

Curriculum Vitae Marco Mangiagalli

Personal Data

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Research ID: Q-9988-2018



Present Position

Research Assistant (SSD: 05/E1, BIO10) since 1 October 2022, Department of Biotechnology and Biosciences, University of Milano-Bicocca, Italy.

Education and Academic degrees

2010: Secondary school diploma, ITSOS Marie Curie, Cernusco S.N. (Italy)

2013: Bachelor's Degree in Biotechnology. Department of Biotechnology and Biosciences, University of Milano-Bicocca, Italy.

Thesis title: Inhibition mechanisms of amyloid aggregation by aromatic molecules (original language: Italian)

Final mark: 110/110 cum laude

2015: Master's degree in Industrial Biotechnology, Department of Biotechnology and Biosciences, University of Milano-Bicocca, Italy.

Thesis title: Identification and functional analysis of antifreeze proteins from Antarctic organisms (original language: Italian)

Final mark: 110/110 cum laude

2019: Ph.D in Biology and Biotechnology. Department of Biotechnology and Biosciences, University of Milano-Bicocca, Italy.

Thesis title: Structural and functional analyses of an ice-binding protein from an Antarctic bacterium (Supervisor: Prof. M. Lotti).

Final mark: Excellent cum laude

Additional Specialization courses

2014: 1st European Summer School on Industrial Biotechnology; Stability, folding and misfolding of recombinant proteins. University of Milano-Bicocca, Milano (Italy) 6-10 October 2014.

2015: Course of molecular enzymology. Department of Biotechnology and Biosciences, University of Milano-Bicocca, Milano (Italy) 9 April – 5 May 2015.

2015: Enzyme discovery Summer School. Italian society of biochemistry and molecular biology – SIB, Como (Italy) 22-26 June 2015.

2015: 2nd European Summer School on Industrial Biotechnology; Design of biocatalyst: concepts, methods and applications. University of Stuttgart, Stuttgart (Germany) 31 august- 4 September 2015.

2016: 1st SYSBIO.IT School on Computational Systems Biology: An introduction to dynamic modeling, simulation and analysis of biological systems. University of Milano-Bicocca, Milano (Italy) 7-9 June 2016

2017: Course of Scanning and Transmission Electron Microscopy Principles and Applications. University of Milano-Bicocca, Milano (Italy) 22 May – 1 June 2017.

2017: Towards a Bio-based economy: science, innovation, economics, education; Summer School. Department of Biotechnology and Biosciences, University of Milano-Bicocca, Milano (Italy) 4 September – 8 September 2017

Other research experiences

November – December 2016 Visiting student at the Universitat Autònoma de Barcelona, Institute of Biotechnology and Biomedicine, Protein Folding and Conformational Diseases Lab. PI: Prof. Salvador Ventura.

November 2018 – March 2019 Research fellow at the Department of Biotechnology and Biosciences of the University of Milano-Bicocca. PI: Prof. Stefania Brocca.

April 2019 – September 2022 Postdoctoral fellow at the Department of Biotechnology and Biosciences of the University of Milano-Bicocca. PI: Prof. Marina Lotti

Scientific interests

Scientific interests of M. Mangiagalli are focused on understanding function-structure of ice binding proteins and cold active enzymes, on the effects of organic solvents on industrial enzymes and on the sequence determinants of the conformational state of intrinsically disordered proteins. All these topics are investigated by combining biochemical, computational, structural and biophysical approaches with rational design mutagenesis. The main research activities are related to the study of molecular mechanisms of enzyme cold adaptation and protein-ice interaction.

Skills and expertise

- DNA cloning and plasmid DNA isolation
- Rational design mutagenesis
- *Escherichia coli* transformation (various strains)
- Expression of recombinant protein in *Escherichia coli*
- Recombinant protein extraction and purification
- Biophysical analyses (circular dichroism, fluorescence Fourier transform infrared spectroscopies)
- Enzymatic assays (various techniques, direct and indirect assays)
- Protein structure and stability
- Data analysis (OriginLab software)
- Protein structure rendering/visualization (Pymol, Chimera)

