

**PERSONAL INFORMATION**    **Annalisa Vacca**

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**POSITION** Associate professor

**EDUCATION AND WORK EXPERIENCE**

Annalisa Vacca, graduate in Chemical Engineering and PhD in Industrial Engineering, got the associate professor position in the field of “Fundamentals of chemical technology” (SSD CHIM/07). She carries out didactic and scientific activity at the Department of Mechanical, Chemical and Materials Engineering (University of Cagliari). From 2006, she is teacher of the course of General Chemistry at the first level degree for the Faculty of Engineering. The research activities are focused in the field of electrochemical engineering applied to the study of processes for environmental remediation and energy conversion. In particular, the study covers both key aspects such as the catalytic activity of electrode materials and the identification of reaction mechanisms, both practical aspects such as design and characterization of electrochemical reactors.

For the environmental remediation, processes for removal of toxic organic pollutants, bacteria and microalgae from industrial wastewater and from natural waters have been studied using different electrochemical materials and suitable reactor configuration.

The research on energy conversion have focused mainly on the study of electrocatalysts both effective for the hydrogen production by water electrolysis, both for the use of hydrogen for energy production in fuel cells. The preparation and characterization of electrodes based on nanotubes of titanium dioxide forms has been also studied for the photo-electro water splitting, which allows to obtain hydrogen exploiting the solar radiation. More recently, the synthesis of hybrid organic/inorganic materials for catalysis and photoelectrical applications have been studied. The research activities are documented by 57 papers published in international peer-reviewed scientific journals and by more than 100 contribution at national and international congresses.