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Summary of CV

I carried out my doctoral thesis at the Department of Food and Drug, University of Parma under the supervision of Prof. Daniele Del Rio. The thesis project was about "*Metabolomics applications to nutritional intervention studies*". My research activity has been mainly focused on the bioavailability of dietary flavan-3-ols (the main source of flavonoids in Western diets) and associated inter-individual variability, and the study of the responses to a dietary intervention consisting of different patterns of coffee intake. In this sense, metabolomics approaches, either targeted or untargeted, were applied. Moreover, during the PhD, I worked on the development of a platform for the analysis of biomarkers of food intake aimed at objectively measuring food consumption within the EU H2020 PREVENTOMICS project.

Regarding my research career, during my PhD and post-doctoral research fellowship I have participated in several national and international research projects funded by both private companies and the European Commission, among others. Some of these projects are still ongoing. The most relevant projects I have been involved in are: the EU H2020 PREVENTOMICS project, aimed at delivering personalized nutrition by the exploitation of –omics sciences, and the EU JPI project FOODPHYT, aimed at raising awareness about dietary phytochemicals and their health-related benefits. In particular, within this last project, from November 2022 until March 2024 I served as representative for the group of Early Career Scientists (ECSs). Finally, in January 2023 approximately one year after completing my PhD, I got a position as assistant professor at the Department of Food and Drug, University of Parma, to work on a research project funded under the National Recovery and Resilience Plan (NRRP), Mission 4 Component 2 Investment 1.3 - Call for tender No. 341 of 15 March 2022 of Italian Ministry of University and Research funded by the European Union - NextGenerationEU; Project code PE00000003, Concession Decree No. 1550 of 11 October 2022 adopted by the Italian Ministry of University and Research, Project title “ON Foods - Research and innovation network on food and nutrition Sustainability, Safety and Security - Working ON Foods”. In the project, research activities were mainly focused on the study and use of advanced bioinformatics and biostatistics analysis methods for studying the impact of diet on human health. To this end, activities were dedicated to the processing and analysis of “omics” data (metabolomics, microbiomics and genetics/genomics) and their subsequent integration with anthropometric parameters from intervention studies. Furthermore, within this project I was responsible for developing and coordinating the activities of the Mentorship Programme for Early Career Scientists (ECS). The objective of the Mentorship Programme was to promote the capacity building of Early Career Scientists (ECS) in the areas of: (i) product and process innovation, (ii) product characterisation using advanced analytical techniques, (iii) approaches to healthy and sustainable precision nutrition, (iv) innovation in food design and scaling up, through seminars, training courses and laboratory visits. Furthermore, within the Mentorship Programme, young researchers developed their communication skills for both scientific and non-scientific audiences through specific courses and continuous dissemination activities.

My other main research activities are (i) identification and characterisation of phytochemical compounds, mainly phenolics, in food matrices and supplements of plant origin, (ii) development of analytical methods, mainly based on liquid chromatography coupled to mass spectrometry, for the evaluation of biological molecules, (iii) assessment of the metabolism and bioavailability of phytochemical compounds, mainly phenolics, through the analysis of their metabolites in biological matrices, (iv) assessment of the inter-individual variability related to the production of metabolites, mainly of phenolic origin, and (v) development and application of methods for the assessment of food consumption through a metabolomics approach using biomarkers of food intake.

I have published 19 articles in high-impact journals (H-index: 14) to date.

Professional experience

16/01/2023-present	Assistant professor. Human Nutrition Unit, Department of Food and Drug, University of Parma, Italy.
01/11/2021-15/01/2023	Post-doctoral research fellow. Human Nutrition Unit, Department of Food and Drug, University of Parma, Italy.
01/11/2018-31/10/2021	Predoctoral research fellow (PhD Student). Human Nutrition Unit, Department of Food and Drug, University of Parma, Italy.
01/05/2019-30/06/2019	Food educator. Madegus S.r.l. in collaboration with Esselunga S.p.A., Italy.
01/07/2018-31/10/2018	Predoctoral research fellow. Human Nutrition Unit, Department of Food and Drug, University of Parma, Italy.
08/01/2018-30/06/2018	Graduate laboratory intern. Human Nutrition Unit, Department of Food and Drug, University of Parma, Italy.
01/02/2017-31/07/2017	Formative traineeship within Erasmus+ program as undergraduate student. Biomarkers & Nutrimetabolomics research group. Department of Nutrition and Food Science, Faculty of Pharmacy, University of Barcelona (UB), Spain.

Education

Nov 2018 – Oct 2021	PhD Programme in Food Science, Department of Food and Drug, University of Parma, Italy. Qualification: Outstanding.
Sept 2015 – Dec 2017	Master of Science in Food Science and Technology, Department of Food and Drug, University of Parma, Italy.
Oct 2011 – Mar 2015	Bachelor of Science in Food Science and Technology, Department of Food and Drug, University of Parma, Italy.

Publications

The 10 most relevant publications of the last 5 years are listed. In total, 19 articles have been published, 4 as main author, and 4 book chapters.

