

Angelo Fontana (ORCID N. 0000-0002-5453-461X; WOS RESEARCHER ID C-3354-2012) is Director of the Institute of Biomolecular Chemistry (ICB) of the National Research Council (CNR) and Full Professor of Organic Chemistry at the Department of Biology of the University of Naples "Federico II". He is the coordinator of the group of Bio-Organic Chemistry and Chemical Biology whose research is aimed at the development of new therapeutic principles from small marine natural molecules and implementation of biotechnological processes and functional products from marine organisms. For these studies he has received numerous national and international funding. In 2016 he founded BioSEArch SRL, an advanced biotechnology start-up company for the development of natural products in medicine, functional foods and cosmetics. He is a permanent member of the international scientific committees for the "Marine Natural Products Symposium" and "European Conference on Marine Natural Products", and in 2009 he was awarded the Apivita Award from the Phytochemistry Society of Europe for his contribution in the field of natural products.

Scientific Interest and Research Activity

My activity is located at the interface between chemistry and biology with the aim of addressing central issues of physiology, microbiology, ecology and medicine using strictly chemical methods and tools. From a disciplinary point of view, the goal are largely overlapping with those of Chemical Biology which harmonizes the ideas and scientific approaches of chemistry, biology and related disciplines to understand and manipulate biological systems with molecular precision.

In this context, I am mainly interested in both understanding the metabolic pathways and molecular mechanisms underlying biological processes *lato sensu*, and the ability of small organic molecules to perturb, visualize and measure biological systems and properties. Using a translational approach, the topics span from basic studies in life science to practical applications in medicine or biotechnology, involving research activities that include:

- analysis, isolation, structural characterization and chemical synthesis of small organic molecules and their use in cell biology;
- biosynthesis of natural products and chemical studies of metabolism and cellular processes;
- functional applications and chemical biology of lipids and secondary metabolites;
- chemical communication mediated by small molecules;
- identification and mechanism of action of bioactive compounds;
- drug discovery and proof-of-concept of new pharmaceutical compounds (in particular antitumor and immunomodulating compounds);
- implementation of biotechnological processes and functional products.

The application to biological questions of methods based on chemical technologies such as chromatography, spectroscopy, synthesis, NMR and MS also fall within my field of interest. Furthermore, since Chemical Biology approaches have wide utility for the manipulation or engineering of biological systems, I am curious about synthetic biology studies when supported by chemical tools or aimed at performing a new type of chemical transformation for application purposes.