

## Candidate supervisor's information summary form

Name and surname, degree, title: Prof. Dr Katarzyna Bączek	
Academic discipline/disciplines	Agriculture and horticulture
Professional development (degrees and titles) in chronological order	MSc degree (2002) PhD in agricultural sciences (2010) Postdoctoral degree (habilitation) (2018) Professor (2025)
Most important publications/ patents in the last 3 years (maximum 10)	<ol style="list-style-type: none"> <li>1. O. KOSAKOWSKA, Z. WĘGLARZ, S. STYCZYŃSKA, A. SYNOWIEC, M. GNIEWOSZ, <b>K. BĄCZEK</b>. 2024. Activity of common thyme (<i>Thymus vulgaris</i> L.), Greek oregano (<i>Origanum vulgare</i> L. ssp. <i>hirtum</i>), and common oregano (<i>Origanum vulgare</i> L. ssp. <i>vulgare</i>) essential oils against selected phytopathogens. <i>Molecules</i> 29(19): 4617.</li> <li>2. B. ŁOTOCKA <sup>A</sup>, <b>K. BĄCZEK</b>. 2024. Anatomy of vegetative organs of <i>Eleutherococcus senticosus</i> (Rupr. &amp; Maxim.) Maxim. (Araliaceae). <i>Flora</i> 314: 152470.</li> <li>3. J. L. PRZYBYŁ, J. STEFANIAK, A. JAROSZEWICZ, A. GAWROŃSKA, M. ŁAPIŃSKI, <b>K. BĄCZEK</b>, Z. WĘGLARZ. 2024. Determining Antiradical Capacity of Medicinal Plant Extract Individual Constituents Using Post-Column Reaction Method. <i>Int. J. Mol. Sci.</i> 25(10): 5461.</li> <li>4. RAJ, K.; WĘGLARZ, Z.; PRZYBYŁ, J.L.; KOSAKOWSKA, O.; PAWEŁCZAK, A.; GONTAR, Ł.; PUCHTA-JASIŃSKA, M.; <b>BĄCZEK, K.</b> 2024. Chemical Diversity of Wild-Growing and Cultivated Common Valerian (<i>Valeriana officinalis</i> L. s.l.) Originating from Poland. <i>Molecules</i>, 29: 112.</li> <li>5. KOCZKODAJ S., PRZYBYŁ J.L., KOSAKOWSKA O., WĘGLARZ Z., <b>BĄCZEK K.</b> 2023. Intraspecific variability of stinging nettle (<i>Urtica dioica</i> L.). <i>Molecules</i> 28(3): 1505.</li> <li>6. BOCZKOWSKA M., PUCHTA-JASIŃSKA M., BOLC P., MOSKAL K., PUŁA S., MOTOR A., <b>BĄCZEK K.</b>, GROSZYK J., PODYMA W. 2023. Characterization of the Moroccan barley germplasm preserved in the Polish GenBank as a first step towards selecting forms with increased drought tolerance. <i>International Journal of Molecular Sciences</i> 24:16350.</li> <li>7. <b>BĄCZEK K.</b>, KOSAKOWSKA O., BOCZKOWSKA M. BOLC P. CHMIELECKI R., PIÓRO-JABRUCKA E., RAJ K., WĘGLARZ Z. 2022. Intraspecific variability of wild-growing common valerian (<i>Valeriana officinalis</i> L.). <i>Plants</i> 11(24), 3455.</li> <li>8. EL-ANSARI M., ABDEL-LATIF R.R., <b>BĄCZEK K.</b>, AWAD H.M., SHARAF M. 2022. A new dimeric flavonol glucoside and other flavonoids from the cytotoxic methanolic extract of the flowers of <i>Filipendula vulgaris</i> collected in Poland. <i>Chemistry of Natural Compounds</i> 58(3): 433-437.</li> <li>9. PADUCH-CICHAŁ E., MIRZWA-MRÓZ E., WOJCIECHOWSKA P., <b>BĄCZEK K.</b>, KOSAKOWSKA O., WĘGLARZ Z., SZYNDEL M.S. 2022. Antiviral activity of selected essential oils against Cucumber mosaic virus. <i>Plants</i> 12(1), 18.</li> </ol> <p>WĘGLARZ Z., KOSAKOWSKA O., PIÓRO-JABRUCKA E., PRZYBYŁ J.L., GNIEWOSZ M., KRAŚNIEWSKA K., SZYNDEL M.S., COSTA R.,</p>

	<b>BĄCZEK K. 2022.</b> Antioxidant and antibacterial activity of <i>Helichrysum italicum</i> (Roth) G. Don. from Central Europe. <i>Pharmaceuticals</i> 15: 735.
Experience in work with doctoral students (defended doctoral dissertations, initiated doctoral procedures) in chronological order	Supervisor of dissertation, defended in 2021. Izabela Szymborska-Sandhu. Developmental and chemical characteristics of bastard balm ( <i>Melittis melissophyllum</i> L.) in the conditions of its cultivation. Currently the supervisor of three doctoral students of the Doctoral School of WULS-SGGW (2 recruitment 2021/2022; 1 recruitment 2023/2024)
Achievements in the area of projects/grants (in the last 5 years)	<u>Manager of 18 scientific projects, including:</u> <ul style="list-style-type: none"> <li>• 1 National Science Center (NCN) project (2011-2014 own research project)</li> <li>• 17 projects commissioned by the Ministry of Agriculture and Rural Development (11 – in the field of organic farming, 4 -in the frame of biological progress in plant production, 2 - in the field of plant genetic resources protection), including 1 currently carried out.</li> </ul> <u>Manager of 4 implementation projects (KZL)</u> carried out for private companies. <u>The main contractor of 10 projects, including:</u> <ul style="list-style-type: none"> <li>• 1 NCBiR project (2007-2010 research and development project)</li> <li>• 1 PARP project (2018 research project)</li> <li>• 1 NCN project (2008-2010 research project)</li> <li>• 7 projects commissioned by the Ministry of Agriculture and Rural Development (5 in the field of organic farming, 1 in the field of biological progress in plant production, 1 in the field of plant genetic resources protection)</li> </ul> All of the above projects concern / concerned wild-growing and cultivated medicinal and aromatic plant species.
Subject area of the research project for which the candidate student is being recruited	Research on the influence of genetic, developmental and environmental factors on the yield and quality of selected medicinal and aromatic plants, both domestic and of foreign origin. The works also concern the introduction of rare, wild-growing species into cultivation, including issues related to the determination of the range of their variability at the species and genus level. The research will be conducted in situ and ex situ. Particular attention will be paid to the accumulation and composition of biologically active compounds in raw materials obtained from these plants, intended for use in the food and phytopharmaceutical industries. An important element of the research will be evaluation of the raw materials with the use of modern extraction and analytical methods, including instrumental analysis.
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