Curriculum Vitae
Prof. Maria Antonietta Rao

Maria A. Rao is full professor in Agricultural Chemistry at the Department of Agricultural Sciences, University of Naples Federico II. She is PhD in Agricultural Chemistry (1993 at University of Naples Federico II).
Prof. Rao carries out studies in the field of soil biochemistry focusing on the control and protection of the environment. In particular, studies deal with:

1) Identification and characterization of the behaviour of various enzymatic activities in different soils as bioindicators of soil quality when affected by anthropic activities and/or pollutants.
2) Identification of complex physical, chemical and biological phenomena involving pollutants in soil. Interactions between contaminants and biological components as enzymatic systems were studied to define their functions and potentiality in i) maintaining soil fertility and quality, ii) the detoxification of soil and aquatic polluted systems, iii) the recovery of contaminated sites.
3) Phytotoxicity studies of soils contaminated by organic compounds or heavy metals to understand the efficiency of remediation treatments and contribute together with other chemical, biochemical and biological indicators to better valuate soil quality.
4) Interactions of prion protein (PrP) with soil organic matter. Adsorption and/or entrapment of PrP and its desorption and/or extraction from humic-like aggregates obtained with phenols by biotic and abiotic catalysis.
5) Chemical, biochemical and biological characterization of agricultural soils under organic management, as well as qualitative a nutritional characterization of fresh and processed tomato.
6) Proteomic studies on potato tubers in order to obtain protein profiles of Italian potato cultivar to be used as biomarkers for typization of agricultural products. In particular, proteome of early potatoes from Campania, Puglia and Sicilia Regions was studied.
7) Biochar based-remediation techniques of soil and water contaminated by organic compounds.
8) Re-use of olive oil mill wastewater for the energy production by anaerobic digestion.
9) Sustainable management of agricultural soil under conventional and organic farming.

Prof. Rao is principal investigator of the following projects:

- Project MiPAF. Program of National Action for organic agriculture and organic products– Organic management and processing of tomato: effects of quality and nutritional characteristics of products (2010-2012).
- Atheneum project "Mitigation of the environmental impact of olive mill wastewater through sustainable bioprocess with energy recovery – OliveWasteRecovery funded by University of Naples Federico II, (2016-2018).
- Progetto PSR Campania "Gestione sostenibile della fertilità dei suoli della Piana del Sele per la produzione destinata alla IV gamma in coltura protetta mediante ammendanti organici di qualità provenienti dal comparto zootecnico locale" (2019-2023).

Institutional activities

2010-2016	Coordinator of the International Doctorate in Environmental Resource Sciences joint between University of Naples Federico II, Italy, and Universidad de la Frontera, Chile.
2013-2016	Member of the Committee of the Doctorate in Agricultural and Agro-Food Sciences, University of Naples Federico II, Italy.
2017-	Member of the Committee of the Doctorate in Sustainable Agricultural and Forestry Systems and Food Security, University of Naples Federico II, Italy.
2016-	Representative of the Division of Agricultural and Chemical Sciences of the Department of Agricultural Sciences2, University of Naples Federico II.
2019-	Vice president of the School of Agricultural Sciences and Veterinary Medicine.

Editorial activity

Books: Gianfreda L., Rao M.A. Eds.. 2014. Enzymes in Agricultural Sciences. OMICS Group International.
Guest Editor for Special Journal Issues Soil Interfaces in a Changing World. Special Issue ISMOM 2011, European Journal of Soil Science, 2012, vol. 63.
Associated Editor of European Journal of Soil Science and Journal of Plant Nutrition and Soil Science.

Bibliometric indicators (Scopus): Number of papers: 79; Citations: 4305; H-index: 35.