

# Paola Zanetta – Curriculum vitae

## PhD in Food, Health and Longevity



### EDUCATION

November 2024	Master's Degree in Clinical Nutrition, Niccolò Cusano University, Rome Thesis Title: <i>"Alimentazione, microbiota e sistema immunitario: dove nascono e si sviluppano patologie immunitarie e allergie?"</i> ("Nutrition, Microbiota, and the Immune System: Where Do Immune Pathologies and Allergies Originate and Develop?") Final Grade: 110/110
March 2024	PhD in Food, Health and Longevity (XXXVI Cycle), University of Eastern Piedmont (UPO), Novara (NO); SSD MED/07 Thesis Title: <i>"From in vitro probiotic strain selection and beyond"</i>
November 2020	State exam and qualification to practice as a biologist. Registration in the Register of Biologists of Piedmont, Liguria, and Valle d'Aosta, Section A, with number PLV_A4039
March 2019	Master's Degree in Medical Biotechnology from the University of Milan-Bicocca, Monza (MB); MEDS-03/A Thesis Title: <i>"Efficacy evaluation of natural extracts against Poxvirus using a Western Reserve modified Vaccinia virus infection model in cell culture"</i> Final Grade: 110/110 cum laude
October 2016	Bachelor's Degree in Biotechnology from UPO, Novara (NO); SSD MED/07 Thesis Title: <i>"Efficacy evaluation of novel drugs against a Western Reserve Vaccinia virus strain by using a plaque assay in the BS-C-1 cell line"</i> Final Grade: 105/110
July 2013	High school diploma in science (PNI) from Galileo Galilei Scientific High School, Borgomanero (NO) Final Grade: 86/100

### PROFESSIONAL EXPERIENCE

From November 2025 - Present	Technologist at the Joint Lab Research and Development Center for Environmental Remediation and Protection (RisPA), Department of Science and Technological Innovation (DISIT), UPO, Alessandria
March 2025 – October 2025	Postdoctoral fellow in neurophysiology in the PharmaHUB project, for the development of a drug repurposing platform for the treatment of rare pediatric diseases, at the physiology laboratory of Professor Lim (UPO-DSF)
June 2024 – February 2025	Freelance biologist, writing scientific articles

<i>May 2023 – December 2023</i>	PhD collaboration at Institut für Medizinische Mikrobiologie und Hygiene, Universitätsklinikum Freiburg, Germany, in the laboratory of Professor Georg Alexander Häcker
<i>November 2020 – March 2024</i>	PhD student in Food, Health and Longevity (XXXVI Cycle) at UPO, Novara (NO), in the Applied Microbiology laboratory of Dr. Barbara Azzimonti, with the project “Impact of selected probiotics and vitamin D against excessive oral pathogens colonization in oral squamous cell carcinogenesis: an integrated approach”
<i>Dicember 2019 – October 2020</i>	Research grant for the project “Microbiota and vitamin D involvement in cardiovascular disease development in HNSCC patients” in the Applied Microbiology laboratory of Dr. Barbara Azzimonti, at UPO-CAAD, Novara
<i>May 2020 – June 2020</i>	Collaboration with the company FASTMED ITALIA S.r.l. on the project "Evaluation of the biocidal activity of COMVIR - non-woven fabric", during the SARS-CoV-2 emergency, to certify the use of the fabric as a protective covering for mattresses and pillows for hotel use
<i>February 2018 – January 2019</i>	Erasmus+ for Traineeship at the Institut für Mikrobiologie der Bundeswehr, Munich, Germany, in the Virology laboratory of PD Dr Joachim J. Bugert, for the development of the master's thesis project
<i>January 2015 – July 2015</i>	Erasmus+ at Cardiff University, UK, in the Medical Microbiology laboratory of PD Dr Joachim J. Bugert for the completion of the three-year thesis project
<i>Acquired methodologies</i>	Isolation of soil bacteria; physiological characterization of beneficial soil bacteria for bioremediation: MIC for heavy metals, quantification of indoleacetate and siderophore production; biochemical identification with BIOLOG; genomic identification on 16S rRNA; isolation of primary murine cells; transfection; Western blot; ELISA; protein quantification assays (Bradford and BCA); production and staining of formalin-fixed, paraffin-embedded (FFPE) tissues; DNA extraction and purification for PCR and sequencing from tissues, bacterial cultures, cells, and patient samples; immunoprecipitation; participation in clinical trials and processing of human samples for analysis and isolation of bacterial strains; cultivation of eukaryotic and prokaryotic cells; growth of bacteria in aerobic, microaerophilic, and anaerobic conditions; drug or extract efficacy testing on viruses and bacteria (e.g., viability assays, biofilm, susceptibility testing, inhibition assays, E-tests; both in BSL-2 and BSL-3); RT-PCR; optical and fluorescence microscopy; confocal microscopy; bacterial cloning using plasmids and restriction enzymes; CRISPR-CAS9; lentiviral vector packaging; preparation of eukaryotic and prokaryotic culture media; 2D gel electrophoresis; API tests for bacterial identification; urine and stool culture. During university courses: sample preparation for MALDI-TOFF analysis and mass spectrometry data analysis (MASCOT); construction and characterization of liposomes and other lipid nanoparticles; immunofluorescence; basics of immunohistochemistry
<i>General skills</i>	Improved communication skills through participation in science communication and scientific writing courses in English. Continuous updating of knowledge through attendance at CME courses. Ability to work in a team, organize work independently, improve protocols, develop new experimental procedures, tutor students, present data and periodically update work through meetings and presentations, and write scientific projects and papers

