

CV – VIVIANA CORICH

Born in Venice on November 1st, 1966. Spent a research training stage (April-August 1991) at the Genetics Department, University of Leicester UK. Graduated in Biological Sciences on March 4th, 1992 at the University of Padua. From January 1993 to December 1995 was PhD student in Molecular Microbiology (doctoral course “Crop Sciences”) at the same academic institution. From January 1996 to February 1997 she held a post-doctoral fellowship at the Department of Genetics, University of Gent (Belgium) under the supervision of Prof. Marcelle Holsters. Successively she has been working at the Department of Agronomy Food Natural resources Animals and Environment - DAFNAE (former Department of Agricultural Biotechnology), University of Padova, in the research group of Microbiology as research scientist and since December 2006 she is Associate Professor at the same Academic Institution.

Teaching activity

- (i) Lecturer in 1st and 2nd cycle (Bachelor and Master-level) degree courses. General and Wine Microbiology, Wine Microbiology, Microbial Biotechnology Fermentation Biotechnology, Fermentation microbiology, Selection and genetic improvement of food microorganisms, Laboratory course on Food Microbiology at the University of Padova (Agriculture Sciences); “Management of microbial fermentations” in the Euromaster Vinifera
- (ii) Lecturer in university professional training courses. “Food and genetically modified organisms” (Medical School) “Genetically modified microorganism and implication on agri-food technology” (Medical School); “Technological traits of wine yeasts for secondary fermentation (Agriculture Sciences), “Acetic acid bacteria and wine vinegar production” (Engineering) at the University of Padova, Applied Microbiology at Fondazione CUOA (Italy), Food Microbiology at ITS-Fondazione Istituto Tecnico Superiore
- (ii) Seminars and teaching activity for PhD students (doctoral courses “Viticulture enology and marketing of wine producing companies” and “Animal and Food science”)

Academic duties and affiliation

At the University of Padova from 2009- 2012 she was the Coordinator of the doctoral course “Viticulture enology and marketing of the wine producing companies” and from 2010-2013 the Coordinator of the doctoral course “Food Science” of the doctoral school “Animal and Food Sciences”, where since 2014 she is the vice-director. Member of the teaching committee of the degree courses “Food Science and Technology” and “Viticulture and enology Science and Technology” where she is also member of the committee for practical stage. Member of the Italian Society for Agricultural, Food and Environmental Microbiology (Società Italiana di Microbiologia Agraria, Alimentare e Ambientale - SIM3A), since 2012 representative for the University of Padova in the “OENOVITI international” network (www.oenoviti.univ-bordeauxsegalen.fr), since 2009 representative for the University of Padova in the “Italian Network of the PhD Courses Food Science, Technology and Biotechnology”. Since 2001 she is the coordinator of the research group of Wine Microbiology at the Conegliano University Campus of Enology and Viticulture (University of Padova).

Research activity

Carried out mainly at the Department of Agronomy Food Natural resources Animals and Environment - DAFNAE (former Department of Agricultural Biotechnology), University of Padova,

Department of Genetics, University of Gent (Belgium) and since 2001 at the University Campus of Enology in Conegliano (University of Padova). She has been involved in several national and international projects, dealing with : (a) construction of genetically modified soil microorganisms and assessment of their fate when released in open environments, (b) small molecule-mediated cell to cell communication. During the working period at the University of Gent she was involved in studying the molecular aspects of the Rhizobium-legume symbiosis. Afterwards, she has directed his research interests toward the field of food microbiology, and particularly: (a) molecular characterization of yeasts and bacteria populations from wine and marcs used for distillates production; (b) isolation and identification of lactic acid bacteria for the dairy industry; (c) selection of yeasts for oenological purposes; (d) yeast gene expression; (f) valorization of agri-food industry by-product by means of microbial transformation; (g) metagenomic approach for evaluation of microbial populations in enological environment.

