

I have started working at the bench in 2002 studying the role of DNA curvature in the prokaryotic model in response to thermic stimuli. The acquired skills allowed me to manage a facility aimed at the characterization of the antimicrobial and anti-quorum sensing properties of plant extracts and honey activity and the antioxidative characterization of polyphenols from vegetables. I developed a great interest in nanotechnology complexes used to improve drug/active naturally occurring substance proprieties that permitted me to produce and study some drug delivery complex.

During my Ph.D. and following years, I carried out a research on the effects of some very heterogeneous substances, including both endogenous substances (such as long-chain fatty acids and prostaglandins) and synthetic compounds (like fibrates as well as plasticizers and herbicides), which are able to induce proliferation of peroxisomes and increase the enzymatic activity of these organelles. These substances, globally called Peroxisome Proliferators, can modulate metabolism and gene expression and may produce good and bad effects on the human being.

Increasingly passionate about the role of nutrients on human physiology/pathology, in 2011 I got a Post Master's degree in Dietetics and Nutrition.

Over the last few years, I have gained an interest in the study of cancer biology especially related to Ewing Sarcoma and more recently in colon cancer. Currently, I carry out researches regarding the role of microbiota and genetic predisposition on colon cancer onset and on drug therapy outcomes in inflammatory bowel diseases and drug resistance in alcoholic liver diseases.