## UPDATES

<i>October 2025</i>	ECM course on "Correct lifestyles and healthy eating to support infertility", FAD FNOB
<i>September 2025</i>	ECM course on "Introduction to Pediatric Nutrition in Physiological and Pathological Conditions", FAD FNOB
<i>June 2025</i>	Practical training course for animal facility access at Charles River Laboratories Italian S.r.l., Calco (LC)
<i>May 2025</i>	ECM Course on "Nutritional Management of Pregnant Women", FAD FNOB
<i>April 2025</i>	Theoretical courses for access to animal facilities, FAD provided by the Experimental Zooprophyllactic Institute of Lombardy and Emilia-Romagna (IZSLER)
<i>October-December 2024</i>	Course in Elements of Clinical Microbiology of the Order of Biologists PLV
<i>December 2024</i>	ECM Course on "Antibiotic Resistance (AR) and One Health", FAD FNOB
<i>November 2024</i>	ECM Course on "Oncological Nutritional Therapy", FAD FNOB

## LANGUAGE SKILLS

<i>Italian</i>	Native speaker
<i>English</i>	Level C1, determined by the OLS platform at the end of the Erasmus+ for Traineeship mobility period
<i>German</i>	Level B1, attendance of the B1.1 course at the Goethe Institut Rom

## COMPUTER SKILLS

	Microsoft and Microsoft Office (Word, Excel, PowerPoint, Publisher) GraphPad PRISM for biostatistical data analysis Databases and online programs (PubMed, NCBI, BLAST, ENA) vNTI program for primer and plasmid design Image-J and Image-J Fiji software for imaging data processing Geneious 6 Bioinformatic Software for sequencing data analysis Justbio Mendeley Ensembl and UCSC genome browser
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## AWARDS

18.05.2024	"Paladini Italiani della Salute", Rome, with the publication "Cell-Free Supernatant and Vitamin D Improve Wound Healing and Reduce Interleukin-6 Production in <i>Staphylococcus aureus</i> -Infected Human Keratinocytes"
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## OPEN BADGE AND SOCIAL MEDIA

