

PERSONAL INFORMATION

Elisa Salvetti



📍 Strada Le Grazie 15, 37134 Verona, Italy

☎ +39 3480549683

✉ elisa.salvetti@univr.it

🌐 <https://www.dbt.univr.it/?ent=persona&id=6764&lang=it>

Sex Female | *Date of birth* 26/06/1984 | *Nationality* Italy

WORK EXPERIENCE

- 01/11/2021 – present **Tenure-Track Assistant Professor in Food Microbiology**
Department of Biotechnology, University of Verona - www.univr.it
- 10/06/2024 – 30/06/2024 **Visiting Scientist at University of Caen, Normandy**
University of Caen – www.unicaen.fr
- 01/04/2020 – 31/10/2021 **Senior Post-Doc Fellow in Food Microbiology**
Department of Biotechnology, University of Verona – www.univr.it
- 01/12/2018 – 31/03/2020 **Consultant and Business Developer for SMEs in Food Microbiology**
Main business activities:
R&D/Business Development for companies in food and health microbiology; funding projects (local, regional, national and EU) proposal, management, evaluation, and reporting; regulatory affairs management (probiotics, food supplements, Nagoya protocol, biobanking, safety assessment following EFSA guidelines); teaching and training activity.
Main sector: Consultancy and Business Development
- 01/09/2016 – 28/02/2017 **Visiting Scientist at Chr. Hansen A/S**
Department of Identification, Horsholm, Denmark – www.chrhansen.com
Main R&D activities: whole genome sequence strain typing in the Strain Supply Chain; safety assessment of probiotic strains
Main sector: Technology Transfer
- 01/06/2015 – 31/05/2017 **H2020 Marie S. Curie Research Fellow**
APC Microbiome Institute, University College Cork, Ireland – www.apc.ie/www.ucc.ie
- 01/05/2012 – 30/04/2015 **Post-Doc Fellow in Food Microbiology**
Department of Biotechnology, University of Verona – www.univr.it

EDUCATION AND TRAINING

- 01/01/2009 – 12/04/2012 **PhD. In Agro-Industrial Biotechnology**
Department of Biotechnology, University of Verona- www.univr.it
Industrial sponsor: Yakult BV.
- 01/10/2006 – 16/10/2008 **Master's Degree in Agro-Industrial Biotechnology.**
Faculty of Agro-Industrial Biotechnology. University of Verona– www.univr.it
Erasmus traineeship (5 months) host institution: APC Institute, University College Cork, Cork, Ireland – www.ucc.ie
- 01/10/2003 – 27/10/2006 **Bachelor's Degree in Agro-Industrial Biotechnology**
Faculty of Agro-Industrial Biotechnology. University of Verona – www.univr.it

TEACHING ACTIVITIES

Current teaching modules

- Course on Microbial Ecology for master's degree in Biotechnology for Bioresources and Sustainable Development (48h), University of Verona
- Course on Introduction to microbiology, analytical methodologies and safety for bachelor's degree in Innovation and sustainability in the industrial production of food (16h), University of Verona
- Course on Food Microbiology for bachelor's degree in Innovation and sustainability in the industrial production of food (48h), University of Verona
- Course on Microorganism for innovation and sustainability in the food sector for bachelor's degree in Innovation and sustainability in the industrial production of food (16h), University of Verona

Past teaching modules

- Course on Food Microbiology and traceability of microorganisms for master's degree in Agri-Food Microbiology (12 h) (A.Y. 2021-2022, 2022-2023), University of Verona
- Course on Agricultural Microbiology for the bachelor's degree in Viticultural and Oenological Science and Technology (24h) (A.Y. 2021-2022, 2022-2023), University of Verona
- Course on Gut Microbiota, food and health, organized by University of Verona for high school students (371 students) (8 h) (A.Y. 2020-2021), University of Verona.

