

PARTNER IDENTIFICATION FORM - HORIZON-CL6-2027-01-BIODIV-07	
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)
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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-CL6-2027-01-BIODIV-07, the research activities involve a multidisciplinary team.</p> <p>The integrated research area brings together expertise in molecular epidemiology, environmental microbiology and advanced analytical chemistry. The team includes senior academic staff, early-career researchers, PhD students and specialized technical personnel.</p> <p>Activities focus on the molecular epidemiology of bacteria of animal and environmental origin, with particular attention to zoonotic pathogens and antimicrobial resistance.</p> <p>Current work includes participation in the EUPAHW initiative, contributing to surveillance, characterization and risk assessment of emerging microbial threats in a One Health framework. A complementary research line investigates the uptake and metabolism of human and veterinary pharmaceuticals in various plant species, using advanced liquid chromatography–mass spectrometry (LC-MS) methods. This work supports the assessment of environmental contamination pathways and the fate of pharmaceutical compounds across ecosystems.</p> <p>Together, these competencies enable integrated analyses of microbial risk, contaminant exposure and ecosystem health.</p> <p>Key areas of interest include:</p> <ul style="list-style-type: none"> • Applying a One Health perspective to predict the impact of existing and emerging stressors (e.g., contaminants, pathogens, antimicrobial agents) on ecosystems and human/animal health. • Investigating pathogen spillover dynamics, antimicrobial resistance evolution and ecosystem-level health risks. • Expanding research on the fate, uptake and transformation of pharmaceuticals and related metabolites in biological systems (animals, plants, environmental matrices). <p>Future activities would include combining microbiological and analytical-chemical approaches to study interactions between environmental contaminants, microbial communities and resistance development under realistic exposure scenarios.</p> <p>Potential synergies involve collaboration with groups working on:</p> <ul style="list-style-type: none"> • environmental health and monitoring, • antibiotic-residue analysis, • aquatic and terrestrial ecosystem physiology,

	<ul style="list-style-type: none"> antimicrobial resistance risk assessment.
<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 identification and full characterization of microorganisms of animal and environmental origin. Advanced molecular tools such as qPCR, whole-genome sequencing (WGS) and metagenomics. Phenotypic and genotypic analysis of antimicrobial resistance in bacterial isolates. Resistome and microbiome profiling of environmental matrices (water, soil, biofilms). <p>Analytical chemistry and contaminant assessment</p> <ul style="list-style-type: none"> Qualitative and quantitative evaluation of pharmaceutical uptake and metabolism in biological systems. Development and optimization of extraction protocols for analytes in animal, plant and environmental matrices. High-precision detection and quantification of pharmaceuticals and metabolites using LC-MS platforms. <p>These combined skills support integrated research on environmental health hazards, antimicrobial resistance pathways, contaminant fate and cross-ecosystem risk evaluation.</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. ive 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		
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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