Grants

- 2015 – 2016 PROGETTO NAZIONALE RICERCHE IN ANTARTIDE (PNRA), PEA 2014-2016. Title: “Genome scanning and characterization of novel antifreeze proteins for industrial application”. Role: Participant (see publications n°: 1, 4, 6, 7, 8). PI: Dr. D. de Pascale, 24 months.
- 2018 – 2021 European Commission Marie Skłodowska-Curie Actions H2020 RISE Metable – 645693. Title: “Advanced bioinformatics for genome and metagenome analyses and discovery of novel biocatalysts from extremophiles: implications for improving industrial bioprocesses” (METABLE). Role: Participant (see publications n°: 4, 5, 6, 7, 8). PI: Dr. S. Pucciarelli, 48 months.
- 2021 – Now FONDAZIONE CARIPLO 2020-0838. Title “From local dairy waste to SUGAR blocks for the synthesis of bioPolymerS (SURPLAS)”. Role: Participant (see publications n°:) and coordinator of communication and dissemination activities. PI: Prof. S. Brocca, University of Milano-Bicocca, 30 months.

Research activities

The research activity of M. Mangiagalli is documented by **28** publications on peer-reviewed international journals (19 research papers, 4 review), **3** protein structures deposited in PDB database (PDB code: 6EY8; 6Y2K), **6** oral communications, **2** invited lecture, **2** seminar, **26** poster communications at national and international meetings and **2** cover pages on The FEBS Journal.

Google scholar h-index: 14, total citations 638 (August 2024)

Scopus h-index: 13, total citations: 523 (August 2024)

WOS h-index: 12, total citations 474 (January 2024)

Publications

1. **Mangiagalli, M.**, Bar-Dolev, M., Tedesco, P., Natalello, A., Kaleda, A., Brocca, S., de Pascale, D., Pucciarelli, S., Miceli, C., Bravslavsky, I. and Lotti, M. (**2017**), Cryo-protective effect of an ice-binding protein derived from Antarctic bacteria. *The FEBS Journal*, 284(1), 163-177. doi:10.1111/febs.13965.
2. Tedeschi, G., **Mangiagalli, M.**, Chmielewska, S., Lotti, M., Natalello, A., and Brocca, S. (**2017**). Aggregation properties of a disordered protein are tunable by pH and depend on its net charge per residue. *Biochimica et Biophysica Acta (BBA)-General Subjects*, 1861, 2543-2550. doi.org/10.1016/j.bbagen.2017.09.002.
3. Kryshchak, A., Albrecht, R., Baslé, A., ..., **Mangiagalli, M.**, and Fredslund, F. (**2017**). Target highlights from the first post-PSI CASP experiment (CASP12, May-August 2016). *Proteins: Structure, Function, and Bioinformatics*, 86, 27-50. doi.org/10.1002/prot.25392.
4. **Mangiagalli, M.**, Sarusi, G., Kaleda, A., Dolev, M. B., Nardone, V., Vena, V. F., ... and Nardini, M. (**2018**). Structure of a bacterial ice binding protein with two faces of interaction with ice. *The FEBS journal*, 285(9), 1653-1666. doi.org/10.1111/febs.14434.
5. Pischetta A., Priyan K., **Mangiagalli M.**, Chiappori F., Milanese L., Miceli C., Pucciarelli S., Lotti M. (**2018**). Antarctic marine ciliates under stress: superoxide dismutases from the psychrophilic *Euplotes flocardii* are cold-active yet heat tolerant enzymes. *Scientific Reports*. 8(1), 14721. doi:10.1038/s41598-018-33127-1.

