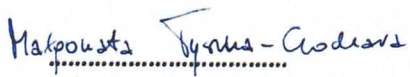


Annex no 1 to the Rules for submitting research topics
for admission to the Doctoral School of Medical and Health Sciences programmes
for the academic year 2022/2023

Research topic submission form by holders of a post-doctoral habilitation or professor degree for the doctoral programme in the discipline of medical sciences, <u>pharmaceutical sciences</u>, health sciences <i>Underline the applicable</i>	
Title/degree Full Name	dr hab. Małgorzata Tyszką-Czochara
Submitter <i>please select the relevant category</i>	<input checked="" type="checkbox"/> JU Medical College employee with a professor or post-doctoral habilitation degree who has declared that their academic achievements correspond at least 75% with the doctoral programme discipline in which the topic is submitted <input type="checkbox"/> a person with a professor or post-doctoral habilitation degree who does not fulfil the conditions specified in the previous section and is employed in a university or academic institution in Poland, and who has declared to affiliate at least 25% of their academic achievements to the discipline relevant for the doctoral programme, and who will present the consent of the person fulfilling the criteria specified in point 1a to act as the auxiliary supervisor
Date of obtaining a) doctoral degree	19.04.2004
b) post-doctoral habilitation degree	16.12.2019
c) professor degree	-
Place of employment:	Zakład Bromatologii, Wydział Farmaceutyczny, Collegium Medicum Uniwersytet Jagielloński, Kraków
E-mail address:	malgorzata.tyszka-czochara@uj.edu.pl
Contact phone:	504 053 552
Academic achievements: List of max 5 publications from the last 3 calendar years	<p>Szymaszek, P., Fiedor, P., Chachaj-Brekiesz, A., Tyszką-Czochara, M., Świergosz, T., Ortyl, J. Molecular interactions of bovine serum albumin (BSA) with pyridine derivatives as candidates for non-covalent protein probes: a spectroscopic investigation. Journal of Molecular Liquids. 2022, 347, 118262, doi: 10.1016/J.MOLLIQ.2021.118262</p> <p>Tyszką-Czochara M *, Suder M, Dołhańczuk-Śródka A, Rajfur M, Grata K, Starosta M, Jagoda-Pasternak A, Kasprzyk W, Nowak AK, Ahmadzadeh S, Kopeć D, Suryło P, Świergosz T, Stadnicka KM. Nature-Inspired Effects of Naturally Occurring Trace Element-Doped Hydroxyapatite Combined with Surface Interactions of Mineral-Apatite Single Crystals on Human Fibroblast Behavior. Int J Mol Sci. 2022 23, 802. doi: 10.3390/ijms23020802. PMID: 35054988; PMCID: PMC8775611.</p> <p>Nit K., Tyszką-Czochara M., Bobis-Wozowicz S. Oxygen as a Master Regulator of Human Pluripotent Stem Cell Function and Metabolism. J Pers Med. 2021, 11, 905. doi: 10.3390/jpm11090905. PMID: 34575682; PMCID: PMC8466012.</p> <p>Tyszką-Czochara M.* Caffeic Acid targets metabolism of cervical squamous cell carcinoma, in Cancer: Oxidative Stress and Dietary Antioxidants. Editors: Victor Preedy, Vinood Patel. 2nd Edition. Cambridge: Academic Press, 2021</p>

