

Francesca Maccari

Born in Carpi (Mo) on April 13, 1973.

Associate Professor in Biochemistry SSD BIOS-07/A Biochimica

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Education and training

March 8, 2000: Degree in Biological Sciences cum laude, University of Modena and Reggio Emilia

2001-2003: PhD in Cellular and Molecular Physiopathology, University of Modena and Reggio Emilia with a thesis entitled: "Study and characterization of the structure of glycosaminoglycans and proteoglycans from biological fluids of Pseudoxanthoma elasticum affected patients".

2004: Post-doctoral fellowship with a research project entitled: Biotechnology modifications of complex carbohydrate.

2005-2006: Post-doctoral fellowship with a research project entitled: Study of the structure and biological function of glycosaminoglycans and their products of degradation in fibroblasts and tissues of PXE-affected patients.

2009-2021: Researcher in biochemistry SSD BIO/10.

January 2022: Associate professor of Biochemistry

Member of the Teacher-Student Joint Commissions (CPDS), Biology area, since 19-10-2021.

Teaching courses

Since 2006: Laboratory of Biochemistry, Cellular and Molecular Biology for students in Biological Sciences; Laboratory of Biochemistry for Biological Sciences (L13) and Biotechnology (L2); Biochemistry for Cellular and Molecular Fundamentals of Life for Nursing; Biochemistry module for Health Professions (Dental Hygiene, TLFCP; Medical Radiology Imaging and Radiotherapy Techniques; Obstetrics), biochemistry for Pharmacy

From 2009 to 2014 she was a member of The Board of the PhD School in Science and Technologies for Health Products.

Tutoring Assistance

She was Co-Supervisor of 25 undergraduate students and Supervisor of 3 undergraduate students.

From 2010 to 2012 she was a Co-supervisor of Ph student in Science and Technologies for Health Products.

Research activities

During these years she has been working in the field of glycobiology and her interest is mainly devoted to the innovative methodologies necessary to achieve the research objective, with particular attention to the fine structure, properties and modifications of complex polysaccharides, glycosaminoglycans in tissues, organs and cells, using HPLC, CE-LIF and mass spectrometry.

Main research topics:

-Analysis of chondroitin sulphate in the urine of patients with ladder pain syndrome and determination of urinary hexosamines for the diagnosis of ladder pain syndrome.

-Determination of total and individual uronic acid species of glycosaminoglycans in urine of 2-3 day old newborns for possible early diagnosis of mucopolysaccharidosis.

- Determination of total and individual species of glycosaminoglycans in tissues from knock-out and wild-type mice. Structural characterisation of glycosaminoglycans in breast milk.

- Determination of glycosaminoglycans in the faeces of infants fed with human milk and infant formula.
- separation of neutral and acidic oligosaccharides from breast milk by capillary electrophoresis.
- structural characterization of glycosaminoglycans in breast cyst fluid contained in apocrine and flattened cyst.
- extraction and purification of glycosaminoglycans and proteoglycans from tissue of invertebrates and vertebrates
- analysis of nutraceuticals.

To date, she is has published 94 international scientific papers.

Research quality rating (VQR) 2011-2014: high

Bibliometric indicators related to publications and citations

Total publication: 97

Total citation (Scopus): 2573

h-index: 27

June 17, 2026

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