



Stefano Negri

1. PERSONAL INFORMATION

Affiliation: Department of Biotechnology – University of Verona
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2. PROFESSIONAL EXPERIENCE

Tenure-Track Researcher (RTT)

01/06/2026 – present, University of Verona, Department of Biotechnology
Scientific-disciplinary sector BIOS-01/A (General Botany)

Research activity (post-RTDa period)

Research scholarship

01/05/2026 – 31/05/2026 (1 month), University of Verona, Department of Biotechnology
Project: “Study of plant biodiversity from complex matrices”

Research scholarship

01/02/2026 – 30/04/2026 (3 months), University of Verona, Department of Biotechnology
Project: “Elucidation and comparison of Asterid metabolomes in a collection of species of the Italian flora”

Fixed-Term Researcher, Type A (RTDa)

01/02/2023 – 31/01/2026, University of Verona, Department of Biotechnology
Recruited within the National Center 5 project “National Biodiversity Future Center – NBFC” (affiliation: Spoke 6 – Working Table 2 “Biomolecules and bioactivity”). Scientific-disciplinary sector BIOS-01/A (General Botany)

Postdoctoral research activity

October 2019 – January 2023, University of Verona, Department of Biotechnology:

Research scholarship

01/12/2022 – 31/01/2023 (2 months)
Project: “Metabolic engineering of the artemisinin production pathway in homologous and heterologous plant systems”

Research fellowship

01/11/2021 – 31/10/2022 (1 year)
Project: “Integration of transcriptomic and metabolomic analyses of *Artemisia annua* cell cultures to develop metabolic engineering strategies aimed at increasing artemisinin yields”

Research fellowship

30/09/2020 – 29/09/2021 (1 year)
Project: “Production of natural vanilla from *Vanilla planifolia* cell cultures” (in collaboration with Demethra Biotech)

Research fellowship

15/10/2019 – 31/08/2020 (10 months)
Project: “Chemo-phyto-diversity of Lessinia and the Verona area: the genus *Galium*”

Post-graduate research activity

March 2014 – September 2019, University of Verona, Department of Biotechnology:

Research fellowship

15/09/2016 – 14/09/2019 (3 years, concurrent with a PhD without scholarship)
Project: “Serotonin in plants”

Research scholarship

01/04/2015 – 31/08/2016 (17 months)
Project: “Qualitative characterization of the main fruit and vegetable products of the Veneto region and their production environment – Strawberry metabolomics across fruit ripening stages”

Research fellowship

28/03/2014 – 27/03/2015 (1 year)
Project: “Systems biology approaches to study the relationships between the environmental parameters of withering facilities and the metabolomic and transcriptomic profiles of grapes used to produce passito (dried-grape) wines in the Verona area” (in collaboration with Masi Agricola, Pasqua Vigneti e Cantine and Unione Italiana Vini)



Chemical-microbiological laboratory technician

01/03/2009 – 31/12/2009, Studio Associato Fregni e Ferrari, Castellucchio (Mantua)

3. EDUCATION AND TRAINING

Degrees

Second-Level Master in Phytotherapy

March 2023 – June 2026; University of Siena

Duration: 36 months, 90 ECTS credits.

Final grade: 110/110 cum laude

Thesis title: "A new bioprospecting approach for the identification of phytocomplexes and bioactive metabolites from the Italian flora" (Master's director: Prof. Elisabetta Miraldi)

PhD in Biotechnology

October 2016 – September 2019, University of Verona

Graduate School of Natural Sciences and Engineering (32nd cycle)

Degree awarded on 25/05/2020, final evaluation: excellent

Thesis title: "The tomato serotonin pathway: unravelling the puzzling biological roles of plant indolamines" (supervisor: Prof. Flavia Guzzo)

Master's Degree (Laurea Magistrale) in Agri-Food Biotechnology (LM-7)

October 2011 – December 2013, University of Verona

Final grade: 110/110

Thesis title: "Functional characterization of two ZIP proteins involved in metal accumulation in *Arabidopsis thaliana*" (supervisor: Prof. Antonella Furini)

Bachelor's Degree (Laurea Triennale) in Agro-Industrial Biotechnology (L-1)

October 2007 – March 2011, University of Verona

Final grade: 108/110

Thesis title: "Determination of aflatoxin B1 and aflatoxin M1 content in maize derivatives and raw milk by competitive ELISA" (supervisor: Dr. Corrado Rizzi)

Upper Secondary School Diploma in Industrial Chemistry (Perito Capotecnico Chimico)

July 2007, "Enrico Fermi" Technical Industrial Institute (Mantua)

Final grade: 95/100

Other training

Training course "From Research to Communication"

May 2025 – October 2025, International School for Advanced Studies (SISSA), Trieste

Course on research and biodiversity communication (50 hours, online) promoted by Spoke 7 of the National Biodiversity Future Center in collaboration with Dotik.

Teacher-training course (24 ECTS credits)

July 2020, University of Verona, a.y. 2019/2020

Credits in education, anthropology and psychology (M-PED, M-DEA, M-PSI) required for teaching qualification in secondary schools.

Visiting PhD Student

May 2018 – August 2018, INRA-ENSAT, Toulouse (France)

Genomics and Biotechnology of the Fruits Laboratory (Director: Prof. Mondher Bouzayen)

University of Verona, University Internationalization Program 2018 – COOPERINT

Other specialist training courses

2nd IMaSS Data Analysis School, metabolomic data analysis (18 hours, 17-19/10/2018, Florence; Italian Mass Spectrometry Society); Winter School of Microscopical Sciences "Light Microscopy and Imaging Techniques" (28 hours, 20-24/11/2017, University of Verona); Technical training courses on LC-MS methods (32 hours, 10-12/10/2017, 28/11/2017, Castelmaggiore; Phenomenex srl); Winter School 2017 "Plant Biotechnology and Environmental Sustainability" (15-20/01/2017, Canazei; University of Verona).

