

PERSONAL INFORMATION

Maria Maisto

EDUCATION AND QUALIFICATIONS

2023 Acquisition of 24 CFU in "Anthropo-psycho-pedagogical disciplines and teaching methodology" prescribed by Presidential Decree 59/2017
University of Sannio (Benevento, Italy)

2022 Attainment of State Examination for the profession of biologist (section A)
University of Sannio (Benevento, Italy)

2021- ongoing PhD in Science and Technology for the Environment and Health
Department of Science and Technology, University of Sannio (Benevento, Italy)

Study of fungal systems for the biodegradation of macro- and micro-plastics

Tutor: Prof. Rosaria Sciarrillo

2017 - 2020 Master Degree in Molecular and Industrial Biotechnology
University of Naples Federico II

Vote: 110/110 cum laude

Thesis subject: Biochemistry

Thesis title: Argan (*Argania spinosa* L.) oilcake as by-product for bioplastic production

2013 - 2017 Bachelor Degree in Biomolecular and Industrial Biotechnology
University of Naples Federico II

Vote: 104/110

Thesis subject: Molecular biology

Thesis title: Conversion of BSG into fermentable sugars: new 'One Pot' strategy

SCIENTIFIC AND PROFESSIONAL EXPERIENCE, RESEARCH ACTIVITIES

2021- ongoing PhD student at the laboratory of Integrated Systems of Animal and Plant Biology for Environment and Health (Prof. Carmine Guarino- Rosaria Sciarrillo), DST Unisannio

January 2022- April 2022 Visitor student at the Laboratory of Polymeric, Nanocomposite and Colloidal Materials (Prof. Valter Castelvetro), Department of Chemistry and Industrial Chemistry, University of Pisa

- Extraction and characterisation of microplastics from river sediments

2019-2020 Student trainee at the Department of Chemical Sciences (Prof. Raffaele Porta-Loredana Mariniello- C.V.L. Giosafatto), University of Naples, Federico II

- Extraction of proteins from Argan (*Argania spinosa* L.) oilcakes for the production of bioplastics with cross-linking mediated by purified microbial transglutaminase from *Streptomyces mobaraensis*

2017 Student trainee at the Department of Chemical Sciences (Prof. Giovanni Sannia), University of Naples, Federico II

- Process optimisation of fermentable sugars from biomass

TECHNICAL SKILLS

Enzymology - enzymatic assays

Nucleic acid extraction, sequencing, PCR, qPCR (plant tissues)

Protein extraction (plant tissue), SDS-PAGE

Solvent extraction

Microbial cultures

Excellent familiarity with the following techniques

Spectrophotometry

Material properties analysis: stability testing of colloidal solutions, mechanical properties testing, permeability testing, determination of water content and water absorption of plastic films

FT-IR spectrometry

Chromatographic techniques - GPC, HPLC

Ion Torrent next-generation sequencing

PUBLICATIONS

Maisto M., Ranauda M.A., Zuzolo D., Tartaglia M., Postiglione A., Prigioniero A., Falzarano A., Scarano P., Castelvetro V., Corti A., Modugno F., La Nasa J., Biale G., Sciarrillo R., Guarino C., Effects of microplastics on microbial community dynamics in sediments from the Volturno River ecosystem, Italy. *Chemosphere* (2024). Volume 349, 140872. <https://doi.org/10.1016/j.chemosphere.2023.140872>

Ranauda M.A., Zuzolo D., Maisto M., Tartaglia M., Scarano P., Prigioniero A., Sciarrillo R., Guarino C. Microplastics affect soil-plant system: Implications for rhizosphere biology and fitness of sage (*Salvia officinalis* L.). *Environmental Pollution* (2024) <https://doi.org/10.1016/j.envpol.2024.123656>.