Ph.D student supervision

- Co-Tutor of a Ph.D student in the Ph.D Course in Biotechnology. Title of the project "Explore microbial diversity to produce novel fermented beverages" (2022-2025)
- Tutor of a Ph.D student in the Ph.D. course in Smart Agrifood Sciences. Title of the project "Development of a body of knowledge for selected microbial bioresources for the production of an innovative kombucha"

Master Thesis student supervision

- Supervisor of 3 Master Thesis in Agri-Food Microbiology (from 2021 to present)
- Advisor of 3 Master Thesis in Biotechnology for Bioresources and Sustainable Development and of 8 Master Thesis in Agri-Food Biotechnology (from 2009 to present)
- Advisor of 1 Bachelor Thesis in Microbiology, School of Microbiology, University College of Cork (2015)

Other teaching activities

- Mentor of the on-line Future Learn course "The human microbiome" funded by EIT Food (5k participants) futurelearn.com/courses/the-human-microbiome (2020)

RESEARCH PROJECTS

- Scientific Coordinator of 2 R&D committed projects as Tenure-Track Assistant Professor (2022-2023) related on the genome-based taxonomy and safety analysis of food bacteria for regulatory purposes
- Core member of the working group in Univ. of Verona for the development of the Verona University Culture Collection (VUCC-DBT) within the project "SUS-MIRRI -Strengthening the MIRRI Italian Research Infrastructure for Sustainable Bioscience and Bioeconomy" granted by the European Commission NextGenerationEU, Project (IR0000005) (2022-2025)
- Participation to the COST Action – Pimento (CA20128 - Promoting Innovation of ferMENTed fOods (PIMENTO). WG3 - Health benefits and risks of fermented foods of two WGs. Subgroups E1: Fermented foods and gastrointestinal symptoms and S7: Improving food safety by fermentation.
- Core member of the working group of the University of Verona for the management of "Interconnected Nord-Est Innovation Ecosystem (iNEST)" funded by European Commission NextGenerationEU (ECS00000043) (2022-2025)
- Co-coordinator of EXPERIMENTAL MICROBIOME "GelACTO" (ID: CDB03) (2018) funded by the European Union (<https://cdbservices.eu/>) (2018)
- Recipient and co-coordinator of H2020 – MSCA. Project ID: 659801. Title: "Genolact: Consolidating a genomic framework for exploiting lactobacilli" (2015-2017)
- Research activity with 10 industrial players for R&D projects related to probiotics, wine microbiology, bakery and dairy products development and innovation in the framework of funded projects by University of Verona, the Ministry of Italian Research and the European Union (LAB-Go JPVR16JBMC, European Social Fund 1695/101/9/1148/2013, Pass-World -MI01_00138, E-Flour) (2012-2021)

ORAL CONTRIBUTION AT INTERNATIONAL CONFERENCES

- 22/06/2023 International Scientific Conference Probiotics, Prebiotics, Gut Microbiota and Health. Title of the presentation: The new taxonomy of lactobacilli as driver for a knowledge-based safety assessment of probiotics. Bratislava, Slovakia
- 25/05/2023 1st Forum on Fermented Foods. Title of the presentation: Exploring Antimicrobial resistance in lactic acid bacteria: opportunities from Verona University Culture Collection (VUCC-DBT). Lione, France
- 14/06/2022 8th International Symposium on Sourdough. Title of the presentation: Lactic acid bacteria in dough fermentations

- for breadstick production: lessons learned from an industrial setting. Bolzano, Italy
- 01/09/2020 EuroScience proESOF2020: - Next Generation Probiotics Title of the presentation: Value of Microbial Genome Sequencing for Probiotic Strain Identification and characterization” – Online conference
- 11/12/2019 NutralIngredients webinar. Title of the presentation: “*Lactobacillus*: what brands need to know about the taxonomic changes” – Online conference
- 12/06/2019 22th Conference of Lactic Acid Bacteria Club. Title of presentation: *Lactobacillus* genus: the taxonomic reclassification and its impact for science and industry. Caen, France
- 14/02/2019 Probiota 2019. Title of the presentation: Taxonomic updates to the genus *Lactobacillus*: a situational update. Copenhagen, Denmark.
- 30/11/2018 Seminar “New insights in microbial ecology on *Bifidobacterium* and *Lactobacillus* studies. Title of the presentation: “From phylogenomics to taxonomy: the update of genus *Lactobacillus*”. University of Bologna, Italy
- 25/10/2018 International Probiotic Association (IPA) -Probiotic Workshop in DC. Title of the presentation: From phylogenomics to taxonomy: the case of genus *Lactobacillus*. Washington DC, USA.
- 20/02/2017 Chr. Hansen A/S Science and Innovation Seminar. Title of the presentation: GENOLACT: Consolidating a genomic framework for exploiting lactobacilli. Chr. Hansen A/S, Hørsholm, Denmark
- 27/01/2017 Microwine Symposium. Title of the presentation: Expanding the biotechnology potential of lactobacilli through comparative genomics. Technical University of Denmark, Copenhagen, Denmark
- 19/07/2016 Workshop on the IUMS Subcommittee on LAB- Food Micro Conference. Title of the presentation: The next step in *Lactobacillus* taxonomy: the reclassification of the genus. Dublin, Ireland
- 28/08/2015 APC Microbiome Institute Launch Symposium. Title of the presentation: GENOLACT: Consolidating a genomic framework for exploiting lactobacilli. Cork, Ireland
- 04/05/2012 Cortona Prokaryotes. Title of the presentation: Evolution of lactic acid bacteria of order Lactobacillales as depicted by phylogenomics of glycolysis and pentose phosphate pathway. Cortona, Italy.

