

CURRICULUM VITAE – MAURO COMMISSO

Name and Surname: MAURO COMMISSO

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EDUCATION

- Ph.D. February 25th, 2014 – Department of Biotechnology, University of Verona. Ph.D. in Applied Biotechnology. Thesis title: *Impact of phenylpropanoids on heat stress protection*. Years 2011-2013.
- M.S. October 14th, 2010 – Department of Biotechnology, University of Verona. M.S. in Agro-Industrial Biotechnology. Final mark: 110/110 cum laude (the highest grade in Italian Universities). Years 2008-2010.
- B.S. July 16th, 2008 – Department of Biotechnology, University of Verona. B.S. in Agro-Industrial Biotechnology. Final mark: 110/110 cum laude (the highest grade in Italian Universities). Years 2005-2008.

CURRENT POSITION

01st December 2019 – to date: RTD-A Researcher in General Botany (BIO/01) in the Department of Biotechnology, University of Verona, Italy (IT).

PREVIOUS POSITIONS

01st March 2018 – 30th November 2019: employee as Senior Researcher in Demethra Biotech srl (<http://www.dembiotech.it/>).

1st August 2014 – 28th February 2018: Postdoctoral position (research fellow) in the Department of Biotechnology, University of Verona (IT). Supervisor: professor Flavia Guzzo.

GRANTS/ FELLOWSHIPS

University of Verona, assegno di ricerca (01.03.2017-28.02.2018);
University of Verona, assegno di ricerca (01.03.2016-28.02.2017);
University of Verona, assegno di ricerca (01.03.2015-29.02.2016);
University of Verona, borsa di ricerca (01.08.2014-28.02.2015).

EDITORIAL ACTIVITY

Editorial activity (peer-reviewing) since 2016 for the following journals: Journal of food composition and analysis (Elsevier); International Journal of Molecular Sciences (MDPI); Agronomy (MDPI); Plants (MPDI); Molecules (MDPI); Cells (MDPI); Plant Physiology and Biochemistry (Elsevier), Botany (Canadian Science Publishing), Frontiers in Plant Science.

ACKNOWLEDGMENTS

M.C. has been acknowledged in the following papers:

- **Bertini, E., Tornielli, G. B., Pezzotti, M., & Zenoni, S.** *Regeneration of plants from embryogenic callus-derived protoplasts of Garganega and Sangiovese grapevine (Vitis vinifera L.) cultivars.* (2019). Plant Cell, Tissue and Organ Culture (PCTOC), 1-8.
- **Amato, A., Cavallini, E., Walker, A. R., Pezzotti, M., Bliet, M., Quattrocchio, F., ... & Tornielli, G. B.** *The MYB 5-driven MBW complex recruits a WRKY factor to enhance the expression of targets involved in vacuolar hyper-acidification and trafficking in grapevine.* (2019). The Plant Journal.

AWARDS

Best poster at the SBI Congress - V *International Plant Science Conference*. 12th-15th September 2018, Fisciano (SA), Italy.

ABSTRACT IN CONFERENCE AND ORAL COMMUNICATIONS

M. Commisso, S. Negri, L. Avesani, M. Bianconi, S. Ceoldo, F. Guzzo. *In search of tryptamine and serotonin biological roles in tomato.* Annual reunion of the SBI* working groups "Biologia Cellulare e Molecolare - Biotecnologie e Differenziamento". 12th-14th June 2019, Napoli, Italy

M. Commisso. *LC-MS characterization of industrial fruit by-products as sources of healthy metabolites for functional foods.* MS Technology Day 2018 (WATERS). 2nd October 2018, Bologna, Italy. **Invited speaker.**

M. Commisso, S. Negri, L. Avesani, M. Bianconi, S. Ceoldo, F. Guzzo. *Biological roles of tryptamine and serotonin in fleshy fruits: the tomato TDC gene family.* Annual reunion of the

SBI* working groups “Biologia Cellulare e Molecolare - Biotecnologie e Differenziamento”. 13th-15th June 2018, San Remo, Italy.

*SBI: Italian Botanical Society (<http://www.societabotanicaitaliana.it>).

M. Commisso, S. Negri, L. Avesani, M. Bianconi, S. Ceoldo, C. Pontoriero, E. Fazion, F. Guzzo. *In search of biological roles of fruit tryptamine and serotonin*. Annual reunion of the SBI* working groups “Biologia Cellulare e Molecolare - Biotecnologie e Differenziamento”. 14th-16th June 2017, Milan, Italy.

*SBI: Italian Botanical Society (<http://www.societabotanicaitaliana.it>).

