Candidate supervisor's information summary form

maximum 2 pages – it should be a summary of most important achievements

Name and surname, degree, title: dr hab. Katarzyna Bączek, assistant professor	
Discipline/ disciplines of science	Agriculture and horticulture
Professional development (degrees and titles) in chronological order	MSc degree (2002) PhD in agricultural sciences (2010) Postdoctoral degree (habilitation) in agricultural sciences in the field of horticulture (2018)
Most important publications/patens over the last 3 years (maximum 10)	The most important publications (**2019-2021**): 1. KOSAKOWSKA O., WĘGLARZ Z., PIÓRO-JABRUCKA E., PRZYBYŁ J.L., KRAŚNIEWSKA K., GNIEWOSZ M., **BĄCZEK K**. **2021**. Antioxidant and antibacterial activity of essential oils and hydroethanolic extracts of Greek oregano (*O. vulgare* L. subsp. *hirtum* (Link) letswaart) and common oregano (*O. vulgare* L. subsp. *vulgare*). Molecules 26: 988 (IF=3.060) 2. SZYMBORSKA-SANDHU I., PRZYBYŁ J.L., KOSAKOWSKA O., **BĄCZEK K**., WĘGLARZ Z. **2020**. Chemical Diversity of Bastard Balm (*Melittis melisophyllum* L.) as Affected by Plant Development. Molecules: 25(10): 2421 (IF=3.060) 3. SZYMBORSKA-SANDHU I., PRZYBYŁ J.L., PIÓRO-JABRUCKA E., JĘDRZEJUK A., WĘGLARZ Z., **BĄCZEK K**. **2020**. Effect of shading on development, yield and quality of bastard balm herb (*Melittis melissophyllum* L.). Molecules 25: 2142 (IF=3.060) 4. **BĄCZEK K**., WIŚNIEWSKA M., PRZYBYŁ J.L., KOSAKOWSKA O., WĘGLARZ Z. **2019**. Arbuscular mycorrhizal fungi in chamomile (*Matricaria recutita* L.) organic cultivation. Industrial Crops and Products 140: 111562 (IF=4.191) 5. **BĄCZEK K**., KOSAKOWSKA O., PIÓRO-JABRUCKA E., WĘGLARZ Z. **2019**. Intraspecific variability of wild thyme (*Thymus serpyllum* L.) occurring in Poland. Journal of Applied Research on Medicinal and Aromatic Plants 12: 30-35 (IF=1.966) 6. **BĄCZEK K**., PRZYBYŁ J.L., KOSAKOWSKA O. WĘGLARZ Z. **2019**. Impact of shading on selected developmental, physiological and chemical parameters of southern sweet-grass (*Hierochloe australis* (Schrad.) Roem. et Schult)". European Journal of Horticultural Sciences 84(2):99-105 (IF=0.726) 7. **BĄCZEK K**., KOSAKOWSKA O., GNIEWOSZ M., GIENTKA I., WĘGLARZ Z. **2019**. Sweet basil (*Ocimum basilicum* L.) productivity and raw material quality from organic cultivation. Agronomy 9: 279 (IF=2.259) 8. POBIEGA K., KRAŚNIEWSKA K., PRZYBYŁ J.L., **BĄCZEK K**., ŻUBERNIK J., WITROWA-REJCHERT D., GNIEWOSZ M. **2019**. Growth biocontrol of foodborne pathogens and spoilage microorganisms of food by polish propolis extracts. Molecules 24: 2965 (IF=3.060) 9. MATUSIEWICZ M., **BĄCZEK K**., KOSIERADZKA I, NIEMIEC T., GRODZIK M., SZCZEPANIAK J., ORLIŃSKA S., WĘGLARZ Z. **2019**. Effect of juice and extracts from *Saposhnikovia divaricata* root on the colon cancer cells Caco-2. International Journal of Molecular Sciences 20: 4526 (IF= 4.183)

	KOSAKOWSKA O., WĘGLARZ Z., **BĄCZEK K**. **2019**. Yield and quality of 'Greek oregano' (*Origanum vulgare* L. subsp. *hirtum*) herb from organic production system in temperate climate. Industrial Crops and Products 141: 111782 (IF=4.191).
Experience in work with doctoral students (defended doctoral dissertations, doctoral programmes opened) in chronological order	Supervisor of doctoral dissertation, defended in 2021. Izabela Szymborska-Sandhu. Developmental and chemical characteristics of bastard balm (*Melittis melissophyllum* L.) in the conditions of its cultivation. Currently the supervisor of two doctoral students of the Doctoral School of WUL-SGGW (recruitment 2021/2022)
Project/grants achievements (from the last 10 years)	Manager of 12 projects, including: • 1 National Science Center (NCN) project (2011-2014 own research project) • 11 projects commissioned by the Ministry of Agriculture and Rural Development (8 – in the field of organic farming, 1 -in the frame of biological progress in plant production, 2 - in the field of plant genetic resources protection), including 3 currently carried out. Manager of 3 implementation projects (KZL) commissioned by Herbapol Lublin, including. The main contractor of 10 projects, including: • 1 NCBiR project (2007-2010 research and development project) • 1 PARP project (2018 research project) • 1 NCN project (2008-2010 research project) • 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) All of the above projects concern / concerned wild-growing and cultivated medicinal and aromatic plant species.
Topic – research problem – for which the candidate supervisor seeks a doctoral student	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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