



Mannino Giuseppe

*PhD in Pharmaceutical and
Biomolecular Sciences*



Personal Information

Gender: Male

Nationality: Italy

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Via Alcide de Gasperi 189 (PA), Italy

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Giuseppe Mannino serves as a Junior Assistant Professor within the Plant Physiology Unit at the Department of Life Sciences and Systems Biology at the University of Turin. Throughout his doctoral studies, he concurrently held a research fellowship position at the Plant Physiology Unit, where he concentrated on advancing extraction and metabolic techniques for plant-derived bioactive compounds. His research endeavors are firmly centered on the chemical and molecular characterization of bioactive compounds present in plants, with a distinct emphasis on metabolomic and transcriptomic analyses. Beyond mere characterization, Mannino's work extends to exploring natural biostimulants capable of instigating notable phenotypic and physiological alterations within plant species. Leveraging state-of-the-art methodologies, he employs gas and liquid chromatographic techniques coupled with mass spectrometry for in-depth metabolomic assessments, alongside molecular fingerprinting approaches for genomic inquiries. His transcriptomic investigations are conducted through advanced RNA sequencing methodologies complemented by gene ontology analyses.

EDUCATION

PhD in Pharmaceutical and Biomolecular Sciences

Extraction Techniques, chemical analysis and evaluation of bioactivity of plant raw materials

From October 2015 to December 2018

University of Turin, Piedmont, Italy

Master Degree in Pharmaceutical Chemistry and Technology

Molecular docking and evaluation of antiproliferative activity of a novel series of benzo[b]furans

From September 2010 to July 2015

University of Palermo, Sicily, Italy

Erasmus Exchange Program

From September 2008 to July 2009

University of Granada, Andalusia, Spain

WORK EXPERIENCE

Assistant Professor

University of Turin, Piedmont, Italy

From March 2024 to date

Junior Assistant Professor

University of Turin, Piedmont, Italy

From February 2022 to March 2024

Postdoctoral Fellowship

Use of biostimulant to increase food quality in tomato plants under salt stress conditions

From September 2019 to January 2022

University of Turin, Piedmont, Italy

Doctorate Student

Evaluation of the functional properties of plant extracts for the formulation of a new dietary supplement to prevent inflammatory diseases

From March 2019 to June 2019

University of Turin, Piedmont, Italy

R&D Consultant

From October 2015 to December 2018

Biosfered s.r.l., Piedmont, Italy

TECHNICAL SKILLS AND COMPETENCES

Chemical and Analytical Skills

Expertise in extraction techniques and sample preparation for the analysis of both volatile (terpenoid, etc..) and no-volatile (polyphenols, biogenic amine, alkaloids, etc..) compounds. Experience with the analytical instrumentation and chromatographic techniques for its analysis, such as HPLC or GC coupled with different kind of detector (DAD, Fluorescence and MS for HPLC or FID and MS for GC). Aptitude in UV/Vis spectrophotometric assays both for the quantification of bioactive compounds (Folin-Ciolteau, DMAC, pH-differential assays, Bradford, etc..) and for the evaluation of antioxidant activity in solution (DPPH, ABTS, FRAP).

Molecular and Cellular Biology Skills

Expertise in nucleic acid and protein extraction both from plant and animal tissues or from other raw materials rich of interferences. Accomplishment in employing PCR, qRT-PCR and electrophoresis techniques. Excellent attitude to work in sterile condition, evaluation of the antiproliferative activity (MTT) or the cellular antioxidant activity (CAA) on different kind of animal tumoral cell lines (HeLa, CaCo2, HepG2).

Statistical Skills

Capability in data analysis and interpretation of raw data generated by different instrumentation and/or assays. Dexterity in using Systat and SPSS software for ANOVA, PCA, t-test and cluster analysis.

Management Skills

Expertise in planning, organizing and coordinating students of the bachelor and master degree. Aptitude in teamwork and relevant skill in making decision, problem solving and verbal communication. Good critical thinking, due to peer review activity for different international journals.