Recently she was involved in the following researches:

- (i) wine yeast biodiversity and evolution by mean of molecular methods; physiological characterization of autochthonous strains isolated from vineyard of important wine territories in north-east of Italy (project BIOTECH II bis -2006 funded by Regione Veneto; project VALVIVE -2008 funded by Regione Veneto)
- (ii) selection of ecotypical wine yeasts for the production of regional wines (project PROSIT -2006" funded by Regione Veneto; project Industrial District of wine "venetian clusters"- 2006, funded by Regione Veneto; project ITALTOC -2010 funded by Regione Veneto)
- (iii) genomic and transcriptomic analysis of four autochthonous wine yeasts isolated from vineyards in north-east of Italy (project funded by University of Padova -2008)
- (iv) microbial dynamics of yeasts and bacteria present in grape marcs used for distillate production; Impact evaluation of technological treatment to improve grape marcs storage on natural and introduced (project LIEVIGRAPPE-2009, funded by Regione Veneto)
- (v) effects of microbial fermentation on the antioxidant potential present in plant extract obtained from red chicory (*Cichorium intybus*); development of an antioxidant activity assay by means of yeast gene expression. (project PRIN 2006, funded by Italian Ministry of Education)
- (vi) use of lactic acid and probiotic bacteria for fermentation of cheese making by-products (project Industrial District of Milk "Veneto Cheese" LATSIER - 2008, funded by Regione Veneto).
- (vii) microbiological aspects in the compost fermentation of grape marc pomaces and vine pruning residues" (project PROSECCO – 2012, funded by Regione Veneto),
- (viii) evaluation of the introduction of autochthonous *S. cerevisiae* in vineyard and its effect on must fermentation (project, BIODILIEVITI - 2013, funded by Regione Veneto),
- (ix) A genomic approach to assess the impact of rumen microbiota on greenhouse gases (GHG) production" (Project CPDA133453/13 - 2013, funded by University of Padova).
- (x) Isolation and characterization of wine yeasts from Brazilian vineyards of Rio Grande Do Sul (University of Padova – Universidade Do Vale Do Rio Dos Sinos UNISINOS Agreement - 2013, funded by University of Padova)
- (xi) Evaluation of non-Saccharomyces yeasts for winemaking processes (Project CAPES -2014, funded by Brazilian Government)
- (xii) A metagenomic approach to evaluate the production of 2-buthanol during the storage of grape marcs for distillate production (Commercial Agreement - 2016, funded by Accademia della Grappa S.p.A)

On these topics she collaborates with several international research institutes (INRA Equipe Sciences pour l'Oenologie Montpellier, Francia; Departamento Bioquímica y Biología Molecular, Facultad de Ciencias Biológicas, Universitat de Valencia, Spagna; Institute Of Land And Food Resources, Faculty of Land and Food Resources University of Melbourne, Australia; School of Science & Engineering, University of Ballarat, Australia; Department of Dairy Science, Faculty of Agriculture, University of Zagreb, Croazia), Departament de Bioquímica i Biotecnologia, Facultat d'Enologia de Tarragona, Universitat Rovira i Virgili Tarragona (Spain), Instituto Tecnológico em Alimentos para Saúde (ITT-NUTRIFOR), UNISINOS Porto Alegre, Rio Grande do Sul (Brazil) and with industrial districts and consortia from wine and food companies.

Responsible of 8 PhD educational projects funded by University of Padova, Provincia di Treviso, and of the following doctoral and post-doctoral grants:

- (i) one year post-graduated grant –2007, funded by Italian Ministry of education (Indian post-graduated researches) “Antioxidant and antimicrobial activities of fermented products of chicory by probiotic bacteria”
- (ii) two years post-doctoral grant -2007, funded by University of Padova “Use of microorganisms as model system to study bioactive compounds in plant extracts”
- (iii) three years doctoral grant –2008, funded by Regione Veneto, project FSE DGR1017/08 “Microbiological approach to improve the terroir of regional wines produced in north-east of Italy”
- (iv) one year post-doctoral grant –2009, funded by Regione Veneto, project FSE DGR2215/09 “Quality improvement of the distillates made of grape marcs in north-east of Italy “
- (v) one year post-doctoral grant –2010 funded by Regione Veneto, project FSE DGR1102/2010 “Production of low alcohol beverages from fermented grape”.
- (vi) one year post-doctoral grant – 2013 funded by Regione Veneto, project FSE DGR 1148/2013 “Innovative enological products: new vineyard yeasts for ethanol reduction in wines.
- (vii) two year PhD student exchange (Università degli studi di Padova , Italy - Universitat Rovira i Virgili, Tarragona, Spain - Université Bordeaux Segalen , Bordeaux, France) project OMJ/MOY – 2013 - OENODOC-MED, funded by European Community
- (viii) four years doctoral grant – 2014 funded by Brazilian Government, project CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior) 1533/13-4 - CPF: 12194683712
- (ix) one year post-doctoral grant – 2015 funded by Regione Veneto, project FSE DGR 2121/2015 “Development of new vinification protocols by using autochthonous yeasts (innoViVe).

Author of more than 50 scientific papers and more than 100 communications, proceedings and posters presented at national and international conferences and papers in technical journals. Invited speaker at national and international conferences.

Publications 2012-2016

W.J.F. Lemos Junior, B. Bovo, C. Nadai, C. Crosato, M. Carlot, F. Favaron, A. Giacomini, V. Corich (2016). Biocontrol Ability and Action Mechanism of *Starmerella bacillaris* (Synonym *Candida zemplinina*) Isolated from Wine Musts against Gray Mold Disease Agent *Botrytis cinerea* on Grape and Their Effects on Alcoholic Fermentation. *FRONTIERS IN MICROBIOLOGY*, vol. 7, ISSN: 1664-302X, doi: 10.3389/fmicb.2016.01249

B. Bovo, C. Nadai , C. Vendramini , W. J. F. Lemos Junior, M. Carlot, A. Skelin, A. Giacomini, V. Corich (2016). Aptitude of *Saccharomyces* yeasts to ferment unripe grapes harvested during cluster thinning for reducing alcohol content of wine. *INTERNATIONAL JOURNAL OF FOOD MICROBIOLOGY*, vol. 236, p. 56-64, ISSN: 0168-1605, doi: 10.1016/j.ijfoodmicro.2016.07.022

D. M. Kagkli, V. Corich, B. Bovo, A. Lante, A. Giacomini (2016). Antiradical and antimicrobial properties of fermented red chicory (*Cichorium intybus* L.) by-products. *ANNALS OF MICROBIOLOGY*, ISSN: 1590-4261, doi: 10.1007/s13213-016-1225-3

P. Maragkoudakis, V. Vendramin, B. Bovo, L. Treu, V. Corich, A. Giacomini (2016). Potential use of scotta, the by-product of the ricotta cheese manufacturing process, for the production of fermented drinks. *Journal of Dairy Research*, 83(01), 104-108.

B. Bovo, M. Carlot, F. Fontana, A. Lombardi, S. Soligo, A. Giacomini, V. Corich (2015) Outlining a selection procedure for *Saccharomyces cerevisiae* isolated from grape marc to improve fermentation process and distillate quality *FOOD MICROBIOLOGY* 46: 573-581.

L. Treu, V. Vendramin, B. Bovo, S. Campanaro, V. Corich, A. Giacomini (2014). Whole genome sequences of *Streptococcus thermophilus* strains TH1435 and TH1436 isolated from raw goat milk *GENOME ANNOUNCEMENTS* (ISSN:2169-8287) 2: e01129-13.

S. Campanaro, L. Treu, V. Vendramin, B. Bovo, A. Giacomini, V. Corich (2014). Metagenomic analysis of the microbial community in fermented grape marc reveals that *Lactobacillus fabifermentans* is one of the dominant species: insights into its genome structure. *APPLIED MICROBIOLOGY AND BIOTECHNOLOGY* (ISSN:0175-7598) 98: 6015-6037.