6. Kaleda A., Haleva L., Sarusi G., Pinsky T., **Mangiagalli M.**, Bar-Dolev M., Lotti M., Nardini M, Braslavsky I. (2019). Saturn-shaped ice burst pattern and fast basal binding of an ice-binding protein from an Antarctic bacterial consortium. *Langmuir*, 35(23), 7337-7346. doi/10.1021/acs.langmuir.8b01914.
7. Vance, T. D., Bayer-Giraldi, M., Davies, P. L., and **Mangiagalli, M.*** (2019). Ice-binding proteins and the 'domain of unknown function'3494 family. *The FEBS journal*, 286(5), 855-873. <https://doi.org/10.1111/febs.14764>.
8. **Mangiagalli, M.**, Brocca, S., Orlando, M. and Lotti M. The "cold revolution". Present and future applications of cold-active enzymes and ice-binding proteins (2020). *New Biotechnology Journal*, 55, 5-11. doi:10.1016/j.nbt.2019.09.003.
9. Santos, J., Iglesias, V., Santos-Suárez, J., **Mangiagalli, M.**, Brocca, S., Pallarès, I., & Ventura, S. (2020). pH-Dependent Aggregation in Intrinsically Disordered Proteins Is Determined by Charge and Lipophilicity. *Cells*, 9(1), 145. doi:10.3390/cells9010145.
10. **Mangiagalli, M.**, Carvalho, H., Natalello, A., Ferrario, V., Pennati, M. L., Barbiroli, A., Lotti, M., Pleiss, J. & Brocca, S. (2020). Diverse effects of aqueous polar co-solvents on *Candida antarctica* lipase B. *International Journal of Biological Macromolecules* 150, 930-940. doi:10.1016/j.ijbiomac.2020.02.145.
11. Vallesi, A., Pucciarelli, S., Buonanno S., Fontana, A., & **Mangiagalli, M.** (2020). Bioactive molecules from protists: perspectives in biotechnology. *European Journal of Protistology*, 75, 125720. doi: 10.1016/j.ejop.2020.125720.
12. **Mangiagalli, M.**, Lapi, M., Maione, S., Orlando, M., Brocca, S., Pesce, A., Barbiroli, A., Camilloni, C., Lotti, M. & Nardini, M. (2021). The co-existence of cold activity and thermal stability in an Antarctic GH42 β -galactosidase relies on its hexameric quaternary arrangement. *The FEBS Journal*, 288(2), 546-565. doi:10.1111/febs.15354.
13. Raymond, J. A., Janech, M. G., & **Mangiagalli, M.** (2021). Ice-binding proteins associated with an Antarctic cyanobacterium, *Nostoc* sp. HG1. *Applied and Environmental Microbiology*, 87(2). doi: 10.1128/AEM.02499-20.
14. **Mangiagalli, M.***, & Lotti, M. (2021). Cold-Active β -Galactosidases: Insight into Cold Adaption Mechanisms and Biotechnological Exploitation. *Marine Drugs*, 19(1), 43. doi:10.3390/md19010043.
15. **Mangiagalli, M.***, Barbiroli, A., Santambrogio, C., Ferrari, C., Nardini, M., Lotti, M., & Brocca, S. (2021). The activity and stability of a cold-active acylaminoacyl peptidase rely on its dimerization by domain swapping. *International Journal of Biological Macromolecules*, 181, 263-274. doi: 10.1016/j.ijbiomac.2021.03.150.
16. Casari, E., Gobbin, E., Gnugnoli, M., **Mangiagalli, M.**, Clerici, M., Longhese, M.P. (2021) Dpb4 promotes resection of DNA double-strand breaks and checkpoint activation by acting in two different protein complexes. *Nature Communications*, 12, 4750. doi: 10.1038/s41467-021-25090-9.
17. **Mangiagalli, M.**, Ami, D., de Divitiis, M., Brocca, S., Catelani, T., Natalello, A. & Lotti, M. (2022) Short-chain alcohols inactivate an immobilized industrial lipase through two different mechanisms. *Biotechnology Journal*, 2100712. doi: 10.1002/biot.202100712.

