Marianna Fasoli

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Work: Via della Pieve 70, 37029 San Pietro in Cariano (VR) (Italy)

WORK EXPERIENCE

Tenure track Assistant Professor (RTD-B) [10/2021 – Current]
University of Verona – Biotechnology Department (Italy)
Molecular Viticulture Lab

Business partner and member of the academic spin-off EdiVite [2022 – Current]
EdiVite (Italy)
Mission: apply new breeding technologies for next generation viticulture

Senior Research Manager [2020 – 2021]
E&J Gallo Winery – Winegrowing Department (R&D) (USA)
Micro and Systems Biology Lab (Team Leader)

Research Scientist [2016 – 2020]
E & J Gallo Winery – Winegrowing Department (R&D) (USA)
Micro and Systems Biology Lab (Team Member)
Job titles breakdown and timing:

- 04/2019- 04/2020 - Research Scientist 2
- 03/2016-03/2019 - Research Scientist 1

Joint Post-Doctoral Researcher [01/2012 – 02/2016]
E&J Gallo Winery – Viticulture, Chemistry & Enology Department (R&D) (USA)
In collaboration with the University of Verona (Italy)

Research Associate [06/2008 – 12/2008]
University of Verona – Biotechnology Department (Italy)
Research grant – Project title: “FTIR analysis of berry ripening in *Vitis vinifera* cv. Corvina”

EDUCATION AND TRAINING

Doctor of Philosophy (PhD) in Applied Biotechnology [01/2009 – 12/2011]
University of Verona (Italy)
Thesis title: “A complete gene expression atlas of *Vitis vinifera* cv. Corvina: a useful guide to the grapevine transcriptome”. This work was published in The Plant Cell in 2012 with the title “The grapevine expression atlas reveals a deep transcriptome shift driving the entire plant into a maturation program”.

Master of Science (MSc) in Agro-Industrial Biotechnology [10/2005 – 03/2008]
University of Verona (Italy)

Thesis title: “Functional analysis of *PhEXP1A* through ectopic gene expression in *Petunia hybrida*”. This work was published in New Phytology in 2011 with the title “Overexpression of PhEXPA1 increases cell size, modifies cell wall polymer composition and affects the timing of axillary meristem development in *Petunia hybrida*”.

Bachelor of Science (BSc) in Agro-Industrial Biotechnology [10/2002 – 12/2005]
University of Verona (Italy)
Thesis title: “Production of transgenic plants for gene functional studies through post-transcriptional silencing”.

TEACHING ACTIVITIES

[2021 – Current]
BSc degree in Viticultural and Oenological Science and Technology (University of Verona)
In charge of teaching of:
- “General Viticulture” (48 hours)
- “Viticulture Practices and Mechanization” (24 hours)
- “Grapevine ecology and physiology” (24 hours) [2023 – Current]

[2021 – Current]
MSc degree in Viticulture, Oenology and the Wine Market (interuniversity)
In charge of teaching of:
- “Elements of Terroirs” (32 hours)

[2008 – 2011]
Previous lab teaching activities (University of Verona)
- “Genomica e Trascrittomica - Metodi Analitici e Molecolari” [2010-11]
- “Biologia" [2008-10]
- “Organismi/Microorganismi Geneticamente Modificati” [2007-08]

[2021 – Current]
Supervisor of student graduation thesis
- BA degree in Viticultural and Oenological Science and Technology (University of Verona): 3 students
- MA degree in Viticulture, Oenology and the Wine Market (interuniversity): 1 student

RESEARCH PROJECTS

[12/2023 – Current]
Local leader of the national research grant PRIN-PNRR 2022 entitled "Spatial Vine - Spatial characterization of molecular responses to water deficit and nitrogen limitation in grapevine roots”

[2022 – 2023]
Core team member of the COST Innovators Grant (CIG) – IG17111 “The Grapevine Genomics Encyclopedia: an innovative portal to integrate knowledge, resources and services for the grape scientific community and industry”
Link: http://grapedia.org/grapedia-members/

[2009 – 2016]
Previous projects
Participation to national projects:

