

27.1.1978, Graduates in Biological Sciences with first class honours at the University of Naples "Federico II".

16.12.1983, Botany Researcher at the "Dipartimento di Biologia Vegetale della Facoltà di Scienze MM.FF.NN." of the same University.

23.2.1988, Associate Professor of Botany at "Facoltà di Scienze MM.FF.NN. dell'Università della Calabria".

1.11.1991, Associate Professor of Plant Anatomy at "Facoltà di Scienze MM.FF.NN. dell'Università di Napoli "Federico II"

1.11.1992, Associate Professor of Plant Anatomy at "Facoltà di Scienze MM.FF.NN. della Seconda Università di Napoli".

1.11.1994, Associate Professor of Ecology at "Facoltà di Scienze MM.FF.NN. della Seconda Università di Napoli"

1.1.2006, Full Professor of Ecology at "Facoltà di Scienze MM.FF.NN. della Seconda Università di Napoli".

She took part in numerous funded research projects. In particular, she took part in:

- University research projects that have been financed annually.
- as responsible of a sub-unit of the "ModMED II" (Modeling Dynamics and degradation in Mediterranean Ecosystems) project funded in 1996 by the European Community.
- as responsible of Unit "Task C2" of the ModMED III project "(Modeling Vegetation Dynamics and degradation in Mediterranean Ecosystems)" funded in 1998 by the European Community.
- as Scientific Responsible of the Local Research Unit as part of the project "Fire in the Mediterranean environment: effects on vegetation and soil" funded in 1999 by the Ministry of Universities and Scientific and Technological Research and whose national coordinator was Prof. Amalia Virzo De Santo.
- as Scientific Responsible of the project entitled "Biomonitoring in the urban area of Caserta" which in 2002 received funding from the Campania Region (Law 41) in the A-Environment area, Priority Field A1.
- as Scientific Responsible of the project entitled "Study of the effects of atmospheric pollution on plants in the urban and suburban area of Caserta" which in 2004 received funding from the Campania Region (Regional Law 5, 2002).
- as Scientific Responsible of a Biomonitoring project in the urban area of Caserta financed by the Municipality of Caserta for a period of about 3 and a half years (2005-2008).
- strategic project "Biodiversity and ecosystems" funded by the CNR and coordinated by Prof. Fausto Manes
- to the coordinated CNR project entitled "Integrated studies of soils polluted by irrigation waters contaminated by heavy metals: the case study of the Valle Solofrana" , Prof. Liliana Gianfreda responsible in chief.
- as a member of the local research unit of the Second University of Naples (local coordinator Prof. Flora Angela Rutigliano) within the project, coordinated at national level by Prof. Stefano Mazzoleni, entitled "Analysis and modeling of carbon flows and nitrogen in Mediterranean scrub: influence of the spatial variability of the vegetation cover "financed in 2003 by the Ministry of University and Scientific Research.

- as National Coordinator of the PRIN 2008 Project entitled "Quality and accumulation of organic matter in the soil of 2 beech forests under different temperature and precipitation regimes: relations with the production and quality of the litter and with the biochemical and functional characteristics of the soil biota "(No. 2008NMFWYS-001).
- as a member of the local research unit of the Second University of Naples (local coordinator Prof. Simona Castaldi) as part of the PRIN 2010 project, coordinated nationally by Prof. Riccardo Valentini, entitled "National strategies for the mitigation of climate change in agrarian and forestry arboreal systems ".
- as Participant in the "Campus" project, POR Campania ERDF 2007-2013 entitled "Introduction and enhancement of healthy foods and production rationalization in the traditional supply chains of the Campania Region".
- as part of the research unit of the Second University of Naples, which, together with other universities in Campania, participates in the project "Network for the protection and management of agro-food genetic resources of Campania (AGRIGENET)", "PSR 2007/13, measure 214, action f2.

She also stipulated an agreement with “Cirio Ricerche” for the study of microbial activity of agricultural soils as part of a project entitled "Study on interactions between agronomic techniques and the microflora of the soils of lower Lazio for an assessment of the level of fertility".

She was part of the "Center of Competence for the Development and Transfer of Innovation applied to cultural and environmental heritage, INNOVA" of the Campania Region.

She was a member of the Faculty Board for the PhD in "Applied Biology" of the "Federico II" University of Naples, with which the Second University of Naples was a registered partner.

Currently she is in the board of the PhD in Environmental, Design and Innovation at Second University of Naples and is a member of the Faculty Board.

She is a member of the Italian Botanical Society, Italian Society of Ecology, Italian Society of Soil Science, Society of Naturalists in Naples.

In the two-year period 1999-2000 she was elected councilor in the Board of Directors of the Italian Society of Ecology.

She was a member of the Scientific Committee for the organization of the VII, IX, X and XXVII National Congress of the Italian Society of Ecology.