18. Bianchi, G., **Mangiagalli, M.**, Barbiroli, A., Longhi, S., Grandori, R., Santambrogio, C. & Brocca S. (2022) Distribution of charged residues affects the average size and shape of intrinsically disordered proteins. *Biomolecules*, 12(4):561. doi:10.3390/biom12040561.
19. Marchetti, A., Orlando, M., **Mangiagalli, M.***, & Lotti, M. (2023). A cold-active esterase enhances mesophilic properties through Mn^{2+} binding. *The FEBS Journal*. doi: 10.1111/febs.16661.
20. Rinaldi, C., Pizzul, P., Casari, E., **Mangiagalli, M.**, Tisi, R., & Longhese, M. P. (2023). The Ku complex promotes DNA end-bridging and this function is antagonized by Tel1/ATM kinase. *Nucleic Acids Research*, gkad062. doi: 10.1093/nar/gkad062.
21. de Divitiis, M., Ami, D., Pessina, A., Palmioli, A., Sciandrone, B., Airoidi, C., Regonesi, M., R., Brambilla, L., Lotti, M., Natalello, A., Brocca, S., & **Mangiagalli, M.*** (2023). Cheese-whey permeate improves the fitness of *Escherichia coli* cells during recombinant protein production. *Biotechnology for Biofuels and Bioproducts*, 16(1), 1-19. doi:10.1186/s13068-023-02281-8.
22. Zampolli, J., **Mangiagalli, M.**, Vezzini, D., Lasagni, M., Ami, D., Natalello, A., Arrigoni, F., Bertini, L., Lotti, M. & Di Gennaro, P. (2023). Oxidative degradation of polyethylene by two novel laccase-like multicopper oxidases from *Rhodococcus opacus* R7. *Environmental Technology & Innovation*, 32, 103273. doi:10.1016/j.eti.2023.103273.
23. Bianchi, G., **Mangiagalli, M.**, Ami, D., Ahmed, J., Lombardi, S., Longhi, S., Natalello, A., Tompa, P., & Brocca, S. (2024). Condensation of the N-terminal domain of human topoisomerase 1 is driven by electrostatic interactions and tuned by its charge distribution. *International Journal of Biological Macromolecules*, 254, 12775. doi:10.1016/j.ijbiomac.2023.127754.
24. Pizzul, P., Casari, E., Rinaldi, C., Gnugnoli, M., **Mangiagalli, M.**, Tisi, R., & Longhese, M. (2024). Rif2 interaction with Rad50 counteracts Tel1 functions in checkpoint signalling and DNA tethering by releasing Tel1 from MRX binding, *Nucleic Acids Research*, Volume 52, Issue 5, 2355–2371. doi:10.1093/nar/gkad1246
25. Gourlay, L. J.⁺, **Mangiagalli, M.⁺**, Moroni, E., Lotti, M., & Nardini, M. (2024). Structural determinants of cold activity and glucose tolerance of a family 1 glycoside hydrolase (GH1) from Antarctic *Marinomonas* sp. ef1. *The FEBS Journal* Volume 291, Issue 13, 2897-2917. doi:10.1111/febs.17096
26. Bucchieri, D.⁺, **Mangiagalli, M.⁺**, Martani, F., Butti, P., Lotti, M., Serra, I., Branduardi, P. A novel laccase from *Trametes polyzona* with high performance in the decolorization of textile dyes. *AMB Express* 14, 32 (2024). doi:10.1186/s13568-024-01687-3
27. Marchetti, A., Orlando, M., Bombardi, L., Fusco, S., **Mangiagalli, M.***, & Lotti, M. (2024). Evolutionary history and activity towards oligosaccharides and polysaccharides of GH3 glycosidases from an Antarctic marine bacterium. *International Journal of Biological Macromolecules*, 133449. doi:10.1016/j.ijbiomac.2024.133449.
28. Bianchi, G., Pessina, A., Ami, D., Signorelli S., Natalello A., Lotti M., Brambilla, L., Brocca, S., & **Mangiagalli, M.*** (2024). Sustainable production of a biotechnologically relevant β -galactosidase in *Escherichia coli* cells using crude glycerol and cheese whey permeate. *Bioresource Technology*, 131063.

+ These authors equally contribute to the work.

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Oral presentations

1. **Mangiagalli M.**, Bar-Dolev M., Haleva L., Sarusi G., Kaleda A., Vena V.F., Nardone V., Nardini M., Braslavsky I., Lotti M. Relationship between function and structure of an ice binding protein from Antarctic bacteria. 3rd Ice Binding Protein conference. Rehovot, Israel 14-17 August 2017.
2. **Mangiagalli M.**, Pucciarelli S., Mondo D., Kaleda A., Sarusi G., Braslavsky I., Lotti M. Life at sub-zero temperatures: two ice binding proteins from an Antarctic ciliate. 12th International Congress of Extremophiles, Ischia, Italy 16-20 September 2018.
3. **Mangiagalli M.**, Carvalho H., Natalello A., Ferrario V., Barbiroli A., Lotti M., Pleiss J., Brocca S. Insight into effects of polar co-solvents on *Candida antarctica* lipase B. 6th International Conference on Biocatalysis in Non-Conventional Media (BNCM 2021), Online, 6-8 May 2021.
4. **Mangiagalli M.**, Brocca S., Barbiroli A., Nardini M., Lotti M. Role of quaternary structure in cold adaptation. Proteins on the Web 2021 (WebPro2021), Online, 20-21 May 2021.
5. **Mangiagalli M.**, Marchetti A., Orlando M., Bombardi L., Fusco S., Lotti M., Role of glycoside hydrolases in the Antarctic bacterium *Marinomonas* sp. ef1. VII Congress of the Italian Astrobiology society, Roma, 12-15 June 2023.
6. **Mangiagalli M.**, Bianchi G., Pessina A., Signorelli S., Ami D., Natalello, A., Lotti M., Brambilla L., Brocca S., Towards sustainable processes: use of agro-food waste biomasses to produce recombinant proteins. 48th FEBS Congress, Milano 29 June-3 July 2024.

