

Prof. Enrica Pessione

Microbial and Applied Biochemistry

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Enrica Pessione obtained her degree in 1978 with a master thesis in Microbiology. From 1979 she studied at the Specialization School for Microbiologists of Turin discussing, in 1982, a thesis on the utilization of redox compounds to enhance the bacterial permeability to antimicrobial agents. From 1980 she has been a member of the Biologist's Association and of the Italian Society for Microbiology. After her PhD, in 1983-1985 she spent several periods at the Institut Pasteur of Paris to complete her knowledge on both systematic bacteriology and microbial immunology. During these years she worked, as a microbiologist, in an Urgency Surgery Department. From 1987 she works on microbial biochemistry. In 1989 she spent a period at the Max Planck Institute für Molekulare Genetik of Berlin to improve her Laboratory experience on molecular biology.

Since 1990 she has been a researcher in Biochemistry at the University of Turin and member of the Italian Biochemical Society. She got expertise in enzymology, metabolic biochemistry and microbial proteomics. In 2001 she started a collaboration with the Weizmann Institute of Science of Rehovot (Israel) for the crystallization of bacterial oxydo-reductases, and with the INSA of Toulouse (France) for studying the correlation transcriptome-proteome.

From 2004 she is associate professor in biochemistry, and national coordinator for the microbial proteomics in the scientific committee of the Italian Proteomic Society. She is also member of the Italian Microbiologist Association for microbial biotechnologies, of CESQTA (food quality and safety control) and member of the E.C. SAFE consortium.

Her main research topics have been the bacterial membrane physiology, biochemical aspects of antibiotic resistance and enzymology of the aromatic degradation pathways. More recently she has been involved in studies concerning regulatory biochemistry, and, by means of the comparative **proteomic** and transcriptomic techniques, she focused her interest on metabolic engineering and modulation of some metabolic pathways important from an environmental view-point (surfactants, biofuels and biopolymers production) or for food safety control (bioamines, bacteriocins) or for establishing the probiotic potential of bacterial strains (selenium-fixing, CLA production, GABA biosynthesis, bio-active compounds acting on the central nervous system).

At present she is working on **Lactic acid bacteria** especially on the energy-producing pathways and bio-molecules of industrial interest. She has an open collaboration with the microbiology group coordinated by Prof Kathrin Riedel at Greifswald University for studying extracellular, surface and membrane proteome of probiotic bacteria. She has published over 70 scientific articles. In the last few years she revised, as referee, scientific articles for the *Biochemical Journal*, the *European Journal of Biochemistry*, and *Proteomics*. She is in the editorial board of *Journal of Integrated Omics* and president of the Master School for Human Nutrition and Food Sciences.

She is **Erasmus referent** for DTU (Lyngby-Denmark) and for INSA (Toulouse-France).

**Expertise:** : microbial proteomics, enzymology, fermentations, biotechnological processes, and protein chemistry.