M. Commisso, L. Avesani, M. Bianconi, S. Ceoldo, S. Negri, G. Zoccatelli, F. Guzzo. *Characterization of the melatonin biosynthetic pathway in kiwifruits*. Annual reunion of the SBI working groups “Biologia Cellulare e Molecolare - Biotecnologie e Differenziamento”. 14th-16th June 2016, Amantea, Italy.

L. Avesani, **M. Commisso**, M. Bianconi, S. Ceoldo, S. Negri, M. Pasini, D. Raccanello, R. Burro, M. Brondino, F. Guzzo. *“Three kiwifruits a day keep the blues away?”*. Annual reunion of the SBI working groups “Biologia Cellulare e Molecolare -Biotecnologie e Differenziamento”. 14th-16th June 2016, Amantea, Italy.

M. Commisso, L. Avesani, M. Bianconi, S. Ceoldo, G. Zoccatelli, F. Guzzo. *Potentially Neuroactive Amines in Kiwifruits*. Annual reunion of the SBI working groups “Biologia Cellulare e Molecolare -Biotecnologie e Differenziamento”. June 10th-12th, 2015, pp 19-20, Rome, Italy

M. Commisso, G.B. Tornielli, S. Zenoni, A. Anesi, M. Fasoli, S. Ceoldo, M. Pezzotti, F. Guzzo. *Metabolomics of Grape Berry Postharvest Withering*. Atti di "Metabolomic Approaches: Advanced Analytical Tools Challenges, Perspectives and Applications". November 10th-11th, 2014, 2014, pp. 16-16, Padua, Italy.

P. Strazzer, **M. Commisso**, K. Toffali, S. Ceoldo, M. Levi, F. Guzzo. *Usa dell'inibitore acido piperonilico come strategia per studiare il ruolo protettivo di specifici fenilpropanoidi in cellule di Daucus carota*. Annual reunion of the SBI working groups “Biologia Cellulare e Molecolare -Biotecnologie e Differenziamento”. June 13th-19th, 2013, Ferrara, Italy.

M. Commisso, P. Strazzer, K. Toffali, S. Ceoldo, F. Guzzo, M. Levi. *The modification of phenylpropanoid profile affects sensitivity to heat stress in cell cultures of Daucus carota*. Annual reunion of the SBI working groups “Biologia Cellulare e Molecolare -Biotecnologie e Differenziamento”. June 18th-20th, 2012, Padua, Italy

P. Strazzer, **M. Commisso**, K. Toffali, S. Ceoldo, F. Guzzo, M. Levi. *Approcci per lo studio del ruolo biologico di specifici metaboliti secondari*. Annual reunion of the SBI working groups “Biologia Cellulare e Molecolare -Biotecnologie e Differenziamento”. June 15th-17th, 2011. Rome, Italy.

POSTER

- M.C. Marzo, M. Bianconi, **M. Commisso**, C. Chiamulera, F. Guzzo: *Evaluation of antidepressant-like activity of kiwifruit (*Actinidia deliciosa*) extract in mice*. Neuroscience 2018 - Society for Neuroscience. San Diego, CA. November 2018.
- S. Negri, **M. Commisso**, M. Merlin, E. Gecchele, S. Zenoni, M. Perduca, L. Avesani, F. Guzzo: *Plant tryptamine and serotonin: in search of their biological role in fruits*. 113° Congresso della Società Botanica Italiana - V International Plant Science Conference, September 12th-15th, 2018, Fisciano (SA), Italy. The poster awarded the prize for “**The best poster**” at the congress.
- M.C. Marcello, M. Bianconi, **M. Commisso**, C. Chiamulera, F. Guzzo: *Antidepressant-like effect of kiwifruit (*Actinidia deliciosa*) extract on mouse models of depression*. 11th FENS Forum of Neuroscience. 7th-11th July 2018, Berlin, Germany.
- S. Negri, **M. Commisso**, M. Bianconi, F. Di Carlo, S. Poletti, A. Bulgarini, F. Munari, M. Stocchero, S. Ceoldo, L. Avesani, M. Asfalg, G. Zoccatelli, F. Guzzo: *Cultivar specific synergy between metabolites of sweet cherry fruits*. IV International Plant Science Conference (IPSC), September 20th-23rd, 2017, Parma, Italy.
- A. Habran, G. Hilbert, P. Helwi, E. Gomès, K. Van Leeuwen, S. Negri, **M. Commisso**, F. Guzzo, S. Delrot. “*A metabolomic approach of the effects of scion x rootstock x nitrogen interactions on berry content*”. COST Action FA1106 “Quality fruit–Genotype x Environment” workshop, 5th-6th June, 2015, Verona, Italy.
- M. Commisso**, L. Avesani, M. Bianconi, S. Ceoldo, G. Zoccatelli, F. Guzzo. *Potentially Neuroactive Amines In Kiwifruits*. Sorrento, 15 aprile – 17 aprile 2015, pp 36-37. Challenges and prospects in PNP metabolic engineering and production. Plant Engine COST Action FA1006, April 14th-18th, 2015, Sorrento, Italy.
- M. Commisso**, P. Strazzer, K. Toffali, S. Ceoldo, F. Guzzo, M. Levi. *The modification of phenylpropanoid profile affects sensitivity to heat stress in cell cultures of *Daucus carota**. The Federation of European Society of Plant Biology Congress, July 29th – August 03rd, 2012, Freiburg, Germany.
- A. Vondras, **M. Commisso**, F. Guzzo, M. Pezzotti, L. Deluc. *Identification of metabolic markers of ripening near harvest in Pinot Noir*. IX International Symposium on Grapevine Physiology and Biotechnology, April 21st-26th, 2013, La Serena, Chile.
- M. Commisso**, P. Strazzer, K. Toffali, S. Ceoldo, F. Guzzo, M. Levi. *The modification of phenylpropanoid profile affects sensitivity to heat stress in cell cultures of *Daucus carota**.