Invited lectures

1. **Mangiagalli M.**, Pucciarelli S., Kaleda A., Sarusi G., Chiappori F., Braslavsky I., and Lotti M. Life under stress: ice binding proteins and superoxide dismutases from an Antarctic ciliate. VIII European Congress of Protistology (ECOP), Rome, Italy 28 July-2 August 2019. (Invited speaker in the session Bioactive molecules from protists: perspectives in Biotechnology).
2. **Mangiagalli M.** Use of cheese whey permeate as an inducer for recombinant protein production. Bioeconomy Summer School (2nd edition) - Como, 5-9 Giugno 2023. (Invited speaker in the case of study titled: "Cheese whey: one biomass, two stories").

Seminars

- 1- **Mangiagalli M.** Some like it cold: cold-active enzymes and ice binding proteins from Antarctic bacteria, Seminar organized by the young section of the Italian Biochemistry and Molecular Biology Society (SIB), online, 4 March 2022.
- 2- **Mangiagalli M.** Cold-loving enzymes: from fundamentals to biotechnological exploitations. Department of Biotechnology and Biosciences (UNIMIB), 9 March 2023.

Contributions to Meetings and Symposia

1. Martani F., Sasso F., **Mangiagalli M.**, Branduardi P., Brocca S., Porro D., Lotti M. Ligninolytic enzyme from white-rot fungi. 12th Biotrans, Vienna, Austria 26–30 July 2015 (Poster)
2. Pucciarelli S., Priyan K., Miceli C., Pischedda A., **Mangiagalli M.**, Ferrari C., Lotti M., Sezerman U. O. Cold-active enzymes from the marine Antarctic ciliate *Euplotes focardii*. Exploitation and Legal Aspects on Marine Genetic and Chemical Resources. Napoli, Italy 04-05 April 2016. (Poster)