ACADEMIC ACTIVITY

Laboratory of applied plant biology (MNF0429), Bachelor Course in Biological sciences (L-13), University of Turin, Italy

Laboratory of applied diagnostics of plant-derived materials (SVB0254), Master's Degree in Environmental Biology, University of Turin, Italy

Plant secondary metabolites (MNF0429B), Bachelor Course in Biological sciences (L-13), University of Turin, Italy

Extractive and analytical techniques (SVB0254B), Master's Degree in Environmental Biology, University of Turin, Italy

National habilitation to second chair in Pharmaceutical Botany (BIO/15), October 2022

MEMBERSHIP OF SCIENTIFIC SOCIETIES

Italian Society of Plant Physiology; From 2016 – To Date

Italian Society of Biochemistry and Molecular Biology; From 2020 – To Date

Italian Society of Experimental Biology; From 2020 – To Date

AWARDS AND RECOGNITIONS

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- 2016** **Junior Plant Biologist 2016**
Italian Federation of Life Science
22 September 2016
- 2017** **Junior Plant Biologist 2017**
Italian Federation of Life Science
23 September 2017
- 2018** **Junior Plant Biologist 2018**
Italian Federation of Life Science
21 September 2018
- 2020** **Outstanding Reviewer Award**
Molecular Diversity Preservation International and Multidisciplinary Digital Publishing
08 March 2020
- 2021** **Junior Research Award**
Italian Society of Experimental Biology
26 April 2021
- 2022** **Junior Research Award**
Italian Society of Experimental Biology
04 April 2022
- 2022 Best Paper Award**
Plants - Molecular Diversity Preservation International and Multidisciplinary Digital Publishing
09 June 2022
- 2024** **2024 Cassa di Risparmio di Torino (CRT)**
Vinbulè – Valorization of Grape Pomacee for the Formulation of Plant Biostimulant and Functionalizing Agents
07 July 2024
- 2024 Cassa di Risparmio di Cuneo (CRC)**
MINTIS – Valorization of Agricultural Waste Matrices for the Production of Innovative Biostimulants in the Cultivation of Piedmont Mint
26 November 2024

REVIEWER AND EDITORIAL ACTIVITY

Guest Editor: *New Perspectives for a More Sustainable Agriculture: From Plant Treatments to Postharvest Technologies; Sustainability 2021-2022*

Guest Editor: *Agro-food Waste as Source of Nutraceuticals; Foods 2021-2022*

Guest Associate Editor: *Characterization of Biostimulants used in Agriculture: A Step Towards Sustainable and Safe Foods; Frontiers in Plant Sciences 2021-2022*

Official Reviewer Board Member: *Molecular Diversity Preservation International and Multidisciplinary Digital Publishing*

Guest Editor: *A New Era of Sustainability: Plant Biostimulants; International Journal of Molecular Sciences 2022 - 2023*

Official Editorial Board: *Plant Interaction and Human Health; Journal of Plant Interaction*

Topical Advisory Panel Members: *International Journal of Molecular Science*

Guest Editor: *Green Growth: Innovations in Plant Science for Biostimulant Applications; Frontiers in Plant Sciences 2024 - 2025*

Official Editorial Board: *Crop Science and Physiology; Frontiers in Plant Science*

TUTORING ACTIVITY

2018

Master Degree in Pharmaceutical Chemistry and Technology of Pace D.
Phytochemical profile and antioxidant activity of different geographical origin pistachios (Pistacia vera L.); July 2018, University of Palermo

Master Degree in Food Sciences and Human Nutrition of Porcu A.
Chemical and molecular finger printing of different leaves of Annona cherimola; July 2018, University of Turin

Bachelor Degree in Biological Science of Carniel S.
The role of biogenic amines in the neuromodulation of ant social behaviour; September 2018, University of Turin

Master Degree in Pharmacy of Ruggirello E.
Phytochemicals, radical scavenging and antioxidant activities of Pistacia vera nut extracts; April 2018, University of Palermo

2019

Master Degree in Pharmaceutical Chemistry and Technology of Serio G.
Phytochemicals, radical scavenging and antioxidant activities of Annona cherimola leaf extracts; July 2019, University of Palermo

