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Electron paramagnetic resonance approaches to study biologically relevant reactions: examples from amyloid aggregation to enzymes

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Curriculum Vitae

Leonardo Passerini

Leonardo Passerini was born on May 17th, 1994, in Trento, Italy.

He obtained a BSc in Biology (2017) and an MSc in Industrial Biotechnology (2019) from the University of Padua. His Master's thesis was titled *"Biochemical and Spectroscopic Approach for the Study of Iron Binding to Frataxin."*

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From 2021 to 2025, he carried out his PhD in Physics in the MONOS group at Leiden University. His PhD thesis was titled *"Electron Paramagnetic Resonance Approaches to Study Biologically Relevant Reactions: Examples from Amyloid Aggregation to Enzymes."*

In 2025, he joined the Laboratory of Molecular Magnetism at the University of Florence as a postdoctoral researcher.

List of Publications

- [1] D. Doni, **L. Passerini**, G. Audran, S.R.A. Marque, M. Schulz, J. Santos, P. Costantini, M. Bortolus, D. Carbonera, Effects of Fe²⁺/Fe³⁺ Binding to Human Frataxin and Its D122Y Variant, as Revealed by Site-Directed Spin Labeling (SDSL) EPR Complemented by Fluorescence and Circular Dichroism Spectroscopies, *International Journal of Molecular Sciences*, 2020, 21, 9619. <https://doi.org/10.3390/ijms21249619>.
- [2] D. Doni, G. Rigoni, E. Palumbo, E. Baschiera, R. Peruzzo, E. De Rosa, F. Caicci, **L. Passerini**, D. Bettio, A. Russo, I. Szabò, M.E. Soriano, L. Salviati, P. Costantini, The displacement of frataxin from the mitochondrial cristae correlates with abnormal respiratory supercomplexes formation and bioenergetic defects in cells of Friedreich ataxia patients, *The FASEB Journal* 35(3) (2021) e21362.
- [3] D.M. Klein, **L. Passerini**, M. Huber, S. Bonnet, A Stable Alkylated Cobalt Catalyst for Photocatalytic H₂ Generation in Liposomes, *ChemCatChem* 14(20) (2022) e202200484.
- [4] E. Zurlo, **L. Passerini**, P. Kumar, M. Huber, In Situ Continuous Wave Electron Paramagnetic Resonance Investigation of the Amyloid Aggregation of Parkinson's Protein Alpha-Synuclein—the Second Spin-Label Position, *Applied Magnetic Resonance* 53(7) (2022) 1133-1150.
- [5] E.O. Bobylev, **L. Passerini**, F.J. de Zwart, D.A. Poole, S. Mathew, M. Huber, B. de Bruin, J.N.H. Reek, Pd₁₂MnL₂₄ (for n = 6, 8, 12) nanospheres by post-assembly modification of Pd₁₂L₂₄ spheres, *Chemical Science* 14 (2023) 11840-11849.
- [6] E.A. Polanco, L.V. Opdam, **L. Passerini**, M. Huber, S. Bonnet, A. Pandit, An artificial metalloenzyme that can oxidize water photocatalytically: design, synthesis, and characterization, *Chemical Science* 15(10) (2024) 3596-3609.
- [7] M. Saberi, R. Dekkers, **L. Passerini**, M. Huber, M. Overhand, M. Ubbink, Terminal spin labeling of xylotriase strongly affects interactions in the active site of xylanase BcX, *Journal of Biomolecular NMR* 79(2) (2025) 99-113.

