Prof. Dr. Paola Branduardi
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[redacted]
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Working place: University of Milano-Bicocca, Dept of Biotechnology and Biosciences
Working address: Piazza della Scienza, 2 – 20126 Milano, Italy
Tel: (+39) 02 64483418 E-mail: paola.branduardi@unimb.it
Working post: Full Professor in Chemistry of Fermentation and Industrial Microbiology (SSD CHIM/11);
ORCID: https://orcid.org/0000-0003-4115-7015
IndBiotech Lab: https://indbiotechlab.btbs.unimib.it/

Education

1993: Master Degree in Biological Sciences (University of Milano)
1993-1996: Fellowships on Cellular and Molecular Biology at the University of Milano
2000: PhD in Molecular and Cellular Biology (University of Milano)

Academic title

2002-2010: Assistant Professor in Chemistry of Fermentation and Industrial Microbiology at the University of Milano Bicocca, Dept. of Biotechnology and Biosciences
2010-2017: Associate Professor in Chemistry of Fermentation and Industrial Microbiology at the University of Milano Bicocca, Dept. of Biotechnology and Biosciences
2015: National habilitation as Full Professor
2017-today: Full Professor in Chemistry of Fermentation and Industrial Microbiology at the University of Milano Bicocca, Dept. of Biotechnology and Biosciences

Teaching activities

2010 onwards: "Industrial Microbiology" (64 hours) and "Industrial Bioprocesses and Biorefineries" (42 hours) for the Biotechnology Course (Bachelor); 2020 onwards: "Metabolic engineering and advanced bioprocesses" (42 hours), "Synthetic Biology for Microbial Biotechnology" (14 hours; the course comprises 40 additional hours of practical teaching in the lab) for the Industrial Biotechnology course (master). "Basic of Biobased Processes and biorefineries" (8 hours) as interdisciplinary course of the Doctoral School.
Last 10 years: Lecturer at 5 Master Courses and 10 Summer Schools; several Invited Teaching and Seminars at International Research Institutes

Academic positions

2017-2023: Coordinator of the PhD course in "Converging Technologies for Biomolecular Systems"
2015 onwards: Member of the "Commissione Lingue di Ateneo"
2019 onwards: Board Member of BASE Centre (Bicocca Sustainable, https://www.unimib.it/ateneo/bicocca-sostenibile)
2017 onwards: Representative for the Department of Biotechnology and Biosciences of the "Working group of the EU-KIC-raw materials" (https://eitrawmaterials.eu/)
2020 onwards: University Delegate at the National Cluster SPRING (Sustainable Processes and Resources for Innovation and National Growth)
2021 onwards: member of the Technical and Scientific committee in the National Cluster SPRING
2021 onwards: University Delegate in the JRU IBISBA-IT
2021 onwards: Board Member of POLARIS Centre, UNIMIB (Polveri in Ambiente e Rischio per la Salute)
2023 onwards: Member of the international advisory board for the Doctoral School in Bioprocess Engineering, University of Natural Resources and Life Sciences (BOKU), Vienna, Austria

Recognitions and Prices:

2020: Expert, nominated by the Ministry, for the Bioeconomy sector for the definition of the "Programma Nazionale per la Ricerca (PNR) 2021-2027

2022 onwards: National Representative (deputy), nominated by the Ministry of Research and University, in the partnership Circular Bio-based Europe (CBE-JU, https://www.cbe.europa.eu/)

2023 onwards: Member of the Committee on Industrial Biotechnology and Environmental Biotechnology (IEB) for the evaluation of project grants for research for the Novo Nordisk Foundation

Tutoring and Supervising of Bachelor, Master, and PhD programs and thesis, Opponent

Tutoring several Bachelor and Master students in Biotechnology and Industrial Biotechnology per year

Tutor of 38 PhD students, 24 of which were already honoured with the title.

Opponent for more than 20 PhD defences in the last 10 years, over different institutes in Europe, and Italy.