EDITORIAL AND REVIEWING ACTIVITIES

- Co-Editor of the Special Issue “Novel Research in Food Starter Cultures and Probiotic Bacteria”, Foods (MDPI)
- Member of the Editorial board of “Food Microbiology”
- Expert contract evaluator for the Research Executive Agency of the European Commission
- Reviewer for more than 10 peer-reviewed journals in applied and food microbiology

AFFILIATION TO SCIENTIFIC SOCIETIES

- Member of the ICSP Subcommittee on Taxonomy of *Lactobacillus*, *Bifidobacterium* and related genera (<https://site.unibo.it/subcommittee-lactobacillus-bifidobacterium/en>)
- Member of the Italian society of Agricultural, Environmental and Food Microbiology (SIMTREA, simtreea.org)
- Member of the Scientific Committee of AISSAU40 Conference (Italian Association of the Agricultural Science Societies -Under40)

INDUSTRIAL EXPLOITATION ACTIVITIES

- Scientific Manager of the project GRABAPRO-GRAvity BAsed PRObiotiq fermenter H2020-EIC-SMEInst-2018 (Project ID: 945901). Not funded but sealed with Seal of Excellence by the European Union (2019)
- Winner of CREA-LAVORO start-up competition funded by Veneto Region (Italy)
- Shareholder of Microbion srl (microbion.it)

AWARDS

- 2022 Best Poster Award-3rd place-VIII International Symposium on Sourdough (Bozen). Title: Evaluating the effects of grape pomace powder on the microbial composition of leavening agents for the development of fortified bakery products
- 2021 Best Publication Award. Italian Society of Agro-Food and Environmental Microbiology. Publication: “A taxonomic note on the genus *Lactobacillus*: Description of 23 novel genera, emended description of the genus *Lactobacillus* Beijerinck 1901, and union of *Lactobacillaceae* and *Leuconostocaceae*. doi: 10.1099/ijsem.0.004107
- 2015 Best Poster Award (co-author)-1st place–Microbial Diversity 2015 (Perugia) Title: The complex microbial community of withered berries of cv. Corvina as revealed by metagenomics analysis

OTHER ACTIVITIES

- Attendee of 21 training workshops (about research topics, regulatory affairs, complementary skills, technology transfer) (2012-present)
- Scientific communication activities (also in collaboration with TeknoScienzePublisher(www.teknoscienze.com/); speaker at 4 scientific communication events (2018-2019)
- Co-organizer of the LABIP (Lactic Acid Bacteria Industrial Platform) Expert Workshop(www.labip.com) “Major changes in the taxonomy of *Bifidobacterium* and *Lactobacillus*; consequences for industry” (2018)
- Participation to “Intellectual property rights Workshop”, European Patent Office (Monaco, Germany) (2015).

