

## **Short CV ANNA DONNADIO**

Anna Donnadio is an Associate Professor of General and Inorganic Chemistry at the University of Perugia. Her research activity lies within the field of Inorganic Chemistry and Materials Chemistry, with a particular focus on the synthesis, characterization, and application of nanostructured and hybrid functional materials. Her studies have mainly concerned three areas of interest: materials for energy, materials for pharmaceutical and biomedical applications, and the development of sustainable and biodegradable materials.

In the energy sector, she has worked on the development of composite proton-conducting membranes for high-efficiency and durable fuel cells, through the use of inorganic nanoparticles such as zirconium phosphates and phosphonates, metal-organic frameworks (MOFs), and layered double hydroxides. Her activity has been integrated into major European research projects, including LoLiPEM, MAESTRO, and IMMEDIATE, aimed at optimizing materials for innovative electrochemical devices.

In the pharmaceutical and biomedical field, she has investigated the preformulation study of active pharmaceutical ingredients (APIs), the synthesis of nanoparticles and multifunctional hybrid materials designed for controlled drug release, and the development of co-crystals aimed at modulating the biopharmaceutical properties of APIs. A significant part of her work is devoted to materials with antimicrobial and antibiofilm properties, with applications in medical devices and functional coatings.

She has also contributed to the design of eco-friendly composites and nanostructures, based on natural polymers and polysaccharides, for biotechnological, biomedical, and innovative packaging applications. Her work makes extensive use of advanced characterization techniques, including X-ray diffraction, NMR, FTIR, SEM/TEM, spectroscopy, and thermal analysis, with a particular focus on the study of API polymorphism and the development of co-crystal systems to improve drug stability and bioavailability.

Her research outputs include more than 100 scientific publications in international journals and contributions to conferences, with an H-index of 34 and over 3000 citations (Scopus). She has been involved in several national and European projects, collaborating with research institutions and companies and teaches courses in General and Inorganic Chemistry, Analytical Chemistry, and Pharmaceutical Analysis of Medicines and Health Products II at the University of Perugia.