Research interests

Development in applied microbiology and biotechnology, by tailoring recombinant microbial strains, mainly conventional and non-conventional yeasts, for the production of heterologous proteins, fine and bulk chemicals, biofuels, nutraceuticals. The three main pillars are: 1) developing novel cell factories; 2) Robustness as desired trait for completing the engineering of desired cell factories 3) Biomass valorisation by matching industrial needs and microbial strain physiology. The final aim is to develop sustainable processes of production in the logic of 2nd generation biorefineries, implementing microbial natural diversity with synthetic biology tools that can enhance the effect of induced metabolic rewiring.

Co-founder and CSO of Galatea BioTech srl, a University spin-off company active in the production of bio-based biodegradable materials. Co-founder and CSO of Biomycs srl, a University spin-off company active in biomanufacturing and precision fermentation for the sustainable production of ingredients for cosmetics.

Outreach activities and RRI principles are embedded in research lines and teaching mode.

Competitive grants – last 10 years

2013 -2017: PI of the local unit for the Marie Curie ITN "Yeast Cell Factories: Training Researchers to Apply Modern Post-Genomic Methods in Yeast Biotechnology (YeastCell)

2016-2018: PI of the local unit within the KAVA project entitled "MiRaCLE, MIneral RAw materials replacement with nanoComposites by renewabLe Resources Exploitation" granted by the EIT/KIC RawMatters (KIC Raw Materials)

2016-2019: Coordinator of the project: "MYSUSHI - Microalgae and Yeasts SUStainable fermentation for HIgh quality fish feed formulation" CARIPLO Foundation

2017-2019: PI of the local unit: "Sistemi Alimentari e Sviluppo sostenibile: creare sinergie tra ricerca e processi internazionali ed africani (SASS)" MIUR. CUP: H42F16002450001

2019-2020: Coordinator of the project: "Microalgae based biorefinery for Oils and Fats Industry", University of Milano Bicocca

2017 onwards: PI of the local unit: Marie-Curie MSCA EJD H2020MSCAITN2017: "Yeast Biotechnology Doctoral Training Programme (YEASTDOC)" [REA GA 764927];

2018-2023: MC member: EuroMicropH (Understanding and exploiting the impacts of low pH on micro-organisms) Science and Technology Network financed by the European COST programme, Action Nº CA18113;

2018-2024: MC member: Yeast4Bio (Non-Conventional Yeasts for the Production of Bioproducts) Science and Technology Network financed by the European COST programme, Action Nº CA18229;

2019 onwards - PI of the local unit within the KAVA project entitled "Practical training between Academia and Industry during doctoral studies" EIT/KIC RawMatters

2019-2023 - PI of the local unit of the project "CARDoon valorisation by InteGrAted biorefiNery (CARDIGAN)", MIUR

2021 onwards: PI of the local unit: “AGRO2CIRCULAR – Territorial Circular Systemic solution for the upcycling of residues from the agrifood market” H2020-LC-GD-2020-3
2022 onwards: Coordinator “REPLAY: REconnecting PLAstics life cycle to biogeochemical cycles by sustainable hydrolysis and Yeasts fermentation” PRIN 2020, MIUR Prot. 2020SBNHLH (2022 -).

Industrial grants – last 10 years

2015-16: Biotechnological production of organic compounds including metals, EcoZinder srl
2017 Sustainable microbial production of biosurfactants STAHL ITALY S.R.L.
2018-20 Studies on algal biomasses, Gruppo Parodi S.R.L
2019-21 Single cell oils from residual biomasses, ENI Ricerche
2019 onwards: upcycling of residues derived from textile manufacturing for sustainable productions of fabrics, Albini Group
2021 onwards: “rational by design” for the production of innovative compounds for the tyre industry, Pirelli Tyre
2021 onwards: Production of plant secondary metabolites in yeasts, Indena
2023 onwards: Precision Agriculture, Sipcam Oxon