4. RESEARCH ACTIVITY AND SCIENTIFIC OUTPUT

Researcher profile

Stefano Negri has been conducting research continuously since 2014 in the Plant Biology and Metabolomics research group of the Department of Biotechnology, University of Verona, led by Prof. Flavia Guzzo (SSD BIOS-01/A – General Botany).



Since 2016, SN has co-authored 32 articles in international peer-reviewed journals, 1 book chapter, 3 conference papers and 2 patents granted by the Italian Patent and Trademark Office. SN has also given 10 oral presentations and is the author of 9 posters and co-author of 32 abstracts presented at major national and international conferences.

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SCOPUS Author ID: 57197789625

Total publications: 36

Total citations: 550 (from 513 documents)

H-index: 12

Google Scholar profile: <https://scholar.google.it/citations?user=E7tVNr8AAAAJ&hl=it>

ResearchGate profile: <https://www.researchgate.net/profile/Stefano-Negri>

Research areas

General and pharmaceutical botany, bioprospecting of plant species, phytochemistry and plant specialized metabolism, functions and bioactivities of plant metabolites, synergies and other interactions among bioactive metabolites, plant in vitro cultures, untargeted metabolomics, biotechnological techniques to enhance the biosynthesis of natural products of applied interest (nutraceutical, pharmaceutical, cosmetic, dyeing, etc.).

National Scientific Habilitation

18/05/2026 – *National Scientific Habilitation (ASN) as Associate Professor*, Competition Sector 05/A1 – Botany (ASN 2023–2025, call D.D. 1796/2023, November 2025 session).

Unanimous favorable assessment by the evaluation committee. Valid until 18/05/2038.

Description of research activity

Summary of research activity, 2014–2026

SN's research initially developed in the field of **LC-MS-based untargeted metabolomics** for the **phytochemical characterization of fleshy fruits** of *Prunus avium*, *Malus domestica*, *Pyrus communis*, *Actinidia deliciosa*, *Vitis vinifera* and *Fragaria x ananassa*. For the latter two, he investigated the relationships between **fruit development and ripening** and the composition of the specialized metabolome, assessing the impact of different environmental, agronomic and stress conditions.

During his PhD, SN used metabolic engineering, transcriptomics and metabolomics to investigate the **biological role of serotonin and tryptamine**, two indolamines whose functions in plants are still debated. First investigated in a non-model species (*A. deliciosa*), their biosynthesis was then characterized in *Solanum lycopersicum*, leading to a functional model across different plant organs and paving the way for new molecular studies on the involvement of indolamines in various physiological processes.

In the field of **biotechnological applications of plant specialized metabolites**, SN has collaborated on projects exploiting anthocyanins from plant matrices for dyeing and cosmetic applications (in collaboration with Demethra Biotech). He also contributed to the generation of **cell cultures** from *Actinidia* species (a process covered by an industrial patent) able to accumulate several quercetin glycosides of pharmaceutical interest, and to the development of in vitro cultures of *Vanilla planifolia* to study the vanillin biosynthetic pathway.

In parallel, SN has been involved in collaborations within an interdisciplinary line of research on the **bioactive potential of plant metabolites**, combining the phytochemical characterization of extracts with the investigation of their **antioxidant activity** and of the **synergies** arising within the phytocomplex. In particular, he characterized the metabolome and bioactive potential of *Terminalia macroptera* within an ethnopharmacology project of the University of Jos (Nigeria), and contributed to an industrial patent proposing the use of quinic acid from green kiwifruit to treat mood disorders.

More recently, SN has specialized in the **bioprospecting of medicinal plants**, in particular species of the genera *Galium*, *Artemisia* and *Silybum*, elucidating their metabolomes and studying the production of iridoids, sesquiterpenes and flavonolignans. In this context he gained his most recent experience in applying biotechnological techniques to increase the production of the natural antimalarial artemisinin in *A. annua*, also collaborating with the vertical farming company Agricola Moderna (Melzo, Italy).

In 2023–2025, as an RTDa researcher recruited within the **National Biodiversity Future Center (NBFC) – Spoke 6**, Working Table 2, SN implemented a large-scale bioprospecting plan for the **study of Italian plant biodiversity**, aimed at identifying new bioactive molecules for applications in human health and sustainable agriculture. Specifically, SN curated and coordinated the establishment and study of a collection of about **700 plant species** representative of the botanical families of the Italian flora, characterized phytochemically by LC-HRMS-based untargeted metabolomics. The resulting metabolomic data made it possible to: a) undertake a **mapping of plant metabolomes to explore the diversification of specialized metabolism across land plant lineages**; b) generate the content of a **database on bioresources, biomolecules and bioactivities**; c) **characterize species with bioactivity against non-communicable inflammatory diseases** (in collaboration with NBFC partners).



