Candidate supervisor's information summary form
maximum 2 pages – it should be a summary of most important achievements

Name and surname, degree, title:Patryk Krzemiński, PhD, professor associate	
Academic discipline/disciplines	Biological sciences
Professional development (degrees and titles) in chronological order	2008 PhD; Presence and activity of selected nucleotide receptors in glioma cell lines 2021 Habilitation; Impact of selected genetic and epigenetic changes on the pathogenesis of multiple myeloma
Most important publications/ patents in the last 3 years (maximum 10)	1. PMID: 38500772 Factors determining the sensitivity to proteasome inhibitors of multiple myeloma cells. Pelon M, Krzeminski P, Tracz-Gaszewska Z, Misiewicz-Krzeminska I. Front Pharmacol. 2024 Mar 4;15:1351565. doi: 10.3389/fphar.2024.1351565. eCollection 2024. PMID: 38500772 Free PMC article. Review. 2. PMID: 38169187 The protective effect of silver nanoparticles' on epithelial cornea cells against ultraviolet is accompanied by changes in calcium homeostasis and a decrease of the P2X7 and P2Y2 receptors. Krzemiński P, Misiewicz-Krzemińska I, Grodzik M, Padzińska-Pruszyńska I, Kucharzewska P, Ostrowska A, Sawosz E, Pomorski P. Biomed Pharmacother. 2024 Jan;170:116090. doi: 10.1016/j.biopha.2023.116090. Epub 2024 Jan 1. PMID: 38169187 Free article. 3. PMID: 37629892 A Comprehensive Assessment of the Biocompatibility and Safety of Diamond Nanoparticles on Reconstructed Human Epidermis. Fraczek W, Kregielewski K, Wierzbicki M, Krzeminski P, Zawadzka K, Szczepaniak J, Grodzik M. Materials (Basel). 2023 Aug 12;16(16):5600. doi: 10.3390/ma16165600. PMID: 37629892 Free PMC article.
Experience in work with doctoral students (defended doctoral dissertations, initiated doctoral procedures) in chronological order	Co-promoter of PhD student since 2021

Achievements in the area of projects/grants (in the last 5 years)	2025 Second stage of the Opus grant competition, enabling application for an internal grant from the Warsaw University of Life Sciences. Resubmitted the Opus project, including the employment of two doctoral students.
Subject area of the research project for which the candidate student is being recruited	The role of DNA methylation in glucocorticoid resistance in multiple myeloma with t(4:14) translocation Multiple myeloma is an incurable disease originating in antibody-producing plasma cells in the blood. Despite many initially very effective treatment regimens, myeloma remains incurable. The main cause of death in patients, apart from infections, is the rapid development of drug resistance, including resistance to glucocorticoids, which are used in virtually every patient. In high-risk cytogenetic groups such as del(17p), t(4;14), and t(14;16), resistance to glucocorticoids develops more rapidly compared to standard-risk groups. The mechanism of the lack of therapeutic effect of these drugs remains unclear, although there is evidence suggesting the involvement of epigenetic changes in the drug resistance of multiple myeloma. The aim of the project will be to investigate the role of DNA methylation in the development and overcoming of drug resistance to glucocorticoids in selected cell lines.
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