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Academic Degree:	dr hab. inż. (DSc.)
Institute/Department:	Departament of Fruit, Vegetable and Plant Nutraceutical Technology
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UPWr Base of Knowledge - link:	https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr3a292f5d6af9405396715eecb6f6d54f&affil=&lang=pl
Researchgate:	
Personal website / Working group website:	
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	<ol style="list-style-type: none"> 1. Determination of the chemical composition, health-promoting properties and antioxidant activity of common pear fruit (<i>Pyrus communis</i> L.). 2014-2018. Research project of the National Science Center No. 2013/09/D/NZ9/00375; PI 2. Factors shaping the quality of grapes and wines. 2014-2017. Research project of the National Science Center No. 2013/09/B/NZ9/01745; RF 3. Development of a chokeberry drink rich in bioactive compounds with high antioxidant activity and low level of turbidity and sediments. 2015-2018. Project of the National Center for Research and Development No. PBS3/B8/21/2015; RF
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:	Małgorzata Zakłós-Szyda
Academic Degree:	dr hab. inż. (Dr. Sc)
Faculty, Institute/Department:	Lodz University of Technology, Faculty of Biotechnology and Food Sciences, Institute of Molecular and Industrial Biotechnology
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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):	<p>Publications:</p> <ol style="list-style-type: none"> 1. Narangerel, T., Zakłós Szyda, M., Sójka, M., Majak, I., Koziolkiewicz, M., Leszczyńska, J. Chemical Components of <i>Oxytropis pseudoglandulosa</i> induce apoptotic type cell death of Caco 2 cells, <i>Molecules</i> 2022, 27, 4609. https://doi.org/10.3390/molecules27144609 2. Kowalska, G., Rosicka-Kaczmarek, J., Miśkiewicz, K., Zakłós-Szyda, M., Rohn, S., Kanzler, C., Wiktorska, M., Niewiarowska, J. Arabinoxylan-based microcapsules being loaded with bee products as bioactive food components are able to modulate the cell migration and inflammatory response—in vitro study, <i>Nutrients</i> 2022, 14, 2529. https://doi.org/10.3390/nu14122529 3. Grzelczyk, J., Sz wajgier, D., Baranowska-Wójcik, E., Budryn, G., Zakłós-Szyda, M., Sosnowska, B. Bioaccessibility of coffee bean hydroxycinnamic acids during in vitro digestion influenced by the degree of roasting and activity of intestinal probiotic bacteria, and their activity in Caco-2 and HT29 cells; <i>Food Chemistry</i> 392 2022, 133328; https://doi.org/10.1016/j.foodchem.2022.133328 4. Nowak, A., Zakłós-Szyda, M., Rosicka-Kaczmarek, J., Motyl, I. Anticancer potential of post-fermentation media and cell extracts of probiotic strains: an in vitro study, <i>Cancers</i> 2022, 14, 1853. https://doi.org/10.3390/cancers14071853 <p>Patents:</p> <ol style="list-style-type: none"> 1. Michalczuk L., Rutkowski K., Markowski J., Zakłós-Szyda M., Zielonka Ł., Babuchowski A. „Method for obtaining dry extracts of triterpenes and fibre and their application as components of food products” - Patent of the Polish Patent Office No. P.420097 granted in 2020.
Researchgate:	M-5229-2019
Personal website / Working group website:	
Participation projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	<ol style="list-style-type: none"> 1. Research project PRELUDIUM 15 No. UMO-2018/29/N/NZ9/01160 entitled "Bioavailability and health-promoting properties of hydroxycinnamic acids of coffee beans modified in the roasting process"; 2018-2022; head - dr inż. Joanna Grzelczyk; RF 2. Research project financed by the National Science Center MINIATURA 3 No. 2019/03/X/NZ9/01254 on "Effect of selected phytochemicals on fructose metabolism - in vitro studies"; 12/2019 - 03/2021; PI 3. OPUS project financed by the National Science Center No. 2016/23/B/NZ9/03629 on "Effect of <i>Viburnum opulus</i> fruit components on lipid metabolism and adipogenesis - in vitro studies"; 2016-2021; head - dr hab. Eng. Anna Podśędek, prof. university; RF 4. OPUS project financed by the National Research Center No. 2016/21/B/NZ9/00898 on "Searching for high biological activity of legume seeds based on different levels of molecular modeling"; 2016-2021; head - prof. dr hab. Eng. Grazyna Budryn; RF
PhD topic:	The use of wild plants in obtaining functional products with high anticancer properties
Research discipline in Doctoral School:	Nutrition and Food Technology

<p>Short description of the research problem to be solved in the PhD (minimum 1000 characters):</p>	<p>The main causes of death in developed countries are so-called lifestyle-related non-communicable diseases, such as cancers, insulin resistance, high blood pressure, type II diabetes and cardiovascular diseases. It has been proven that factors related to lifestyle (sedentary lifestyle, obesity, diet rich in fat, too much red meat consumption, environmental factors, alcohol consumption and smoking), genetic predisposition as well as chronic conditions have a direct influence on the formation of these diseases (Nunez-Sanchez et al., 2015). Phenolic compounds have been shown to be beneficial to human health on the basis of in vitro and in vivo data, human clinical studies and epidemiological studies. Epidemiological evidence shows that diet rich in plant-based raw materials promote health and alleviate or delay the onset of many diseases. The beneficial effects of plants are largely attributed to phenolic compounds. A diet rich in flavonoids may have beneficial health effects by modulating the expression of certain genes that are clearly associated with disease risk. The aim of the project will be to obtain sensory-attractive fruit and vegetable preserves using wild plants as a source of bioactive compounds. During the project, an analysis of bioactive compounds in plants from the families of knotweed, common polypore, mint, asteraceae, rosacea and madder will be performed, and their pro-health potential and cytotoxicity will be determined. The profile and content of polyphenolic, carotenoid and triterpenoid compounds will be determined by UHPLC-MS methods and the biological properties of plants, including antioxidant, anti-inflammatory and anticancer activity. Then, with the use of plants with the highest health-promoting properties, fruit and vegetable preserves in liquid and semi-liquid form will be produced, and model preparations of bioactive compounds in the form of powders will be created. The last stage of the research will be to determine the influence of processing processes on the biological properties of bioactive compounds.</p>
<p>Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):</p>	<ul style="list-style-type: none"> - Master's degree in agricultural sciences or exact and natural sciences; - grade point average from the course of the first and second cycle studies or uniform master's studies - at least 4.0; - knowledge of English at least at B2 level of the European System of the Description of Languages - scientific experience in the characterization of bioactive compounds, including polyphenolic compounds - experience in the implementation of research related to the processing of plant products - knowledge of research methods in the field of physicochemical analysis of plant materials
<p>a) Project title:</p>	
<p>b) Agreement number:</p>	
<p>c) Number of months in the project to support PhD (in months; starting from 1st of October 2022):</p>	
<p>Project website:</p>	