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UPWr Base of Knowledge - link:	<a href="https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr9f92c1aca9114d249231190a40d37cd7">https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr9f92c1aca9114d249231190a40d37cd7</a>
Researchgate:	<a href="https://www.researchgate.net/profile/Katarzyna-Paweska">https://www.researchgate.net/profile/Katarzyna-Paweska</a>
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Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	<p>HORYZONT EUROPA Symbiotyczne, cyrkulacyjne systemy bioremediacji i rozwiązania biotechnologiczne na rzecz poprawy zrównoważonego rozwoju środowiskowego, gospodarczego i społecznego w kontroli zanieczyszczeń (SYMBIOREM) – czas trwania projektu 1.09.2022 - 31.08.2026 – wykonawca (RF)</p> <p>NCBiR: EIG CONCERT-Japan „Struktura organizacyjnego procesu decyzyjnego w zakresie ponownego wykorzystania wody/ścieków dla inteligentnych” miast (akronim: SMARTWATERDomain)”. Czas trwania projektu 01.09.2020-31.01.2024 – kierownik projektu ze strony polskiej (PI)</p> <p>PROW: „Dostosowanie i wdrożenie innowacyjnej technologii uzdatniania wody w zamkniętym systemie nawadniania wraz z wykorzystaniem biologicznych środków ochrony i biostymulatorów na przykładzie żurawiny wielkoowocowej” – wykonawca w okresie 01.07.2020-31.03.2022 (RF)</p> <p>DOBRY START. Tworzenie podstaw przyszłych kompetencji zawodowych, społecznych i osobistych oraz rozwój aktywności edukacyjnej uczniów klas V-VIII szkół podstawowych. Czas realizacji projektu 04.02.2019 - 31.12.2021 – wykonawca (RF)</p>
PhD topic:	Research on the possibility of greywater treatment in multi-stage NBS systems
Research discipline in Doctoral School:	Environmental Engineering, Mining and Energy
Short description of the research problem to be solved in the PhD (minimum 1000 characters):	<p>The constantly decreasing access to water resources and the deterioration of their quality motivate the search for alternative water sources, independent of the volume of supplies. Domestic sewage consists on over 90% of water, which is used in households mainly in processes related to personal hygiene. This causes formation of significant stream of grey wastewater which, together with faeces, are discharged into sewage systems or individual treatment systems. This approach results in the loss of an important source from which water can be recovered and reused. Greywater should be treated before it might be reused. One of the solutions are NBS systems (nature based solution), which adapt processes occurring in the natural environment for wastewater purification. NBS are commonly used to purify domestic sewage, rainwater, and surface runoff mainly from organic matter, nutrients, and heavy metal ions. They are also used to remove pharmaceuticals and remains of personal care products, from sewage. The number of NBS solutions used for domestic wastewater treatment is constantly increasing. In addition to the technical role of NBS related to purification, those systems can also use vegetation that blends in with the surrounding landscape becomes an integral part of the environment. The use of NBS solutions for the greywater treatment not only in individual systems, but also in urban space and public facilities improves water quality and fits into the directions of adaptation to climate change (use of blue-green infrastructure solutions). Reusing wastewater and water recovery is also an activity consistent with the European Union's policy of reducing the risk of water shortages.</p> <p>The main aim of the doctoral thesis will be to assess the possibility of using multi-stage NBS systems (nature based solution) in the treatment of greywater and assessment of treatment effectiveness in the context of selected pollutants concentrations.</p>
Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):	Completed master program MSc Eng. : Environmental Engineering Science, Environmental Protection or related fields specialization wastewater treatment, wastewater management. Have predispositions to scientific work. Have a strong motivation for research. at least theoretical knowledge of laboratory techniques related to, among others, determining the physicochemical composition of wastewater, IR and UV-Vis spectroscopy, or have completed courses in this field; knowledge of statistical analyses; documented knowledge of English at least B2 level; have predispositions to work in the field; additionally: activity in the student scientific club, participation in scientific conferences;
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:	