PUBLICATIONS

1. Larini I, Tintori S, Gatto V, Felis GE, Salvetti E, Torriani S. Comparative genomics reveals the potential biotechnological applications of *Liquorilactobacillus nagelii* VUCC-R001, a strain isolated from kombicha tea. *Food Bioscience*, 59, 104001. <https://doi.org/10.1016/j.fbio.2024.104001>
2. Binati RL, Ferremi Leali N, Avesani M, Salvetti E, Felis GE, Monti F, Torriani S. 2024. Application of FTIR Microspectroscopy in oenology: shedding light on cell wall composition of *Saccharomyces cerevisiae* strains. *Food and Bioprocess Technology*, 17, 1596-1609. <https://doi.org/10.1007/s11947-023-03218-7>
3. Ferremi Leali N, Salvetti E, Luzzini G, Salini A, Slaghenaufi D, Fusco S, Ugliano M, Torriani S, Binati LR. 2024. Differences in the volatile profile of apple cider fermented with *Schizosaccharomyces pombe* and *Schizosaccharomyces japonicus*. *Fermentation*, 10, 128. doi: 10.3390/fermentation10030128
4. Battista F, Zeni A, Andreolli M, **Salvetti E**, Rizzioli F, Lampis S, Bolzonella D. 2024. Treatment of food processing wastes for the production of medium chain fatty acids via chain elongation. *Environmental Technology & Innovation*. 33, 103453. doi: 10.1016/j.eti.2023.103453
5. **Salvetti E**, Tremblay J, Arbour M, Mallet J-F, Masson L, Matard C. 2023. Complete PacBio Single-Molecule Real-Time Sequence of a Novel Probiotic-Like Bacterium, *Rouxiiella badensis* subsp. *acadiensis*, Isolated from the Biota of Wild Blueberries in the Acadian Forest. *Microbiology Resource Announcements*, 2023, 12(5). doi: 10.1128/mra.01340-22
6. Battista F, Padovan C, **Salvetti E**, Gatto V, Rizzioli F, Bertasini D, Bolzonella D. 2023. A groundbreaking biorefinery loop for the valorization of cigarette butts into fermentable sugars and bioethanol. *Sustainable Chemistry and Pharmacy*, 2023, 31, 100948. doi: <https://doi.org/10.1016/j.scp.2022.100948>.
7. Binati RL, Ferremi Leali N, Avesani M, **Salvetti E**, Felis GE, Monti F, Torriani S. 2023. Application of FTIR Microspectroscopy in Oenology: Shedding Light on Cell Wall Composition of *Saccharomyces cerevisiae* Strains. *Food and Bioprocess Technology*, 2023. doi: 10.1007/s11947-023-03218-7
8. Troiano E, Larini I, Binati RL, Gatto V, Torriani S, Buzzini P, Turchetti B, **Salvetti E**, Felis GE. 2023. Finding a correct species assignment for a *Metschnikowia* strain: Insights from the genome sequencing of strain DBT012. *FEMS Yeast Research*, 2023, 23, foad024. doi: 10.1093/femsyr/foad024
9. Ferremi Leali N, Binati RL, Martelli F, Gatto V, Luzzini G, Salini A, Slaghenaufi D, Fusco S, Ugliano M, Torriani S, **Salvetti E**. 2022. Reconstruction of Simplified Microbial Consortia to Modulate Sensory Quality of Kombucha Tea. *Foods*, 2022, 11(19), 3045. doi:10.3390/foods11193045.