Member of Scientific Societies and Boards

2000 onwards: Member of SIMGBM, Società Italiana di Microbiologia Generale e Biotecnologie Microbiche – member of FEMS, European Federation of Microbiology Societies;
2020-2024: Vice-Chair of the Microbial Biotechnology Division and member of the Executive Board of the of the European Federation of Biotechnology;
2021 onwards: Academic delegate for the JRU IBISBA-IT (Italian Node of the European Research Infrastructure IBISBA, playing a distinct role across four key domains: Synthetic Biology, Green Chemistry, Sustainable Bioenergy, and Functional Food)
2023 onwards: Member of the Microbiology Society;
2023 onwards: Member of the “Comitato Tecnico Scientifico” for the Italian Cluster SPRING (Sustainable Processes and Resources for Innovation and National Growth);
2024-2028: Chair of the Microbial Biotechnology Division and member of the Executive Board of the of the European Federation of Biotechnology.

Chair and co-Chair of Conferences – Member of Scientific and Organizing Committees - last 10 years

2012 Chair of the Conference: “MICROBIAL STRESS from Molecules to Systems”, Belgirate, IT
2013: Chair of the Summer School event: “Yeast Cell Factories: Training Researchers to Apply Modern Post-Genomic Methods in Yeast Biotechnology (http://yeastcell.eu/training/)
2015: Co-chair of the Conference: “MICROBIAL STRESS from Molecules to Systems”, Sitges, ES
2017: Member of the Scientific Committee of the conference: “ISSY33 - Exploring and Engineering Yeasts for Industrial Application” Cork, IE
2017: Member of the Scientific Committee of the conference: “Microbial Stress: From Systems to Molecules and Back” Kinsale, IE
2019: Chair of the 7th Conference: “Physiology of Yeast and Filamentous Fungi - PYFF”, Italy;
2020: Member of the Scientific Committee of the Conference in “Applied Synthetic Biology in Europe”
2020: Member of the Scientific Committee of the conference: “Microbial Stress: From Molecules to Systems” (online event)
2021: Member of the Scientific Committee of the EFB Conference (May 2021, online event)
2021: Member of the Scientific Committee of the ICY (International Yeast Conference) Vienna, Austria
2023: Co-chair of the 8th Conference: “Physiology of Yeast and Filamentous Fungi - PYFF”, Cork, Ireland
2023: Member of the Scientific Committee of the conference: “31st International Conference on Yeast Genetics and Molecular Biology, ICYGMB31” Florence, IT

2023: Member of the Scientific Committee of the conference: “Microbial Stress” Vienna, AT
2023: Member of the Scientific Committee of the conference: “Recombinant Protein Production RPP11” Girona, Spain
2024: Member of the Scientific Committee of the conferences: “European Congress on Biotechnology”, Rotterdam, NL, and of the “Applied Synthetic Biology Europe” Brno, Check Republic
2025: Member of the Scientific Committee of the upcoming conference: “ISSY38 - Yeast - The Omni-Tool” Warsaw, Poland
2026: Member of the Scientific Committee of the upcoming conference: “Recombinant Protein Production RPP12” Ulm, Germany.

Editor and Ad Hoc reviewer for Journals and Research Project

2017 Guest Editor, Thematic Issue “Microbial Carbon Dioxide Fixation in Biotechnology” FEMS Microbiology Letters
2022 Guest Editor, Thematic Issue “Industrial Microbiology” Scientific Reports, Springer Nature
2022 Guest Editor, Thematic Issue “Production by Design in Yeast” Yeast, Wiley
Associate Editor: Microbial Cell Factories, Engineering in Life Sciences, FEMS Yeast Research, Yeast, The Open Mycology, Scientific Reports, Microbial Biotechnology;
Ad hoc Reviewer: FEMS Microbiology Letters; Microbial Cell Factories; FEMS Yeast Research; Microbiology; AMB Express; Engineering in Life Sciences, Biotechnology for Biofuels and Bioproducts; BMC Biotechnology; J of Bioscience and Bioengineering; Applied Microbiology and Biotechnology; Frontiers in Microbial Physiology and Metabolism; PloSONE; Letters in Applied Microbiology; Metabolic Engineering; mBio.