Involvement in research programs

- 2022-2025: **co-coordinator** of experimental activities and management of research staff within the research project National Center 5 "National Biodiversity Future Center - NBFC", theme "Biodiversity", Spoke 6 – Working Table 2 "Biomolecules and bioactivity", funded with €3,500,000 to the University of Verona under the PNRR (Mission 4, Component 2, Investment 1.4), funded by the European Union – NextGenerationEU (CUP: B33C22000660001; 3 years);
- 2021-2023: **participant** in the experimental activities of the research project "Integration of transcriptomic and metabolomic analyses of *A. annua* cell cultures to develop metabolic engineering strategies aimed at increasing artemisinin yields", funded by the University of Verona Joint Project 2019 (CUP B39C19000150003; 3 years);
- 2020-2022: **participant** in the experimental activities of the industrial research project "Research and study, using high-technology methods, of the active biochemical component of food matrices of interest for use in 3D printing technologies, aimed at their valorization", funded with €100,000 by Rigoni di Asiago – MISE project (2 years);
- 2020: **participant** in the experimental activities of the research project "Production of natural vanilla from *Vanilla planifolia* cell cultures", funded with €55,800 by the Veneto Region – European Social Fund (1 year);
- 2017-2020: **participant** in the experimental activities of the research project "SARR – Advanced systems for waste recovery", funded with €59,400 by Rigoni di Asiago – POR FESR Veneto 2014-2020 (ERDF Regional Operational Program) (3 years);
- 2016-2018: **participant** in the experimental activities of the research project "SERO-TOM - Looking for a biological role of fruit serotonin in the model species *Solanum lycopersicum*", funded with €55,000 by the University of Verona (basic research fund; 3 years);
- 2016: **participant** in the industrial research project "Use of in vitro cultured plant cells for food and nutraceutical purposes", funded with €36,000 by Demethra Biotech srl (start: 2016, 1 year);
- 2015-2017: **participant** in the experimental activities of the research project "Defense of the kiwi plant and valorization of its fruits" – Action 1 "Valorization of kiwifruits", funded with €525,000 by the Veneto Region (CUP H16D14000090002; 2 years);
- 2014-2015: **participant** in the experimental activities of the research project "Qualitative characterization of the main fruit and vegetable products of the Veneto region and their production environment" – Action 1 "Qualitative characterization of fruit and vegetable products – metabolomic aspects", funded with €280,000 by the Veneto Region (CUP H13G13000090002; 2 years);
- 2014-2015: **participant** in the experimental activities of the research project "Systems biology approaches for the characterization of the withering process of grapes used to produce quality wines in the Verona area. Systems biology approaches to study the relationships between the environmental parameters of withering facilities and the metabolomic and transcriptomic profiles of grapes used to produce passito wines in the Verona area", funded by the Veneto Region – European Social Fund (1 year).

Main collaborations

Biotechnology of medicinal plants:

- Department of Biotechnology, University of Verona: Prof. Linda Avesani – biotechnological approaches to increase the production of the antimalarial artemisinin in *Artemisia annua*;
- Department of Cellular, Computational and Integrative Biology, University of Trento: Prof. Michele Perazzolli – transcriptomic investigations of *Artemisia annua* glandular trichomes in relation to artemisinin accumulation.

Phytochemical and bioactivity characterization of plant extracts from species of the Italian flora:

- Department of Diagnostics and Public Health, University of Verona: Prof. Cristiano Chiamulera – investigation of the bioactivity of plant extracts and of metabolite synergies affecting cognitive functions in mouse models;
- Department of Medicine, University of Verona: Prof. Gabriela Constantin – phytochemical characterization of plant extracts with neuroprotective activity in mouse models of Alzheimer's disease; Prof. Anna Maria Fratta Pasini – phytochemical characterization of plant extracts with intracellular antioxidant activity in human cell lines;
- Department of Biotechnology and Biosciences, University of Milano-Bicocca: Prof. Paola Fusi – phytochemical characterization of plant extracts with antitumor activity (colorectal cancer); Prof. Paola Coccetti – phytochemical characterization of plant extracts with neuroprotective activity in Parkinson's disease models;
- Department of Drug Sciences, University of Pavia: Prof. Adele Papetti and Prof. Enrica Calleri – phytochemical characterization of plant extracts with antidiabetic potential and identification of metabolites active on specific pharmacological targets;
- CNR, Institute of Bioimaging and Complex Biological Systems, Segrate – Dr. Rita Gloria Bertoli – phytochemical characterization of plant extracts with antitumor activity (breast cancer);
- Department of Earth and Environmental Sciences, University of Pavia: Prof. Emanuela Martino – phytochemical characterization of plant extracts with neuroprotective potential investigated in cell-free systems.

Bioprospecting and valorization of the biodiversity of the Italian flora

- Department of Agricultural, Food and Forest Sciences, University of Palermo: Prof. Rosario Schicchi – phytochemical characterization of species endemic to Sicily;



- Department of Chemical, Physical, Mathematical and Natural Sciences, University of Sassari: Prof. Emmanuele Farris, Prof. Simonetta Bagella – phytochemical characterization of species endemic to Sardinia and investigation of the genus *Limonium* with respect to the hypothesis of speciation in different coastal environments;
- CREA Bologna, Dr. Laura Bassolino – exploration of the specialized metabolome and phytochemical valorization of the biomass of species of the genus *Silybum*;
- Department of Biotechnology and Biosciences, University of Milano-Bicocca: Dr. Jessica Frigerio – phytochemical and molecular (DNA barcoding) characterization for mapping species of the Italian flora.

International collaborations

- Department of Pharmacology, University of Jos (Nigeria): Dr. Lydia Ior – phytochemical characterization of species used in ethnobotany for mood disorders;
- Department of Chemistry, University Cheikh Anta Diop of Dakar (Senegal): Prof. El Hadji Alioune Fall – phytochemical characterization of ethnobotanical species with antidiabetic activity.

