Name and surname	**Andrzej Białowiec**
Academic Degree	prof. dr hab. inż. (Prof.)
Institute/Department	Department of Applied Bioeconomy
e-mail address	andrzej.bialowiec@upwr.edu.pl
ORCID	0000-0002-5871-2129
UPWr Base of Knowledge - link	https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr903a39c81e8e493eb3646a16ed2782f5&affil=&lang=enhttps://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr903a39c81e8e493eb3646a16ed2782f5&affil=&lang=en
Researchgate	https://www.researchgate.net/profile/Andrzej-Bialowiec
Personal website / Working group website	https://bazawiedzy.upwr.edu.pl/info/team/UPWr3f2491470e0340d6971ba3a144db1ad6/Waste+and+Biomass+Valorization+Group?affil=&ps=20&tab=&lang=en&pn=1&cid=2074216
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca))	2021 – present – Research grant entitled “Research on the release of volatile organic compounds from carbonized solid fuel produced from municipal solid waste” NCN funding, Preludium BIS 2 program, decision number DEC-2020/39/O/ST8/02750, $136K - PI 2020 - present – Research grant entitled "Investigation of the influence of technological parameters of pyrolysis and substrate properties on the release of volatile organic compounds from biochar". NCN funding, Preludium BIS program, decision number DEC-2019/35/O/ST8/03353, $136K - PI 2020-present - Academic Exchange Grant "The effect and microbial mechanisms of hydrochar on the enhancement of methane production from organic waste", the bilateral, scientific exchange between Poland and China, Polish National Agency for Academic Exchange, PPN/BCN/2019/1/00050, $8K - PI 2019 The development of an innovative, effective method of biomass biological treatment under an anaerobic condition - the project implemented under the Bon for Innovations program. Project number: POIR.02.03.02-10-0024/18. $100K - PI 2015-2019 An innovative technological line for the conversion of organic waste into innovative, high-quality solid fuels - the project from program 1/1.1.1/2015 action 1.1.1. PO IR POIR (NCBiR). $4865K - PI 2017 Selection of the composition of substrates based on the best-terra compost and composting technology at the factory composting plant at the Boguszowice sewage treatment plant - the project implemented under the Bon for Innovations program. Project number: POIR.02.03.02-24-0019/17. $108K - PI
Do you plan to engage support of second supervisor or auxiliary supervisor?	YES
	Second supervisor (from other discipline, polish or international research unit)
Name and surname	Krzysztof Marycz
Academic Degree	prof. dr hab. inż. (Prof.)
Faculty, Institute/Department	Department of Experimental Biology
e-mail address	krzysztof.marycz@upwr.edu.pl
ORCID	0000-0003-3676-796X
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.seam?id=UPWr1f4dea0edf494227b872e54669d6d13b&affil=&lang=en
Researchgate	
Personal website / Working group website:	https://upwr.edu.pl/en/research/leading-research-group/reg-med-lab-marycz-lab
Participation projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca))	2019 - present - Role and therapeutic potential of sex hormone binding protein (SHBG) in insulin resistance, inflammation, lipotoxicity in adipose tissue progenitor cells and in adipocytes in mares with metabolic syndrome (EMS). OPUS18, 2019/35/B/NZ7/03651, (PI). 2018 - present - Inhibition of tyrosine phosphatase as a strategy of insulin sensitization by activating chaperone autophagy and suppressing inflammation and cell stress of the liver of horses with metabolic syndrome (EMS)". NCN 2018/29/B/NZ7/02662, (PI).
PhD topic	**The biowaste upcycling to high-quality products for application in animal wellbeing improvement**
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)	The proposed project reflects new trends in the development of the bioeconomy approached related to closing the loop of bio-renewable resources cycling by the valorization of the biowaste from the food industry into high- quality products, which may be used for animal wellbeing improvements. The aim of the project will be the identification of the potential sources of valuable compounds or precursor compounds present in different groups of biowaste and the application of different biological and thermochemical methods of biowaste transformation leading to the biosynthesis and extraction of valuable compounds used in animal farming and health care. Additionally, the residual biowaste will be transformed due to pyrolysis or hydrothermal carbonization into functionalized carbon material used as a feed additive and as a probiotics and drugs carrier in animal farming and health care. The project is related to the creation of process innovation (procedure of biowaste transformation and upcycling), and product innovation (new types of functionalized carbon materials with immobilized probiotics and drugs).
Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters)	The proposed research project has an interdisciplinary character. Therefore, the candidate should be open to immersing numerous scientific approaches and disciplines, should be capable of application of different research methods and techniques. The candidate should have skills and interests in among the following fields analytical chemistry, biotechnology, biosorption, bioaccumulation, industrial microbiology, organic matter biotransformation, biochar or hydrochar production, and application. The candidate should be ready for intensive application for external funds, active writing papers, and participate in international internships.

Details of the project to support PhD research	
a) Project title	none
b) Agreement number	none
c) Number of months in the project to support PhD (in months; starting from 1st of October 2022)	0
d) Project website	