Zuzolo D., Ranauda M.A., Maisto M., Tartaglia M., Prigioniero A., Falzarano A., Marotta G., Sciarrillo R., Guarino C. The rootstock shape microbial diversity and functionality in the rhizosphere of *Vitis vinifera* L. cultivar Falanghina. *Frontiers in Plant Science* (2023). <https://doi.org/10.3389/fpls.2023.1205451>

Tartaglia M., Ranauda M.A., Falzarano A., Maisto M., Postiglione A., Prigioniero A., Scarano P., Zuzolo D., Sciarrillo R. and Guarino C. Metatranscriptomics of pastures under drought stress show a rhizospheric meta-organism reshape. *Rhizosphere* (2023). Volume 26, 100687. <https://doi.org/10.1016/j.rhisph.2023.100687>

Postiglione A., Prigioniero A., Zuzolo D., Tartaglia M., Scarano P., Maisto M., Ranauda M.A., Sciarrillo R., Thijs S., Vangronsveld, J., Guarino C. Quercus ilex Phyllosphere Microbiome Environmental-Driven Structure and Composition Shifts in a Mediterranean Context. *Plants* (2022). Volume 11, 3528. <https://doi.org/10.3390/plants11243528>

Maisto M., Ranauda M.A., Zuzolo D., Tartaglia M., Postiglione A., Prigioniero A., Falzarano A., Scarano P., Sciarrillo R., Guarino C. Influence of sediment texture on HDPE microplastics recovery by density separation. *Journal of Environmental Management* (2022). <http://dx.doi.org/10.1016/j.jenvman.2022.115363>

CONFERENCES AND CONGRESSES

XII International Agriculture Symposium "AGROSYM 2021", Bosnia and Herzegovina, 7-10 October 2021. Poster presentation "OPUNTIA FICUS-INDICA (L.) MILLER AS A SUSTAINABLE SOURCE FOR NATURAL DYES PRODUCTION", Maria Maisto, Pierpaolo Scarano, Daniele Naviglio, Antonello Prigioniero, Maria Tartaglia, Alessia Postiglione, Maria Antonietta Ranauda, Daniela Zuzolo, Rosaria Sciarrillo, Carmine Guarino

VIII International Plant Science Conference, Bologna, 7-9 september 2022. Poster presentation "FROM TRADITION TO ETHNOPHARMACOLOGY: A NEW ETHNOBOTANICAL APPROACH IN THE USE OF ANTIDIABETIC MEDICINAL PLANTS IN ITALY", Maria Maisto, Daniela Zuzolo, Maria Tartaglia, Maria Antonietta Ranauda, Alessandra Falzarano, Alessia Postiglione, Antonello Prigioniero, Pierpaolo Scarano, Rosaria Sciarrillo, Carmine Guarino

XIII International Agriculture Symposium "AGROSYM 2022", Bosnia and Herzegovina, 6-9 october 2022. Oral presentation "MICROPLASTIC POLLUTION AND LAND USE TYPE: THE CASE STUDY OF VOLTURNO RIVER", Maria Maisto, Daniela Zuzolo, Maria Antonietta Ranauda, Valter Castelvetro,

Andrea Corti, Francesca Modugno, Antonello Prigioniero, Pierpaolo Scarano, Alessia Postiglione, Maria Tartaglia, Alessandra Falzarano, Rosaria Sciarrillo, Carmine Guarino

IX International Plant Science Conference, Pisa, 13-15 september 2022. Poster presentation "MICROPLASTIC POLLUTION INFLUENCES MICROBIAL COMMUNITY STRUCTURE : EVIDENCES FROM VOLTURNO RIVER", Maria Maisto, Daniela Zuzolo, Maria Tartaglia, Maria Antonietta Ranauda, Alessandra Falzarano, Alessia Postiglione, Antonello Prigioniero, Pierpaolo Scarano, Rosaria Sciarrillo, Carmine Guarino

PERSONAL SKILLS

Native Language Italian

Altre lingue English, Cambridge ESOL certification, Council of Europe Level B2

Computer skills Excellent command of the Microsoft Windows environment and Microsoft Office tools (Word, Excel and PowerPoint)

Good knowledge of the R environment and Matlab Simulink

Soft skills Reliability, able to organise one's own activities, management of deadlines, adaptability, ability to work in a team

Drive licence Category B

FURTHER INFORMATION

Personal Data

I authorise the processing of my personal data pursuant to Legislative Decree no. 196 of 30 June 2003 "Personal Data Protection Code".

23,05,2024