10. Binati RL, Larini I, **Salvetti E**, Torriani S. 2021. Glutathione production by non-*Saccharomyces* yeasts and its impact on winemaking: A review. *Food Research International*, 2022, 156, 111333. doi:10.1016/j.foodres.2022.111333
11. Bordugo A, **Salvetti E**, Rodella G, Piazza M, Dianin A, Amoruso A, Piacentini G, Pane M, Torriani S, Vitulo N, Felis GE. 2021. Assessing Gut Microbiota in an Infant with Congenital Propionic Acidemia before and after Probiotic Supplementation. *Microorganisms*. 2021 Dec 16;9(12):2599. doi: 10.3390/microorganisms9122599.
12. Binati RL, **Salvetti E**, Bzducha-Wróbel A, Bašinskienė L, Čižeikienė D, Bolzonella D, Felis GE. 2021. Non-conventional yeasts for food and additives production in a circular economy perspective. *FEMS Yeast Res* 2021 Oct 12;21(7):foab052. doi: 10.1093/femsyr/foab052.
13. Binati RL, Du Toit M, Snoep JL, **Salvetti E**, Torriani S. 2021. Transcriptional and metabolic response of wine-related *Lactiplantibacillus plantarum* to different conditions of aeration and nitrogen availability. *Fermentation* 7(2):68 doi: 10.3390/fermentation7020068
14. **Salvetti E**, Campedelli I, Larini I, Conedera G, Torriani S. 2021. Exploring Antibiotic Resistance Diversity in *Leuconostoc* spp. by a Genome-Based Approach: Focus on the *IsaA* Gene. *Microorganisms* 9(3):491 <https://doi.org/10.3390/microorganisms9030491>
15. Calgaro M, Pandolfo M, **Salvetti E**, Marotta A, Larini I, Pane M, Amoruso A, Del Casale A, Vitulo N, Fiorio M, Felis GE. 2021. Metabarcoding analysis of gut microbiota of healthy individuals reveals impact of probiotic and maltodextrin consumption. *Beneficial Microbes* 1-16 <https://doi.org/10.3920/BM2020.0137>
16. Zheng J, Wittouck S, **Salvetti E**, Franz CMAP, Harris HMB, Mattarelli P, O'Toole PW, Pot B, Vandamme P, Walter J, Watanabe K, Wuys S, Felis GE, Gänzle MG, Lebeer S. 2020. A taxonomic note on the genus *Lactobacillus*: Description of 23 novel genera, emended description of the genus *Lactobacillus* Beijerinck 1901, and union of *Lactobacillaceae* and *Leuconostocaceae*. *International Journal of Systematic and Evolutionary Microbiology* 70(4):2782-2858 doi: 10.1099/ijsem.0.004107
17. Siroli L, Patrignani F, D'Alessandro M, **Salvetti E**, Torriani S, Lanciotti R. 2020. Suitability of the Nisin Z- producer *Lactococcus lactis* subsp. *lactis* CBM 21 to be Used as an Adjunct Culture for Squacquerone Cheese Production. *Animals (Basel)* (5):782 doi: 10.3390/ani10050782
18. Pot B, **Salvetti E**, Mattarelli P, Felis GE. 2019. The potential impact of the *Lactobacillus* name change: the results of an expert meeting organised by the Lactic Acid Bacteria Industrial Platform (LABIP). *Trends in Food Science and*

