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

Name and surname, degree, title: Magdalena Pawełkowicz, dr hab. inż., prof. SGGW	
Academic discipline/disciplines	Biological Sciences
Professional development (degrees and titles) in chronological order	Master of Engineering – 1999 Doctor of Agricultural Sciences – 2004 Habilitated Doctor of Biological Sciences – 2023
Most important publications/ patents in the last 3 years (maximum 10)	• Turek S., Skarzyńska-Łyżwa A., Aparna A., Pląder W., Riewe D., Junker A., Altmann T., Pawełkowicz M., Multi-omics integration of transcriptome, miRNA, and metabolome uncovers molecular mechanisms of male flower development in cucumber line B10 (Cucumis sativus L.); Scientific Report 2025, 15, 45734. • Skarzyńska-Łyżwa A., Turek S., Pisz M., Aparna, Pląder W., Pawełkowicz M. Genome-Wide Identification and Characterization of Histone Acetyltransferases and Deacetylases in Cucumber, and Their Implication in Developmental Processes. Genes. 2025; 16(2):127. https://doi.org/10.3390/genes16020127 • Mirzwa-Mróz E., Zieniuk B., Yin Z., Pawełkowicz M. Genetic Insights and Molecular Breeding Approaches for Downy Mildew Resistance in Cucumber (Cucumis sativus L.): Current Progress and Future Prospects. International Journal of Molecular Sciences. 2024; 25(23):12726. https://doi.org/10.3390/ijms252312726 • Zhang, B., Zhou, Y., Pawełkowicz, M., Wójcik-Gront, E., Pismanik, M., Wnorowski, Ł., Fu, Z., Małecka-Przybysz, M., Moniuszko, H., Zhu, C., Przybysz, A. A comparative study of foliar particulate matter wash-off from plants under natural and simulated rain conditions. Scientific Reports, 14(1), 28409, 2024 • Yin, Z., Zieniuk B., Pawełkowicz M. Climate Change Effects on Cucumber Viruses and Their Management. Agriculture 14, 11, 1999, 2024 • Wójcik-Gront, E., Zieniuk, B., & Pawełkowicz, M. Harnessing AI-powered genomic research for sustainable crop improvement. Agriculture, 14(12), 2299, 2024 • Pawełkowicz M., Zieniuk B., Staszek P., Przybysz A. From sequencing to genome editing in cucurbitaceae. Agriculture 14 (1), 90, 2024 • Aparna, Skarzyńska A., Pląder W., Pawełkowicz M. Impact of Climate Change on Regulation of Genes Involved in Sex Determination and Fruit Production in Cucumber. Plants. 12(14):2651, 2023; • Turek S., Aparna, Skarzyńska A., Pląder W., Pawełkowicz M. Understanding Transcription Factors and How They Affect Processes in Cucumber Sex Determination. Metabolites.; 13(6):740, 2023 • Turek S., Pląder W., Yoshikazu H., Skarzyńska A,. Pawełkowicz M. Insight into the Organization of the B10v3 Cucumber Genome by Integration of Biological and

	Bioinformatic Data. International Journal of Molecular Sciences. 24(4):4011, 2023
Experience in work with doctoral students (defended doctoral dissertations, initiated doctoral procedures) in chronological order	• Maksymilian Pisz: Molecular basis of cucumber response to cucumber mosaic virus infection. Institute of Biology, Warsaw University of Life Sciences. (supervisor) • Aparna: Functional analysis of selected molecular mechanisms in cucumber sex determination (depending on climatic conditions). Institute of Biology, Warsaw University of Life Sciences. (supervisor) • Szymon Turek: Identification of miRNAs and target molecules and their role in the multiomic analysis of molecular interactions involved in cucumber sex determination. Institute of Biology, Warsaw University of Life Sciences. (supervisor) • Wojcieszek Michał: Assembly, annotation, and comparative genomics of chemical mutant genomes of cucumber (Cucumis sativus L.). Institute of Horticultural Sciences, Warsaw University of Life Sciences, Date of defense: 07-02 2024 (co-supervisor) • Skarzyńska Agnieszka: Comparative genomics of cucumber lines obtained as a result of in vitro transformation and regeneration (thesis submitted, under review). Institute of Horticultural Sciences, Warsaw University of Life Sciences; Date of defense: 07-04-2022 (co-supervisor) • Osipowski Paweł: Assembly, annotation, and comparative genomics of B10 cucumber genome sequences, Faculty of Horticulture and Biotechnology, Warsaw University of Life Sciences, Date of defense: 26-06-2019 (co-supervisor)
Achievements in the area of projects/grants (in the last 5 years)	• NCN OPUS Project 2020/37/B/NZ9/00586: Integration of multi-omic data from cucumbers to identify sex determination mechanisms and their climatic determinants. 2020–2025. PI • KZL Project Analysis of soil microbiome. 2025–2026. PI
Subject area of the research project for which the candidate student is being recruited	Regulation of gene expression and molecular networks controlling plant development and adaptation to environmental conditions.
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