Member of committee for Professor/Researcher positions:

2016: External reviewer for Assistant Professor position at Chalmers University
2017: Committee member for Associate Professor position at Università di Pavia
2018: Committee member for Manager Research position at CNR, Green chemistry and sustainable processes
2018: Committee member for Professor position at DTU Biosustain, Technical University of Denmark
2020: Committee member for assistant position at Università dell’Insubria, Varese
2020: External reviewer for Research Professor position at Chalmers University
2020: External reviewer for Full Professor position at Chalmers University
2021: Committee member for 9 positions (from assistant to associate professor) in different Italian Universities
2022: Committee member for 5 positions (from assistant to associate professor) in different Italian and European Universities
2022: External reviewer for “Assessment of the habilitation” procedure for professorship at TU Wien, Austria
2022: Committee member for Assistant Professor at TU Delft, Department of Biotechnology / Industrial Microbiology
2022: Committee member for Associate Professor position at Técnico Lisboa, Departamento de Bioengenharia
2022: Committee member for Professor position at DTU Biosustain, Technical University of Denmark
2023: External reviewer for Researcher position at Chalmers University
2024: Committee member for Professor position at DTU Biosustain, Technical University of Denmark
2024: Committee member for Associate Professor position at Università Aldo Moro di Bari.
2025: Committee member for tenure track position in the field of „Metabolic modelling and bioprocess engineering of microorganisms” at BOKU University, Wien, Austria.

Invited Speaker (IS) or selected Oral Contribution (OC) at National and International conferences (2016-2024)

2016: Microbiology Society Annual Conference 2016, ACC Liverpool GB - **IS**
2016: EUROPEAN SUMMIT OF INDUSTRIAL BIOTECHNOLOGY, Graz, A - **IS**
2016: International Symposium "Yeasts as versatile testbeds for the Life Sciences" Madrid ES - **IS**
2017 Symposium SBI (Biologia Cellulare e Molecolare, Biotecnologie e Differenziamento) Milano, IT - **IS**
2018: XV FISV Congress, Rome, IT - **IS**
2018: Industrial Synthetic Biology Congress 2018 Munich, D - **IS**
2019: Microbiology Society Annual Conference 2019 Belfast, IE - **IS**
2019: The 35th International Specialised Symposium on Yeasts "Yeast Cornucopia: Yeast for health and wellbeing" Antalya, Turkey - **IS**
2020: "Microbial Stress: From Molecules to Systems" online - **IS**
2021: COST ACTION YEAST4BIO Annual Meeting, La Coruna, Sept 2021, Spain - **OC**
2022: The 36th International Specialised Symposium on Yeasts Vancouver, Canada July - **IS**
2022: 10th International Congress on Biocatalysis (BIOCAT), Hamburg, Germany - **IS**
2022: **Keynote Speaker** at the 14th ÖGMBT Annual Meeting, Vienna, Austria
2023: FEMS2023, July 9-13, Hamburg Germany, **IS** and **Symposium organizer**
2023: ICYGMB, August 20-25 Florence, Italy – **IS**
2023: SIB, September 7-9 Florence, Italy – **IS**
2024: RRB Conference 5-7 June, Brussels, Belgium – **OC**
2024: ECB Congress June 30-July 3 Rotterdam, NL – **OC**
2024: ICY Congress Sept 29-Oct 3, Cape Town, South Africa – **OC**

PUBLICATIONS:

Peer reviewed output:

Over 90 peer reviewed publications, including 11 book chapters;
12 patent applications (PA); 7 of them obtained the PCT status, 5 were subsequently licensed.
Bibliometric data (Scopus, Jan 2025): Documents: 97 - Citations: over 3700 - h-index: 29