Annual reunion of the SBI working groups “Biologia Cellulare e Molecolare -Biotecnologie e Differenziamento”. June 18th-20th, 2012, Padova, Italy.

ATTENDED COURSES

Mass spectrometry: Xevo G2-XS QToF Operator training November 21st, 29th and 30th, 2017 in Verona, Italy.

Summer School on “Plants, Nutritions and health: Biotechnology innovations to human wellness”. Department of Bioscience, University of Milan, July 08th-10th, 2015, Milan, Italy.

Advanced Multivariate Statistical Analysis. July 29th – August 03rd, 2012, Vicenza, Italy.

Multivariate Statistical Analysis. October 24th-26th, 2012, Vicenza, Italy.

SCIENTIFIC PUBLICATIONS

M. Ferri, A. Happel, G. Zanaroli, M. Bertolini, S. Chiesa, M. Commisso, F. Guzzo, A. Tassoni.

Advances in combined enzymatic extraction of ferulic acid from wheat bran. (2019). New biotechnology, 56, 38-45.

M. Santoni, E. Bertini, R. Zampieri, A. Cuccurullo, M. Commisso, E. Gecchele, L. Avesani.

Transient Expression in Red Beet of a Biopharmaceutical Candidate Vaccine for Type-1 Diabetes. (2019). Journal of visualized experiments: JoVE, (145).

M. Commisso, S. Negri, M. Bianconi, S. Gambini, S. Avesani, S. Ceoldo, L. Avesani, F. Guzzo.

*Untargeted and Targeted Metabolomics and Tryptophan Decarboxylase In Vivo Characterization Provide Novel Insight on the Development of Kiwifruits (*Actinidia deliciosa*).* (2019). International journal of molecular sciences, 20(4), 897.

E. Bertini, M. Merlin, E. Gecchele, A. Puggia, A. Brozzetti, M. Commisso, A. Falorni, V. Bini,

V. Klymyuk, M. Pezzotti, L. Avesani. *Design of a type-1 diabetes vaccine candidate using edible plants expressing a major autoantigen.* (2018). Frontiers in plant science, 9, 572.

M. De Benedictis, C. Brunetti, E.K. Brauer, A. Andreucci, S.C. Popescu, M. Commisso, F.

Guzzo, A. Sofo, M.R. Castiglione, O.K. Vatamaniuk, L. Sanità di Toppi. *The Arabidopsis thaliana knockout mutant for phytochelatinsynthase1 (cad1-3) is defective in callose deposition, bacterial pathogen defense and auxin content.* (2018). Frontiers in Plant Science, 9, 19.

N. Busatto, B. Farneti, M. Commisso, M. Bianconi, B. Iadarola, E. Zago, B. Ruperti, F. Spinelli,

A. Zanella, R. Velasco, A. Ferrarini, G. Chitarrini, U. Vrhovsek, M. Delledonne, F. Guzzo, G. Costa, F. Costa. *Apple fruit superficial scald resistance mediated by ethylene inhibition is associated with diverse metabolic processes.* (2018). The Plant Journal, 93(2), 270-285.

M. Commisso*, M. Bianconi*, F. Di Carlo, S. Poletti, A. Bulgarini, F. Munari, S. Negri, M. Stocchero, S. Ceoldo, L. Avesani, M. Assfalg, G. Zoccatelli, F. Guzzo. *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.)* (2017) PLoS ONE, 12 (7).

