Marina Alloisio

Researcher

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Education and training

1994

Ph. D in Chemical Sciences

Photophysical properties of fluorescent probes intercalated in nucleic acids.

Consortium of Universities of Genoa Pavia and Turin - Genoa - IT

1990

Degree on Chemistry

Study of the intercalation complexes between fluorescent molecules and nucleic acids. - 110/110 cum laude

University of Genoa - Genoa - IT

Academic experience

2000 - ONGOING

Assistant professor

University of Genoa - Genoa - IT

Research didactics management activities

Language skills

English
Independent

French
Basic

Teaching activity

I am deputy Coordinator and Secretary of the CCS in Industrial Chemistry. I am also a member of various Committees (AQ, Tutoring, Evaluation of Curricular Requirements) within the master degree in Industrial Chemistry.
I am a member of the CCSs in Science of Materials and Biotechnology.
I am the Scientific Director/Contact Person (for the Italian part) of the Academic Cooperation Agreement stipulated by the University of Genoa and the Centro de Quimica Aplicada (CIQA) in Saltillo (Mexico).
My actual teachings are:
Science and technology of polymeric materials (6 CFU, Degree in Science of Materials)
Polymeric biomaterials (4 CFU, Master Degree in Industrial Chemistry)
Science and technology of industrial formulations (4 CFU, Master Degree in

Industrial Chemistry)
Biotechnological plants and processes (4 CFU, Degree in Biotechnology).
I am the teacher of the topic 'Polymers: general definitions and nomenclature' within of the 2nd Level University Master 'Management of Chemicals: integrated approach to REACH and other European legislation on chemicals' (academic years: 2009-2010, 2012-2013, 2017-2018).
I am a member of the exam committee of various courses included in the degrees in Chemistry and Chemical Technologies and Science of Materials and in the master degrees in Industrial Chemistry, Chemical Sciences and Science and Engineering of Materials.

Postgraduate research and teaching activity

Supervision of PhD students, residents and post-doctoral fellows

2015-2018: supervisor of candidate Daniele Urso, Doctorate in Science and Technologies of Chemistry and Materials (XXXI Cycle). Title of Ph. D thesis: 'Synthesis and characterization of novel materials for technological and medical applications'. (Co-supervisor: professor Ranieri Rolandi).
2012-2015: supervisor of candidate Maria Isabel Martinez Espinoza, Doctorate in Science and Technologies of Chemistry and Materials (XXVIII Ciclo). Title of Ph. D thesis: 'Synthesis and characterization of new organic/inorganic nanohybrid materials for technological and medical applications'. (Co-supervisor: professor Sergio Thea).

Research interests

My research activity is mainly focused on the following items:
1. Design, preparation and characterization of polymeric and polymer-based hybrid nanostructures to be applied in photonics, sensoristics and photovoltaic devices of new generation; this activity is carried out in collaboration with professors Davide Comoretto and Massimo Ottonelli (DCCI), ISMAC-CNR in Milan and CIQA in Saltillo (Mexico).
2. Design, preparation and characterization of polymeric and hybrid biomaterials exploited in different forms (fibers, membranes, films, micro- and nanoparticles) to be applied in biochemical and pharmacological fields as well as in packaging devices; this activity is carried out in collaboration with professors Maila Castellano and Silvia Vicini (DCCI) and with professor Ranieri Rolandi (DIFI).
3. Design, preparation and characterization of core-shell nanohybrids, composed by a metal or dielectric core and a polymeric or organic shell, for sensing, biochemical, diagnostic and pharmacological purposes; this activity is carried out in collaboration with professors Giovanni Petrillo and Massimo Maccagno (DCCI) and with professor Enrico Millo (DIFI).
In the past my research activity was addressed also to other items, briefly summarized below:
- Design, preparation and characterization of conjugated polymers for optoelectronic and sensing purposes: this research program was based on

the synthesis and development of novel polydiacetylenes (PDAs), in particular polycarbazolyldiacetylenes, to be applied in optoelectronic and sensing devices. This activity has been carried out since the end of the 90s.
- Study of the complexes between nucleic acids and fluorescent probes: this research program was based on the conformational and dynamic investigation of nucleic acids in solution through the study of the photophysical properties of fluorescent probles able to bind double-helix structures.This activity has been carried out mainly during my Ph.D degree.
- Conformational study of natural biopolymers in aqueous solutions: this research program was based on the conformational and dynamic investigation of the conformational and dynamic state of biological macromolecules in aqueous solutions by means of spectroscopic techniques. This activity has been carried out mainly during the first years of my academic career as a graduate technician.