Name and surname:	**Krzysztof Lejcuś**
Academic Degree:	dr hab. (DSc.)
Institute/Department:	Institute of Environmental Engineering
e-mail address:	krzysztof.lejcus@upwr.edu.pl
ORCID:	https://orcid.org/0000-0001-5440-9854
UPWr Base of Knowledge - link:	https://bazawiedzy.upwr.edu.pl/info/author/UPWrd66ea4caf32645989ce400bf2981f03b/Profil+osoby+%25E2%2580%2593+Krzysztof+Lejcu%25C5%259B+%25E2%2580%2593+Uniwersytet+Przyrodniczy+we+Wroc%25C5%2582awiu?r=author&ps=20&tab=&lang=en&pn=1&cid=246700
Researchgate:	https://www.researchgate.net/profile/Krzysztof-Lejcus
Personal website / Working group website:	https://wiksig.upwr.edu.pl/en/faculty/structure/institute-of-environmental-engineering
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	1. 2022 - 2026. Symbiotic, circular bioremediation systems and biotechnology solutions for improved environmental, economic and social sustainability in pollution control. Horizon Europe. Task leader. 2. 2017-2021. "Hydrobox2.0 - an innovative technology supporting water saving and plant vegetation". Measure 4.1 "Research and development work", Sub-measure 4.1.4 "Application projects" Project no. POIR.04.01.04-00-0061. Project manager. http://hb2.upwr.edu.pl/ 3. 2020 - present Project manager on the part of UPWr in the project "Adaptation and implementation of an innovative water treatment technology in a closed irrigation system with the use of biological protection agents and biostimulators on the example of large-fruited cranberry". Rural Development Program 2014 - 2020, Measure "Cooperation" - "Supporting innovation, cooperation and development of the knowledge base in rural areas." https://ec.europa.eu/eip/agriculture/en/find-connect/projects/dostosowanie-i-wdro%C5%BCenie-innowacyjnatechnologii 4. 2021 - Contractor in the project "Innovation Incubator 4.0" - a program of the Minister of Education and Science implemented by the European Regional Development Fund under the non-competitive project entitled "Support for the management of scientific research and commercialization of R&D results in research units and enterprises". Measure 4.4 Intelligent Development Operational Program 2014-2020. 5. 2020 - now. The contractor in the project "Innovative technology for the production of plug plant and long cane berry seedlings with a high productivity factor on the example of raspberry and thornless blackberry" (contract No. 00032.DDD.6509.00013.2019.07), under Measure 16 "Cooperation" of the Rural Development Program 2014-2020 ". 6. 2019. Member of the Program Council. BioSciUniversity. "Strategy of Excellence - Research University", UPWr. 7. 2009-2014. Coordinator of the project "Water-absorbing geocomposites - innovative technologies supporting plant vegetation (GEOSAP)", European Regional Development Funds under the Operational Program Innovative Economy 2007-2013. www.geosap.up.wroc.pl
Do you plan to engage support of second supervisor or auxiliary supervisor?	YES
	Auxiliary supervisor
Name and surname:	Beata Malczewska
Academic Degree:	dr inż. (Dr. Eng.)
Faculty, Institute/Department:	Institute of Environmental Engineering
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ORCID:	https://orcid.org/0000-0003-4652-2165
UPWr Base of Knowledge - link or most important publications from last 3 year (JCR) / patents from last 3 years (maximum 5):	https://bazawiedzy.upwr.edu.pl/info/author/UPWr9f39e5badb5e4f6187b8e21bbc55a5b1/Person%2Bprofile%2B%25E2%2580%2593%2BBeata%2BMalczewska%2B%25E2%2580%2593%2BWroc%25C5%2582aw%2BUniversity%2Bof%2BEnvironmental%2Band%2BLife%2BSciences?r=author&tab=&lang=en&qp=
Researchgate:	https://www.researchgate.net/profile/Beata-Malczewska
Personal website / Working group website:	
Projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	1. Development of innovative technology to reduce the migration of saline groundwater to surface watercourses in the area of the Mining Waste Disposal Facility (OUOW) Żelazny Most", 2022 (RF) 2. Pre-deposited dynamic membrane filtration for the removal of natura organic matter from water (RF) 3. Modified adsorptive electrospun nanofiber membrane for the removal of contaminants from water (RF) 4. Direct Biofiltration as a Pretreatment to Control Reverse Osmosis Fouling in Drinking Water Treatment 2019 (RF) 5. Evaluation of the and effectiveness of Natural Organic Matter removal and fouling mechanism (RF) 2019 6. Facilitating the use of Heated Aluminium Oxide Particles (HAOPS) to remove NOM from water 2019
PhD topic:	Innovative polymer-based membrane materials for water and wastewater treatment
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):	One of the cornerstones of environmental protection in Europe is protection of the water resources of fresh and saltwater ecosystems and ensuring the access to drinking water of good quality. At the same time, water scarcity and drought are increasingly frequent and widespread phenomena in various locations. Therefore, there is a need to find efficient technology to remove contaminants from water. That should be characterized by lower energy consumption and a higher percentage of the input water is produced as a product. This PhD project builds on ongoing research projects in the area of filtration at IIS UPWr. Current work will be expanded to improvement of membrane separation processes in water and brine generated by process mining companies. Different materials will be examined with the target of achieving good removal and selectivity and reduction of membrane fouling. Conduct experimental studies to synthesize and characterize ultrafiltration membranes in detail extending to assembling and testing. The PhD project will include the integration and optimization of membrane filtration processes to maintain and improve sustainable water treatment processes and assess the performance and analyze the efficacies of water recovered from various membrane filtration units.
Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):	Education in environmental engineering/protection or related. Knowledge in the field of filtration purification technologies. Laboratory analysis experience (water chemistry/analytical) Performs analysis of wastewater samples using standard laboratory procedures and techniques within well-established guidelines, including generation of sample reports. Participates in validation and other performance testing, including set-up, operation, and data collection. Knowledge of English at a minimum level of B2 or appropriate. High self-discipline, willingness to work both individually and in a team. Experience in laboratory and field work is welcome. An additional advantage will be having at least one scientific article with an IF impact indicator.
a) Project title:	
b) Agreement number:	
c) Number of months in the project to support PhD (in months; starting from 1st of October 2022):	
Project website:	