master-Up S.r.l.**

**City:** Perugia | **Country:** Italy

[ 2020 ] **Undergraduate Internship**

Contribution to the improvement of a computer software useful for the purposes of online tests.

**CONFERENCES AND SEMINARS**

[ 5 Aug 2025 – 8 Aug 2025 ] **AI in Astrochemistry** Helsinki, Finland

**Link:** <https://ocamm.fi/event/cost-nanospace-ai-in-astrochemistry-training-school-2025/>

[ 8 Sep 2024 – 13 Sep 2024 ] **EPSC, Europlanet Science Congress 2024** Berlin, Germany

**Link:** <https://www.epsc2024.eu/>

[ 9 Jul 2024 – 12 Jul 2024 ] **IMAMPC'2024 – 13th International Meeting on Atomic and Molecular Physics and Chemistry**

Warsaw, Poland

**Link:** <https://www.imampc2024.pl/>

[ 9 Jun 2024 – 12 Jun 2024 ] **QuantumGrain Workshop: Emerging Horizons in the Chemistry of the Universe**

Barcelona, Spain

**Link:** <https://workshop.quantumgrain.eu/>

[ 4 Apr 2024 ] **Secondo Meeting Annuale del PRIN2020 Astrochemistry beyond the second period elements**

Torino, Italy

[ 5 Feb 2024 – 9 Feb 2024 ] **XIX Congresso Nazionale di Scienze Planetarie** Bormio, Italy

**Link:** <https://www.scienzeplanetarie.it/congresso-nazionale-bormio-2024/>

[ 2 Oct 2023 – 6 Oct 2023 ] **School of Scientific Communication in Astronomy** Bertinoro, Italy

**Link:** <https://andymelandri.wixsite.com/scia2023>

[ 27 Sep 2023 – 29 Sep 2023 ] **SECSmol, Southern European Conference on the Science of Molecules** Perugia, Italy

**Link:** <http://www.dcbp.unipg.it/en/secsmol>

[ 20 Sep 2023 – 22 Sep 2023 ] **DCTC, VIII Congresso Nazionale della Divisione di Chimica Teorica e Computazionale della SCI**

Pisa, Italy

Link: <https://www.skies-village.it/dctc2023/>

[ 5 Jun 2023 – 9 Jun 2023 ] **ACO - Chemical Processes in Solar-type Star-Forming Regions** Toulouse, France

Link: <https://aco-conference2023.sciencesconf.org/>

## PUBLICATIONS

[ 2025 ] [\*\*Radiative association formation of AlO, a candidate seed of dust nucleation.\*\*](#)

**Reference:** Di Genova, G., Zámečníková, M. Š. N., Giani, L., Balucani, N., Ceccarelli, C., Rosi, M., & Nyman, G., Monthly Notices of the Royal Astronomical Society

[ 2025 ] [\*\*Formation Routes of Interstellar Metal Oxides: A Computational Chemistry Approach.\*\*](#)

**Reference:** Rosi, M., Campisi, D., Di Genova, G., Gervasi, O., Ceccarelli, C., & Balucani, N., In International Conference on Computational Science and Its Applications (pp. 289-299), Cham: Springer Nature Switzerland.

[ 2025 ] [\*\*Theoretical study of the NaO+ HCl reaction: a potential formation route of NaCl in the interstellar medium.\*\*](#)

**Reference:** Giustini, A., Di Genova, G., Balucani, N., Ceccarelli, C., Rimola, A., Ugliengo, P., & Rosi, M., In International Conference on Computational Science and Its Applications (pp. 261-271), Cham: Springer Nature Switzerland.

[ 2025 ] [\*\*Gas-phase formation routes of dimethyl sulfide in the interstellar medium.\*\*](#)

**Reference:** Di Genova, G., Balucani, N., Mancini, L., Rosi, M., Skouteris, D., & Ceccarelli, C., arXiv preprint

(this manuscript has been accepted for publication in Astronomy & Astrophysics)

[ 2025 ] [\*\*Adsorption of Silver Clusters on Naphthalene: Theoretical Insights into Structural, Energetic, Electronic, and Infrared Properties.\*\*](#)

**Reference:** Dahmani, R., Alauzet, C., Di Genova, G., Spiegelman, F., & Simon, A., The Journal of Physical Chemistry A, 129(17), 3829-3843

[ 2025 ] [\*\*Hot Sulfur on the Rocks: The Reaction of Electronically Excited Sulfur Atoms with Water in an Ice-Surface Model.\*\*](#)

**Reference:** Di Genova, G., Perrero, J., Rosi, M., Ceccarelli, C., Rimola, A., & Balucani, N., ACS Earth and Space Chemistry, 9(4), 844-855.

[ 2024 ] [\*\*Isotope effect on the formation of CN by radiative association reactions.\*\*](#)

**Reference:** Giani, L., Šimsová née Zámečníková, M., Di Genova, G., Ceccarelli, C., Balucani, N., & Nyman, G., AIP Advances, 14(3).

[ 2024 ] [\*\*Theoretical Insights on the S\(1D\)+ H2O Reaction and Implications on the Chemistry at the Surface of Ice in Extraterrestrial Environments.\*\*](#)

**Reference:** Giustini, A., Di Genova, G., Balucani, N., Ceccarelli, C., Rosi, M., & Lombardi, A., In Computational Science and Its Applications – ICCSA 2024 Workshops. ICCSA 2024. Lecture Notes in Computer Science, vol 14825, pages 274–282. Springer, Cham.

[ 2024 ] [\*\*Gas-phase and model ice-surface reactions of S\(1D\) with water and methanol: a computational investigation and implications for cosmochemistry/astrochemistry.\*\*](#)

**Reference:** Giustini, A., Di Genova, G., Skouteris, D., Ceccarelli, C., Rosi, M., & Balucani, N., ACS Earth and Space Chemistry.