L. Treu, S. Campanaro, C. Nadai, C. Toniolo, T. Nardi, A. Giacomini, G. Valle, B. Blondin, V. Corich (2014). Oxidative stress response and nitrogen utilization are strongly variable in *Saccharomyces cerevisiae* wine strains with different fermentation performances *APPLIED MICROBIOLOGY AND BIOTECHNOLOGY* (ISSN:0175-7598), 98: 4119- 4135.

L. Treu, V. Vendramin, B. Bovo, S. Campanaro, V. Corich, A. Giacomini (2014) Genome Sequences of Four Italian *Streptococcus thermophilus* Strains of Dairy Origin *GENOME ANNOUNCEMENTS* (ISSN:2169-8287) 2: e00126-14- e00126-14.

L. Treu, V. Vendramin, B. Bovo, A. Giacomini, V. Corich, S. Campanaro (2014) Genome Sequence of *Lactobacillus fabifermentans* Strain T30PCM01, Isolated from Fermenting Grape Marc *GENOME ANNOUNCEMENTS* (ISSN:2169-8287) 2: e00060-14- e00060-14.

B. Bovo, M. Carlot, A. Lombardi, G. Lomolino, A. Lante, A. Giacomini, V. Corich (2014) Exploring the use of *Saccharomyces cerevisiae* commercial strain and *Saccharomycodes ludwigii* natural isolate for grape marc fermentation to improve sensory properties of spirits *FOOD MICROBIOLOGY* (ISSN:0740-0020) 41: 33- 41.

L. Treu, V. Vendramin, B. Bovo, S. Campanaro, V. Corich, A. Giacomini (2014) Genome Sequences of *Streptococcus thermophilus* Strains MTH17CL396 and M17PTZA496 from

Fontina, an Italian PDO Cheese GENOME ANNOUNCEMENTS (ISSN:2169-8287) 2: pe00067-14-e00067-14.

P. A. Maragkoudakis, T. Nardi, B. Bovo, M. D'Andrea, K. S. Howell, A. Giacomini, V. Corich (2013). Biodiversity, dynamics and ecology of bacterial community during grape marc storage for the production of grappa INTERNATIONAL JOURNAL OF FOOD MICROBIOLOGY (ISSN:0168-1605) 162: 143- 151.

L. Treu, C. Toniolo, C. Nadai, A. Sardu, A. Giacomini, V. Corich, S. Campanaro (2013). The impact of genomic variability on gene expression in environmental *Saccharomyces cerevisiae* strains ENVIRONMENTAL MICROBIOLOGY (ISSN:1462-2912) 16:1378-1397.

L. Favaro, V. Corich, A. Giacomini, M. Basaglia, S. Casella (2013). Grape marcs as unexplored source of new yeasts for future biotechnological applications. WORLD JOURNAL OF MICROBIOLOGY & BIOTECHNOLOGY (ISSN:0959-3993) 29: 1551- 1562, 29.

B. Bovo, M. De Marchi, M. Carlot, S. Soligo, Viviana Corich, A. Giacomini (2013). Indirect evaluation of microbial spoiling activity in grape marcs by near infrared spectroscopy (NIRS) AMERICAN JOURNAL OF ENOLOGY AND VITICULTURE (ISSN:0002-9254) 64: 411- 415.

B. Bovo, T. Nardi, F. Fontana, M. Carlot, A. Giacomini, V. Corich (2012). Acidification of grape marc for alcoholic beverage production: effects on indigenous microflora and aroma profile after distillation. INTERNATIONAL JOURNAL OF FOOD MICROBIOLOGY (ISSN:0168-1605) 152: 100- 106, 152.

V. Corich, T. Nardi, B. Bovo, M. Carlot, F. Zilio, A. Marangon, A. Giacomini (2012). L'analisi sensoriale come strumento di selezione: un nuovo lievito dal terroir Raboso Piave ENOLOGO (ISSN:1593-6112) Maggio: 89- 93.