Research outputs

Articles in international peer-reviewed journals

Legend: * co-first author; † corresponding author

1. **Negri S.**, Pietrolucci F., Ramos C., Venco A., Carlessi M., Franchetti B., Commisso M., Avesani L., Guzzo F. (2026) Evaluation of *Artemisia* species as a platform for artemisinin and antioxidants production: exploiting bioprospection, cell cultures and vertical farming. *ACTA HORTICULTURAE* vol. 1462, p7-14, doi: 10.17660/ActaHortic.2026.1462.2 [conference paper]
2. Pietrolucci F., **Negri S.**, Valesi V., Commisso M., Guzzo F., Avesani L. (2026) Enhancing artemisinin biosynthesis in *A. annua* through transient expression of five key pathway genes. *ACTA HORTICULTURAE* vol. 1462, p 15-23, doi: 10.17660/ActaHortic.2026.1462.3 [conference paper]
3. Amico B., Combi C., Commisso M., **Negri S.**, Guzzo F. (2026). Design and implementation of a web-based platform for biodiversity valorization data management: from process modeling to user-centred evaluation. *DATABASE*, 2026, doi:10.1093/database/baag052
4. Ardagna G., Gambini S., Bulgarini A., **Negri S.**, Bianconi M., Di Carlo F., Ceoldo S., Guzzo F., Commisso M. (2026). Genotype-Dependent Phenylpropanoid Pathway Specialization in *Prunus avium* Fruits and Leaves Revealed by Untargeted Metabolomics. *PHYSIOLOGIA PLANTARUM* 178, no. 4: e71083. <https://doi.org/10.1111/ppl.71083>.
5. Greco R., Danzi D., **Negri S.**, Zaffani G., Guzzo F., Vandelle E., Avesani, L. (2026). Ozonated water enhances *Diplotaxis tenuifolia* growth and physiology under field and controlled conditions. *JOURNAL OF FOOD SCIENCE AND NUTRITION RESEARCH*, 9(1), 1-10. Doi: 10.26502/jfsnr.2642-110000187
6. Moretto G., Colombo R., Perteghella S., Mannucci B., **Negri S.**, Ambrosio F. A., Alcaro S., Costa G., Papetti, A. (2026). *Succisa pratensis* secondary metabolites as new anti-glycative agents: In vitro chemical and in silico investigations. *JOURNAL OF FUNCTIONAL FOODS*. 142, p.107329. ISSN: 1756-4646, doi: [10.1016/j.jff.2026.107329](https://doi.org/10.1016/j.jff.2026.107329)
7. Gervasoni C., Ceriani C., Lanzotti A., **Negri S.**, Guzzo F., Pirovano F., Galuzzi BG, Annè F, Inguscio A, Lo Dico A, Porro D and Bertoli GR (2026). *Salvia pratensis* exhibits in vitro anti-cancer effects in triple-negative breast cancer through miR-34a-5p signaling. *FRONTIERS IN NUTRITION*. 13:1786148. doi: 10.3389/fnut.2026.1786148
8. Bravatà V., Calvaruso M., Pucci G., Carollo P.S., Lauciello N., **Negri S.**, Guzzo F., Santoro V., Sarnari F., Bonanomi M., Mallia S., Russo G., Forte G.I., Minafra L. (2026). Cell and molecular effects induced by *Cistus monspeliensis* L. and *Cistus laurifolius* L. phytoextracts in X-ray-irradiated breast cancer cell lines", *JOURNAL OF RADIATION RESEARCH AND APPLIED SCIENCES*, vol. 19, p. 1-10, ISSN: 2314-7164, doi: [10.1016/j.jrras.2026.102267](https://doi.org/10.1016/j.jrras.2026.102267);
9. Moretto G., Colombo R., Perteghella S., **Negri S.**, Cena H., Ambrosio F.A., Alcaro S., Costa G., Papetti A. "Diospyros kaki leaf polyphenolic extract as a new edible source of anti-glycative agents: bioaccessibility and structure-activity relationship investigation. (2026) *FOOD RESEARCH INTERNATIONAL*, vol. 228, p. 1-15, ISSN: 0963-9969, doi: [10.1016/j.foodres.2026.118447](https://doi.org/10.1016/j.foodres.2026.118447);
10. Moretto G., Colombo R., **Negri S.**, Alcaro S., Ambrosio F.A., Costa G., Papetti A. (2026). *Aloysia citrodora* polyphenolic extract: from anti-glycative activity to in vitro bioaccessibility and in silico studies, *NUTRIENTS* vol. 18(1), 115. ISSN: 2072-6643, p. 1-23, doi:10.3390/nu18010115;
11. Lambiase A., Spandri G., Moukham H., Toini E., D'Urzo A., Zecca G., Commisso M., Guzzo F., Santoro V., Piccinelli A., Calleri E., Salerno S., Rinaldi F., **Negri S.**, Santambrogio C., Brioschi M., Solana-Manrique C., Labra M., Grassi F., Paricio N., Tripodi F., Coccetti P. (2026). Acteoside exerts neuroprotective effects by preventing α -synuclein aggregation and oxidative stress in models of Parkinson's disease. *NEUROTHERAPEUTICS*,