- "Valorizzazione della tipicità dei vitigni autoctoni e dei vini veneti (Valvive)" finanziato dalla Regione Veneto dal 01-01-2009 al 01-01-2012
- Joint Project tra Pasqua Vigneti e Cantine SpA e il Dipartimento di Biotecnologie dell'Università di Verona - dal 01-01-2011 al 01-01-2013
- "Valorizzazione dei Principali Vitigni Autoctoni Italiani e dei loro Terroir (Vigneto)" finanziato dal Ministero Italiano dell'Agricoltura e delle Politiche Forestali - dal 01-01-2011 al 01-01-2013
- PRIN 2009 "Caratterizzazione di geni coinvolti nella maturazione delle uve in seguito ad interventi di defogliazione pre-fioritura" (Coordinatore scientifico: Poni Stefano, Responsabile scientifico: Zenoni Sara) dal 17-10-2011 al 17-10-2013

Participation to the European project:

- "COST ACTION FA1106 Quality Fruit" - from 26-04-2012 to 25-10-2016

PUBLICATIONS

BIBLIOMETRIC PARAMETERS (Scopus; April 2024): 34 Publications; H-index 24; citations 2,431.

Peer-reviewed publications as principal author

1. Belfiore, N. et al. The role of terroir on the ripening traits of V. vinifera cv 'Glera' in the Prosecco area (2024) *Plants*, 13 (6), 816. – co-corresponding author
2. Shmuleviz, R. et al. Spatial variability of grape berry maturation program at the molecular level (2024) *Horticulturae*, 10 (3), pp. 238. – last and co-corresponding author
3. Fasoli, M. et al. Active rearrangements in the cell wall follow polymer concentration during postharvest withering in the berry skin of Vitis vinifera cv. Corvina (2019) *Plant Physiology and Biochemistry*, 135, pp. 411-422.
4. Fasoli, M.# et al. Unraveling the key molecular events of grape berry ripening (2019) *Acta Horticulturae*, 1248, pp.241-248. – #corresponding author
5. Fasoli, M.# et al. Timing and order of the molecular events marking the onset of berry ripening in grapevine (2018) *Plant Physiology*, 178 (3), pp. 1187-1206. – #corresponding author
6. Zenoni, S.*, Fasoli, M.* et al. Disclosing the molecular basis of the postharvest life of berry in different grapevine genotypes (2016) *Plant Physiology*, 172 (3), pp. 1821-1843. – *equal contribution
7. Dal Santo, S.*, Fasoli, M.*, Negri, S.* et al. Plasticity of the berry ripening program in a white grape variety (2016) *Frontiers in Plant Science*, 7:970 – *equal contribution
8. Fasoli, M. et al. Pectins, Hemicelluloses and Celluloses Show Specific Dynamics in the Internal and External Surfaces of Grape Berry Skin during Ripening (2016) *Plant and Cell Physiology*, 57 (6), pp. 1332-1349.
9. Fasoli, M. et al. The grapevine expression atlas reveals a deep transcriptome shift driving the entire plant into a maturation program (2012) *Plant Cell*, 24 (9), pp. 3489-3505.

Peer-reviewed publications as co-author

10. Tornielli, G.B. et al. A molecular phenology scale of grape berry development (2023) *Horticulture Research*, 10 (5).
11. Shmuleviz, R. et al. Temperature affects organic acid, terpene and stilbene metabolisms in wine grapes during postharvest dehydration (2023) *Frontiers in Plant Science*, 14, art. no. 1107954.
12. Najafi, S. et al. DNA-free genome editing in grapevine using CRISPR/Cas9 ribonucleoprotein complexes followed by protoplast regeneration (2023) *Horticulture Research*, 10 (1), art. no. uhac240.
13. Dal Santo, S. et al. Auxin treatment of grapevine (Vitis vinifera L.) berries delays ripening onset by inhibiting cell expansion (2020) *Plant molecular biology*, 103 (1-3), pp. 91-111.
14. Dal Santo, S. et al. Grapevine field experiments reveal the contribution of genotype, the influence of environment and the effect of their interaction (G×E) on the berry transcriptome (2018) *Plant Journal,* 93 (6), pp. 1143-1159.
15. Massonnet, M. et al. Ripening transcriptomic program in red and white grapevine varieties correlates with berry skin anthocyanin accumulation (2017) *Plant Physiology*, 174 (4), pp. 2376-2396.