Publications (last 5 years)

Articles (Original Researches, Reviews and Editorial)

P1: Zuppone S, Assalini C, Minici C, Bertagnoli S, Branduardi P, Degano M, Fabbrini MS, Montorsi F, Salonia A, Vago R. (2020) The anti-tumoral potential of the saporin-based uPAR-targeting chimera ATF-SAP. Sci Rep. 10(1):2521. doi: 10.1038/s41598-020-59313-8

P2: Bertacchi S, Bettiga M, Porro D, Branduardi P. (2020) *Camelina sativa* meal hydrolysate as sustainable biomass for the production of carotenoids by *Rhodosporidium toruloides*. Biotechnol Biofuels. 13:47. doi: 10.1186/s13068-020-01682-3

P3. Sacchi S, Lotti M, Branduardi P. (2020) Education for a biobased economy: Integrating life and social sciences in flexible short courses accessible from different backgrounds. N Biotechnol. 60:72-75. doi: 10.1016/j.nbt.2020.10.002

P4. Martinelli A, Giannini L, Branduardi P. (2020) Enzymatic Modification of Cellulose To Unlock Its Exploitation in Advanced Materials. Chembiochem. doi: 10.1002/cbic.202000643

P5. Martani F, Maestroni L, Torchio M, Ami D, Natalello A, Lotti M, Porro D, Branduardi P. (2020) Conversion of sugar beet residues into lipids by *Lipomyces starkeyi* for biodiesel production. Microb Cell Fact. 19(1):204. doi: 10.1186/s12934-020-01467-1

P6. Branduardi P. (2020) Closing the loop: the power of microbial biotransformations from traditional bioprocesses to biorefineries, and beyond. Microb Biotechnol. doi: 10.1111/1751-7915.13713.