12. Argentino G., Di Leo E.G., Stranieri C., **Negri S.**, Commisso M., Guzzo F., Fratta Pasini A.M., Castagna A., Friso S. (2025). Screening of Mediterranean Plant-Derived Extracts for Antioxidant Effect in Cell-Free and Human Cell Line Models. *ANTIOXIDANTS*, vol. 14, p. 1-15, ISSN: 2076-3921, doi: [10.3390/antiox1410121](https://doi.org/10.3390/antiox1410121);
13. Marzo C.M., Bianconi M., Commisso M., Gambini S., Chiamulera C., Avesani L., **Negri S.[†]**, Guzzo F. (2025). Untargeted metabolomics reveals quinic acid as the kiwifruit component that affects brain activity in mice. *PLOS ONE*, vol. 20, p. 1-16, ISSN: 1932- 6203, doi: [10.1371/journal.pone.0326134](https://doi.org/10.1371/journal.pone.0326134);
14. Rinaldi F., Salerno S., Frigoli E., De Soricellis G., Brusotti G., **Negri S.**, Radice M., Merlo F., Speltini A., Cena H., Calleri E. (2025). Development and Application of an In-Capillary CE-DAD Method for the Inhibitory Screening of Natural Extracts Towards Acetylcholinesterase Enzyme. *METABOLITES*, vol. 15, p. 1-15, ISSN: 2218-1989, doi: [10.3390/metabo15040283](https://doi.org/10.3390/metabo15040283);
15. Moretto G., Colombo R., **Negri S.**, Cena H., Vailati L., Papetti A. (2025). Italian Biodiversity: A Source of Edible Plant Extracts with Protective Effects Against Advanced Glycation End ProductRelated Diseases. *NUTRIENTS*, vol. 17, p. 1-24, ISSN: 2072-6643, doi: [10.3390/nu17060935](https://doi.org/10.3390/nu17060935);
16. Bianchini S., Bovio F., **Negri S.**, Guzzo F., Forcella M., Fusi P. (2025). *Gratiola officinalis* Alcoholic Extract Targets Warburg Effect, Apoptosis and Cell Cycle Progression in Colorectal Cancer Cell Lines. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*, vol. 26, p. 1-25, ISSN: 1422-0067, doi: [10.3390/ijms26052220](https://doi.org/10.3390/ijms26052220);
17. **Negri S.**, Pietrolucci F., Andreatta S., Chinyere Njoku R., Ramos C., Crimi M., Commisso M., Guzzo F., Avesani L. (2024). Bioprospecting of *Artemisia* genus: from artemisinin to other potentially bioactive compounds. *SCIENTIFIC REPORTS*, vol. 14, p. 1-21, ISSN: 2045-2322, doi: [10.1038/s41598-024-55128-z](https://doi.org/10.1038/s41598-024-55128-z);
18. **Negri S.**, Commisso M., Pandolfini T., Avesani L., Guzzo F. (2024). Temperature and solar irradiation effects on secondary metabolism during ripening of field-grown everbearing strawberries. *PLANT PHYSIOLOGY AND BIOCHEMISTRY*, vol. 215, p. 1-11, ISSN: 0981-9428, doi: [10.1016/j.plaphy.2024.109081](https://doi.org/10.1016/j.plaphy.2024.109081);
19. Bianchini S., Bovio F., **Negri S.**, Bisson L., Piccinelli A.L., Rastrelli L., Forcella M., Fusi P. (2024). Methanolic Extract of the Nutritional Plant (*Diospyros kaki* Thunb.) Exhibits Anticancer Activity by Inducing Mitochondrial Dysfunction in Colorectal Cancer Cells. *NUTRIENTS*, vol. 16, p. 1-15, ISSN: 2072-6643, doi: [10.3390/nu16213742](https://doi.org/10.3390/nu16213742);
20. Piva A., Benvegnù G., **Negri S.***, Commisso M., Ceccato S., Avesani L., Guzzo F., Chiamulera C. (2024). Whole Plant Extracts for Neurocognitive Disorders: A Narrative Review of Neuropsychological and Preclinical Studies. *NUTRIENTS*, vol. 16, p. 1-32, ISSN: 2072-6643, doi: [10.3390/nu16183156](https://doi.org/10.3390/nu16183156);
21. De Soricellis G., Rinaldi F., Tengattini S., Temporini C., **Negri S.**, Capelli D., Montanari R., Cena H., Salerno S., Massolini G., Guzzo F., Calleri E. (2024). Development of an analytical platform for the affinity screening of natural extracts by SEC-MS towards PPAR α and PPAR γ receptors. *ANALYTICA CHIMICA ACTA*, vol. 1309, p. 1-13, ISSN: 0003-2670, doi: [10.1016/j.aca.2024.342666](https://doi.org/10.1016/j.aca.2024.342666);
22. Zorzi G., Gambini S., **Negri S.**, Guzzo F., Commisso M. (2023). Untargeted Metabolomics Analysis of the Orchid Species *Oncidium sotoanum* Reveals the Presence of Rare Bioactive C-Diglycosylated Chrysin Derivatives. *PLANTS*, vol. 12, p. 655-671, ISSN: 2223-7747, doi: [10.3390/plants12030655](https://doi.org/10.3390/plants12030655);
23. Carlessi M., Franchetti B., Venco A., Pietrolucci F., **Negri S.**, Ramos C., Avesani L., Guzzo F. (2023). Growing medicinal plant *Artemisia* in vertical farming under different LED light conditions. *ACTA HORTICULTURAE*, p. 295-302, ISSN: 0567-7572, doi: [10.17660/ActaHortic.2023.1358.38](https://doi.org/10.17660/ActaHortic.2023.1358.38); [conference paper]
24. Marzouk B., Refifà M., Montalbano S., Buschini A., **Negri S.**, Commisso M., Degola F. (2022). In Vitro Sprouted Plantlets of *Citrullus colocynthis* (L.) Schrad Shown to Possess Interesting Levels of Cucurbitacins and Other Bioactives against Pathogenic Fungi. *PLANTS*, vol. 11, p. 2711-2724, ISSN: 2223-7747, doi: [10.3390/plants11202711](https://doi.org/10.3390/plants11202711);
25. Commisso M., **Negri S.***, Gecchele E., Fazion E., Pontoriero C., Avesani L., Guzzo F. (2022). Indolamine accumulation and TDC/T5H expression profiles reveal the complex and dynamic regulation of serotonin biosynthesis in tomato (*Solanum lycopersicum* L.). *FRONTIERS IN PLANT SCIENCE*, vol. 13, p. 1-16, ISSN: 1664-462X, doi: [10.3389/fpls.2022.975434](https://doi.org/10.3389/fpls.2022.975434);
26. **Negri S.**, Gambini S., Ceoldo S., Avesani L., Commisso M., Guzzo F. (2021). Undifferentiated In Vitro Cultured *Actinidia deliciosa* as Cell Factory for the Production of Quercetin Glycosides. *PLANTS*, vol. 10, p. 2499-2513, ISSN: 2223-7747, doi: [10.3390/plants10112499](https://doi.org/10.3390/plants10112499);
27. **Negri S.**, Commisso M., Avesani L., Guzzo F. (2021). The case of tryptamine and serotonin in plants: a mysterious precursor for an illustrious metabolite. *JOURNAL OF EXPERIMENTAL BOTANY*, vol. 72, p. 1-20, ISSN: 1460- 2431, doi: [10.1093/jxb/erab220](https://doi.org/10.1093/jxb/erab220);
28. Gecchele E., **Negri S.**, Cauzzi A., Cuccurullo A., Commisso M., Patrucco A., Anceschi A., Zaffani G., Avesani L. (2021). Optimization of a Sustainable Protocol for the Extraction of Anthocyanins as Textile Dyes from Plant Materials. *MOLECULES*, vol. 26, p. 6775-6793, ISSN: 1420-3049, doi: [10.3390/molecules26226775](https://doi.org/10.3390/molecules26226775);