Master Degree in Pharmacy of Schittone A.
Phytochemical Profile and Antioxidant Activity of Plinia trunciflora fruits; July 2019, University of Palermo

2020

Master Degree in Food Science and Human Nutrition of Verdone A.
Phytochemical characterization of commercial dietary supplements based on Aloe vera leaves; April 2020, University of Turin

Master Degree in Pharmaceutical Chemistry and Technology of Amico R.
Quality control study on 24 dietary supplements based on Vaccinium macrocarpon fruits; July 2020, University of Palermo

2021

Master Degree in Food Sciences and Human Nutrition of Bonsignore R.
Proanthocyanidins and Where to Find Them: A Meta-Analytic Approach to Investigate Their Chemistry, Biosynthesis, Distribution and Effect on Human Health; April 2021, University of Turin

Master Degree in Plant Biotechnology of Pernici C.
Melatonin and Phytomelatonin: Chemistry, Biosynthesis, Metabolism, Distribution and Bioactivity in Plants and Animals—An Overview; July 2021, University of Turin

Master Degree in Pharmaceutical Chemistry and Technology of Pilade G.
Phytochemical profile and antioxidant activity of Eugenia involucrate fruits; April 2021, University of Palermo

Bachelor Degree in Plant Biotechnology of Coraglia G.
Biostimulants from agro-industrial wastes and their use to improve yield and quality of agricultural crops; September 2021, University of Turin

Master Degree in Plant Biotechnology of Gatti N.
VIVEMA-TWIN®, a commercial tannin-based bi-ostimulant, is able to enhance fruit nutraceutical properties of tomato plants cultivated in standard and salt stress conditions; November 2021, University of Turin

2022

Master Degree in Plant Biotechnology of Marino F.
Germination tests, analysis of bioactive metabolites and DNA barcoding of pedemontane phytoalimurgical species; July 2022, University of Turin

Master Degree in Plant Biotechnology of Ricciardi M.
Evaluation of the effects derived from the application of a commercial biostimulant on the nutraceutical properties of Prunus persica fruits; September 2022, University of Turin

2023

Master Degree in Plant Biotechnology of Vladut Bunea V.
Changes in phytochemical profile of Prunus armeniaca fruits after the application of seaweed-based biostimulant; February 2023, University of Turin

TUTORING ACTIVITY

Master Degree in Pharmaceutical Chemistry and Technology of Marchello E.

Bioactive compounds and functional value of fruits of two varieties of guava (Psidium guajava L.) Cultivated in Sicily; July 2023, University of Palermo

2024

Bachelor Degree in Biological Sciences of Scalcione F.

The role of melatonin and serotonin in the neuromodulation of social behavior in Lasius niger; April 2024, University of Turin

Master Degree in Plant Biotechnology of Deusebio P.

The role of melatonin and serotonin in the neuromodulation of social behavior in Lasius niger; April 2024, University of Turin

CONGRESSES AND SCHOOLS

2016

MS Lipidomic School

Italian Chemical Society - Mass Spectrometry Division
1-16 May 2016, University of Milan (Italy)

FISV 2016

Chemical Characterization and standardization of bioactive boswellic acids from Boswellia species by HPLC-ESI-MS/MS
19-22 September 2016, University of Rome (Italy)

2017

SIGA/FISV 2017

DNA fingerprinting, phytochemical characterization and biological activity of nut extracts from six cultivars of Pistacia vera
20-23 September 2016, University of Rome (Italy)

21st Mass Spectrometry School

Italian Chemical Society - Mass Spectrometry Division
13-17 March 2017, University of Siena (Italy)

2018

FISV 2018

1. *Chemical characterization, molecular fingerprinting and evaluation of antioxidant activity of seven leaves of Annona cherimola*
2. *Protective effects of melatonin in inflamed intestinal epithelium are associated with reduced NF- κ B activation and changes in DNA methylation status*
18-21 September 2018, University of Rome (Italy)

2019

EnoForum

Biological control of Plasmopara viticola in Vitis vinifera by mVOC
21-23 May 2019, University of Vicenza (Italy)