16. Dal Santo, S. et al. Distinct transcriptome responses to water limitation in isohydric and anisohydric grapevine cultivars (2016) *BMC Genomics*, 17 (1), p. 815.
17. da Silva, D.C. et al. Transcriptome analyses of the Dof-like gene family in grapevine reveal its involvement in berry, flower and seed development (2016) *Horticulture Research*, 3, p.16042.
18. Belli Kullan, J. et al. miRVine: a microRNA expression atlas of grapevine based on small RNA sequencing (2015) *BMC Genomics*, 16, p. 393.
19. Cramer, G.R. et al. Transcriptomic analysis of the late stages of grapevine (Vitis vinifera cv. Cabernet Sauvignon) berry ripening reveals significant induction of ethylene signaling and flavor pathways in the skin (2014) *BMC Plant Biol*, 14 (1), p. 370.
20. Palumbo, M.C. et al. Integrated Network Analysis Identifies Fight-Club Nodes as a Class of Hubs Encompassing Key Putative Switch Genes That Induce Major Transcriptome Reprogramming during Grapevine Development (2014) *Plant Cell*, 26 (12), pp. 4617 – 4635.
21. Chen, F. et al. The Evolutionary History and Diverse Physiological Roles of The Grapevine Calcium-dependent Protein Kinase Gene Family (2013) *PLoS One*, 8 (12), art. no. e80818.
22. Dal Santo, S. et al. The plasticity of the grapevine berry transcriptome (2013) *Genome Biology*, 14 (6), art. no. r54. - Dal Santo, S. et al. Genome-wide Analysis of the Expansin Gene Superfamily Reveals Grapevine-specific Structural and Functional Characteristics (2013) *PLoS One*, 8 (4), art. no. e62206.
23. Monti, F. et al. A multivariate statistical analysis approach to highlight molecular processes in plant cell walls through ATR FT-IR microspectroscopy: The role of the α-expansin PhEXPA1 in Petunia hybrida (2013) *Vibrational Spectroscopy*, 65, pp. 36-43.
24. Pastore, C. et al. Selective defoliation affects plant growth, fruit transcriptional ripening program and flavonoid metabolism in grapevine (2013) *BMC Plant Biology*, 13 (1), art. no. 30.
25. Venturini, L. et al. De novo transcriptome assembly of Vitis vinifera cv. Corvina improves reference genome annotation and unveils varietal diversity (2013) *BMC GENOMICS*, 14 (1), art. no. 41.
26. Zenoni, S. et al. Lo sviluppo delle conoscenze genomiche in vite e il loro potenziale utilizzo nella viticoltura attuale e futura (2012) *Italus Hortus*, 19 (2), pp. 29-40.
27. Bicego, M. et al. Investigating topic models' capabilities in expression microarray data classification (2012) *IEEE/ACM Trans Comp Biol Bioinform*, 9 (6), pp. 1831-6.
28. Gambino, G. et al. Co-evolution between Grapevine rupestris stem pitting-associated virus and Vitis vinifera L. leads to decreased defence responses and increased transcription of genes related to photosynthesis (2012) *J Exp Bot*, 63 (16), pp. 5919:5933.
29. Vannozzi, A. et al. Genome-wide analysis of the grapevine stilbene synthase multigenic family: genomic organization and expression profiles upon biotic and abiotic stresses (2012) *BMC Plant Biol*, 12, art. no. 130.
30. Dal Santo, S. et al. PhEXPA1, a Petunia hybrida expansin, is involved in cell wall metabolism and in plant architecture specification (2011) *Plant Signal Behav*, 6 (12), pp. 2031-4.
31. Zenoni, S. et al. Overexpression of PhEXPA1 increases cell size, modifies cell wall polymer composition and affects the timing of axillary meristem development in Petunia hybrida (2011) *New Phytol*, 191 (3), pp. 662-77.
32. Polesani, M. et al. General and species-specific transcriptional responses to downy mildew infection in a susceptible (Vitis vinifera) and a resistant (V. riparia) grapevine species (2010) *BMC Genomics*, 11, art. no. 117.
33. Zenoni, S. et al. Characterization of transcriptional complexity during berry development in Vitis vinifera using RNA-Seq (2010) *Plant Physiol*, 152 (4), pp. 1787-95.

