PERSONAL INFORMATION

SERGIO ARGENTO

National Research Council, Institute of Biomolecular Chemistry (CNR-ICB) Via Paolo Gaifami, 18 Catania

WORK EXPERIENCE

Dates (30-09-2019 – now)
Researcher
National Research Council, Institute of Biomolecular Chemistry (CNR-ICB) Via Paolo Gaifami, 18 Catania
Main activities and responsibilities: research activities in the open field, greenhouses and laboratory on the main vegetables

Dates (2011 - 2016)
Researcher fixed term
National Research Council Institute for Agricultural and Forestry Systems in the Mediterranean
Main activities and responsibilities: research activities in the open field, greenhouses and laboratory on the main vegetables

Dates (1998 - 2011)
Research fellow
Institute of Vegetable and Floriculture- Faculty of Agriculture - Catania University
Main activities and responsibilities: research activities in the open field, greenhouses and laboratory on the main vegetables

Dates (2007 - 2009)
Adjunct professor SSD Agr/04 Horticulture at the Faculty of Agriculture – Reggio Calabria University
Main activities and responsibilities: University teaching

EDUCATION AND TRAINING

Dates (2004)
Faculty of Agriculture- Catania University
Study and research activities on the graft - compatibility on horticultural crops
Ph.D. in "Crop Productivity of growing plant"

Dates (1998)
Faculty of Agriculture- Catania University
Graduated in Agricultural Science

SCIENTIFIC SKILLS AND COMPETENCES

His research focuses on:

- **Characterization, evaluation, and breeding** of high-quality cauliflower landraces, particularly for their nutritional value (bioactive compounds) and their use in **biofumigation** for biotic pest and disease control.
- Investigation of **plant–environment interactions** and the **exploitation of wild and cultivated germplasm** to support innovation in vegetable and medicinal plant production, including advancements in **greenhouse cultivation systems**.
- **Assessment and enhancement of field production** aimed at increasing the concentration of bioactive compounds and exploring their potential in controlling both human and crop diseases.
- **Valorization of Italian vegetable germplasm**, with a focus on biodiversity and its application in innovative supply chains.

He has actively participated in various **working groups and research projects** dedicated to the exploitation of germplasm for the innovation of vegetable production systems. He will contribute to experimental activities supporting **diversification and innovation in vegetable production**, through the study of **bio-morphological variation**, **primary and secondary metabolites**, and **genetic profiling** of landraces and wild crop relatives.

RELEVANT ROLES AND COMPETENCES

He participated, as speaker at many national and international conferences

Member of the Organizing Committee in ISHS Conference (OrgHort2020) III International Organic Fruit Symposium and I International Organic Vegetable Symposium Catania December 14th-16th 2021

ISHS 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop "Exploitation of Brassica diversity for improving agriculture chains". Catania, 12-16 novembre 2012

He is an experienced member of international research having led or participated pro-actively in different research projects especially about horticulture, germplasm and vegetables

PUBLICATION INDEXES (SCOPUS)

The scientific work is documented about 120 publications related to the exploitation of the wild and cultivated germplasm utilized as vegetable, medicinal and aromatic plants, in view to qualify and to innovate their production chains Scopus link:

- https://www.scopus.com/authid/detail.uri?authorId=8439123400
  sergio argento (0000-0003-1985-8288) - ORCID

1. MUMIVAND H., KHANIZADEHA P., MORSHEDLOOB M.R, HASANVANDC E. AND **ARGENTO S**. **2025**. *Synergistic application of plant growth-promoting rhizobacteria and iron oxide nanoparticles enhances agro-physiological traits, antioxidant properties, and essential oil production in Satureja khuzistanica Jamzad: A sustainable biofortification approach*. **Industrial Crops & Products** 2025, 234 121543 doi.org/10.1016/j.indcrop.2025.121543
2. GHAHREMANI-MAJD H., MUMIVAND H., KHANIZADEH P. AND **ARGENTO S. 2025**. *Optimizing Ergothioneine Biosynthesis and Antioxidant Activity in Agaricus spp. Through Amino Acid Supplementation and Yeast–Peptone Mixtures*. **Horticulturae**, 2025, 11, 348 doi.org/103390/horticulturae11040348.
3. BEIRANVANDI M., AKBARI N., AHMADI A., MUMIVAND H., FIROUZABADI F. N., AND **ARGENTO S**. **2025**. *Impact of Biochar and Hydroretentive Polymers on the Biochemical and Physiological Traits of Satureja rechingeri Jamzad Under Water Deficit Stress*. **Horticulturae**, 2025, 11, 169 doi.org/103390/horticulturae11020169.
4. JAHANBANI S., MUMIVAND H., ZAHEDI B. AND **ARGENTO S**. **2024**. *Foliar Application of Urea and Amino Acids Regulates Growth, Photosynthesis, Pigments, Antioxidant Activity, and the Essential Oil Content and Composition of Basil (Ocimum basilicum L.)*. **Agronomy** 2024, 14, 2950. doi.org/10.3390/agronomy14122950.
5. YARAHMADI R., MUMIVAND H., NIA A. E., RAJI M. R., AND **ARGENTO S. 2024**. *Natural Diversity in Total Phenol, Flavonoids, Antioxidant Properties, and Essential Oil Composition of Iranian Populations of Myrtus communis L*.. **Plants** 2024, 13, 3458. doi.org/10.3390/plants13243458.
6. **ARGENTO S**., GARCIA G. AND TRECCARICHI S. **2024**. *Sustainable and Low-Input Techniques in Mediterranean Greenhouse Vegetable Production*. **Horticulturae** 2024, 10, 997. doi.org/10.3390/horticulturae10090997
7. BRANCA F., TRECCARICHI S., RUBERTO G., RENDA A. AND **ARGENTO S**. **2024**. *Comprehensive Morphometric and Biochemical Characterization of Seven Basil (Ocimum basilicum L.) Genotypes: Focus on Light Use Efficiency*. **Agronomy** 2024, 14, 224. doi.org/10.3390/agronomy14010224.
8. **ARGENTO S**., TRECCARICHI S., ARENA D., RIZZO G. F. AND BRANCA F. **2023**. *Exploitation of a Grafting Technique for Improving the Water Use Efficiency of Eggplant (Solanum melongena L.) Grown in a Cold Greenhouse in Mediterranean Climatic Conditions*. **Agronomy** 2023, 13, 2705. doi.org/10.3390/agronomy13112705
9. **ARGENTO S**., TRECCARICHI S., MELILLI M.G. AND BRANCA F. **2023**. *Grafting Compatibility and Environmental Conditions on Soilless Eggplant (Solanum melongena) Grown in the Mediterranean Greenhouse*. doi.org/10.3390/horticulturae9091060 Horticulturae 2023, 9,