International student	<a href="https://best.it/award/show/c1154631266ca6576b447e94abeda0714ae9c932">https://best.it/award/show/c1154631266ca6576b447e94abeda0714ae9c932</a>
Biotechnologie Mediche Master's Degree	<a href="https://best.it/award/show/9a5d9e3582db52468f8a9b0118ce76ec2ad85df2">https://best.it/award/show/9a5d9e3582db52468f8a9b0118ce76ec2ad85df2</a>
LinkedIn	<a href="https://www.linkedin.com/in/paola-zanetta-41513299/">https://www.linkedin.com/in/paola-zanetta-41513299/</a>
ResearchGate	<a href="https://www.researchgate.net/profile/Paola_Zanetta">https://www.researchgate.net/profile/Paola_Zanetta</a>
PubMed	<a href="https://pubmed.ncbi.nlm.nih.gov/?term=Zanetta+Paola&amp;sort=date">https://pubmed.ncbi.nlm.nih.gov/?term=Zanetta+Paola&amp;sort=date</a>

## ACADEMIC ROLES

2014 - 2016	Student representative on the Council of the Department of Health Sciences (DiSS), UPO
2013-2016	Student representative of the Biotechnology degree program on the Joint Committee of the School of Medicine, UPO
2013-2016	Student representative of the 1st (2013-2014), 2nd (2014-2015), and 3rd (2015-2016) year Biotechnology students, UPO

## PUBLICATIONS

2025	<p>Malecka J, Tonelli E, Saverio V, <b>Zanetta P</b>, Dematteis G, Tapella L, Lim D. <i>ER-mitochondria contacts: a bridge to healthy ageing?</i> Ageing and Longevity. 2025 Jun 27; 6(3):199-211. doi: 10.47855/jal9020-2025-3-4.</p> <p><b>Zanetta P</b>, De Giorgis V, Barberis E, Manfredi M, Amoruso A, Pane M, Azzimonti B. <i>Lactobacillus probiotic cell-free supernatants and vitamin D influence interleukin-6 production and mitigate oral periodontopathogens-induced cytotoxicity in FaDu cells.</i> Front Microbiol. 2025 Apr 25;16:1578267. doi: 10.3389/fmicb.2025.1578267. PMID: 40351306; PMCID: PMC12063358.</p>
2024	<p>Moeed A, Thilmany N, Beck F, Puthussery BK, Ortmann N, Haimovici A, Badr MT, Haghighi EB, Boerries M, Öllinger R, Rad R, Kirschnek S, Gentle IE, Donakonda S, Petric PP, Hummel JF, Pfaffendorf E, <b>Zanetta P</b>, Schell C, Schwemmle M, Weber A, Häcker G. <i>The Caspase-Activated DNase drives inflammation and contributes to defense against</i></p>

viral infection. Cell Death Differ. 2024 Jun 7. doi: 10.1038/s41418-024-01320-7. Epub ahead of print. PMID: 38849575.

2023

Di Cesare F, Calgaro M, Ghini V, Squarzanti DF, De Prisco A, Visciglia A, **Zanetta P**, Rolla R, Savoia P, Amoruso A, Azzimonti B, Vitulo N, Tenori L, Luchinat C, Pane M. Exploring the Effects of Probiotic Treatment on Urinary and Serum Metabolic Profiles in Healthy Individuals. J Proteome Res. 2023 Dec 1;22(12):3866-3878. doi: 10.1021/acs.jproteome.3c00548. Epub 2023 Nov 16. PMID: 37970754; PMCID: PMC10696601.

**Zanetta P**, Ballacchino C, Squarzanti DF, Amoruso A, Pane M, Azzimonti B. *Lactobacillus johnsonii* LJO02 (DSM 33828) Cell-Free Supernatant and Vitamin D Improve Wound Healing and Reduce Interleukin-6 Production in Staphylococcus aureus-Infected Human Keratinocytes. Pharmaceutics. 2023 Dec 21;16(1):18. doi: 10.3390/pharmaceutics16010018. PMID: 38276496; PMCID: PMC10820395.

**Zanetta P**, Squarzanti DF, di Coste A, Amoruso A, Pane M, Azzimonti B. Growth Conditions Influence Lactobacillus Cell-Free Supernatant Impact on Viability, Biofilm Formation, and Co-Aggregation of the Oral Periodontopathogens Fusobacterium nucleatum and Porphyromonas gingivalis. Biomedicines. 2023 Mar 11;11(3):859. doi: 10.3390/biomedicines11030859. PMID: 36979838.