Book chapters

34. Massonnet, M. et al. Grape Transcriptomics and Viticulture. In *The Grape Genome*. 2019 Springer, Cham, pp 275-299

PATENTS

Powdery mildew-resistant grapevine
Elite grapevine variety was gene edited to obtain powdery mildew resistance (n.PCT/IB2023/058895, submitted:08/09/23) – under international evaluation.

CONFERENCES AND SEMINARS

International conferences
- 2021 Fourth Annual VitisGen2 Meeting (USA, Jan 2021) – invited speaker
- 2020 The Future of Winegrowing – UC-Davis Forum "Talks on Food & Wine Sciences series" (Davis, Oct 2020)– invited speaker
- 2018 XII International Conference on Grapevine Breeding and Genetics (Bordeaux, Jul 2018)
- 2016 10th International Symposium on Grapevine Physiology and biotechnology (Verona, Jun 2016)

National conferences
- 2022 9th National Congress of Viticulture (CONAVI, Conegliano, Jun 2022)
- 2018 7th CONAVI (Piacenza, Jul 2018)
- 2017 Joint Congress of Italian Societies of Plant Genetics (SIGA) and Plant Biology (Pisa, Sep 2017) – invited speaker
- 2010 54th Annual Congress of SIGA (Matera, Sep 2010)

DISSEMINATION ACTIVITIES

Seminars
- Valpolicella Education Program (VEP) 2024 with focus on the VALPOLICELLA GENETIC AND ENVIRONMENTAL RESOURCES.

HONOURS AND AWARDS

Awards
-2019 "Antico Fattore" Award (2019 edition) – Accademia dei Georgofili (Firenze, 2019).
-2017 Young Researcher SIGA Award (2017 edition, Pisa, 2017).
-2012 National Award "Gian Tommaso Scarascia Mugnozza" (2012 edition) – Accademia Nazionale delle Scienze (detta dei XL) e Scuola Superiore Sant'Anna (Roma, 2013).
-2012 Award "Vivi la Valpolicella" (2012 edition) – Consorzio per la Tutela dei Vini Valpolicella (Verona, 2012).

PARTNERSHIPS, AFFILIATIONS, COMMITTEES AND EDITORIAL ACTIVITIES

Affiliations
- Member of the "Società Orticola Italiana (S.O.I.), sezione di Frutticoltura"

Editorial and peer-review activities
- (since 2024) Academic editor of the *Australian Journal of Grape and Wine Research*

- Manuscript reviewer for refereed journals, including BMC Genomics ISSN: 1471-2164, Frontiers in Plant Science ISSN: 1664-462X, Molecular Genetics and Genomics ISSN: 1617-4615, Australian Journal of Grape and Wine Research ISSN: 1322-7130, Bioinformatics ISSN: 1367-4811, PlosOne ISSN: 1932-6203, Computational Biology and Chemistry ISSN: 1476-9271, Gene ISSN: 0378-1119, Scientific Reports ISSN 2045-2322, Plant Physiology and Biochemistry ISSN: 0981-9428.

Academic committees

- (since 2024) Member of the Quality Assurance committee of the BSc degree in Viticultural and Oenological Science and Technology (University of Verona)

Tutto quanto dichiarato nel presente curriculum vitae corrisponde a verità e le dichiarazioni rese sono rilasciate ai sensi degli articoli 46 e 47 del D.P.R. 445/2000.

Verona, 13/04/2024

Marianna Fasoli