	Tysza-Czochara M *. ; Adach, A.; Grabowski, T.; Konieczny, P.; Pasko, P.; Ortyl, J.; Świergosz, T.; Majka, M. Selective Cytotoxicity of Complexes with N,N,N-Donor Dipodal Ligand in Tumor Cells. Int. J. Mol. Sci. 2021, 22, 1802. *corresponding author
Impact Factor summary	108
Web of Science Core Collection index	480
Hirsch index	14
Number of promoted PhD degree holders:	Tutoring 1 PhD student
Number of promoted MA degree holders:	28
Proposed research topic	Pharmacological modulation of cell metabolism in mouse model of experimental autoimmune myocarditis
Please provide reasons for the topic-discipline compliance (max. 100 words)	The research topic is the analysis of cellular and molecular mechanisms in the pathogenesis of myocarditis in preclinical models. Inflammatory diseases of the heart muscle are an important area of cardiology that is part of medical and pharmaceutical science.
A brief description of research methods (max. 250 words)	Inflammatory and post-inflammatory cardiomyopathies are an important cardiac problem. In addition, due to the COVID-19 pandemic and frequently observed cases of myocardial injury in patients infected with SARS-CoV-2, the number of cases of inflammatory and post-inflammatory heart disease is expected to increase significantly in the near future. In this project, we aim to investigate the effects of drugs and dietary supplements with modulatory effects on cell metabolism and the autophagy process in mouse model of experimental autoimmune myocarditis . The aim of the project is to identify a pharmacological substance with the best cardioprotective potential. Due to limited literature data and their inconsistency, we will test the effects of both autophagy inhibitors chloroquine and bafilomycin as well as autophagy activators metformin and resveratrol. The effects of these pharmacological substances will be investigated 1) on the development of autoimmune response and acute myocarditis (preventive strategy) and 2) on the development of post-inflammatory fibrosis and cardiomyopathy (therapeutic strategy). Animal model studies will be complemented by in vitro experiments on cells obtained from experimental animals. We believe that the proposed study will allow to significantly broaden our understanding about the mechanisms of myocarditis and will contribute to the development of new therapies for patients with inflammatory heart disease.
Expected place for the project implementation:	Zakład Immunologii Klinicznej, Katedra Immunologii Klinicznej i Transplantologii, Instytut Pediatrii, WL, UJCM w Krakowie – scientific cooperation with dr hab. Przemysław Błyszczuk, prof. UJ
Tasks description for the PhD student	<ul style="list-style-type: none"> - performing experiments using animal models, collecting material from experimental animals and performing measurements using different methods - performing cell cultures and carrying out measurements using various methods - analysis and development of results - presenting the results at scientific conferences

	- writing research articles The project is part of a grant funded by the National Science Center, which allows the award of an additional scholarship for work in the project.	
Expectations towards the PhD student: specific skills and experience (the description of expectations cannot indicate a specific candidate).	- ability to work in a team and good self-organization - very good command of the English language - ability to work with laboratory animals (mice) - basics of cell culture - diligence and high motivation to achieve scientific success - openness to new technologies	
Temporary availability of the PhD student (number of hours/weeks) necessary for the project implementation	Minimum 30h/week	
Does the research project require PhD student's independent performance of medical procedures?	<u>NO</u> *	YES *
Does the research project require PhD student's professional licence?	<u>NO</u> *	YES * <i>explain below briefly why and what sort of professional licence is required</i>
Does the research project have funding for at least the first year of the project?	IT DOES NOT REQUIRE FUNDING * <i>a statement of reasons should be attached</i>	<u>YES</u> * <i>please complete funding declaration</i>
Date 12.05.2022	 Submitter's signature	

* underline the applicable

** if the research topic requires the independent performance of medical procedures by a PhD student, then following the admission conditions (Annex to Resolution no 3/1/2022 of the JU Senate of 26 January 2022 - Detailed terms and procedure for admission to the Doctoral School of Medical and Health Sciences at the Jagiellonian University in the academic year 2022/2023), the candidate must have the professional licence, which should be indicated below.

The submitted research topic must not duplicate thematically or conceptually with any current project prepared by the PhD student under the supervision of the person submitting the research topic.

The completed form must be printed, signed in appropriate places, scanned and sent by electronic mail **by 30 April 2022**

to:

STATEMENT OF THE PERSON SUBMITTING THE RESEARCH TOPIC for research projects that require funding	
Title/degree Full Name	dr hab. Małgorzata Tyska-Czochara
<p>I declare that I will provide funding for the research project</p> <p>entitled Pharmacological modulation of cell metabolism in mouse model of experimental autoimmune myocarditis</p> <p>during at least the first year of the project.</p>	
Source of funding <i>Indicate the type, number and title of the grant or research from the statutory grant, and the completion date</i>	Grant NCN nr. 2019/35/B/NZ5/00551
Date	12.05.2022
Signature	