Azzimonti B, Ballacchino C, **Zanetta P**, Cucci MA, Monge C, Grattarola M, Dianzani C, Barrera G, Pizzimenti S. Microbiota, Oxidative Stress, and Skin Cancer: An Unexpected Triangle. Antioxidants (Basel). 2023 Feb 21;12(3):546. doi: 10.3390/antiox12030546. PMID: 36978794.

2022

**Zanetta P**, Squarzanti DF, di Coste A, Rolla R, Valletti PA, Garzaro M, Dell'Era V, Amoruso A, Pane M, Azzimonti B. In Vitro Selection of Lactobacillus and Bifidobacterium Probiotic Strains for the Management of Oral Pathobiont Infections Associated to Systemic Diseases. Int J Mol Sci. 2022 Dec 18;23(24):16163. doi: 10.3390/ijms232416163. PMID: 36555802; PMCID: PMC9787750.

Squarzanti DF, **Zanetta P**, Ormelli M, Manfredi M, Barberis E, Vanella VV, Amoruso A, Pane M, Azzimonti B. An animal derivative-free medium enhances Lactobacillus johnsonii LJO02 supernatant selective efficacy against the methicillin (oxacillin)-resistant Staphylococcus aureus virulence through key metabolites. Sci Rep. 2022 May 23. doi: 10.1038/s41598-022-12718-z

**Zanetta P**, Ormelli M, Amoruso A, Pane M, Azzimonti B, Squarzanti DF. Probiotics as Potential Biological Immunomodulators in the Management of Oral Lichen Planus: What's New? Int J Mol Sci. 2022 Mar 23. doi: 10.3390/ijms23073489

Hucke FIL, Bestehorn-Willmann M, Bassetto M, Brancale A, **Zanetta P**, Bugert JJ. CHIKV strains Brazil (wt) and Ross (lab-adapted) differ with regard to cell host range and antiviral sensitivity and show CPE in human glioblastoma cell lines U138 and U251. Virus Genes. 2022 Mar 26. doi: 10.1007/s11262-022-01892-x

2021

Azzimonti B, Raimondo L, Squarzanti DF, Rosso T, **Zanetta P**, Aluffi Valletti P, Chiusa L, Masini L, Pecorari G, Airolidi M, Krengli M, Giovarelli M, Valente G. Macrophages expressing TREM-1 are involved in the progression of HPV16-related oropharyngeal squamous cell carcinoma. Ann Med. 2021 Dec;53(1):541-550. doi: 10.1080/07853890.2021.1905872. PMID: 33769181; PMCID: PMC8008925.

	<b>Zanetta P</b> , Squarzanti DF, Sorrentino R, Rolla R, Aluffi Valletti P, Garzaro M, Dell'Era V, Amoruso A, Azzimonti B. <i>Oral microbiota and vitamin D impact on oropharyngeal squamous cell carcinogenesis: a narrative literature review</i> . Crit Rev Microbiol. 2021 Mar;47(2):224-239. doi: 10.1080/1040841X.2021.1872487. Epub 2021 Jan 21. PMID: 33476522.
2020	Squarzanti DF, <b>Zanetta P</b> , Azzimonti B. <i>Non-Melanoma Skin Cancer and the Cutaneous Microbiota Network</i> . Bio Med (Aligarh) 2020 November 23; 12:473. Doi: 10.35248/0974-8369.20.12.473.
	Bugert JJ, Hucke F, <b>Zanetta P</b> , Bassetto M, Brancale A. <i>Antivirals in medical biodefense</i> . Virus Genes. 2020 Apr;56(2):150-167. doi: 10.1007/s11262-020-01737-5. Epub 2020 Feb 19. PMID: 32076918; PMCID: PMC7089181.
2016	McGuigan C, Serpi M, Slusarczyk M, Ferrari V, Pertusati F, Meneghesso S, Derudas M, Farleigh L, <b>Zanetta P</b> , Bugert J. <i>Anti-flavivirus Activity of Different Tritylated Pyrimidine and Purine Nucleoside Analogues</i> . ChemistryOpen. 2016 Jan 21;5(3):227-35. doi: 10.1002/open.201500216. PMID: 27551659; PMCID: PMC4984408.