P7. Bertacchi S, Pagliari S, Cantù C, Bruni I, Labra M, Branduardi P. (2021) Enzymatic Hydrolysate of Cinnamon Waste Material as Feedstock for the Microbial Production of Carotenoids. Int J Environ Res Public Health. 18(3):1146. doi: 10.3390/ijerph18031146.
P8. Bertacchi S, Jayaprakash P, Morrissey JP, Branduardi P. (2021) Interdependence between lignocellulosic biomasses, enzymatic hydrolysis and yeast cell factories in biorefineries. Microb Biotechnol. doi: 10.1111/1751-7915.13886.
P9. Ferraz L, Sauer M, Sousa MJ, Branduardi P. (2021) The Plasma Membrane at the Cornerstone Between Flexibility and Adaptability: Implications for *Saccharomyces cerevisiae* as a Cell Factory. Front Microbiol. 12:715891. doi: 10.3389/fmicb.2021.715891.
P10. Bertacchi S, Cantù C, Porro D, Branduardi P. (2021). Optimization of Carotenoids Production from *Camelina sativa* Meal Hydrolysate by *Rhodosporidium toruloides*. Vol 7(4) doi: 410.3390/fermentation7040208
P11. Bertacchi, S., Ruusunen, M., Sorsa, A., Sirviö, A., & Branduardi, P. (2021). Mathematical Analysis and Update of ADM1 Model for Biomethane Production by Anaerobic Digestion. Fermentation, 7(4), 237.
P12. Terova, G., Moroni, F., Antonini, M., Bertacchi, S., Pesciaroli, C., Branduardi, P., ... & Rimoldi, S. (2021). Using Glycerol to Produce European Sea Bass Feed with Oleaginous Microbial Biomass: Effects on Growth Performance, Filet Fatty Acid Profile, and FADS2 Gene Expression. Frontiers in Marine Science, 1115. doi: 10.3389/fmars.2021.715078
P13. Solieri L, Cassanelli S, Huff F, Barroso L, Branduardi P, Louis EJ, Morrissey JP. (2021) Insights on life cycle and cell identity regulatory circuits for unlocking genetic improvement in *Zygosaccharomyces* and *Kluyveromyces* yeasts. FEMS Yeast Res. doi: 10.1093/femsyr/foab058
P14. Mellere, L., Bava, A., Capozzoli, C., Branduardi, P., Berini, F., & Beltrametti, F. (2021). *Strain Improvement and Strain Maintenance Revisited. The Use of Actinoplanes teichomyceticus ATCC 31121 Protoplasts in the Identification of Candidates for Enhanced Teicoplanin Production*. Antibiotics, 11(1), 24.
P15. Magoni, C., Bertacchi, S., Giustra, C. M., Guzzetti, L., Cozza, R., Ferrari, M., ... & Labra, M. (2022). *Could microalgae be a strategic choice for responding to the demand for omega-3 fatty acids? A European perspective*. Trends in Food Science & Technology. 121, 142-155 doi.org/10.1016/j.tifs.2022.01.030
P16. Di Lorenzo, R. D., Serra, I., Porro, D., & Branduardi, P. (2022). *State of the Art on the Microbial Production of Industrially Relevant Organic Acids*. Catalysts, 12(2), 234.
P17. Ceccotti C, Bruno D, Tettamanti G, Branduardi P, Bertacchi S, Labra M, Rimoldi S, Terova G. (2022) *New value from food and industrial wastes - Bioaccumulation of omega-3 fatty acids from an oleaginous microbial biomass paired with a brewery by-product using black soldier fly (Hermetia illucens) larvae.* Waste Manag. 143:95-104. doi: 10.1016/j.wasman.2022.02.029.
P18. Mastella L, Senatore VG, Guzzetti L, Coppolino M, Campone L, Labra M, Beltrani T, Branduardi P (2022) *First report on Vitamin B9 production including quantitative analysis of its vitamers in the yeast Scheffersomyces stipitis* Biotechnology for Biofuels and Bioproducts, *15(1):98. doi: 10.1186/s13068-022-02194-y.*
P19. Mastella L, Senatore V, Beltrani T, Branduardi P (2023) *Scheffersomyces stipitis* ability to valorize different residual biomasses for vitamin B9 production*. Microb Biotechnol. 16(2):392-403. doi: 10.1111/1751-7915.14177.*
P20. Maestroni L, Butti P, Senatore VG, Branduardi P (2023) pCEC-red: a new vector for easier and faster CRISPR-Cas9 genome editing in *Saccharomyces cerevisiae*. FEMS Yeast Res. doi: 10.1093/femsyr/foad002.
P21. Cannavacciuolo C, Pagliari S, Giustra CM, Carabetta S, Guidi Nissim W, Russo M, Branduardi P, Labra M, Campone L (2023) LC-MS and GC-MS Data Fusion Metabolomics Profiling Coupled with Multivariate Analysis for the Discrimination of Different Parts of Faustrime Fruit and Evaluation of Their Antioxidant Activity. Antioxidants (Basel). 2023 12(3):565. doi: 10.3390/antiox12030565.
P22. Amaradio MN, Jansen G, Costanza J, Patanè A, Branduardi P, Porro D, Nicosia G (2023) L-lactate production in engineered *Saccharomyces cerevisiae* using a multistage multiobjective automated design framework. Biotechnol Bioeng. doi: 10.1002/bit.28391.

