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UPWr Base of Knowledge - link:	<a href="https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr693b76729b04497ab2e4fa9745b99466">https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr693b76729b04497ab2e4fa9745b99466</a>
Researchgate:	
Personal website / Working group website:	
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	(i) Contractor in the project: "Biotransformation and cascade refining of oilseed plant meals to obtain surfactants, polymers and feed components" financed from European Funds, Smart Development Operational Program, INNOCHEM - contractor, (ii) Leader of the R&D Team in the project: "Research work -development Agrolok Sp. o. o. regarding the development of innovative high-protein feed components based on soy and rapeseed to increase protein safety in the EU", financed by European Funds, Smart Development Operational Program, Fast Track, (iii) project in the Horizon 2020 Framework Program, ERA-NET CO-FUND ICT- AGRI-FOOD, LivestockSense, "Increasing the environmental sustainability of livestock farms by removing barriers to the adoption of ICT technologies" - contractor.
Do you plan to engage support of second supervisor or auxiliary supervisor?	YES
	Auxiliary supervisor
<b>Name and surname:</b>	<b>Damian Konkol</b>
Academic Degree:	dr inż. (Dr. Eng.)
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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):	<a href="https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr58e0936eab454c5ab402c313f4a5ca26&amp;affil=&amp;lang=pl">https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr58e0936eab454c5ab402c313f4a5ca26&amp;affil=&amp;lang=pl</a>
Researchgate:	
Personal website / Working group website:	
Projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	(i) Project "Biotransformation and cascade refining of oilseed plant meals to obtain surfactants, polymers and feed components, financed from European Funds, Smart Development Operational Program, INNOCHEM - contractor, (ii) project in the Horizon 2020 Framework Program, ERA-NET CO -FUND ICT-AGRI-FOOD, LivestockSense, "Increasing the environmental sustainability of livestock farms by removing barriers to the adoption of ICT technologies" - contractor, (iii) Project "Determination of the immunomodulatory properties of levan as a poultry feed additive", National Research Center, Preludium 20 - prime investigator
PhD topic:	The use of levan subjected to the biosorption process in poultry nutrition
Research discipline in Doctoral School:	Animal Science and Fisheries
Short description of the research problem to be solved in the PhD (minimum 1000 characters):	The most frequently supplemented microelements in poultry feed mixtures are copper (Cu), iron (Fe), zinc (Zn) and manganese (Mn). All the indicated minerals are of great importance in the functioning of human and animal organisms, and feed or plant food do not cover the demand for them, therefore their supplementation is necessary. Supplementation of microelements at the appropriate level is therefore of great importance both in the context of animal health and productivity, but also in the context of public health. However, the form of supplemented microelements is also extremely important. Currently, the most popular method of balancing microelements in feed mixtures is the addition of inorganic salts. They are characterized by low bioavailability for the animal and are therefore used in high doses, and unassimilated elements are excreted in the feces. Furthermore, large amounts of these salts cause the problem of feed separation. Therefore, feeds are not homogeneous and a deficiency or excessive intake of microelements may occur. Organic forms of microelements are an alternative to inorganic salts because they do not form indigestible complexes with phytate compounds in the feed and have greater bioavailability, which is up to ten times greater than inorganic forms. Thanks to the high bioavailability of minerals, animal products such as eggs and meat can be enriched with these elements. Thanks to its strong chelating properties, levan can potentially be used as a substrate in the biosorption process and enriched with selected microelements. Therefore, the aim and complete novelty of the proposed research is to determine the biosorption properties of levan, as well as to assess the possibility of using the polymer prepared in this way in poultry nutrition and in the design of functional food products of poultry origin. The research hypotheses are as follows: 1. Levan, thanks to its chelating properties, may have affinity for microelements and thus can be used as a potential substrate in the biosorption process; 2. Microelements chelated by levan should be characterized by better bioavailability; 3. Better bioavailability of microelements should have a positive impact on animal performance, intestinal integrity and reduce the occurrence of oxidative stress markers in animal tissues; 4. Better bioavailability of microelements chelated by levan may increase their transfer to the contents of eggs and meat; 5. Food products of poultry origin (eggs and meat) obtained in this way should have the features of functional food and characterize of better quality.
Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):	completed studies in animal science or veterinary medicine; knowledge of the office suite; knowledge of statistical software (e.g. Statistica, SAS, R package); knowledge of analytical techniques for the determination of basic nutrients in feeds, in particular multielemental analyses; knowledge of English at a minimum B2 level; ability to formulate feed mixtures for poultry; practical knowledge of poultry nutrition; involvement in research work during studies; participation in research carried out by the scientific unit where the candidate is to be accepted; possible publication achievements, especially in the presented thematic scope;
a) Project title:	none
b) Agreement number:	none
c) Number of months in the project to support PhD student (in months; starting from 1st of October 2024):	0
Project website:	