2021

SIBV 2021

1. *Bioactive terpenes of Protium heptaphyllum gum resin extract displayed cholesterol-lowering potential*
2. *Chemical characterization, radical-scavenging and antioxidant activity of Diospyros digyna fruits*
22-25 April 2021, University of Palermo (Italy)

PBE 2021

1. *Black sapote (Diospyros digyna Jacq): phytochemical characterization and antioxidant properties of seed, pulp and peel extracts*
2. *The Application of a Plant Biostimulant Based on Seaweed and Yeast Extract Improved Tomato Fruit Development and Quality*
28-30 June 2021, University of Turin (Italy)

2022

SIBS 2022

1. *Phytochemical profile and antioxidant proprieties of fruits of Eugenia involucrata DC*
2. *Bioactive triterpenes of Protium heptaphyllum gum resin extract display cholesterol-lowering potential*
3. *Valorization of waste raspberry seed powder: phytochemical profile, antioxidant properties and nutraceutical applications*
01-04 April 2022, University of Turin (Italy)

IFHN 2022

Use of plant biostimulants to increase the nutraceutical properties of Prunus persica fruits
20-21 September 2022, Barcelona (Spain)

2024

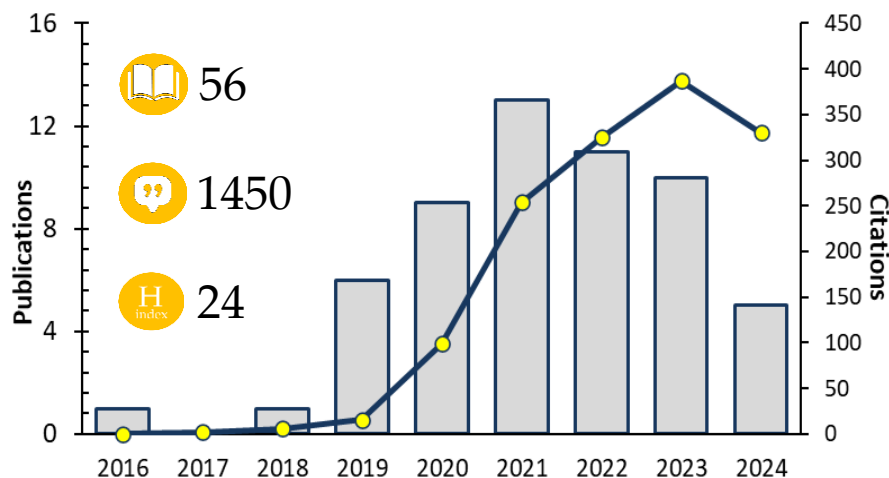
SIBS 2024

Impact of Betalain Degradation Products on ROS Signaling, Proline Accumulation, and Phytohormone Homeostasis in Germinating Arabidopsis; 20-24 April 2024, Aquila (Italy)

GPMB 2024

Unveiling the physiological role of betanin breakdown products on stress response mechanisms in germinating Arabidopsis; 16-18 September 2024, Rome (Italy)

BIBLIOMETRIC INDICATORS



PUBLICATIONS

2016

Quantitative Determination of 3-O-Acetyl-11-Keto- β -Boswellic Acid (AKBA) and Other Boswellic Acids in *Boswellia sacra* Flueck (syn. *B. carteri* Birdw) and *Boswellia serrata* Roxb. Mannino G., Occhipinti A., Maffei M. E.; *Molecules* 2016; doi: 10.3390/molecules21101329

2018

***Origanum vulgare* Terpenoids Modulate *Myrmica scabrinodis* Brain Biogenic Amines and Ant Behaviour.** Mannino G., Abdi G., Maffei M., Barbero F.; *PLoS One* 2018; doi: 10.1371/journal.pone.0209047

2019

Melatonin reduces inflammatory response in human intestinal epithelial cells stimulated by interleukin-1 β . Mannino G., Caradonna F., Cruciatà I., Lauria A., Perrone A., Gentile C.; *Journal of Pineal Research* 2019; doi: 10.1111/jpi.12598