## CONFERENCES

2022	Roma, International Conference on Probiotics and Prebiotics, " <i>Roles of probiotics in oral health</i> ", <b>Zanetta P</b> , Squarzanti DF, Ferrier M, Amoruso A, Pane M, Migliario M, Azzimonti B, oral presentation.
	Napoli, Congresso Nazionale del Corso di Studi in Igiene Dentale, " <i>I surnatanti di probiotici dei generi Lactobacillus e Bifidobacterium contrastano la vitalità e virulenza del parodontopatogeno Fusobacterium nucleatum</i> ", <b>Zanetta P</b> , Squarzanti DF, Di Coste A, Amoruso A, Pane M, Azzimonti B, poster presentation
2021	Novara, XIX Congresso Nazionale Corsi di Studi in Igiene Dentale; "Il mantenimento dell'ecosistema orale: il futuro dell'igienista dentale", UPO, AOU Maggiore della Carità, Novara, Italy; title " <i>Impatto dei probiotici nel contenimento delle infezioni orali endogene: uno studio in vitro</i> "; oral communication.
	50th Annual ESDR Meeting Virtual, " <i>Role of specific probiotics in skin diseases: new insights from in vitro investigation</i> ", Squarzanti DF, <b>Zanetta P</b> , Manfredi M, Ormelli M, Amoruso A, Azzimonti B; abstract n. 278 in abstract book
	Wehrmedizinische Monatsschrift 2021/02, " <i>Entwicklung eines mikroskopischen Modells der Blut-Hirn-Schranke zur Testung antiviraler Wirkstoffe gegen Orthopockenviren</i> ", Cocca A, Lettau JM, Helfen A, Hurler L, <b>Zanetta P</b> , Narayan R, Bugert JJ; Poster-Abstract n. S-70
2020	Virtual Summit on Pre and Probiotics: A Shift from Pharmaceuticals to Nutraceuticals, ProBio-7, " <i>Non-melanoma skin cancer and cutaneous microbiota network: contribution of pathogens, commensals and probiotics</i> ", Azzimonti B, Squarzanti DF, <b>Zanetta P</b>
	"Food, Health and factors promoting longevity" workshop, Novara ( <u>postponed to 2021 due to SARS-CoV-2 pandemic</u> ) with the following abstract: " <i>Role of a blend of probiotic secretoma &amp; vitamin D forms against S. aureus viability: a novel in vitro approach to</i>

*study skin tumorigenesis*", DF Squarzanti, **P Zanetta**, N Filigheddu, A Amoruso, F Deidda, A Visciglia, E Zavattaro, L Camillo, P Savoia and B Azzimonti

2018

16<sup>th</sup> Medical Biodefense Conference, Munich with the following abstracts:

GO 03 "*Biological evaluation of novel small-molecule antiviral agents versus tick-borne encephalitis virus*", **P Zanetta**, F Hucke, D Frieze, M Bassetto, A Brancale and JJ Bugert (presenting author) – oral presentation

GO 05 "*Biological evaluation of natural extracts versus poxviruses*", **P Zanetta** (presenting author), L Baillie, J Blaxland and JJ Bugert – **oral presentation**

GP 02 "*Biological evaluation of antiviral agents versus encephalitis viruses using live cell microscopy*", L Hurler (presenting author), **P Zanetta**, R Narayan, D Frieze and JJ Bugert – poster presentation

GP 04 "*Biological evaluation of novel small-molecule antiviral agents versus Chikungunya virus*", F Hucke (presenting author), **P Zanetta**, D Frieze, A Helfen, M Bassetto, A Brancale and G Sutter – poster presentation

GP 05 "*Flaviviral NS4A induces autophagy in human epithelial cells*", A Tscherne (presenting author), R Narayan, C Hinz, **P Zanetta**, D Frieze, A Helfen and JJ Bugert – poster presentation