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30. *Bianconi M., Ceriotti L., Cuzzocrea S., Esposito E., Pressi G., Sgaravatti E., Bertaiola O., Guarnerio C., Barbieri E., Semenzato A., **Negri S.**, Commisso M., Avesani L., Guzzo F. (2020). Red Carrot Cells Cultured in vitro Are Effective, Stable, and Safe Ingredients for Skin Care, Nutraceutical, and Food Applications. FRONTIERS IN BIOENGINEERING AND BIOTECHNOLOGY, vol. 8, p. 1- 13, ISSN: 2296-4185, doi: 10.3389/fbioe.2020.575079;*
31. *Commisso M., **Negri S.**, Bianconi M., Gambini S., Avesani S., Ceoldo S., Avesani L., Guzzo F. (2019). Untargeted and Targeted Metabolomics and Tryptophan Decarboxylase In Vivo Characterization Provide Novel Insight on the Development of Kiwifruits (Actinidia deliciosa). INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES, vol. 20, p. 897- 920, ISSN: 1422-0067, doi: 10.3390/ijms20040897;*
32. ***Negri S.**, Lovato A., Boscaini F., Salvetti E., Torriani S., Commisso M., Danzi R., Ugliano M., Polverari A., Tornielli G.B., Guzzo F. (2017). The Induction of Noble Rot (Botrytis cinerea) Infection during Postharvest Withering Changes the Metabolome of Grapevine Berries (Vitis vinifera L., cv. Garganega). FRONTIERS IN PLANT SCIENCE, vol. 8, p. 1-12, ISSN: 1664-462X, doi: 10.3389/fpls.2017.01002;*
33. *Commisso M., Bianconi M., Di Carlo F., Poletti S., Bulgarini A., Munari F., **Negri S.**, Stocchero M., Ceoldo S., Avesani L., Assfalg M., Zoccatelli G., Guzzo F. (2017). Multi-approach metabolomics analysis and artificial simplified phytocomplexes reveal cultivar-dependent synergy between polyphenols and ascorbic acid in fruits of the sweet cherry (Prunus avium L.). PLOS ONE, vol. 12, p. e0180889- 1-e0180889-23, ISSN: 1932-6203, doi: 10.1371/journal.pone.0180889;*
34. *Dal Santo S., Fasoli M., **Negri S.***, D'Inca E., Vicenzi N., Guzzo F., Tornielli G.B., Pezzotti M., Zenoni S. (2016). Plasticity of the Berry Ripening Program in a White Grape Variety. FRONTIERS IN PLANT SCIENCE, vol. 7, p. 1-17, ISSN: 1664-462X, doi: 10.3389/fpls.2016.00970;*
35. *Habran A., Commisso M., Helwi P., Hilbert G., **Negri S.**, Ollat N., Gomès E., Van Leeuwen C., Guzzo F., Delrot S. (2016). Roostocks/Scion/Nitrogen Interactions Affect Secondary Metabolism in the Grape Berry. FRONTIERS IN PLANT SCIENCE, vol. 7, p. 1134-1144, ISSN: 1664-462X, doi: 10.3389/fpls.2016.01134;*

Book chapters

36. *Tariq S., Gul A., **Negri S.**, Mujtaba T. (2024). Genetic engineering in tomato. In: Targeted Genome Engineering via CRISPR/Cas9 in Plants. p. 101-133, ISBN: 9780443266140, doi: 10.1016/b978-0-443-26614-0.00015-1*

Patents

37. *Stranieri C., Castagna A., Di Leo E.G., Argentino G., Fratta Pasini A., **Negri S.**, Avesani L., Guzzo F., Friso S., Commisso M., Piccinelli A.L. "Plant extracts with antioxidant activity". Italian patent application no. 102025000007659, filed 08/04/2025 (under examination).*
38. *Marzo C.M., Guzzo F., Chiamulera C., Avesani L., Bianconi M., Commisso M., **Negri S.**, Gambini S., Munari F., Assfalg M. "Quinic acid for use in the treatment of mood disorders". Italian patent no. 102022000000581, filed 17/01/2022, granted 13/02/2024.*
39. ***Negri S.**, Guzzo F., Commisso M., Avesani L., Ceoldo S., Gambini S. "Undifferentiated in vitro cultured cell lines of Actinidia deliciosa and Actinidia chinensis as cell platforms for the production of quercetin glycosides, and process for their preparation". Italian patent no. 102021000028496, filed 10/11/2021, granted 29/11/2023.*

