



**Prof. Maria Cantarella**  
University of L'Aquila,  
Department of Chemistry, Chemical Engineering & Materials

## CURRICULUM VITAE

### EDUCATION:

In 1974 she obtained the degree in Chemistry at the University of Naples discussing a thesis entitled "Studi immunochimici sui sistemi costituiti dalle ribonucleasi seminale e pancreatica e dagli anticorpi da esse determinate" Supervisor Prof. Giuseppe D'Alessio, Full Professor of Biochemistry.

### LANGUAGES:

Native languages: Italian and French

Other languages: English

### UNIVERSITY POSITION AND TEACHING EXPERIENCE:

*November 2001 - at present*

Full Professor (permanent position) at the Engineering Faculty of the University of L'Aquila,  
Teaching courses: "Industrial Biological Processes"; "Fundamentals in Biotechnology"

*November 1990 - 2001*

Associate Professor (permanent position) at the Engineering Faculty of the University of L'Aquila,  
Teaching courses: "Industrial Chemistry"; "Industrial Biological Processes";  
"Industrial Biochemical Technologies"

*November 1987 - November 1990*

Associate Professor (permanent position) at the Engineering Faculty of the University of Salerno  
Teaching courses: "Industrial Chemistry" and "Industrial Biological Processes"

*August 1980 - November 1987*

Researcher (permanent position) at the Faculty of Sciences of the University of Naples

*From 1977 till August 1980*

Assistant Researcher at the Faculty of Sciences of the University of Naples

Teaching course: "Microbiology and Fermentation Chemistry in the Food Industry"

### MAIN TOPICS OF RESEARCH WORK

- Isolation, purification and kinetic characterization of enzymes ( $\beta$ -amylase, ribonuclease)
- Investigation of enzyme stability and activity (acid phosphatase,  $\beta$ -glucosidase, invertase,  $\alpha$ -chymotrypsin, cholesterol oxidase, cellulase, pectinase, nitrile hydratase) in water, biphasic media and reverse micelles
- Enzyme and cell immobilization techniques
- Enzyme inhibition studies
- Modelling and development of bioreactors operating with either free or immobilized biocatalysts (enzymes or cells)
- Optimization studies for the enzymatic hydrolysis of lignocellulosic materials
- Culture of microorganisms and reactor optimization for bioconversion of acrylonitrile into acrylamide
- Enzymatic conversion of cephalosporin C into glutaryl 7 ACA
- Enzymatic synthesis of di- and trisaccharides in organic solvents
- Characterization of membrane bioreactors for process optimization
- Nitrile bioconversion, nitrile hydratase/amidase system

Scientific responsible of numerous research contracts funded by MURST (Ministry of University, Scientific and Technological Research), CNR (National Research Council), ENEA (National Bureau for Renewable Energy), ENI-RICERCHE (Hydrocarbon National Company), ECC (European Community Commission).

#### **VISITING RESEARCHER**

- In 1976 for 7 months and in 1987 for 6 months at the Technological University of Compiègne, France
- In 1981 for 6 months at the Purdue University of West Lafayette, Indiana USA

#### **TEACHING EXPERIENCE ABROAD**

- In 1995/1998/2003/2006/2008/2010 she was visiting the Sao Paulo University, Brasil, (CNPq grant) teaching a post graduation course on MEMBRANE BIOREACTORS FOR LABORATORY CHARACTERIZATION AND INDUSTRIAL DEVELOPMENT OF BIOPROCESSES.

Erasmus delegate of the Engineering Faculty, she is responsible of numerous bilateral agreements with other universities. Since 2001, she is the local responsible of the International agreement for scientific and didactic cooperation between the University of L'Aquila and the University of São Paulo Brasile (Department of Biochemical and Pharmaceutical Technologies).

Over the years, she published numerous papers and gave many seminars. Author of 82 papers appeared on ISI Journals; 3 papers on National Journals; 5 Chapters on edited books; 30 proceedings on Edited books; 15 proceedings at international conferences; 26 proceedings at Italian conferences.

Chairwoman and member of Scientific Committee of International Conferences, member of the scientific board of ITABIA (ITALian Biomass Association).

Invited speaker in numerous International Conferences.