Name and surname:	**Katarzyna Wróblewska**
Academic Degree:	dr hab. inż. (DSc.)
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UPWr Base of Knowledge - link:	https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr2a7ecf7bf5554633830720d48e3eb4ff&affil=&lang=pl
Researchgate:	https://www.researchgate.net/profile/Katarzyna-Wroblewska-4
Personal website / Working group website:	
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	1. "Hydrobox 2.0 – innovative technology supporting water saving and vegetation", contract number: POIR.04.01.01- 00-0061/16 Task Manager 9. "Validation of the effects of growth and health of perennials and shrubs used in the areas of the urban planning' Completion: 2017-2020 2. "Implementation and adaptation to the climatic and soil conditions of Polish innovative technology of fruit production with a closed irrigation system and biofortification with iodine and selenium on the example of cranberries" Rural Development Programme 2014-2020; Action 16. Cooperation; contract no. DDD.6509.00036.2017.09 a. Coordinator of Task 1. "Evaluation of the effect of strigolactone inhibitors on rooting and growth of side shoots on large cranberries cuttings and b. Coordinator of Task 2. "The use of innovative substrate components to increase water retention in cultivation cranberries'. Completion: 2018-2020.
PhD topic:	Development of methods for the use of rainwater to support biodiversity on a green roof
Research discipline in Doctoral School:	Agriculture and Horticulture
Short description of the research problem to be solved in the PhD (minimum 1000 characters):	The loss of biodiversity is one of the main threats to the environment in the modern world. Poor species composition of communities have a negative impact on their ecosystem services, such as urban heat island mitigation, water retention, water retention, water, landscape connectivity or the ability of plants to retain pollutants. Greater plant biodiversity also supports the diversity of other organisms: bacterial microflora, fungi and animals. It also helps in species conservation. The seriousness of the problem is reflected in the numerous documents on the the need to protect biodiversity, issued by international (m.in. WHO, OECD or FAO) and local organisations. In the EU, the most important document on this issue is the EU Biodiversity Strategy 2030". In addition to the main theses, such m.in as the fact that the state of nature conservation for moral, economic and economic reasons environmental performance is critical; Biodiversity is key to ensuring the safety of biodiversity prevention of the emergence or spread of diseases, Chapter 2.2.8 appears. on the promotion of greening of cities, including the development of green roofs. Green roofs are unique habitats created in places that would otherwise go unused.Their primary task is to retain and delay the runoff of rainwater, but covering it with greenery is being appreciated more and more often, especially in the context of preserving and improving biodiversity in the city. However, there are often unfavorable living conditions for plants: water scarcity, strong sunlight, high temperatures in summer, low temperatures in winter and strong winds. In such cases, only certain plant species are able to survive without additional treatments, e.g. irrigation. However, sustainable cultivation of plants on green roof must not be based on additional use of resources in addition to rainwater, what leads to the depletion of the floristic composition. The aim of the project is to develop methods of rainwater retention in such a way that plants can use it. This should improve the humidity conditions in the substrate on the green roof so that it becomes possible to colonize it by plant species with higher water requirements.With greater aquatic biodiversity, ecosystem services should be increased and the biodiversity of other organisms: microflora in the substrate and plant microbiome, invertebrates (in pollinators) and vertebrates improved. The water retention capacity should also be increased. Assessment of these phenomena and the degree of their change is the second purpose of the project.
Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):	1. Completed Master's degree with a specialization in horticulture or a related field (biotechnology, agriculture, landscape architecture and inter.); 2. Good command of languages English, enabling communication and the use of English-language literature; 3. knowledge of programming basics, e.g. MatLab, Python, 3. Interest in scientific work and creativity, involvement; 4. Ability to work both independently and in a team, communicativeness; 5.Laboratory work experience; 6. Skills in statistical analises and research results interpretation.
a) Project title:	None
b) Agreement number:	None
c) Number of months in the project to support PhD student (in months; starting from 1st of October 2024):	0
Project website:	