Curriculum Vitae et Studiorum

First name / Surname	**Cristian Botta**
E-mail	cristian.botta@unito.it
Known languages	Italian, English

Education

- February 2014: PhD Degree in Agricultural, Forestry and Food Sciences. University of Turin, Italy. Thesis: "Selection of autochthonous strains with probiotic features for the fermentation of green table olives".
- April 2010: Master Degree in Food and Technology Sciences with a grade of 110/110 and remark. University of Turin, Italy.
- December 2007: Bachelor Degree in Food Technology with a grade of 110/110 and remark. University of Turin, Italy.

Research activities, knowledges and skills

- Isolation, characterization and functional selection of bacteria and yeasts with probiotic and technological features. Use of selected starter cultures in fermented foods *in vitro* and *in situ* (traditional microbiology, PCR-based methods, chemical analysis, sensory analysis).
- Ecological studies of the microbiota and microbiome of foods and food processing environments by means of Next Generation Sequencing (NGS) approaches: pangenomics, metatranscriptomics, metagenomics and metatranscriptomics.
- Use of human gut models to investigate the biochemical and genetic interactions occurring between host and probiotic, commensal or pathogen bacteria (immuno-assays, flow cytometry, 3D co-culture models, transcriptomic).
- Application of NGS approaches to identify, characterise and understand the metabolic pathways responsible of probiotic or pathogenic features in bacteria, at the species and strain level.
- Development, organization and leadership of scientific projects.
- Supervision of the research activities of Master and PhD students
- Advanced knowledge of bioinformatic analyses tools bio-statistical analyses (R environment, Unix).
- Marked networking capability developed in several years of collaboration with universities, food industries and research laboratories.
- Strong skills in the dissemination of research results at the scientific level and for the general audience.

Research experiences

- December 2021 – Today: Researcher at the Department of Agricultural, Forestry and Food Sciences (DiSAFA, Grugliasco), University of Turin, Italy.
    - From May 2023 to November 2023, he worked in Computomics GmbH (Tübingen, Germany) and collaborated with the team of Prof. Daniel Huson (Laboratory of Algorithms in Bioinformatics, University of Tübingen).
    - In the February 2023 he visited and worked at the Department of Biodiversity, Ecology and Evolution of the Complutense University of Madrid in collaboration with the Dr Herrera-Rincon's team.
- November 2017 – October 2021: Research Technician at the Department of Agricultural, Forestry and Food Sciences (DiSAFA, Cuneo), University of Turin, Italy.
- January 2014 – October 2017: Research Fellow at the Department of Agricultural, Forestry and Food Sciences (DiSAFA, Grugliasco).
    - In the October 2016 he worked in collaboration with Ferrero s.p.a. in the company laboratory and Cocoa plantation of Yaundé (Cameroon).
    - From October 2014 to March 2015, he visited and worked in the Department of Molecular Biology and Genetics (Democritus University of Thrace, Alexandroupolis, Greece), collaborating with the Prof. Katerina Chlichlia.
    - In the April 2014 he visited and worked at the Department of Bioscience of the University of Parma under the supervision of Prof. Marco Ventura.
- January 2011 - December 2013: PhD Student at the Department of Agricultural, Forestry and Food Sciences (DiSAFA, Grugliasco).
    - From May 2012 to November 2012, he visited and worked in the Department of Microbiology, Biochemistry, Molecular Biology and Biotechnology of the University of Maribor (Slovenia), under the supervision of the Professor Tomaz Langerholc.
- April 2009 - April 2010: Student Trainee at the Department of Agricultural, Forestry and Food Sciences (DiSAFA, Grugliasco).

Teaching

- November-December 2023: Lecturer of "Food Microbiology" at the Department of Agricultural, Forestry and Food Sciences (DiSAFA), University of Turin, Italy.
- March-June 2021: Lecturer of "Food Analysis Laboratory" at the Department of Agricultural, Forestry and Food Sciences (DiSAFA), University of Turin, Italy.
- October 2017-: teaching assistant for "Laboratory of Food Fermentation Microbiology" at the Department of Agricultural, Forestry and Food Sciences (DiSAFA), University of Turin, Italy.
- October 2017-January 2020: Lecturer of "Food Microbiology" in post-diploma courses organized by the job training service agency of *Provincia di Cuneo* (AGENFORM).