Oral presentations at international and national conferences (as speaker)

International conferences

40. ***Negri S.** et al. "Evaluation of Artemisia species as a platform for artemisinin and antioxidants production: exploiting bioprospection, cell cultures and vertical farming". International Symposium on Artemisia. Arusha, Tanzania, 08-10/10/2025.*
41. ***Negri S.** et al. "Bioprospecting the Italian Flora for The Discovery of New Bioactive Phytochemicals and the Exploration of Chemodiversity in Different Plant Clades". International meeting "From plant morphology to sustainability" / Annual Meeting of the Italian Botanical Society Working Groups "Cell and Molecular Biology & Biotechnology and Differentiation". Bari, Italy, 11-13/06/2025.*
42. ***Negri S.** et al. "Phylogenetic-guided bioprospection of the Italian flora: from the exploitation of bioactive phytochemicals to the study of chemo-evolutionary dynamics". The 3rd International Electronic Conference on Plant Sciences. Online, 15-17/01/2024.*
43. ***Negri S.** et al. "Phytochemical investigation of Terminalia macroptera leaves extracts having psychopharmacological activity in mice". 6th World Congress on Medicinal and Aromatic Plants. Famagusta, Turkish Republic of Northern Cyprus, 13-17/11/2019.*



44. **Negri S.** et al. "The tomato serotonin pathway: in search of biological roles for fruit indolamines". XVI Solanaceae Conference. Jerusalem, Israel, 15-17/09/2019.

National conferences

45. **Negri S.** et al. "Exploring the phytochemical space in land plants: metabolome diversity and uniqueness across Rosid and Superrosid clades". Annual Meeting of the Italian Botanical Society Working Groups "Cell and Molecular Biology & Biotechnology and Differentiation". Perugia, Italy, 10-12/06/2026.
46. **Negri S.** et al. "Exploring the phytochemical space of land plants: insights of uniqueness from the Rosids and Superrosids metabolomes". 3rd National Biodiversity Forum. Naples, Italy, 19-21/05/2026.
47. **Negri S.** et al. "Large-scale bioprospection of the Italian flora: from the discovery of useful phytochemicals to the study of metabolome diversification in land plants". 2nd National Biodiversity Forum. Milan, Italy, 19-22/05/2025.
48. **Negri S.** et al. "Large-scale bioprospection of the Italian flora: from drug discovery to the study of metabolome diversification in land plants". Annual Meeting of the Italian Botanical Society Working Groups "Cell and Molecular Biology & Biotechnology and Differentiation". Verona, Italy, 12-14/06/2024.
49. **Negri S.** et al. "Investigation of seasonal differences in strawberry metabolism from flowering through ripening". Annual Meeting of the Italian Botanical Society Working Groups "Cell and Molecular Biology & Biotechnology and Differentiation". Milan, Italy, 14-16/06/2017.

Other conference contributions

9 posters as first author (7 at international and 2 at national conferences) and 32 further contributions as co-author at national and international conferences.

5. AWARDS AND HONORS

Conference awards

2025 – Best poster award (co-author) in the NBFC Collaborative Research category at the 2nd National Biodiversity Forum;
2024 – Best oral presentation (co-author) at The 3rd International Electronic Conference on Diversity;
2024 – Special mention for posters (first author) from NBFC collaborative work, presented at the 1st National Biodiversity Forum;
2023 – Best poster award (corresponding author) at the IX International Plant Science Conference / 118th Congress of the Italian Botanical Society;
2018 – Aboca best poster award (first author) at the V International Plant Science Conference / 113th Congress of the Italian Botanical Society;
2018 – Winner of a grant to attend the V International Plant Science Conference / 113th Congress of the Italian Botanical Society (awarded on the basis of qualifications and of the abstract submitted to the congress).

Other recognitions

2021 – Cover of the Journal of Experimental Botany (Oxford University Press) Volume 72, Issue 15.
<https://academic.oup.com/jxb/issue/72/15>

6. TEACHING ACTIVITIES

University teaching

Lecturing

Lecturer in charge of the course "Phytotherapy" (6 ECTS, 48 hours) and of the "Pharmaceutical Botany" module (6 ECTS, 48 hours) in the single-cycle Master's Degree program in Pharmacy, a.y. 2026/2027, University of Verona.

Adjunct lecturer for the Laboratory module (1 ECTS, 12 hours) of the course "Foundations and Teaching of Natural Sciences", degree program in Primary Education Sciences, a.y. 2021/2022, University of Verona.

Supplementary teaching

350 hours per year in 2023–2025, during the RTDa appointment, as tutor of research fellows and PhD students recruited at the Department of Biotechnology, University of Verona, within the National Biodiversity Future Center (NBFC) project; topics: plant bioprospecting techniques, untargeted metabolomic analyses, elucidation of plant metabolomes and metabolomic data analysis.

Teaching assistance

Laboratory practicals for the courses Cell and Plant Biology (degree program in Biotechnology, University of Verona, Prof. Massimo Crimi, a.y. 2023/2024, 24 hours), Plant Biology and Physiology (degree program in Viticulture and Enology, University of Verona, Prof. Tiziana Pandolfini; a.y. 2016/17 and 2017/18, 40 hours in total), Metabolomics (degree program in Agri-Food Biotechnology, University of Verona, Prof. Flavia Guzzo; a.y. 2016/2017, 5 hours).