P23. Maestroni L, Butti P, Milanesi R, Pagliari S, Campone L, Serra I, Branduardi P (2023) Easy Modular Integrative fuSion-ready Expression (Easy-MISE) Toolkit for Fast Engineering of Heterologous Productions in *Saccharomyces cerevisiae*. *ACS Synth Biol.* 12(5):1508-1519. doi: 10.1021/acssynbio.3c00015.
P24. Ferraz L, Vorauer-Uhl K, Sauer M, Sousa MJ, Branduardi P (2023) Impact of ergosterol content on acetic and lactic acids toxicity to *Saccharomyces cerevisiae Yeast*, 40 (3-4), pp. 152-165. DOI:10.1002/yea.3828.
P25. Marchetti A, Kupka D, Senatore VG, Bártová Z, Branduardi P, Hagarová L, Hredzák S, Lotti M. (2024) Iron bioleaching and polymers accumulation by an extreme acidophilic bacterium. *Arch Microbiol.* 206(6):275. doi: 10.1007/s00203-024-04005-4.
P26. Bucchieri D, Mangiagalli M, Martani F, Butti P, Lotti M, Serra I, Branduardi P. (2024) A novel laccase from *Trametes polyzona* with high performance in the decolorization of textile dyes. *AMB Express.* 14(1):32. doi: 10.1186/s13568-024-01687-3.
P27. Simonetti M, Butti P, Di Lorenzo RD, Mapelli V, Branduardi P. (2024) Valorisation of cotton post-industrial textile waste into lactic acid: chemo-mechanical pretreatment, separate hydrolysis and fermentation using engineered yeast. *Microb Cell Fact.* 23(1):106. doi: 10.1186/s12934-024-02384-3.
P28. Zago M, Branduardi P, Serra I. Towards biotechnological production of bio-based low molecular weight esters: a patent review. RSC Adv. 2024 Sep 18;14(40):29472-29489. doi: 10.1039/d4ra04131c.
P29. Senatore VG, Milanesi R, Masotti F, Maestroni L, Pagliari S, Cannavacciuolo C, Campone L, Serra I, Branduardi P. (2024) Exploring yeast biodiversity and process conditions for optimizing ethylene glycol conversion into glycolic acid. *FEMS Yeast Res.* doi: 10.1093/femsyr/foae024. Online ahead of print.

Book Chapters (last 10 years)

BC1 - Branduardi P (2016) "Synthetic Biology for Cellular Remodelling to Elicit Industrially Relevant Microbial Phenotypes" In Synthetic Biology (pp. 211-228). Springer International Publishing. ISBN 978-3-319-22708-5.
BC2 - Magoni, C., Campanaro, A., Galimberti, A., Pesciaroli, C., Bertacchi, S., Branduardi, P., & Labra, M. (2018). "RRI Approach for Development and Acceptance of Novel Fish Feed Formulations in Aquaculture." In Governance and Sustainability of Responsible Research and Innovation Processes (pp. 65-70). Springer, Cham.
BC3 - Branduardi P, Barroso L, Dato L, Edward J Louis, Porro D (2022) "Molecular Tools for Leveraging the Potential of the Acid-Tolerant Yeast *Zygosaccharomyces bailii* as Cell Factory" in: Yeast Metabolic Engineering: Methods and Protocols (Serie: Methods in Molecular Biology). Editor: Mapelli V. Publisher: Humana Press, part of Springer Science + Business Media, LCC, New York, USA, 2513:179-204. doi: 10.1007/978-1-0716-2399-2_11. PMID: 35781206.
BC4 – Milanesi R, Porro D, Branduardi P, Serra I (2025, in press) "Production of Industrially Relevant Organic Acids by Yeasts and Filamentous Fungi" in: Biotechnology of Yeasts and Filamentous Fungi, 2nd edition. Editor: Andriy A. Sibirny. Publisher: Springer
BC5 - Mapelli V, Senatore V, Serra I and Branduardi P (2025, in press) "*Scheffersomyces stipitis*: development of cell factories beyond ethanol production"

Technology transfer

12 patent applications (PA) were developed; 7 of them have generated families and obtained the PCT status, 6 became patent families and were subsequently licensed (PA1 to PA5, PA8). PA9 is an Italian and a US patent.
For sake of clarity, here below a list of said patent application families (first deposit, priority date):
PA1: BRANDUARDI P (IT); VALLI M (IT); ALBERGHINA L (IT); PORRO D (IT). "Process for expression and secretion of proteins by the non-conventional yeast *Zygosaccharomyces bailii*". German Patent Application Publication info: 102 52 245.6 Filing Date: 07/11/2002