Characterization of 5-hydroxy-L-tryptophan, β -carboline alkaloids and DNA fingerprinting of *Griffonia simplicifolia* Baill. Vigliante I., Mannino G., Maffei M. E.; *Molecules* 2019; doi: 10.3390/molecules24061032

OxiCyan[®], a phytocomplex of Bilberry (*Vaccinium myrtillus*) and Spirulina (*Spirulina platensis*), exerts both direct antioxidant activity and modulation of ARE/Nrf2 pathway in HepG2 cells. Vigliante I., Mannino G., Maffei M. E.; *Journal of Functional Foods*, 2019, doi: 10.1016/j.jff.2019.103508

Chemical partitioning and DNA fingerprinting of some pistachio (*Pistacia vera* L.) varieties of different geographical origin. Mannino G., Maffei M. E., Gentile C.; *Phytochemistry* 2019; doi: 10.1016/j.phytochem.2019.01.010

Food quality and nutraceutical value of nine cultivars of mango (*Mangifera indica* L.) fruits grown in Mediterranean subtropical environment. Gentile C., Di Gregorio E., Di Stefano V., Mannino G., Perrone A., Avellone G., Inglese P., Farina V.; *Food Chemistry* 2019; doi: 10.1016/j.foodchem.2018.10.109

Combined resistance to oxidative stress and reduced antenna size enhances light-to-biomass conversation efficiency in *Chlorella vulgaris* cultures. Dall'Ostro L., Cazzaniga S., Guardini Z., Barera S., Benedetti M., Mannino G., Maffei M. E., Bassi R.; *Biotechnology for Biofuels*, 2019, doi: 10.1186/s13068-019-1566-9

2020

The Application of a Plant Biostimulant Based on Seaweed and Yeast Extract Improved Tomato Fruit Development and Quality; Mannino G., Campobenedetto C., Vigliante I., Gentile C., Contartese V., Berteà C.M.; *Biomolecules* 2020; doi.org/10.3390/biom10121662

Transcriptome Analyses and Antioxidant Activity Profiling Reveal the Role of a Lignin-Derived Biostimulant Seed Treatment in Enhancing Heat Stress Tolerance in Soybean. Campobenedetto C., Mannino G., Agliassa C., Acquadro A., Contartese V., Garabello C., Berteà C.M.; *Plants* 2020; doi: 10.3390/plants9101308

A biostimulant seed treatment improved heat stress tolerance during cucumber seed germination by acting on the antioxidant system and glyoxylate cycle. Campobenedetto C., Grange E., Mannino G., Arkel J., Beekwilder J., Karlova R., Garabello C., Contartese V., Berteà C.M.; *Frontiers in Plant Science*, 2020, doi: 10.3389/fpls.2020.00836

Chemical profile and biological activity of cherimoya (*Ammona cherimola* Mill.) and atemoya (*Ammona atemoya*) leaves. Mannino G., Gentile C., Porcu A., Agliassa C., Caradonna F., Berteà C.M.; *Molecules* 2020, doi: 10.3390/molecules25112612

***Vaccinium macrocarpon* (Cranberry)-based dietary supplements: variation in mass uniformity, proanthocyanidin dosage and anthocyanin profile demonstrates quality control standard needed.** Mannino G., Di Stefano V., Lauria A., Pitzo R., Gentile C.; *Nutrients*, 2020, doi: 10.3390/nu12040992

DRUDIT, Web-Based DRUGS Discovery Tools to Design Small Molecules as Modulators of Biological Targets Pathways. Lauria A., Mannino S., Gentile C., Mannino G., Martorana A., Peri D.; *Bioinformatics*, 2020, doi: 10.1093/bioinformatics/btz783

Phytochemical profile and antioxidative properties of *Plinia trunciflora* fruits: a new source of nutraceuticals. Mannino G., Perrone A., Campobenedetto C., Schittone A., Berteà C.M., Gentile C.; *Food chemistry*, 2020; doi: 10.1016/j.foodchem.2019.125515

