

# Marcella Pani

Researcher

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## *Education and training*

1984

### **Master Degree in Industrial Chemistry**

Crystallochemical aspects of the phases formed by alkaline earths with gold  
- 105/110

University of Genoa - Genova - IT

## *Academic experience*

2000 - ONGOING

### **Researcher (SSD CHIM02) at the Chemistry Department**

University of Genova - Genova - IT

1988 - 2000

### **Graduate technician**

University of Genova - Genova - IT

## *Language skills*

### **English**

Independent

## *Teaching activity*

Since 1999 she has given the teaching task in *Crystallography* for the courses of Materials Science and of Chemistry.

In the academic year 2009/2010 she held the teaching assignment '*Physical Chemistry 1 with laboratory*' for the three-year degree course in Materials Science.

Since 2009 she has been in charge of the *Physical Chemistry* course for the Master's Degree in Materials Science and Engineering.

Member of the Traineeship Commission for the Chemistry Degree from 2002 to 2007.

She carries out various organizational and orientation activities for the Degree course in Materials Science, being responsible of the addressing committee for the choice of University studies since 2010.

Since 2017 she is Delegate of DCCI (Chemistry Dept. of the Genova University) for Erasmus activities.

Supervisor for five master's degree thesis, fifteen bachelor degrees and one Ph.D thesis for students of both Chemistry and Materials Science.

## ***Research interests***

### **Main research themes**

Since 1988 the scientific activity of M. Pani has been devoted to the study of intermetallic systems, with particular interest to the synthesis, thermodynamic stability, structural characterization, and also electrical and magnetic properties of the intermetallic phases. Over the years, other research topics have been added to this one, as summarized in the following. The investigations have been carried out through a crystallochemical approach, which allows the description and classification of the various crystal structures by analyzing coordination polyhedra, bond distances and site ordering, in order to highlight the main factors that influence the existence and the stability of the existing phases, linking their structural features to the observed physical properties.

1. *Synthesis and characterization of new intermetallic phases; binary and ternary systems formed by electropositive metals (alkaline, alkaline-earth, lanthanides) with transition and/or post-transition elements.*
2. *Synthesis and properties of iron-based superconductors.*
3. *Synthesis and characterization of materials based on complex rare earth oxides, with particular focus on systems  $Ce_{1-x}RE_xO_{2-x/2}$ , based on ceria ( $CeO_2$ ) doped with trivalent rare earths.*

Co-author in more than 100 scientific works (including two book chapters), of which more than 70 concern the study of intermetallic systems, published on International journals following a peer-review evaluation.