## LANGUAGE SKILLS

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**Mother tongue(s):** Italian

**Other language(s):**

### English

LISTENING C1 READING C1 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

### Catalan

LISTENING B1 READING B1 WRITING B1

SPOKEN PRODUCTION B1 SPOKEN INTERACTION B1

### Romanian

LISTENING B2 READING B2 WRITING B2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

### Spanish

LISTENING A2 READING A2 WRITING A2

SPOKEN PRODUCTION A2 SPOKEN INTERACTION A2

### French

LISTENING A2 READING A2 WRITING A2

SPOKEN PRODUCTION A2 SPOKEN INTERACTION A2

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## RESEARCH ABROAD

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[ 7 Jan 2025 – 31 Jan 2025 ]

**Universitat Autònoma de Barcelona, Departament de Química.**

During this period I worked with Albert Rimola on the characterization of structures, and energetics, of interstellar grains.

[ 1 Jun 2024 – 30 Sep 2024 ]

**Institut de Planetologie et d'Astrophysique de Grenoble (IPAG).**

During this period I worked with Cecilia Ceccarelli on the theoretical modeling for reactions of astrochemical relevance.

[ 1 Nov 2023 – 30 Nov 2023 ]

**Universitat Autònoma de Barcelona, Departament de Química.**

During this period I worked with Albert Rimola on the characterization of structures, and energetics, of interstellar grains.

[ 11 Apr 2023 – 15 Jul 2023 ]

**University of Gothenburg, Department of Chemistry.**

During this period I worked with Gunnar Nyman on the investigation of astrochemical relevant molecules formation by radiative association.

[ 19 Feb 2023 – 20 Mar 2023 ]

**Institut de Planetologie et d'Astrophysique de Grenoble (IPAG).**

During this period I worked with Cecilia Ceccarelli on the theoretical modeling for reactions of astrochemical relevance.

[ 1 Feb 2022 – 30 Apr 2022 ]

**Université Toulouse III - Paul Sabatier, Quantum Chemistry and Physics Laboratory - LCPQ**

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

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[ 1 Jun 2024 – 30 Sep 2024 ]

### Erasmus+ Traineeship

Institut de Planetologie et d'Astrophysique de Grenoble (IPAG). Grenoble, France  
Supervisor: Cecilia Ceccarelli

[ 15 May 2023 – 15 Jul 2023 ]

### Erasmus+ Traineeship

University of Gothenburg - Department of Chemistry. Gothenburg, Sweden  
Supervisor: Gunnar Nyman

[ 19 Feb 2023 – 20 Mar 2023 ]

### Erasmus+ Traineeship

Institut de Planetologie et d'Astrophysique de Grenoble (IPAG). Grenoble, France  
Supervisor: Cecilia Ceccarelli

[ 1 Sep 2021 – 30 Apr 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.

## SOFTWARE

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### Operating Systems:

Mac OS X, Windows, Linux/UNIX

### Programming languages

Python, Fortran, LaTeX, R

### Misc.

Presentation Software, Spreadsheets, Word processors, Network architecture, Operating systems, Data modeling tools.

## MAIN COLLABORATORS

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### Main collaborators

- N. Balucani, D. Skouteris, L. Mancini (DCBB- UNIPG, Perugia, Italy)
- C. Ceccarelli (IPAG, Grenoble, France)
- M. Rosi (DICA - UNIPG, Perugia, Italy)
- L. Giani (INAF-Arcetri, Florence, Italy)
- A. Rimola (UAB, Barcelona, Spain)
- G. Nyman, M. Simsova (GU, Gothenburg, Sweden),
- D. Ascenzi, M. Michielan (UNITN, Trento, Italy)
- A. Simon (LCPQ, Toulouse, France)

## TALKS AND POSTERS IN NATIONAL AND INTER- NATIONAL CONFER- ENCES

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[ Aug 2025 ]

### Poster

AI in Astrochemistry, Helsinki, Finland

[ Sep 2024 ] **Contributed talk**

Europlanet Science Congress 2024, Berlin, Germany

[ Jul 2024 ] **Contributed talk**

IMAMPC'2024 – 13th International Meeting on Atomic and Molecular Physics and Chemistry, Warsaw, Poland

[ Jun 2024 ] **Contributed talk**

QuantumGrain Workshop: Emerging Horizons in the Chemistry of the Universe, Barcelona, Spain

[ Apr 2024 ] **Contributed talk**

EGU General Assembly 2024, Vienna, Austria (online)

[ Feb 2024 ] **Contributed talk**

XIX Congresso Nazionale di Scienze Planetarie, Bormio, Italy

[ Sep 2023 ] **Contributed talk**

SECSmol, Southern European Conference on the Science of Molecules, Perugia-Italia

[ Sep 2023 ] **Contributed talk**

DCTC, VIII Congresso Nazionale della Divisione di Chimica Teorica e Computazionale della SCI, Pisa-Italia

[ Jun 2023 ] **Poster**

ACO, Chemical Processes in Solar-type Star-Forming Regions, Tolosa-Francia

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*“Le informazioni contenute nel presente “curriculum vitae et studiorum” sono rese sotto la personale responsabilità del sottoscritto, ai sensi degli articoli 46 e 47 del Decreto del Presidente della Repubblica 28 dicembre 2000, numero 445, e successive modifiche e integrazioni, consapevole della responsabilità penale prevista dall’articolo 76 del medesimo Decreto per le ipotesi di falsità in atti e/o dichiarazioni mendaci”*



Perugia, 28 Oct 2025

Gabriella Di Genova