PA2: BRANDUARDI P (IT); SAUER M (AT); MATTANOVICH D (AT); PORRO D (IT). “Ascorbic acid production from D-glucose in yeast” Application for United States Letters Patent.
Publication info: EV 512294478 US Filing date: 13/04/2005
PA3: VALLI M (IT); SAUER M (AT); MATTANOVICH D (AT); PORRO D (IT); BRANDUARDI (P) (IT). “Improved strains for the production of organic acids” Application for United States Letters Patent.
Publication info: EV 512294478 US Filing date: 28/09/2005
PA4: PORRO D (IT); DATO L (IT); BRANDUARDI P (IT). “Methods for improving acid and low pH tolerance in yeast”. Publication info: EV 666502432 US Filing date: 06/06/2007
PA5: BRANDUARDI P (IT); SAUER M (AT); PORRO D (IT). “Improved yeast strains for organic acid production” Publication info: EP 08009693.6 Filing date: 28/05/2008
PA6: MAGNANI MAURO (IT); BARTOLUCCI ELENA (IT); PORRO DANILO (IT); BRANDUARDI PAOLA (IT); CODAZZI VERA (IT); BENATTI UMBERTO (IT); DAMONTE GIANLUCA (IT); SHIPPA GIOVANNI (IT); BIANCHINI STEFANO (IT). “Sviluppo di una cell factory ricombinante per la produzione di glucobrassicina”
Publication info: RM2010R000142. Italian Patent Application, Filing date: 24/02/2010
PA7: BRANDUARDI PAOLA (IT); PORRO DANILO(IT). “Microbial organisms tolerant to biochemical stresses.” Publication info: TO2012A000870. Italian Patent Application, Filing date: 05/10/2012
PA8: BRANDUARDI PAOLA (IT); DE FERRA FRANCESCA (IT). “Procedimento di produzione di butanolo e isobutanolo attraverso glicina e suoi intermedi in lieviti”. Publication info: MI2013A000188. Italian Patent Application, Filing date: 11/02/2013
PA9: BRANDUARDI PAOLA (IT); PORRO DANILO (IT); NADIA BERTERAME (IT); STEFANO BERTACCHI (IT). “PROCEDIMENTO PER LA BIOSINTESI CELLULARE DI ACIDO POLI D-LATTICO E DI ACIDO POLI L-LATTICO”
Publication info: 102018000007846. Italian Patent Application, Filing date: 03/08/2018
PA10: CASTELLANI LUCA (IT); GIANNINI LUCA (IT); GUERRA SILVIA (IT); BRANDUARDI PAOLA (IT); DI LORENZO RAFFAELLA DESIRE' (IT). “Produzione di mescole elastomeriche comprendenti oli ad azione plastificante ottenuti a partire da cellule microbiche oleaginose”
Publication info: IT 102020000006688. Italian Patent Application, Filing date: 31/03/2020
PA11: BRANDUARDI PAOLA (IT); DI LORENZO RAFFAELLA DESIRE' (IT). “Procedimento di ingegnerizzazione di un microorganismo oleaginoso”. Publication info: IT 102020000006715. Italian Patent Application, Filing date: 31/03/2020.
PA12: ZAGO MIRKO (IT); SERRA IMMACOLATA (IT); BRANDUARDI PAOLA (IT) “Sintesi biocatalitica di esteri”. Publication info: IT 102024000025548. Italian Patent Application, Filing date: 13/11/2024.

2013: Co-founder and CSO of Galatea BioTech srl, a University spin-off company active in the production of bio-based biodegradable materials;
2023: Co-founder and CSO of Biomycs srl, a University spin-off company active in biomanufacturing and precision fermentation for the sustainable production of ingredients for cosmetics.

Milano, 07/01/2025