Name and surname:	**Aleksandra Mirończuk**
Academic Degree:	dr hab. (DSc.)
Institute/Department:	Institute of Environmental Biology
e-mail address:	aleksandra.mironczuk@upwr.edu.pl
ORCID:	0000-0003-1604-1635
UPWr Base of Knowledge - link:	https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr3d2c277d8cbe4817a5e66e9c7ad81b81&affil=&lang=en
Researchgate:	https://www.researchgate.net/profile/Aleksandra-Mironczuk
Personal website / Working group website:	https://www.instagram.com/lab4bio_upwr/reel/Cut7fxyMyDm/
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	PI 1) 2019-2023 OPUS16 Molecular mechanism of polyol assimilation in the yeast Yarrowia lipolytica 2) 2018-2023 OPUS14 The study of the physiology of yeast Yarrowia lipolytica for decomposing of plastic 3) 2018 MINIATURA Investigating the effect of Vitreoscilla haemoglobin overexpression on the metabolism of the yeast Yarrowia lipolytica 4) 2015-2018 LIDER/010/207/L-5/13/NCBR/2014 Improvement of the biosynthesis of natural sweeteners from waste materials by the yeast Yarrowia lipolytica RF: 1) 2018-2021 Sonata BIS Study on influence of alternative carbon sources on lipids biosynthesis in yeast Yarrowia lipolytica. 2) Yeast4Bio (Non-Conventional Yeasts for the Production of Bioproducts) Action Nº CA18229 (MC Member) 1) 2017-2020 Preludium Identification of key genes involved in regulation of erythritol metabolism, as a cell response of yeast Yarrowia lipolytica to osmotic stress
Do you plan to engage support of second supervisor or auxiliary supervisor?	YES
	Auxiliary supervisor
Name and surname:	Aneta K. Urbanek
Academic Degree:	dr (Dr.)
Faculty, Institute/Department:	Institute of Environmental Biology
e-mail address:	aneta.urbanek@upwr.edu.pl
ORCID:	0000-0002-4418-0512
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/UPWr891ea63d7b1449dcbe87830e8d0197a5?r=author&tab=&title=Profil%2Bosoby%2B%25E2%2580%2593%2BAneta%2BUrbanek%2B%25E2%2580%2593%2BUniwersytet%2BPrzyrodniczy%2Bwe%2BWroc%25C5%2582awiu&lang=pl
Researchgate:	https://www.researchgate.net/profile/Aneta-Urbanek
Personal website / Working group website:	https://www.instagram.com/lab4bio_upwr/reel/Cut7fxyMyDm/
Projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	PI:02.2018 – 01.2020, "Optimization of the decomposition process of bioplastics by microorganisms" (D220/0006/18), Innowacyjny Doktorat UPWr RF: 1. 01.09.2022 – 30.09.2023, „The role of Candida albicans' plasma membrane sphingolipids in the potentially new mechanism of drug resistance and in the inflammatory response" (2021/43/B/NZ1/00523), NCN, 2. 06.08.2018 – 31.12.2018 and 01.10.2020 – 31.12.2020, „The study of the physiology of yeast Yarrowia lipolytica for decomposing of plastic" (2017/27/B/NZ9/02218),
PhD topic:	The study of the impact of the contamination of soils with microplastics on the adaptation of microbes to their degradation.
Research discipline in Doctoral School:	Biological Sciences
Short description of the research problem to be solved in the PhD (minimum 1000 characters):	The increasing amount of plastic waste poses new challenges for scientists to find ways to reduce environmental pollution. Plastics (polymers) are considered non-biodegradable because of the very slow breakdown process we can observe in nature. Microplastics (MP), i.e. plastic fragments with a diameter of less than 5 mm, are extremely hazardous because they can accumulate in living organisms: plankton, fish, plants and also in the human body. The long-term effects of microplastic accumulation in living organisms have not yet been fully studied. Many MP have been found in the sewage treatment plant, since during laundry a enormous amount of MP is realized. Residues from the sewage treatment plant are used as fertiliser, so MP finishes on the farm's fields. The aim of the study is identify the MP pollution in the region of Lower Silesia and isolate the microorganisms capable toward polymers biodegradation. To this end it will be necessary to collect the soils samples from the fields in lower Silesia region and conduct the assay toward plastic biodegradation by the isolated microorganisms. The results extend the knowledge of MP contamination and allow the isolation of a new microorganism capable of biodegrading the synthetic polymers.
Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):	The candidate applying for the postdoctoral position should have a university degree in biology, experimental biology, chemistry, biotechnology or related. Fluency in English is a prerequisite. A completed internship abroad is welcome. Knowledge of molecular biology techniques such as PRC, primer design, cloning is an additional requirement. Ability to think critically and analytically, willingness to work and to do internships abroad. Learning to write scientific papers, presenting results in oral presentations will also be essential.
a) Project title:	0
b) Agreement number:	0
c) Number of months in the project to support PhD student (in months; starting from 1st of October 2024):	0
Project website:	