

<b>Name and surname</b>	<b>Katarzyna Wińska</b>
Academic Degree	dr hab. inż. (DSc.)
Institute/Department	Department of Biocatalysis and Food Chemistry
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ORCID	0000-0003-2320-6610
UPWr Base of Knowledge - link	<a href="https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWrB84bead510a54356be625ab1993a9be0&amp;affil=&amp;lang=pl">https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWrB84bead510a54356be625ab1993a9be0&amp;affil=&amp;lang=pl</a>
Researchgate	<a href="https://www.researchgate.net/profile/Katarzyna-Winska">https://www.researchgate.net/profile/Katarzyna-Winska</a>
Personal website / Working group website	<a href="https://publons.com/researcher/1284548/katarzyna-winska/">https://publons.com/researcher/1284548/katarzyna-winska/</a>
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca))	<p>1. Voucher for innovation: "Conducting research and development work consisting in the development of a new, innovative product for the company: herbal bath agent based on essential oils" 27/09/2019-30/09/2019 with Przedsiębiorstwo Avicenna Oil Wiktor Podlaski ul. Opolska 11-19 52-010 Wrocław (project manager) B090 / 1231/19</p> <p>2. Task leader 6: Implementation and adaptation to the climatic and soil conditions in Poland of an innovative technology of fruit production with a closed irrigation system and biofortification with iodine and selenium on the example of cranberry. The operation is carried out under Measure 16. "Cooperation" of the Rural Development Program 2014-2020. Operation co-financed by the European Agricultural Fund for Rural Development. 01/10/2018-30/06/2020. (B130 / 0003/19) head Prof. Adam Figiel</p>
Do you plan to engage support of second supervisor or auxiliary supervisor?	NO
<b>PhD topic</b>	<b>The influence of black garlic production and processing methods on its chemical profile.</b>
Research discipline in Doctoral School	Nutrition and Food Technology
Short description of the research problem to be solved in the PhD (minimum 1000 characters)	The main topic of the doctoral dissertation will be the development of an optimal procedure for obtaining dried black garlic from the Polish variety "Harnaś". The doctoral dissertation will investigate changes in the chemical composition of black garlic depending on the parameters of the aging process and with the use of various drying techniques. The obtained biological material will be subjected to isolation processes aimed at obtaining extracts with optimal biological properties. Research will also be performed to modify the composition of extracts towards potential health-promoting applications. For this purpose, among others, methods using strains of non-pathogenic microorganisms will be used. Moreover, after obtaining the appropriate extracts, it will be necessary to perform biological tests aimed at determining the suitability of black garlic extracts for food, pharmaceutical and cosmetic production. As part of the work, the doctoral student will also have to select methods of identifying the main groups of compounds present in the obtained product (such as: polyphenolic compounds, flavonoids, amino acids, sugars, organic acids, alkaloids and volatile sulfur compounds).
Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters)	Future PhD student should have a university degree in biological sciences, chemical sciences, food technology, or related field. The doctoral student should have documented knowledge of the English language at at least intermediate level in speech and writing (B2). In addition, it is necessary that he knows the operation of computer programs, such as: Microsoft Word and Microsoft Exel. He should be oriented in the basic analytical techniques, including chromatography, ie column chromatography (CC, FLASH), thin layer chromatography (TLC and preparative TLC), gas chromatography coupled with a mass spectrometer (GCMS).
<b>Details of the project to support PhD research</b>	
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	