1. Tosi, N.; Bresciani, L.; **Favari, C.**; Rosi, A.; Dodi, R.; Bertelè, A.; Curti, C.; Crozier, A.; Del Rio, D.; Brighenti, F.; Mena, P. How does the flavan-3-ol structure condition the quali-quantitative production of phenolic metabolites? Insights from a 3-arm intervention. *Food Chem.*, 2025, 18, 491, DOI: 10.1016/j.foodchem.2025.145207.
2. **Favari, C.**+; Rinaldi de Alvarenga, J. F.; Sánchez-Martínez, L.; et al. Factors driving the inter-individual variability in the metabolism and bioavailability of (poly) phenolic metabolites: A systematic review of human studies, *Redox Biol.*, 2024, 71, 103095. DOI: 10.1016/j.redox.2024.103095. +Equal contribution.
3. Agulló, V.; **Favari, C.**; Pilla, N.; et al. Using Targeted Metabolomics to Unravel Phenolic Metabolites of Plant Origin in Animal Milk, *Int. J. Mol. Sci.*, 2024, 25, 4536. DOI: 10.3390/ijms25084536.
4. Tosi, N.; **Favari, C.**; Bresciani, L.; et al. Unravelling phenolic metabotypes in the frame of the COMBAT study, a randomized, controlled trial with cranberry supplementation, *Food Res. Int.*, 2023, 172, 113187. DOI: 10.1016/j.foodres.2023.113187.
5. Keijer, J.; Escoté, X.; Galmés, S.; et al., in name of the PREVENTOMICS Consortium: Empowering Consumers to Prevent diet-related diseases through-OMIC sciences. Omics biomarkers and an approach for their practical implementation to delineate health status for personalized nutrition strategies. *Crit. Rev. Food Sci. Nutr.* 2023. DOI: 10.1080/10408398.2023.2198605.
6. Aldubayan, M. A.; Pigsborg, K.; Gormsen, S. M.O.; et al. A double-blinded, randomized, parallel intervention to evaluate biomarker-based nutrition plans for weight loss: The PREVENTOMICS study, *Clin. Nutr.*, 2022, 41, 1834. DOI: 10.1016/j.clnu.2022.06.032.
7. Narduzzi, L.; Agulló, V.; **Favari, C.**; et al. (Poly)phenolic compounds and gut microbiome: new opportunities for personalized nutrition, *Microbiome Res. Rep.*, 2022, 1, 16. DOI: 10.20517/mrr.2022.06.
8. Mena, P.+; **Favari, C.**+; Acharjee, A.; et al. Metabotypes of flavan-3-ol colonic metabolites after cranberry intake: elucidation and statistical approaches, *Eur. J. Nutr.*, 2021, 61, 1299. DOI: 10.1007/s00394-021-02692-z. +Equal contribution.
9. **Favari, C.**+; Righetti, L.+; Tassotti, M.; Gethings, L. A.; Martini, D.; Rosi, A.; Antonini, M.; Rubert, J.; Manach, C.; Dei Cas, A.; Bonadonna, R.; Brighenti, F.; Dall'Asta, C.; Mena, P.; Del Rio, D. Metabolomic Changes after Coffee Consumption: New Paths on the Block, *Mol. Nutr. Food Res.*, 2021, 65, 2000875. DOI: 10.1002/mnfr.202000875. +Equal contribution.
10. **Favari, C.**; Mena, P.; Curti, C.; et al. Kinetic profile and urinary excretion of phenyl- γ -valerolactones upon consumption of cranberry: a dose–response relationship. *Food Funct.*, 2020, 11, 3975. DOI: 10.1039/D0FO00806K.

Research Projects

- 2023: Participant in a research project funded by the European Innovation Council, Pathfinder Challenge (N° 101162297). Title: Addressing malnutrition and metabolic health in non-communicable diseases through precision nutrition: impact in quality of life and prognosis of lung cancer patients (MENTORING). (PI: IMDEA (Spain); PI UNIPR: Dr. Pedro Mena).

