

Name and surname:	Andrzej Białowiec
Academic Degree	prof. dr hab. inż. (Prof.)
Institute/Department	Department of Applied Bioeconomy
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ORCID:	0000-0002-5871-2129
UPWr Base of Knowledge - link	https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr903a39c81e8e493eb3646a16ed2782f5&afil=&lang=pl
Researchgate:	https://www.researchgate.net/profile/Andrzej-Bialowiec
Personal website / Working group website:	https://upwr.edu.pl/en/research/leading-research-group/waste-and-biomass-valorization-group-wbvg
Projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	<p>2020 - present - Research on 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, (PI).</p> <p>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. (PI).</p> <p>2018-2019. Fulbright Scholarship - Senior Fulbright Award, Agricultural and Biosystems Engineering, Iowa State University, Ames, IA, USA. Research project: Research on pollutants emission from Carbonized Refuse Derived Fuel into environment, (PI).</p> <p>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). (PI).</p> <p>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. (PI).</p>
7) 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. (Prof.)
Faculty, Institute/Department	Department of Experimental Biology
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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&afil=&lang=pl
Researchgate:	
Personal website / Working group website:	https://upwr.edu.pl/en/research/leading-research-group/req-med-lab-marycz-lab
Participation projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	<p>1. 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).</p> <p>2. 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).</p>
Research topic and funding	
1) PhD topic:	The biowaste upcycling to high-quality products for application in animal wellbeing improvement
2) Research discipline in Doctoral School	Environmental Engineering, Mining and Energy
3) Short description of the research problem to be solved in the PhD:	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).
4) Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques):	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.
5) Details of the project to support PhD research	
a) Project title:	none
b) Agreement number:	0
c) Number of months in the project to support PhD (in months; starting from 1st of October 2021):	0
6) Project website:	