19. Fracchetti F, Del Casale A, Tebaldi M, Cunego A, Campedelli I, **Salveti E**, Ederle D, Deidda F, Pane M. 2019. Single-scaffold genome sequence of probiotic strain *Bifidobacterium breve* BR03 (DSM 16604), obtained by combining hybrid sequencing and optical mapping. *Microbial Resource Announcements* 8(20):e00241-19 doi: 10.1128/MRA.00241-19
20. Campedelli I, Mathur H, **Salveti E**, Clarke S, Rea MC, Torriani S, Ross RP, Hill C, O'Toole PW. 2018. Genus-wide assessment of antibiotic resistance in *Lactobacillus* spp. *Applied and Environmental Microbiology*. 85(1):e01738-18 doi: 10.1128/AEM.01738-18
21. **Salveti E**, Harris HMB, Felis GE, O'Toole PW. 2018. Comparative genomics reveals robust phylogroups in the genus *Lactobacillus* as the basis for the reclassification. *Applied and Environmental Microbiology* 84(17):e00993-18 doi: 10.1128/AEM.00993-18
22. Bottari B, Felis GE, **Salveti E**, Castioni A, Campedelli I, Torriani S, Bernini V, Gatti M. 2017. Effective identification of *Lactobacillus casei* group species: genome-based selection of the gene *mutL* as the target of a novel multiplex PCR assay. *Microbiology* 163(7):950-960 doi: 10.1099/mic.0.000497
23. **Salveti E**, O'Toole PW. 2017. When regulation challenges innovation: the case of the genus *Lactobacillus*. *Trends in Food Science and Technology* 66, 187-194 <https://doi.org/10.1016/j.tifs.2017.05.009>
24. **Salveti E**, O'Toole PW. 2017. The history and genomic basis of lactobacilli as health promoting organisms. *Microbiology Spectrum* 5(3) doi: 10.1128/microbiolspec.BAD-0011-2016
25. Negri S, Boscaini F, Lovato A, **Salveti E**, Torriani S, Comisso M, Ugliano M, Polverari A, Torielli GB, 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*, 8, 1002 doi: 10.3389/fpls.2017.01002
26. **Salveti E**, Campanaro S, Campedelli I, Fracchetti F, Gobbi A, Torielli GB, Torriani S, Felis GE. 2016. Whole-metagenome-sequencing-based community profiles of *Vitis vinifera* L. cv. Corvina berries withered in two post-harvest conditions. *Frontiers in Microbiology* 7: 937 doi: 10.3389/fmicb.2016.00937
27. **Salveti E**, Orrù L, Capozzi V, Martina A, Lamontanara A, Keller D, Cash H, Felis GE, Cattivelli L, Spano G, Torriani S. 2016. Integrate genome-based assessment of safety for probiotic strains: *Bacillus coagulans* BGI-30, 6086 as a case study. *Applied Microbiology and Biotechnology*, 1: 11 doi: 10.1007/s00253-016-7416-9
28. Siroli L, Patrignani F, Serrazanetti DI, Vannini L, **Salveti E**, Torriani S, Gardini F, Lanciotti R. 2016. Use of nisin-producing *Lactococcus lactis* strain, combined with natural antimicrobials, to improve the safety and shelf-life of minimally processed sliced apples. *Food Microbiol.* 54: 11-19 <https://doi.org/10.1016/j.fm.2015.11.004>
29. Flórez AB, Campedelli I, Delgado S, Alegría A, **Salveti E**, Felis GE, Mayo B, Torriani S. 2016. Antibiotic susceptibility profiles of dairy *Leuconostoc*, analysis of the genetic basis of atypical resistances and transfer of genes in vitro and in a food matrix. *PLoS One*, 11: 1 doi: 10.1371/journal.pone.0145203
30. Campedelli I, Flórez AB, **Salveti E**, Delgado S, Orrù L, Cattivelli L, Alegría A, Felis GE, Torriani S, Mayo B. 2015. Draft genome sequence of three antibiotic-resistant *Leuconostoc mesenteroides* strains of dairy origin. *Genome Announcements*. 3: 5 doi: 10.1128/genomeA.01018-15
31. Sun Z, Harris HMB, McCann A, Guo C, Argimón S, Zhang W, Yang X, Argimon S, Jeffery IB, Cooney JC, Kagawa TF, Liu W, Song Y, **Salveti E**, Wrobel A, Rasinkagas P, Parkhill J, Rea MC, O'Sullivan O, Ritari J, Douillard FP, Ross RP, Yang R, Briner A, Felis GE, de Vos WM, Barrangou R, Klaenhammer TR, Caufield PW, Cui Y, Zhang H, O'Toole PW. 2015. Expanding the biotechnology potential of lactobacilli through comparative genomics of 213 strains and associated genera. *Nature Communications* 54: 11-19 doi: 10.1038/ncomms9322
32. Orrù L, **Salveti E**, Cattivelli L, Lamontanara A, Michelotti V, Capozzi V, Spano G, Keller D, Cash H, Martina A, Torriani, Felis GE. 2014. Draft genome sequence of *Bacillus coagulans* GBI-30, 6086, a widely used spore-forming probiotic strain. *Genome Announcements*. 2: 6 doi: 10.1128/genomeA.01080-14
33. **Salveti E**, Fondi M, Fani R, Torriani S, Felis GE. 2013. Evolution of lactic acid bacteria of order *Lactobacillales* as depicted by analysis of glycolysis and pentose phosphate pathways. *Systematic and Applied Microbiology* 36: 291–305 doi: 10.1016/j.syapm.2013.03.009
34. **Salveti E**, Torriani S, Felis GE. 2012. The genus *Lactobacillus*: a Taxonomic Update. *Probiotics & Antimicrobial Proteins* 4: 217-226 doi: 10.1007/s12602-012-9117-8
35. Torriani S, Lorenzini M, **Salveti E**, Felis GE. 2011. *Zygosaccharomyces gambellarensis* sp. nov. a new ascosporogenous yeast isolated from an Italian "passito" style wine. *International Journal of Systematic and Evolutionary Microbiology* 61: 3084-308 doi: 10.1099/ijs.0.031146-0
36. Raftis EJ, **Salveti E**, Torriani S, Felis GE, O'Toole PW. 2011. Genomic diversity of *Lactobacillus salivarius*. *Applied and Environmental Microbiology* 77 (3): 954-965 doi: 10.1128/AEM.01687-10

