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María F. Fillat Castejón

She completed her PhD thesis at the University of Zaragoza on the characterization of flavoproteins in cyanobacteria, with stays at the universities of Konstanz (Germany) and Emory (USA). She completed a postdoc at the University of Utrecht, where she learned molecular biology techniques. She has been a full professor since 1995 and has participated in the governing team of the Faculty of Sciences. She has done stays at the universities of Rosario (Argentina) and Geneva (Switzerland), and has been a member of BIFI since 2000. Currently, she is a professor of Biochemistry and Molecular Biology and leads the Gene Regulation and Physiology of Cyanobacteria group.

Researcher profile

As PI of the team, she is an R4 EURAXESS level researcher. She carries out research on the nitrogen-fixing cyanobacterium Anabaena, used in biofertilization and bioremediation of soils contaminated by heavy metals. Her research group focuses on the regulation of nitrogen fixation and metal uptake, highlighting the role of FUR (ferric uptake regulator) proteins in these processes and in the formation of biofilms.

Importance of her research

Understanding the regulation of nitrogen fixation, the control of metal homeostasis and the formation of biofilms in cyanobacteria is essential for developing strains with new biotechnological applications. Her work is published in prestigious journals and presented at national and international conferences. Although Maria focuses on basic research, since 2000 she has generated two patents (one of which has already expired, which was exploited by BASF) and know-how on a cyanotoxin detection kit that is marketed through ZEUlab.