Other

Speaker at the seminar "Genetic transformation of a herbaceous dicot species: tomato" (1 hour) at the SIGA summer school "New breeding techniques: CRISPR/Cas9 in plants", University of Verona, 02-05/07/2019

Other teaching experience

- Co-lecturer of the "Basic Course in Plant Biology – Plant biology and plant evolution" (3 ECTS, 24 hours; lecturer: Dr. Mauro Commisso), held within the University of Verona Tandem Project 2020/2021, an orientation program for upper secondary school students;
- Invited speaker at the seminar "Information and communication in plants: from basic physiology to biotechnological applications" (2 hours), held within the workshop "N-US/Nature - Us - Natura, Arte, Tecnologia" by Ashtart consultancy, Verona, 20/11/2020.

Supervision

Supervision of the experimental work of two PhD students in Biotechnology (University of Verona) on the metabolomic analysis of sesquiterpenes related to artemisinin synthesis in *Artemisia annua* (Fabio Pietrolucci, 35th cycle) and on the cannabinoid profile of *Cannabis sativa* inflorescences (Marcello Borin, 36th cycle).

Co-supervisor of degree theses in Agri-Food Biotechnology (LM-7), Molecular and Medical Biotechnology (LM-9), Viticulture and Enology (L-25) and Biotechnology (L-2) at the University of Verona:

- "Terpenoids in cancer: from literature review to their fractionation as phytocomplexes" (Alessandra Giunta, L-2, a.y. 2024/25).
- "Investigation of the *Artemisia* spp. chemodiversity through untargeted metabolomics and in vitro antioxidant assays" (Emiliano Odorizzi, LM-9, a.y. 2021/22);
- "Preliminary screening for potential medicinal properties of selected *Artemisia* and *Galium* species" (Ruth Chinyere Njoku, LM-9, a.y. 2018/19);
- "Functional characterization of some genes of the serotonin biosynthetic pathway in *Solanum lycopersicum* cv. MicroTom through transient expression in *Nicotiana benthamiana*" (Emanuela Fazion, LM-7, a.y. 2016/17);
- "Comparison by untargeted metabolomics of the metabolic profiles of Garganega grapes subjected to different withering methods" (Filippo Boscaini, L-25, a.y. 2014/15);
- "Application of HPLC-ESI-MS techniques to the study of secondary metabolites of the white grape variety Garganega" (Giulia Panzeri, L-25, a.y. 2013/14);
- "Analysis of the evolution of secondary metabolites in Garganega grapes during ripening by HPLC-DAD" (Michele Cagnina, L-25, a.y. 2013/14).

7. PUBLIC ENGAGEMENT

Contributor to the 2nd NBFC Biodiversity Report "Biodiversità e Innovazione: Strategie per Generare Valore" (Biodiversity and Innovation: Strategies to Generate Value), published by CNR Edizioni, 2025
(https://www.nbfc.it/assets/files/Report_biodiversita_2025_ISBN.pdf)

Video interview "Un Fiore Da Lontano" (A Flower From Afar) – invasive plants explained to children: the lotus flower (playlist "Materiale multimediale - schede didattiche NBFC" on the YouTube channel of the National Biodiversity Future Center, https://www.youtube.com/@NBFC_ITALY/playlists; 09/12/2025)

Video interview "La biodiversità al centro (episodio 7) - La biodiversità ci cura" (Biodiversity at the center, episode 7 – Biodiversity heals us) produced by Pikaia (<https://pikaia.eu/la-biodiversita-al-centro-ep-7-la-biodiversita-ci-cura/>; 10/06/2025)

Curator of the event "20 MINUTI PER..." (20 minutes for...), outreach micro-talks by researchers and PhD students of the Department of Biotechnology, held during the Interno Verde event (24/05/2025, Verona)

Talk "Nature as a source of new therapeutic solutions: biodiversity and plant biotechnology" at the Planetary Health Festival (04/10/2024, Verona; <https://planetaryhealthfestival.it/programma/40/le-biotecnologie-per-la-salute-umana-e-ambientaledalla-ricerca-alla-società/>)

Leader of the guided tour for children "The superpowers of plants" within Kids University (23/09/2017, University of Verona)

8. EDITORIAL ACTIVITIES

Since 2022, reviewer for the journals *BioTech* and *Life* (MDPI), *BMC Research Notes*, *Chemistry & Biodiversity* (Wiley), *Frontiers in Plant Science*, *Plant Biosystems* (Springer), *PLOS ONE*, *Scientific Reports* (Nature).

Guest editor of the Special Issue "Comprehensive Metabolic Profiling in Fruits" (28/10/2022 - 15/05/2023; https://www.mdpi.com/journal/metabolites/special_issues/VMN56V38FH) published in "Metabolites" (ISSN 2218-1989), an international open-access, peer-reviewed journal published monthly online by MDPI, focusing on metabolism and metabolomics.



9. ADDITIONAL INFORMATION

Languages

Italian (native speaker), English and French (independent user, fluent), Hindi (independent user, elementary).

Membership of scientific societies

- *Italian Society of Phytochemistry and of the Sciences of Medicinal, Food and Fragrance Plants (S.I.F.): full member since 2025;*
- *Italian Botanical Society (S.B.I.): student member since 2018, full member since 2021.*

SELF-CERTIFICATION

The undersigned, aware of the criminal liability for false statements pursuant to and for the purposes of Articles 46 and 47 of Presidential Decree no. 445 of 28 December 2000, declares that the information contained in this curriculum vitae is true.

The undersigned authorizes the processing of personal data pursuant to Legislative Decree no. 196/2003.

Verona, 05/10/2026

Signature