Memberships, qualifications and training courses

- Member of the International Association of Food Protection (IAFP) and the Italian Society of Agricultural, Food and Environmental Microbiology (SIMTREA).
- Enabling enrolment to the Professional Register of Italian Food Technologists
- IRIDI START5 course for quality teaching, organized by the University of Turin (April-July 2022)
- Course for biostatistics, organized by Interdisciplinary Centre for Statistical Research, International Advanced School on Statistics (Biostat-2013, Asti, Italy, from 24th to 26th of June 2013)

Participations in international and national research projects

- SAFFI (2020-today): Safe Food for Infants in the EU and China; EU (Horizon 2020) under the grant agreement ID 861917; https://cordis.europa.eu/project/id/861917.
- Project financed by CRT foundation (2019-today): "Diffusion of Arcobacter spp. in Piedmontese poultry meat and insight on its pathogenic potential".
- "Meat Extend"(2017-2019): project dealing with the sanitization of slaughter environments with gaseous ozone, decontamination treatments of meat products with activated waters, as well as the use of bioprotection strategies directly in the raw meat products (Regione Piemonte-P.O.R. FESR 2014/2020; https://www.researchgate.net/project/Meat-Extend)
- "Clean Meat" project (2016): Sanitization treatments of meat products with aqueous ozone and electrolyzed water. Feasibility study funded by the Piedmont Region, Italy, under grant agreement no. ASF 285-281/282/275/279/280.
- "Safe Nutri Food" Project (2013-2015): Development of dairy products supplemented with probiotic LAB. Study founded by the Piedmont Region, Italy, under grant agreement no. 0186000155.
- PROBIOLIVES (2010-2012): Table olive fermentation with selected strains of probiotic lactic acid bacteria (LAB). Towards a new functional food" 2010/2013. EU (FP7/2007-2013), under grant agreement ID 243471- PROBIOLIVES (http://cordis.europa.eu/result/rcn/140843_en.html).

Awards achieved:

- Awarded as Best Young Scientist at the IPC 2016 congress International Scientific Conference of Probiotics and Prebiotics (IPC; http://www.probiotic-conference.net/)
- Awarded for the best publication of a young SIMTREA's member in the year 2015. For the article entitled: "*In vitro* selection and characterization of new probiotic candidates from table olive microbiota"
- Awarded of FEMS Research Grant 2014 (FEMS-RG-2014-0014) and ICFMH Mobility Grant 2014

List of main publications

1. Beef carcass microbiota after slaughtering and primary cooling: A metataxonomic assessment to infer contamination drivers. Botta C., Franciosa I., Coisson J.D., Ferrocino I., Colasanto A., Arlorio M., Cocolin L., Rantsiou K. (2023). **doi.org/10.1016/j.foodres.2023.113466.**
2. Metataxonomic signature of beef burger perishability depends on the meat origin prior grinding. Botta C., Franciosa I., Alessandria V., Cardenia V., Cocolin, L., Ferrocino I. (2022). **doi.org/10.1016/j.foodres.2022.111103.**
3. *Lactiplantibacillus plantarum* inhibits colon cancer cell proliferation as function of its butyrogenic capability. Botta C., Spyridopoulou, K., Bertolino M., Rantsiou K., Chlichlia K., Cocolin L. (2022). **doi.org/10.1016/j.biopha.2022.112755.**
4. Impact of electrolyzed water on the microbial spoilage profile of Piedmontese steak tartare. Botta C., Coisson J.D., Ferrocino I., Colasanto A., Pessione A., Cocolin L., Arlorio M., Rantsiou K. (2021). **doi.org/doi.org/10.1128/Spectrum.01751-21.**
5. Spatiotemporal distribution of the environmental microbiota in food processing plants as impacted by cleaning and sanitizing procedures: The case of slaughterhouses and gaseous ozone. Botta C., Ferrocino I., Pessione A., Cocolin L., Rantsiou K. (2020). **doi.org/10.1128/aem.01861-20.**
6. Genomic assessment in *Lactobacillus plantarum* links the butyrogenic pathway with glutamine metabolism. Botta C., Acquadro A., Greppi A., Barchi L., Bertolino M., Cocolin L., Rantsiou K (2017). **doi: 10.1038/s41598-017-16186-8**.