- 2023: Participant (RTD-A contract) in a research project funded under the National Recovery and Resilience Plan (NRRP), Mission 4 Component 2 Investment 1.3 - Call for tender No. 341 of 15 March 2022 of Italian Ministry of University and Research funded by the European Union - NextGenerationEU; Project code PE00000003, Concession Decree No. 1550 of 11 October 2022 adopted by the Italian Ministry of University and Research, Project title “ON Foods - Research and innovation network on food and nutrition Sustainability, Safety and Security - Working ON Foods”. (PI: Dr. Daniele Del Rio)
- 2022: Participant in a research project within BANDO DI ATENEEO 2022 PER LA RICERCA - Action: A - Progetti di ricerca di consolidamento o scouting. Title: VALkyRiE - A new, straightforward entry to bioactive polyphenol metabolites through the implementation of unprecedented Vinylogous Alkylation Reactions (PI: Dr. Claudio Curti).
- 2021: Participant in a research project funded by the European Research Council (Starting Grant 2020, GA N° 950050). Title: Developing tools for the PREDICTion, at individual level, of the CARDiometabolic RESponse to the consumption of dietary (poly)phenols (PREDICT-CARE) (PI: Dr. Pedro Mena).
- 2020: Participant (and research fellowship) in a research project funded by JPI HDHL & ERA-NET Cofund, HDHL INTIMIC METADIS (G.A. N° 727565). Title: Food phytochemicals matter for cardiometabolic health (FOODPHYT) (PI: INRAE, France; PI UNIPR: Dr. Daniele Del Rio).
- 2019: Participant in a research project funded by PRIMA Programme, Section 2 - 2018. Title: Mediterranean Enriched Diet for tackling Youth Obesity (MED4Youth) (PI: EURECAT, Spain; PI UNIPR: Dr. Daniele Del Rio).
- 2019: Participant in a research project funded by Indena (Italy). Title: Evaluation of the colonic catabolism of food products rich in phenolic compounds using a human fermentation model: cranberry- and curcumin-based products (PI: Dr. Daniele Del Rio).
- 2018: Participant (and research fellowship) in a research project funded by UE Horizon 2020 R&I Programme (G.A. N° 818318) (Topic DT-SFS-14-2018, Personalized Nutrition). Title: Empowering consumers to PREVENT diet-related diseases through OMICS sciences (PREVENTOMICS) (PI: EURECAT, Spain; PI UNIPR: Dr. Daniele Del Rio).
- 2018: Participant in a research project funded by The Cranberry Institute (US). Title: Exploratory study employing secondary analysis of plasma samples collected in prior cranberry and health studies, with a focus on suitable biomarkers for proanthocyanidin (PAC) intake (PIs: Drs. Pedro Mena, Daniele Del Rio, & Ana Rodríguez-Mateos).
- 2018: Participant in a research project funded by Soremartec Italia Srl (Italy). Title: Bioavailability and beneficial properties of espresso coffee and confectionery derived coffee bioactive compounds (PI: Dr. Daniele Del Rio).

Editorial activity

- Editorial Board Member of Genes and Nutrition (Springer Nature). January 2025 – present. Impact Factor: 5.523.
- Editorial Board Member of Natural Product Communications (Sage). January 2025 – present. Impact Factor: 1.496.
- Research Topic coordinator del Research Topic intitolato "Extra Virgin Olive Oil: From Farm to Fork to Health - Recent Advances and Future Directions" nella rivista FRONTIERS IN NUTRITION (Frontiers,e-ISSN 2296-861X, Impact Factor attuale: 5.1). May 2023 – April 2024.
- I have served as a reviewer for some peer-reviewed journals, as American Journal of Clinical Nutrition; International Journal of Food Sciences and Nutrition; Food & Function; Nutrition Research; Food Science and

Human Wellness; Applied Physiology, Nutrition and Metabolism; Nutrition, Metabolism and Cardiovascular diseases, Beverages; BMC Public Health; Molecular Nutrition & Food Research, Food Research International.

Organizing committee

- Assistant member of the Organizing committee of the 3rd International Conference on Food Bioactives & Health, FBHC2020>2022 (School of Advanced Studies on Food and Nutrition of the University of Parma & Madegus Srl). 21-24 June 2022, Parma, Italy.
- Member of the Organizing committee of the 2nd Summer School organized within the European project JPI HDHL-INTIMIC METADIS "Food phytochemicals matter for cardiometabolic health (FOODPHYT)" entitled "Handling multi-omics data for personalized nutrition – From basic research to practice". 9-10 October 2023, Max Rubner-Institute, Karlsruhe, Germany.

Awards and fellowships

- Best oral presentation award. XLI national congress of the Italian Society of Human Nutrition (SINU) (April 2021).
- Grant for participation in ENLP Essential programme (European Nutrition Leadership Platform).

Membership

- Member of the Groupe Polyphénols (GP), from March 2025 to date.
- Member of the English Nutrition Society (NS), from March 2024 to date.
- Member of the American Society for Nutrition (ASN), from October 2022 to date.
- Member of the Italian Metabolomics Network (IMN), from January 2020 to date.
- Member of the Italian Society of Human Nutrition (SINU), from November 2018 to date.

Supervision and mentoring

- Supervisor of 3 Final Projects of "Food Safety and Risk Management" Master's degree programme, Department of Food and Drug, University of Parma, Italy (2024-present).
- Supervisor of 1 Final Projects of "Health Care" Bachelor's degree programme, University of Modena and Reggio Emilia-University of Parma, Italy (2024-present).
- Co-supervisor of 16 Final Projects of "Food Science and Technology", "Food Safety and Risk Management" and "Human Nutrition Sciences" Master's degree programme, Department of Food and Drug, University of Parma, Italy (2018-present).
- Co-supervisor of 2 Final Projects of "Gastronomic Sciences" Bachelor's degree programme, Department of Food and Drug, University of Parma, Italy (2019-present).
- Tutor during the 4th Edition of the Yakult Academy on Nutrition Communication about online science communication (2022).
- Tutor for students of the "Food Science and Technology" Master's degree programme, Department of Food and Drug, University of Parma, Italy (2018-2021).

Parma, 31/07/2025

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