

Matteo Bedogni

PhD Student in Materials Science and Technology
PhD Student in Chemistry



Contacts

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Education

- Nov 2024 – Present **PhD in Chemistry**, *University of Angers*
Synthesis, characterization, theoretical studies and properties of chiral organic semiconductors
- Nov 2024 – Present **PhD in Materials Science and Technology**, *University of Parma*
Research on chiral functional molecular materials for spintronic and optoelectronic applications, focusing on CISS effect and circularly polarized light emission.
- 2022 – 2024 **MSc in Biomolecular Chemistry**, *University of Parma*
Thesis: *Chirality and spin-orbit coupling in strongly correlated systems* (110/110 cum laude).
- 2019 – 2022 **BSc in Chemistry**, *University of Parma*
Thesis: *Electron correlation and singlet-triplet inversion in TADF systems: an exploratory study* (110/110 cum laude).
- 2013 – 2018 **High School Diploma in Chemical, Materials and Biotechnological Technology (98/100)**, *IIS "A. Zanelli", Reggio Emilia*

Research Experience

- Jul 2022 – Present **Undergraduate and Graduate Researcher**, *University of Parma*
Worked under Prof. Painelli and Prof. Di Maiolo on quantum chemistry and theoretical modelling of OLED materials.
- Aug 2024 – Oct 2024 **Research Fellow**, *University of Parma*
Project: *Design of novel organic emitters for highly efficient OLED: Theory meets Synthesis.*

Scientific Publications

- 2025 L. Savi, M. T. Barreca, **M. Bedogni**, F. Di Maiolo, *Organic Diradicals Bridged by Inverted Singlet–Triplet Units for Optical–Spin Interfaces*, *J. Chem. Theory Comput*
- 2024 **M. Bedogni**, F. Di Maiolo, *Singlet–Triplet Inversion in Triangular Boron Carbon Nitrides*, *J. Chem. Theory Comput.* **20**, 8634–8643.
- 2023 **M. Bedogni**, D. Giavazzi, F. Di Maiolo, A. Painelli, *Shining Light on Inverted Singlet–Triplet Emitters*, *J. Chem. Theory Comput.*

Conferences

- 2025 **European Winter School on Physical Organic Chemistry 19th**, Bressanone, Italy
– Flash Oral Contribution: *Bridging the Quantitative Gap in CISS: The Crucial Role of Two-Electron Spin–Orbit Coupling.*
- 2025 **Optical Probes 15th**, Fukuoka, Japan – Oral Contribution: *Accelerating Discovery of Organic Chromophores: An Efficient PPP-RASCI Screening Protocol.*

- 2025 **Optical Probes 15th**, Fukuoka, Japan – Poster Contribution: *Chirality Induced Spin Selectivity: The Role of Two-Electron Spin-Orbit Coupling*.
- 2025 **CDCF50 & 5thECPC**, Pisa, Italy – Flash Oral Contributions: *Chirality induced spin selectivity: the role of two-electron spin-orbit coupling*, *Decoding Singlet-Triplet Inversion: A PPP-Based Framework for High-Throughput Screening*.
- 2025 **15th C π C**, Siena, Italy - Oral Contribution: *Decoding Singlet-Triplet Inversion: A PPP-Based Framework for High-Throughput Screening*
- 2024 **MES2024**, Pescara, Italy – Poster: *Decoding Singlet-Triplet Inversion: A PPP-Based Framework for High-Throughput Screening*.

Grants and Awards

- 2026 **Scholarship**, Borsa Vinci 2026 - Università Italo Francese
- 2026 **Scholarship**, European Winter School on Physical Organic Chemistry
- 2026 **Scholarship**, EU GREEN Researcher Mobility Program
- 2025 **Scholarship**, Italian Chemical Society (SCI) – CDCF50 & 5thECPC

Work Experience

- Jen 2020 – Jun 2025 **Youth Rugby Coach (U12, U13, U14)**, *Valorugby Emilia SSD*, Reggio Emilia
- Sep 2023 – Apr 2024 **High School Mathematics Teacher**, *IIS "A. Zanelli"*, Reggio Emilia

Languages

Language	Listening	Reading	Spoken Interaction	Spoken Production	Writing
Italian (native)	C2	C2	C2	C2	C2
English	B2	B2	B2	B2	B2
French	B1	A2	B1	B1	A2

Skills

- Programming Python, Bash, Fortran90, Matlab, LaTeX
- Computational Chemistry Software Gaussian, GaussView, CrystalExplorer, Mercury, Q-Chem, Orca, IQmol, Multiwfn
- Software OriginPro, MS Software

Certifications

- 2018 Cambridge English First (FCE) – CEFR B2
- 2018 FIR Certified Rugby Coach Level 1 (U6–U12)
- 2023 FIR Certified Rugby Coach Level 2 (Adolescents)
- 2024 Training course – Jasco UV-Vis Spectrophotometer V-730 & Spectra Manager 2.5

Other

- Driving license Category B