2021

Effects of different microbial inocula on tomato tolerance to water deficit. *Mannino G., Nerva L., Grilli T., Novero M., Fiorilli V., Bacem M., Berteà C.M., Lumini E., Chitarra W., Balestrini R.*; *Agronomy*, 2020, doi: 10.3390/agronomy10020170

Physicochemical, Nutraceutical and Sensory Traits of Six Papaya (*Carica papaya* L.) Cultivars Grown in Greenhouse Conditions in the Mediterranean Climate; *Farina V., Tinebra I., Perrone A., Sciortino G., Palazzolo E., Mannino G. and Gentile C.*; *Agronomy*, 2020, doi:10.3390/agronomy10040501

The application of a biostimulant based on tannins affects root architecture and improves tolerance to salinity in tomato plants; *Campobenedetto C., Mannino G., Beekwilder J., Contartese V., Karlova R., Berteà C.M.*; *Scientific Reports* 2021; doi: 10.1007/978-1-4020-5578-2_1

Melatonin and Phytomelatonin: Chemistry, Biosynthesis, Metabolism, Distribution and Bioactivity in Plants and Animals—An Overview; *Mannino G., Perrici C., Serio G., Gentile C., Berteà C.M.*; doi: 10.3390/ijms22189996

A new protein hydrolysate-based biostimulant applied by fertigation promotes relief from drought stress in *Capsicum annuum* L.; *Agliassa C., Mannino G., Molino D., Cavalletto S., Contartese V., Berteà C.M., Secchi F.*; *Plant Physiology and Biochemistry*; doi: 10.1016/j.plaphy.2021.07.015

Proanthocyanidins and where to find them: A meta-analytic approach to investigate their chemistry, biosynthesis, distribution and effect on human health; *Mannino G., Chinigò G., Serio G., Genova T., Gentile C., Munaron L., Berteà C.M.*; doi: 10.3390/antiox10081229

Microbial biostimulants as response to modern agriculture needs: Composition, role and application of these innovative products; *Castiglione M., Mannino G., Contartese V., Berteà C.M., Ertani A.*; doi: 10.3390/plants10081533

Clostridium cellulovorans Proteomic Responses to Butanol Stress; *Costa P., Usai G., Re A., Manfredi M., Mannino G., Berteà C.M., Pessione E., Mazzoli R.*; doi: 10.3389/fmicb.2021.674639

Antiproliferative Properties and G-Quadruplex-Binding of Symmetrical Naphtho[1,2-b:8,7-b']dithiophene Derivatives; *Lauria A., La Monica G., Terenzi A., Mannino G., Bonsignore R., Bono A., Almerico A., Barone G., Gentile C., Martorana A.*; doi: 10.3390/molecules26144309

A Biostimulant Based on Seaweed (*Ascophyllum nodosum* and *Laminaria digitata*) and Yeast Extracts Mitigates Water Stress Effects on Tomato (*Solanum lycopersicum* L.); *Campobenedetto C., Agliassa C., Mannino G., Vigliante I., Contartese V., Secchi F., Berteà C.M.*; doi: 10.3390/agriculture11060557

In Silico Identification of Small Molecules as New Cdc25 Inhibitors through the Correlation between Chemosensitivity and Protein Expression Pattern; *Lauria A., Martorana A., La Monica G., Mannino S., Mannino G., Peri D., Gentile C.*; *International Journal of Molecular Sciences* 2021; doi: 10.3390/ijms22073714

Anthocyanins: Biosynthesis, Distribution, Ecological Role, and Use of Biostimulants to Increase Their Content in Plant Foods—A Review; *Mannino G., Gentile C., Ertani A., Serio G., Berteà C.M.*; doi: doi.org/10.3390/agriculture11030212

Bioactive triterpenes of *Protium heptaphyllum* gum resin extract display cholesterol-lowering potential; *Mannino G., Iovino P., Lauria A., Genova T., Asteggiano A., Notarbartolo M., Serio G., Occhipinti A., Capuzzo A., Medana C., Munaron L., Gentile C.*; *International Journal of Molecular Sciences* 2021; doi: 10.3390/ijms22052664