She has held courses in Botany and Plant Biology, but since the academic year 1995/96 she is the lecturer for Ecology. However, she also taught courses in Applied Ecology, Plant Ecology, Marine and Freshwater Ecology, Ecology of Agricultural Systems, Soil Ecology (which she still continues to do for Master's Degree courses in Biology and Food Science and Human nutrition).

As for her organization activities, she was:

- for two years, appointed member by the Faculty of Sciences of the Second University of Naples in the commission called to organize and coordinate the Interfaculty Library Sciences and Environmental Sciences of the Second University of Naples

- for seven years she was delegated to guide in the choice of university studies before the degree course in Biological Sciences and then for the Faculty of Sciences.
- for about three years, she was responsible for the optimization of the didactics of the Faculty of Sciences.
- from the birth of the Department of Environmental, Biological and Pharmaceutical Sciences and Technologies and for about 3 years responsible for the coordination of study courses presidents.
- from 2008 to today she is responsible for students work-training committee
- from 2013 to 2018 she was a Member of the Departmental Committee and in the years 2016 and 2017 of the Joint Commission.

She has been component of numerous competition commissions both for researcher and professor, as well as for research grants, occasional collaboration contracts, for the performance of the biologist profession, and others.

She has worked as referee for many journals including: Soil Biology & Biochemistry, Acta Oecologica, Plant and Soil, Global Change Biology, Applied Soil Ecology, Science of the Total Environment, Ecological Research, Forests, Pedobiology and others.

At the invitation, she wrote the chapter "Suolo" in the text of General Ecology of Bullini L., Pedrotti F., Virzo De Santo A. (UTET ed.) and she edited the translation of two chapters in the text of Botany - Mauseth - III Italian Edition (Idelson Gnocchi Publishing House).

Also on invitation, she edited together with A. Fuggi the chapter entitled "Biotechnology of soil enzymes" for the volume I "Microbial Biotechnology in Agriculture and Aquaculture" (Ray RC Ed.), published by Science Publishers, Inc. Enfield, New Hampshire, USA.

At the request of the PICCIN Publishing House, she coordinated and edited the translation of the text "Ecology", of which Cain, Bowman, Hacker, are authors (Sinuaer Editor), III Edition. Furthermore, she translated three chapters. So, the first Italian edition of the text was published in 2016.

Her research activity has been focused on:

1) Soil ecology, 2) Plant ecology, and in particular, the adaptive significance of CAM (Crassulacean Acid Metabolism) and the plant responses to stress.

The main research topics have been:

- a) Litter fall and decomposition in ecosystems of the Mediterranean area. Particular attention has been given to: 1) the effects of climatic conditions and litter quality on decomposition rate and on nutrient release. She studied beech and pine litter as well as Mediterranean maquis. 2) the changes of enzyme activities as markers of microbial community succession during litter decomposition. This study related the enzyme activities during decomposition phase gives useful information on functional changes of microbial communities and their succession.
- b) Amount and quality of organic matter along the forest soil profile. The research, carried out with specialists of different disciplines, aims to study the role of climate on quality and amount of litter and, therefore, of soil organic matter and the microbe and micro-fauna diversity.

- c) Biological activity of soil in natural and anthropic environments by evaluating soil respiration, fungal and microbial biomass as well as enzyme activities. The changes caused by fire, heavy metals and agricultural management have been studied.
- d) Higher plant responses to pollutants. In this view, a study of biomonitoring in the urban area of Caserta has been performed. She also performed an integrated study to characterize and evaluate the environmental quality of the Calore and Volturno rivers by determining biological, chemical and physical parameters; for the Volturno river, the attention was pointed on the stretch between Castel Campagnano and the mouth because this area is greatly influenced by pollution caused by the confluence of Calore affluent, upstream, and, by periodical variations of water level dependent on the ENEL dam management (Triflisco dam), downstream.
- e) Fruit and vegetables quality. In this view she carried out measurements of content of essential and trace elements in fruits and vegetables samples, in order to estimate their contribution in the daily intake with a typical Mediterranean diet.
- f) Nitrogen cycle in woods of Southern Italy. In particular, the ammonification, nitrification and denitrification processes have been considered in forest soils.
- g) The ecological significance of CAM (Crassulacean Acid Metabolism). The studies in different species (about 50) of *Peperomia*, *Cissus*, *Senecio*, *Sansevieria* e *Sedum* genera, allowed: 1) to determine the expression degree of CAM metabolism; 2) to show the relationships among xeromorphic characteristics, succulence and CAM; 3) to define the role of photoperiod, temperature and water availability on CAM regulation.

The extensive scientific production was published mostly on journals with Impact Factor. She has participated in numerous national and international conferences with communications and / or posters.