7. *In vitro* selection and characterization of new probiotic candidates from table olive microbiota. Botta C., Langerholc T., Cencic A., Cocolin L. (2014). **doi:10.1371/journal.pone.0094457**.
8. Functional pangenome analysis reveals high virulence plasticity of *Aliarcobacter butzleri* and affinity to human mucus. Buzzanca D., Botta C., Ferrocino I., Alessandria V., Houf K., Rantsiou K. (2021). **doi.org/10.1016/j.ygeno.2021.05.00**
9. *Staphylococcus aure*us undergoes major transcriptional reorganization during growth with Enterococcus faecalis in milk. Viçosa G. N., Botta C., Ferrocino I., Bertolino M., Nero L. A., Ventura M., Cocolin L. (2018). **doi:10.1016/j.fm.2018.01.007**
10. Cytokine production in vitro and in rat model of colitis in response to *Lactobacillus plantarum* LS/07. Štofilová J., Langerholc T., Botta C., Treven P., Gradisnik L., Salaj R., Šoltésová A., Bomba A., Hertelyová Z., Bertková I. (2017). **doi: 10.1016/j.biopha.2017.07.138**.

Contributions in conference proceedings

1. Metataxonomic surveillance of contamination pathways in food processing environments: from observational studies to practical applications. Botta C., Tsoureki D., Chiarini E., Buzzanca D, Ferrocino I., Alessandria V., Rubiola S., Chiesa F., Cocolin L., Rantsiou K. IAFP's European Symposium on Food Safety, Aberdeen (UK), 3rd-5th of May 2023 (**Selected speaker**).
2. Insights into the Use of Electrolysed Water and Metataxonomic Profiling to Extend the Shelf Life of Ground Beef. Botta C., Ferrocino I., Franciosa I., Alessandria V., Cardenia V., Cocolin L., Rantsiou K. IAFP's European Symposium on Food Safety, Munich (Germany), 4th-6th of May 2022 (**Selected speaker**).
3. Towards new strategies to extend the ground beef shelf-life: the cases of electrolyzed water, bioprotective cultures and metataxonomic-based surveillance. Botta C., Ferrocino I., Franciosa I., Alessandria V., Cardenia V., Cocolin L., Rantsiou K. Food Micro 2022 _ Next Generation Challenges in Food Microbiology, Athens (Greece), 28th – 31st of August 2022 (**Selected speaker**).
4. RNA-based surveillance of meat processing environments revealed selective pressures of gaseous ozone on abattoir microbiota. Botta C., Ferrocino I., Cavallero M. C., Riva S., Cocolin L., Rantsiou K. IAFP's European Symposium (International Association for Food Protection), Nantes (France), 24th-26th of April 2019 (**Selected speaker**).
5. *Lactobacillus plantarum* exerts *in vitro* anticancer activities by producing butyric acid: a genome-scale investigation behind this health-promoting metabolic pathway. Botta C., Acquadro A., Spyridopoulou K., Greppi A., Barchi L., Bertolino M., Chlichlia K., Rantsiou K, Cocolin L. MD17 4th International Conference on Microbial Diversity, Bari (Italy), 24th-26th of October 2017 (**Selected speaker**).
6. Comparative genomics and functional analysis of *Lactobacillus plantarum* probiotic candidates highlighted a strain-dependent capability to produce butyric acid. Botta C., Acquadro A., Greppi A., Barchi L., Bertolino M., Cocolin L., Rantsiou K. International Scientific Conference on Probiotics and Prebiotics IPC 2016, Budapest (Hungary), 21st -23rd of June 2016 (**Selected Speaker**).