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RTD-B Researcher at the University of Rome “Foro Italico”. He graduated with honors in Biological Sciences from Sapienza University of Rome, where he also obtained a PhD in Genetics and Molecular Biology. He achieved the Italian National Scientific Qualification (ASN) for the position of Associate Professor in the fields of 05/E1 General Biochemistry, 05/E2 Molecular Biology, and 06/D2 Endocrinology, Nephrology, and Food and Wellness Sciences.

Throughout his scientific career, he has developed solid expertise in molecular biology, recombinant DNA biotechnology, biochemistry, nutrigenomics, and nutraceutical sciences, building an interdisciplinary profile integrating plant biology, cell biology, and biochemistry. His research activity has mainly focused on the role of polyphenols and other bioactive compounds derived from plant matrices in inflammation, oxidative stress, and cellular aging processes in different models of human diseases. In recent years, he has also investigated natural deep eutectic solvents as an innovative approach for the extraction, stabilization, and delivery of bioactive compounds with nutraceutical and pharmacological applications. In parallel, he has carried out extensive research in plant developmental biology, studying the role of proline and polyamines in growth, differentiation, and environmental stress responses in model plants and agronomically relevant species.

He is the author of numerous peer-reviewed scientific publications in international journals and serves as Guest Editor and member of editorial review boards for international journals in the fields of biochemistry, nutrition, and plant science. He is also inventor/co-inventor of national and international patents concerning nutraceutical formulations and innovative biochemical applications.

He has carried out teaching activities in Chemistry and Biochemistry at Sapienza University of Rome and has participated in science communication initiatives and third mission projects aimed at promoting scientific culture.

Selected publications from the last five years (2021–2026)

1) Laurenti D, Di Risola D, Francioso A, Federico R, Lendaro E, Gasbarrone R, Bonifazi G, Fontana M, Mosca L, Mattioli R. (2026) An Innovative Strategy to Enhance Polyphenol Content and Quality Traits of Olive Oil and Valorization of Mill Wastewater. **eFOOD** 7:e70156. doi: 10.1002/efd2.70156

2) Mattioli R, Di Risola D, Chiaradia C, Dimauro I, Mosca L, Duranti G, Ceci R. (2026) The Role of Polyphenols in Regulating Skeletal Muscle Development and Homeostasis: Molecular Mechanisms and Potential Medical Applications. **Mol Nutr Food Res.** 70(8):e70476. doi: 10.1002/mnfr.70476

3) Fiorucci C, Rossi MN, Santo RD, Salvatori I, Scaricamazza S, Giuliani S, Carletta O, Filomena E, Laurenti D, Mattioli R, Mosca L, Valle C, Ferri A, D'Erchia AM, Cervelli M. (2026) Transcriptomic Analysis Reveals the Beneficial Effects of Spermidine in an ALS Mouse Model. **Biomolecules**. 16(4):566 doi: 10.3390/biom16040566

4) Mariano A, D'Andrea D, Mattioli R, Ammendola S, Scotto d’Abusco A. (2025) Molecular Basis of Intron Retention in PI-PLC γ1 mRNA from Osteoarthritis Synoviocytes. **Int J Mol Sci.** 26, 8123 doi: 10.3390/ijms26178123

5) Di Risola D[#], Laurenti D[#], Ferraro F, Ciogli A, Manetto S, Gazzilli Y, Federico R, Francioso A, Mosca L*, Mattioli R*. (2025) Spontaneous Reaction of Oleacein and Oleocanthal with Primary Amines: A Biochemical Perspective. **Molecules** 30(7):1645 doi: 10.3390/molecules30071645 # co-first authors * co-corresponding authors

6) Di Risola D[#], Mattioli R[#], Federico R, Pascarella G, Fontana M, Dainese E, Dufrusine B, Ciogli A, Gasparrini F, Morea V, Villani C, Mosca L, Francioso A. (2024) Green synthesis and two-step chromatographic separation of thiocanthal and thiocanthol: Two novel biologically active sulfur derivatives of oleocanthal and oleacein from extra virgin olive oil. **Food Chem.** 5;463(Pt2):141296 doi: 10.1016/j.foodchem.2024.141296. Epub 2024 Sep 16. PMID: 39305667 # co-first authors

7) Filardo S[#], Mattioli R[#], Di Risola D, Mosca L, Di Pietro M, Sessa R. (2024) Olea europaea L-derived secoiridoids: Beneficial health effects and potential therapeutic approaches. Pharmacol Ther. 254:108595 PMID: 38301769 doi: 10.1016/j.pharmthera.2024.108595 # co-first authors

8) Mattioli R, Maggiore A, Di Risola D, Federico R, D'Erme M, Francioso A, Mosca L. (2023) Natural deep eutectic solvents protect RNA from thermal-induced degradation. Arch. Biochem. Biophys. (1)745:109714 doi: 10.1016/j.abb.2023.109714

9) Di Pietro M, Filardo S, Mattioli R, Francioso A, Raponi G, Mosca L, Sessa R. (2022) Extra Virgin Olive Oil-Based Green Formulations With Promising Antimicrobial Activity Against Drug-Resistant Isolates. **Front Pharmacol.** 13:885735 doi: 10.3389/fphar.2022.885735

10) Mattioli R, Di Risola D, Federico R, Ciogli A, Gasparrini F, Villani C, Fontana M, Maggiore A, d'Erme M, Mosca L, Francioso A. (2022) Effect of Natural Deep Eutectic Solvents on *trans*-Resveratrol Photo-Chemical Induced Isomerization and 2,4,6-Trihydroxyphenanthrene Electro-Cyclic Formation. **Molecules** 27(7):2348 doi: 10.3390/molecules27072348

For a complete list of publications and references:
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