3. **Mangiagalli M.**, Bar-Dolev M., Kaleda A., Natalello A., Brocca S., De Pascale D., Pucciarelli S., Braslavsky I., Lotti M. Identification and functional analysis of a novel Antarctic ice binding protein (DOI: 10.1016/j.nbt.2016.06.1452) 17th European congress on biotechnology. Krakow, Poland 03-06 July 2016 (Poster)
4. Lotti M., Brocca S., **Mangiagalli M.**, Pischedda A., Orlando M., Maione S., De Pascale D., Pucciarelli S., Nardini M., Braslavsky I. "Cold Biotechnology": enzymes and antifreeze proteins from Antarctic organisms. 59th Congress Italian Society of Biochemistry and Molecular Biology. Caserta, Italy 20-22 September 2017. (Oral communication)
5. **Mangiagalli M.**, Sarusi G., Kaleda A., Bar Dolev M., Vena V.F., Nardini M., Braslavsky I., Lotti M. How do proteins interact with ice? The case of *EfcIBP*. Proteine 2018, Verona, Italy, 28-30 May 2018. (Poster)
6. Tedeschi G., **Mangiagalli M.**, Lotti M., Natalello A., Brocca S. How to design an (in)soluble protein tag: some insights from synthetic intrinsically disordered proteins. Proteine 2018, Verona, Italy, 28-30 May 2018. (Oral communication)
7. Pischedda A., **Mangiagalli M.**, Chiappori F., Pucciarelli S., Lotti M. Superoxide dismutases from the Antarctic psychrophilic marine ciliate *Euplotes focardii*. Proteine 2018, Verona, Italy, 28-30 May 2018. (Poster)
8. Orlando M., Maione S., **Mangiagalli M.**, Pischedda A., Valtorta R., Mondo D., Pennati M., Brocca S., Pucciarelli S., Lotti M. Biochemical and structural features of enzymes from an Antarctic metagenome. Proteine 2018, Verona, Italy, 28-30 May 2018. (Poster)
9. Lotti M., Brocca S., **Mangiagalli M.**, Pischedda A., Orlando M., Maione S., De Pascale D., Pucciarelli S., Nardini M., Braslavsky I. Enzymes and ice binding proteins from Antarctic organisms. 18th European congress on biotechnology. Geneva, Switzerland, 01-04 July 2018. (Oral communication)
10. Pinsky T., Kaleda A., Lotem H., Sarusi G., **Mangiagalli M.**, Bar Dolev M., Lotti M., Nardini M., Braslavsky I. Saturn-shaped ice-plane binding and binding kinetics of *EfcIBP*. CRYO2019: 56th Annual Meeting of the Society for Cryobiology. San Diego, US, 22-25 July 2019. (Poster)
11. Cipolla L., **Mangiagalli M.**, Sciandra B., Brocca S., Di Foggia G., Beccarello M., Lotti M. Enzymatic lactose hydrolysis to fosters the transition of cheese whey from waste to resource. Chemistry meets Industry and Society. Salerno, Italy, 28-30 August 2019. (Poster).
12. Marchetti A., De Divitiis M., Ami D., Natalello A., **Mangiagalli M.**, Lotti, M. Lipases and esterases from Antarctic microorganisms. European Federation of Biotechnology Virtual Conference (EFB 2021). 10-14 May 2021. (Poster)
13. Marchetti A., Pucciarelli S., **Mangiagalli M.**, Lotti M. Effect of manganese ion on Antarctic esterase. Proteins on the Web 2021(WebPro2021), Online, 20-21 May 2021. (Poster).
14. Bucchieri D., Serra I., **Mangiagalli M.**, Beltrametti F., Lotti M., Branduardi P. Heterologous production of a novel *Coriobacterium polyzona* laccase in *Saccharomyces cerevisiae*. ICY15 meets ICYGMB30, Online, August 23-27, 2021 (Poster).
15. Casari, E., Gobbin, E., Gnugnoli, M., **Mangiagalli, M.**, Clerici, M., Longhese, M.P. Dpb4 acts in two different protein complexes to promote resection of DNA double-strand breaks and checkpoint activation. AGI2021 Congress, Online, September 22-24, 2021 (Poster).
16. Marchetti A., **Mangiagalli M.**, Orlando M., Lotti M. Mn²⁺ binding affects thermal properties of an Antarctic esterase. Proteine 2022, Pisa (Italy), 18-20 May 2022 (Poster + selected oral presentation).
17. Acciarietti F., de Divitiis M., Pasquale A., **Mangiagalli M.**, Petroni S., Ami D., Natalello A., Lotti M., Brocca S., Cipolla L. Hexoses from food waste: applications in sustainable chemicals Design. Annual congress of the Italian Chemical Society (Division: Chemistry of the biological systems, Napoli (Italy), 20-22 June 2022 (Poster).

18. Acciaretto F., de Divitiis M, **Mangiagalli M.**, Pasquale A., Petroni S., Lotti M., Brocca S., Cipolla L. Lactose as a source of added-value chemicals. Biocatalysis for the biological transformation of polymer science, Colon (Germany), 27-29 June 2022 (Poster).
19. **Mangiagalli M.**, Pucciarelli S., Nardini M., Lotti M. *Marinomonas* sp. ef1 as a source of novel cold-active β -galactosidases with biotechnological potential. Novel enzymes, Greifswald (Germany), 28-31 March 2023 (Poster).
20. Marchetti A., Bombardi L., Orlando M., Fusco S., **Mangiagalli M.**, Lotti M. Antarctic β -glucosidases involved in marine polysaccharides degradation. Novel enzymes, Greifswald (Germany), 28-31 March 2023 (Poster).
21. Bucchieri D., **Mangiagalli M.**, Serra I., Martani F., Beltrametti F., Lotti M., Branduardi P. Heterologous production of a *Trametes polyzona* laccase in *Saccharomyces cerevisiae*. The Microbiology Society Annual Conference 2023, Birmingham (UK), 17-20 April 2023 (Poster).
22. Mangiagalli M., Acciaretto F., Lombardo G., Murgia A., Bianchi G., Lotti M., Brocca S., Pellis A., Cipolla L. Biocatalyzed synthesis of sugar-based polyesters in a cellulose-derived high boiling solvent. 7th International Conference on Biocatalysis in Non-Conventional Media, Trondheim (NOR), 26-29 Maggio 2024 (Poster).
23. Digiovanni S., Beverina L., Branduardi P., Clerici M., Frigerio C., Lotti M., Mangiagalli M., Mapelli V., Mauri M., Mecca S., Milanese R., Simonutti R., Tarricone G. From agrifood waste towards novel biobased materials. 48th FEBS Congress, Milano 29 June-3 July 2024 (Selected Oral Presentation).
24. Orlando M., Marchetti A., Mangiagalli M., Bombardi L., Fusco S., Lotti M. An in silico workflow for mining glycoside hydrolase enzymes from nature. 48th FEBS Congress, Milano 29 June-3 July 2024 (Poster).
25. Marchetti A., Orlando M, Bombardi L., Christakis C., Tsopanakis V., Sarris P.F., Pavlidis I.V., Fusco S., Mangiagalli M., Lotti M., Extreme marine and coastal environments as a source of glycoside hydrolases involved in the degradation of oligosaccharides and polysaccharides. 48th FEBS Congress, Milano 29 June-3 July 2024 (Poster).
26. Bucchieri D., Mangiagalli M., Lotti M., Branduardi P., Serra I. A novel laccase from *Trametes polyzona* with high performance in the decolorization of textile dyes. 48th FEBS Congress, Milano 29 June-3 July 2024 (Poster).

