

Camilla Costa

Researcher

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Education and training

1989

PhD in Chemical Sciences

Teoria e calcolo di interazioni intermolecolari nella regione di Van der Waals

Consorzio interuniversitario Torino - Pavia - Genova - IT

1985

Degree on Chemistry

Interazioni molecolari e legame idrogeno nel dimero lineare di H₂O - 110/110 cum laude

University of Genoa - IT

Academic experience

1994 - ONGOING

Researcher

University of Genoa - IT

research and teaching

1990 - 1993

Post-doctoral fellow

University of Genoa - IT

research

Teaching activity

- Colloids and interfaces (Bachelor in Chemistry and Chemical Technologies)
- Clean chemical processes and technologies (Bachelor in Chemistry and Chemical Technologies)
- Membrane chemistry and technology (Master in Industrial Chemistry)

Research interests

The initial stages of her research activity, carried out within several programs funded by MIUR (Ministry of Education, Universities and Research) and in collaboration with other Italian research groups, focused on the study of intermolecular interactions and combined two main lines of

investigation:

- theoretical study of atomic and molecular interactions, both at short/medium distances, where the quantum exchange effects prevail, and at long distances (Van der Waals interactions), where the binding energy can be expressed in terms of electrical properties of the individual interacting molecules;

- theoretical study of macromolecular interactions, with the construction of phase diagrams for binary and ternary mixtures of rigid and/or flexible polymers, with or without a solvent.

Recently her research activity aims also at the study of interfacial phenomena, with particular emphasis on membrane separation processes; the last years were devoted to the design, synthesis and characterization of membranes possessing controlled properties, suitable for applications both in conventional and in novel processes and technologies. Her present studies especially focus on the development of processes having low environmental impact and low energy consumption, and in particular on the optimization of membrane contactors for gas purification and CO₂ capture.

She has been taking an active part in many Italian and European research projects. She is the principal investigator of several research projects and collaboration agreements with various institutions and companies. Her scientific activity is witnessed by more than 60 published papers on international journals and by participation to numerous national and international congresses with oral and poster communications. She collaborates as a referee with several international scientific journals, among which Chemical Engineering Journal, Chemical Engineering & Technology, Journal of CO₂ utilization.