*The authors equally contribute to the manuscript

J.T. Matus, E. Cavallini, R. Loyola, J. Höll, L. Finezzo, S. Dal Santo, S. Violet, M. Commisso, F. Roman, A. Schubert, J.A. Alcalde, J. Bogs, A. Ageorges, G.B. Tornielli, P. Arce-Johnson. *A group of grapevine MYBA transcription factors located in chromosome 14 control anthocyanin synthesis in vegetative organs with different specificities compared with the berry color locus* (2017) Plant Journal, 91 (2), pp. 220-236.

A.M. Vondras, M. Commisso, F. Guzzo, L.G. Deluc. *Metabolite profiling reveals developmental inequalities in pinot noir berry tissues late in ripening* (2017) Frontiers in Plant Science, 8, art. no. 1108

S. Negri, A. Lovato, F. Boscaini, E. Salvetti, S. Torriani, M. Commisso, R. Danzi, M. Ugliano, A. Polverari, G.B. Tornielli, F. Guzzo. *The induction of noble rot (Botrytis cinerea) infection during postharvest withering changes the metabolome of grapevine berries (Vitis vinifera L., cv. Garganega)* (2017) Frontiers in Plant Science, 8, art. no. 1002,

M. Commisso, A. Anesi, S. Dal Santo, F. Guzzo. *Performance comparison of electrospray ionization and atmospheric pressure chemical ionization in untargeted and targeted liquid chromatography/mass spectrometry based metabolomics analysis of grapeberry metabolites* (2017) Rapid Communications in Mass Spectrometry, 31 (3), pp. 292-300.

S. Zenoni, M. Fasoli, F. Guzzo, S. Dal Santo, A. Amato, A. Anesi, M. Commisso, M. Herderich, S. Ceoldo, L. Avesani, M. Pezzotti, G.B. Tornielli. *Disclosing the molecular basis of the postharvest life of berry in different grapevine genotypes* (2016) Plant Physiology, 172 (3), pp. 1821-1843.

S. Dal Santo*, M. Commisso*, E. D'incà, A. Anesi, M. Stocchero, S. Zenoni, S. Ceoldo, G.B. Tornielli, M. Pezzotti, F. Guzzo. *The terroir concept interpreted through grape berry metabolomics and transcriptomics* (2016) Journal of Visualized Experiments, 2016 (116).

*The authors equally contribute to the manuscript

M. Commisso, K. Toffali, P. Strazzer, M. Stocchero, S. Ceoldo, B. Baldan, M. Levi, F. Guzzo. *Impact of phenylpropanoid compounds on heat stress tolerance in carrot cell cultures* (2016) Frontiers in Plant Science, 7 (September).

A. Habran, M. Commisso, P. Helwi, G. Hilbert, S. Negri, N. Ollat, E. Gomès, C. Van Leeuwen, F. Guzzo, S. Delrot. *Roostocks/scion/nitrogen interactions affect secondary metabolism in the grape berry* (2016) *Frontiers in Plant Science*, 7 (AUG2016), art. no. 1134.

A. Anesi*, M. Stocchero*, S. Dal Santo*, M. Commisso, S. Zenoni, S. Ceoldo, G.B. Tornielli, T. Siebert, M. Herderich, M. Pezzotti, F. Guzzo *Towards a scientific interpretation of the terroir concept: plasticity of the grape berry metabolome.* (2015) *BMC plant biology*, 15(1), 191.

*The authors equally contribute to the manuscript

M. Amato, M.C. Caruso, F. Guzzo, F. Galgano, M. Commisso, R. Bochicchio, R. Labella F. Favati. *Nutritional quality of seeds and leaf metabolites of Chia (Salvia hispanica L.) from Southern Italy.* (2015) *European Food Research and Technology*, 1-11.

E. Turano, G. Busetto, S. Marconi, F. Guzzo, A. Farinazzo, M. Commisso, E. Bistaffa, S. Musumeci, S. Sotgiu, B. Bonetti *Neurotoxicity and synaptic plasticity impairment of N-acetylglucosamine polymers: implications for Alzheimer's disease.* (2014) *Neurobiology of Aging*, 36(5), 1780-1791.

E. Zampieri*, F. Guzzo*, M. Commisso, A. Mello, P. Bonfante, R. Balestrini. *Gene expression and metabolite changes during Tuber magnatum fruiting body storage.* (2014) *Current Genetics*, 1-10.

*The authors equally contribute to the manuscript

M. Commisso, P. Strazzer, K. Toffali, M. Stocchero, F. Guzzo. *Untargeted metabolomics: an emerging approach to determine the composition of herbal products.* (2013) *Computational and structural biotechnology journal*, 4(5):1-7.

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