

PARTNER IDENTIFICATION FORM - HORIZON-MISS-2026-05-SOIL-02	
PIC	999995602
Full legal name	Università degli Studi di Padova (Dipartimento di Biomedicina Comparata e Alimentazione)
Legal name in EN	University of Padua (Department of Comparative Biomedicine and Food Science)
Acronym	UNIPD
Department	Dipartimento di Biomedicina Comparata e Alimentazione (BCA)
Address	Viale dell'Università, 16
City	Legnaro (PD)
Country	Italy
Region	Veneto
Post Code	35020
City	Legnaro, Padova
Website	https://www.bca.unipd.it/en/
Email	direzione.bca@unipd.it
Telephone	+ 39 049 8272952
PROFILE	
Type of Organisation	Higher or secondary education establishment
Is the partner organisation a public body?	Yes
Is the partner organisation a non-profit?	Yes
BACKGROUND AND EXPERIENCE	
Please briefly present the partner organization	The Department of Comparative Biomedicine and Food Science (BCA) is the department of the University of Padova that pursues excellence in research and teaching in all disciplines related to veterinary medicine, comparative animal science and food safety . Today, BCA is a flourishing department, rich in ideas and

	<p>specific expertise that has 51 active professors (2022). BCA supports scientific projects integrated with specific needs of the territory, promoting technological transfer of the obtained results. It develops relationships with the business community, public and professional associations.</p>
<p>Fields of research and topics of interest of the organization</p>	<p>With particular reference to the call HORIZON-MISS-2026-05-SOIL-02, the research activities involve a multidisciplinary team.</p> <p>The integrated research area includes expertise in molecular epidemiology, antimicrobial resistance, environmental microbiology, pharmaceutical uptake and advanced analytical chemistry. The teams are composed of academic staff, senior researchers, PhD candidates and specialized technicians.</p> <p>Core research activities focus on the molecular epidemiology of bacteria of animal and environmental origin, with particular emphasis on zoonotic potential and antimicrobial resistance (AMR).</p> <p>The group contributes to major initiatives such as EUPAHW, supporting the detection, monitoring and characterization of emerging microbial threats under a One Health framework.</p> <p>In parallel, the analytical chemistry laboratory investigates the uptake and metabolism of human and veterinary pharmaceuticals in plant species. Using LC-MS technologies, current studies show significant variability in pharmaceutical absorption depending on plant species and drug characteristics, providing essential insights into contaminant fate in soils and agroecosystems.</p> <p>Together, these groups offer a comprehensive understanding of microbial dynamics, contaminant pathways and ecosystem health.</p> <p>Future research interests include:</p> <ul style="list-style-type: none"> • Developing One Health-based strategies to counter antimicrobial resistance, integrating animal, environmental and human health components. • Understanding soil as a reservoir of resistance genes, examining how environmental conditions influence AMR persistence and transfer. • Studying soil as a reservoir of pharmaceutical contaminants, and determining how soil physicochemical properties affect pharmaceutical uptake in plants. • Combining microbial and chemical approaches to explore interactions between contaminants, microbial communities and resistance development. <p>These topics naturally support interdisciplinary collaborations with experts in soil chemistry, environmental modelling, phytochemistry, microbial ecology, water treatment and environmental engineering.</p>

<p>What are the skills and expertise of key staff/persons of the organization?</p>	<p><u>Regarding the call:</u> The area provides a wide range of complementary competencies, including:</p> <p>Microbiology and molecular epidemiology</p> <ul style="list-style-type: none">• Classical and molecular microbiology for full identification and characterization of microorganisms from animal and environmental sources.• Advanced molecular tools: qPCR, WGS, metagenomics.• Phenotypic and genotypic analysis of antimicrobial resistance in bacterial isolates.• Microbiome and resistome profiling of environmental matrices (soil, water, biofilms). <p>Analytical chemistry and contaminant assessment</p> <ul style="list-style-type: none">• Setup of hydroponic and soil cultivation systems for controlled pharmaceutical uptake experiments.• Qualitative and quantitative assessment of pharmaceutical absorption and metabolism in plants.• Development and optimization of extraction protocols for analytes in plant, soil and environmental matrices.• High-precision quantification of pharmaceuticals and metabolites using LC-MS. <p>These combined skills enable comprehensive assessment of environmental stressors, contaminant behaviour and AMR pathways, making the group an asset for multidisciplinary European projects.</p> <p><u>More in general:</u></p> <ul style="list-style-type: none">• 51 professors and researchers, 35 technicians and administrative employees,• At the moment, involved in 5 UE projects and 12 national/regional projects (ongoing). It has also signed 22 grant agreements for commissioned research activities with private and public bodies (ongoing).• The average number of publications in the period 2017-2021 has been 181 publications per year;• Centre of excellence for aquatic animal health research;• 3 patents in nanotechnology and biosensors, a direct drug patent to the treatment of diseases of the skeletal muscle, and finally a system of living cells of marine mammals for studies of cell biology, toxicological test and application for large-scale research.• five patents in nanotechnology and biosensors, a direct drug patent to the treatment of diseases of the skeletal muscle and finally a system and method for cognitive assessment and training of an animal.
--	--

	<ul style="list-style-type: none"> 2 spin-offs: a system and method for cognitive assessment and training of an animal and a development of products, materials, devices and processes based on nanoparticles. 	
CONTACT PERSONS		
Contract Person 1	Massimo Milan, PhD - Dept. of Comparative Biomedicine and Food Science - University of Padova - massimo.milan@unipd.it	
Contact Person 2	Prof. Paolo Carnier - Dept. of Comparative Biomedicine and Food Science - University of Padova - paolo.carnier@unipd.it	
European Union granted projects		
Programme	Year	Project identification
Horizon Europe	2022	FishEUTrust: Building trust in EU fish supply chains
Horizon Europe	2022	Improving Green Innovation for the Blue Revolution
H2020	2020	Improving biosecurity compliance in poultry farms
H2020	2019	Advancing European Aquaculture by Genome Functional Annotation
LIFE	2019	LIFE DELFI
H2020	2017	Integrating Innovative Approaches for Competitive and Sustainable Performance across the Mediterranean Aquaculture Value Chain -
H2020	2016	Preventing and Mitigating farmed Bivalve Diseases