Identification of biological targets through the correlation between cell line chemosensitivity and protein expression pattern; *Lauria A., La Monica G., Gentile C., Mannino G., Martorana A., Peri D.*; *Drug Discovery Today*; doi: 10.1016/j.drudis.2021.05.013

Pomological, sensorial, nutritional and nutraceutical profile of seven cultivars of Cherimoya (*Annona cherimola* Mill); *Gentile C., Mannino G., Palazzolo E., Gianguzzi G., Perrone A., Serio G., Farina V.*; *Foods*, 2021; doi: 10.3390/foods10010035

2022

Phytochemical profile and antioxidant properties of the edible and non-edible portions of black sapote (*Diospyros digyna* Jacq.); *Mannino G., Serio G., Berteà C.M., Chiarelli R., Lauria A., Gentile C.*; *Food Chemistry*, 2022; doi: 10.1016/j.foodchem.2022.132137

Modulation of Antioxidant Defense in Farmed Rainbow Trout (*Oncorhynchus mykiss*) Fed with a Diet Supplemented by the Waste Derived from the Supercritical Fluid Extraction of Basil (*Ocimum basilicum*); *Magara G., Pearo M., Vercelli C., Barbero R., Micera M., Botto A., Caimi C., Caldaroni B., Berteà C.M., Mannino G., Barceló D., Renzi M., Gasco M., Re G., Dondo A., Elia A. C., Pastorino P.*; *Antioxidants*, 2022; doi: 10.3390/antiox11020415

Preliminary Investigation of Biogenic Amines in Type I Sourdoughs Produced at Home and Bakery Level; *Mannino G., Cirlincione F., Gaglio R., Franciosi E., Francesca N., Moschetti G., Asteggiano A., Medana C., Gentile C., Settanni L.*; *Toxins*, 2022; doi: 10.3390/toxins14050293

Metabolomics-Based Profiling, Antioxidant Power, and Uropathogenic Bacterial Anti-Adhesion Activity of SP4™, a Formulation with a High Content of Type-A Proanthocyanidins; *Mannino G., Maffei E. M.*; *Antioxidants*, 2022; doi: 10.3390/antiox11071234

Can Agri-Food Waste Be a Sustainable Alternative in Aquaculture? A Bibliometric and Meta-Analytic Study on Growth Performance, Innate Immune System, and Antioxidant Defenses; *Bertocci F., Mannino G.*; *Foods*, 2022; doi: 10.3390/foods11131861

Bioactive Compounds and Antioxidant Properties with Involved Mechanisms of *Eugenia involucrata* DC Fruits; *Mannino G., Serio G., Asteggiano A., Gatti N., Berteà C.M., Medana C., Gentile C.*; *Antioxidants* 2022; doi: 10.3390/antiox11091769

Phytochemical Profile and Antioxidant, Antiproliferative, and Antimicrobial Properties of *Rubus idaeus* Seed Powder; *Mannino G., Serio G., Gaglio R., Busetta G., La Rosa L., Lauria A., Settanni L., Gentile C.*; *Foods* 2022; doi: 10.3390/foods11172605

Combining metabolite doping and metabolic engineering to improve 2-phenylethanol production by engineered cyanobacteria; *Usai G., Cordara A., Re A., Polli M.F., Mannino G., Berteà C.M., Fimo D., Pirri C.F., Menin B.*; *Frontiers in Bioengineering and Biotechnology*; doi: 10.3389/fbioe.2022.1005960

Changes in the Phytochemical Profile and Antioxidant Properties of *Prunus persica* Fruits after the Application of a Commercial Biostimulant Based on Seaweed and Yeast Extract; *Mannino G., Ricciardi M., Gatti N., Serio G., Vigliante I., Contartese V., Gentile C., Berteà C.M.*; *International Journal of Molecular Sciences*; doi: 10.3390/ijms232415911

2023

Transcriptomics and Metabolomics of Reactive Oxygen Species Modulation in Near-Null Magnetic Field-Induced *Arabidopsis thaliana*; Parmagnani A.S., [Mannino G.](#), Maffei M.E.; *Biomolecules*, 2022, doi: 10.3390/biom12121824