Cover pages

- 1- The FEBS Journal, Volume 286, Issue 5, doi:10.1111/febs.14536. Ice-binding proteins and the 'domain of unknown function' 3494 family (**2019**).
- 2- The FEBS Journal, Volume 288, Issue 2, doi:10.1111/febs.15378. The co-existence of cold activity and thermal stability in an Antarctic GH42 β -galactosidase relies on its hexameric quaternary arrangement (**2021**).

Award

2022 3rd place at the "Premio Giovani Talenti" in the field of biological sciences; University of Milan Bicocca, patronized by the Accademia Nazionale dei Lincei.

Editorial and Referee activities

2020-2023 Member of the Early Career Reviewer (ECR) board of "The Journal of Biological Chemistry";

- 2021 Guest editor: Marine Drugs (Impact factor: 5.118). Special Issue: "Enzymes and Ice Binding Proteins from Marine Cold-Adapted Organisms";
- 2021-Now Member of the Reviewer Board of "Catalysts";
- 2021-Now Member of the Reviewer Board of "Microorganisms";
- 2021-Now Reviewer Editor of "Frontiers in Marine Biotechnology" (Session: Marine Biotechnology and Bioproducts);
- 2023-Now Reviewer Editor of "Frontiers in Molecular Biosciences" (Sessions: Structural Biology, Molecular Biophysics).

Referee activity for international journal

M. Mangiagalli was referee for the following International Journals: 3Biotech, Applied and Environmental Microbiology, Archives of Biochemistry and Biophysics, Biology, Biomolecules, Cryobiology, Catalysts, Critical Reviews in Biotechnology, Extremophiles, E-life, Frontiers in Bioengineering and Biotechnology, Foods, Microorganisms, Microbial cell factories, International Journal of Molecular Sciences, Scientific Reports, Sustainability, The Journal of Biological Chemistry

Teaching activity

M. Mangiagalli has **286** hours of frontal and laboratory teaching in Biochemistry (05/E1, Bio10), Molecular Biology (05/E1, Bio11), General and Inorganic Chemistry (03/B1, Chim03), Organic Chemistry (03/C1, Chim06).

RRI activity

M. Mangiagalli participated in the following communication events:

- Bioeconomy day – Processi Biobased a supporto della bioeconomia. Online event, May 27, 2021.
- Festival dello sviluppo sostenibile - La nuova alleanza: Green deal e tradizione alimentare italiana. Online event, 30 September, 2021.
- Percorsi per le Competenze Trasversali e l'Orientamento (PCTO). Title: Sostenibilità dei processi di produzione degli alimenti, AA 2021-2022.
- "Incontro con il biochimico in un giardino segreto" con un poster divulgativo intitolato: Da scarto a risorsa: processi biotecnologici per la valorizzazione del siero di latte. Organizzato da "Giovani Biochimici Lombardi", Milano, 29 June 2024.

Autorizzo il trattamento dei dati personali contenuti nel mio curriculum vitae in base all'art. 13 del D. Lgs. 196/2003 e all'art. 13 GDPR 679/16.