37. **Salvetti E**, Felis GE, Dellaglio F, Castioni A, Torriani S, Lawson PA. 2011. Reclassification of *Lactobacillus catenaformis* (Eggerth 1935) Moore and Holdeman 1970 and *Lactobacillus vitulinus* Sharpe et al., 1973 as *Eggerthia catenaformis* gen. nov. comb. nov. and *Kandleria vitulina* gen. nov. comb. nov., respectively. International Journal of Systematic and Evolutionary Microbiology. 61: 2520-2524 doi: 10.1099/ijls.0.029231-0

Verona, 09 August 2024

Elisa Salvetti



Short biography and focus on the last 5 years

During her career, Dr. Elisa Salvetti has been mainly involved the following research topics

- the study of the evolution and taxonomy of microorganisms belonging to the functional group of lactic acid bacteria (especially of the *Lactobacillus* genus and related genera) of food and health interest (starter cultures and probiotics)
- the analysis of the biodiversity of the microbial resources of the agri-food chain and their characterization with particular focus on i) the safety aspects (absence of antibiotic resistance and virulence traits) and ii) the pro-technological characteristics (specific enzymatic activities, antimicrobial compound production, probiotic traits) in order to improve the quality and sustainability of fermented food and beverage production.

The studies were conducted mainly through sequencing and comparative genomic analysis through the application of phylogenetic and phylogenomic analysis, split decomposition, calculation of Average Nucleotide Identity, Average Amino Acid Identity and in silico DNA-DNA hybridization, analysis of the presence/ absence of metabolic traits or pathways of interest and combination of culture-dependent (PCR-based techniques) and culture-independent (metabarcoding analysis and whole metagenome sequencing) molecular approaches.

The research activity of Elisa Salvetti was consolidated in the framework of a H2020 EU Marie Skłodowska Curie Action (carried out at APC Microbiome Institute (Univ. College Cork, Ireland and in Chr. Hansen A/S, Denmark) and with a R&D project funded by Veneto Region (Italy) through which she started to collaborate with national and international industrial partners in probiotics, dairy, bakery and wine fields. Besides research outputs, attention has also been paid to interfacing with regulatory institutions, proposing novel insights into safety procedures at regulatory level.

Within the last 5 years the research activities have been focused on the following topics:

- The taxonomic re-evaluation of genus *Lactobacillus* (which included more than 260 species) into 25 more homogeneous genera through the combination of genomic data as well as metabolic and ecological traits. The update provided a solid framework where the phylogeny of lactobacilli is linked to their metabolism and ecology, thus enabling more stable species description and enhancing the genus-level resolution of sequencing approaches (Ref. 13).
- The safety assessment analysis of species belonging to *Leuconostoc* (Ref. 11), *Companilactobacillus* and *Liquorilactobacillus* (manuscripts in preparation) which are also case studies that highlight how the 2020 reclassification (Ref. 13) has revealed some discrepancies between scientific and regulatory terms. These scenarios could open the way for the generation of realistic and knowledge-based cut-off values for QPS species but also for the safety assessment of novel, unconventional and underexplored lactobacilli that are emerging as important actors in food systems and that could be then proposed as novel QPS members.
- The bioprospecting of probiotic strains as fermentation actors for the development of innovative and functional fermented plant-based beverages. This is the topic of the Ph.D project which Elisa Salvetti is co-supervising; this project is in collaboration with Probiotical Spa (Italy) and Teagasc Food Research Park (Ireland).
- The development of the Verona University Culture Collection (VUCC-DBT) within the framework of project "SUS-MIRRI -Strengthening the MIRRI Italian Research Infrastructure for Sustainable Bioscience and Bioeconomy" granted by the European Commission NextGenerationEU, which includes strains of lactic acid bacteria isolated from food chains (dairy and bakery products) with undesirable characteristics (antibiotic resistance, biogenic amines) that can be used as a reference in safety studies concerning protechnological strains and non-conventional yeasts isolated from environmental and food matrices for biocontrol and for the production of compounds with high added value (Ref. 3, 4, 5, 9).

The research activity is documented by the publication of 37 internationally distributed articles in peer-reviewed journals, 2 peer-reviewed dissemination articles and 5 book chapters with national or international circulation. Elisa Salvetti has also contributed to over 40 conference proceedings and has been a speaker at 14 national and international conferences.