Editorial: Characterization of biostimulants used in agriculture: A step towards sustainable and safe foods; [Mannino G.](#), Berteza C.M., Bonini P.; *Frontiers in Plants Science* 2022; doi: 10.3389/fpls.2022.1065879

Biology of Two-Spotted Spider Mite (*Tetranychus urticae*): Ultrastructure, Photosynthesis, Guanine Transcriptomics, Carotenoids and Chlorophylls Metabolism, and Decoyinine as a Potential Acaricide; Parmagnani A.S., [Mannino G.](#), Brillada C., Novero M., Dall'Osto L., Maffei M.E.; *International Journal of Molecular Science*, 2023; doi: 10.3390/ijms24021715

The Geomagnetic Field (GMF) Is Required for Lima Bean Photosynthesis and Reactive Oxygen Species Production; [Mannino G.](#), D'Alessandro S., Nocito F.F., Ljumovic K., Viganì G., Ballottari M., Maffei M.E.; *International Journal of Molecular Science*, 2023; doi: 10.3390/ijms24032896

Pearls before Swine: Plant-Derived Wastes to Produce Low-Cholesterol Meat from Farmed Pigs—A Bibliometric Analysis Combined to Meta-Analytic Studies; Bertocci F., [Mannino G.](#); *Foods*, 2023, doi: 10.3390/foods12030571

The Geomagnetic Field (GMF) Is Necessary for Black Garden Ant (*Lasius niger* L.) Foraging and Modulates Orientation Potentially through Aminergic Regulation and MagR Expression; [Mannino G.](#), Casacci L.P., Bianco Dolino G., Badolato G., Maffei M.E.; *International Journal of Molecular Science* 2023, doi: 10.3390/ijms24054387

The Role of Biogenic Amines in Social Insects: With a Special Focus on Ants; Barbero F., [Mannino G.](#), Casacci L.P.; *Insects* 2023;

Discrimination of Green Coffee (*Coffea arabica* and *Coffea canephora*) of Different Geographical Origin Based on Antioxidant Activity, High-Throughput Metabolomics, and DNA RFLP Fingerprinting; [Mannino G.](#), Kunz R., Maffei M.E.; *Antioxidants* 2023;

14-3-3 Proteins and the Plasma Membrane H⁺-ATPase Are Involved in Maize (*Zea mays*) Magnetic Induction; Fiorillo A., Parmagnani A.S., Visconti S., [Mannino G.](#), Canonì L., Maffei M.E.; *Plants* 2023;

Biological Activity and Metabolomics of Griffonia simplicifolia Seeds Extracted with Different Methodologies; [Mannino G.](#), Serio G., Gaglio R., Maffei M.E., Settanni L., Di Stefano V., Gentile C.; *Antioxidants* 2023;

A New Era of Sustainability: Plant Biostimulants; [Mannino G.](#); *International Journal of Molecular Sciences* 2023;

Rubus idaeus by-products: Sustainable improvement of the antioxidant value of sourdough bread by a new end-use of exhausted seeds still containing bioactive compounds; Gaglio R., La Rosa L., Serio G., [Mannino G.](#), Alfonzo A., Franciosi E., Settanni L., Gentile C.; *Innovative Food Science and Emerging Technologies* 2023;

Phytochemical profiling and investigation of antioxidant, anti-proliferative, and antibacterial properties in spontaneously grown Sicilian sumac (*Rhus coriaria* L.) fruits; Viola E.; [Mannino G.](#); Serio G.; La Rosa L.; Garofalo, G.; Schicchi R.; Settanni L.; Gentile C.; Gaglio R.; *Food Bioscience* 2024

Comparative profiling of secondary metabolites and antioxidant properties of twelve Morus varieties: Insights into the diversity of *M. alba* and *M. nigra* grown in Sicily; Serio G.; Asteggiano A.; Gatti N.; La Rosa L.; Berteza C.; Farina V.; Medana C.; [Mannino G.](#), and Gentile C.; *Food Bioscience* 2024

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