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. Arkadiusz Przybysz, Professor of SGGW	
Discipline/ disciplines of science	Agriculture and horticulture
Professional development (degrees and titles) in chronological order	1. MSc degree (2005) 2. PhD in agricultural sciences (2009) 3. Postdoctoral degree (habilitation) in agricultural sciences in the field of horticulture (2019) 4. Professor at SGGW (2023)
Most important publications/patens over the last 3 years (maximum 10)	1. Moniuszko H., Popek R., **Przybysz A**., Łukowski A.: Responses of tree defoliators to traffic-derived particulate matter and trace elements along a roadside pollution gradient, Scientific Reports, 2026, DOI:10.1038/s41598-026-41296-7. 2. Nawrocki A., **Przybysz A**., Moniuszko H., Wójcik-Gront E., Sikorski P., Popek R.: Understanding Spatial Patterns of Traffic Pollutant Reduction by Vegetated Earth Berms, Building and Environment, 287, 2026, 113878, 1-13, DOI:10.1016/j.buildenv.2025.113878. 3. Zhang B.J., Zhou Y., Pawełkowicz M., Sadłos A., Żurkowski M., Małecka-Przybysz M., Wójcik-Gront E., Zhu C.Y., **Przybysz A**.: Autumn and winter air phytofiltration – Are plants able to biofilter air during peak pollutant emissions?, Journal of Environmental Management, 373, 2025, 124027, DOI:10.1016/j.jenvman.2025.124027. 4. Setiawan G.D., **Przybysz A**., Treesubsuntorn Ch., Popek R.: Effect of simulated rain and rain frequency on particulate matter re-accumulation in roadside climbers *Parthenocissus quinquefolia*, Environmental Pollution, 382, 2025, 126649, DOI:10.1016/j.envpol.2025.126649. 5. Moniuszko H., **Przybysz A**., Borański M., Splitt A., Jachuła J., Popek R.: Buff-tailed bumblebee, an underrated indicator of air pollution: a comparison of particulate matter accumulation by *Bombus terrestris* L. and *Apis mellifera* L., Environmental Toxicology and Chemistry, 44, 1, 2025, 282-293, DOI:10.1093/etojnl/vgae020. 6. Liu H., An W.Y., **Przybysz A**., Hao D.Y., Sun Y.M., Song J.Z., Sui J.Y., Sun J.H., Zhu Ch.Y.: Multivariate geostatistical methods for analysing the contribution of urban lakes and neighbouring greenery to mitigating $PM_{2.5}$ under stressor indicators, Ecological Indicators, 174, 2025, 113489, 1-18,

	DOI:10.1016/j.ecolind.2025.113489. 7. Song J.Z., **Przybysz A**., Zhu ChY.: Revealing the contribution of urban green spaces to improving the thermal environment under realistic stressors and their interactions, Sustainable Cities and Society, 126, 2025, 106426, 1-13, DOI:10.1016/j.scs.2025.106426. 8. Pismanik M., Zhang B.J., Zhou Y., Moniuszko H., Wójcik-Gront E., Popek R., Zhu ChY., **Przybysz A**.: Simulated rainfall fails to reflect trace element wash-off under natural conditions, International Journal of Phytoremediation, 2025, 1-9, DOI:10.1080/15226514.2025.2592248. 9. Moniuszko H., Łukowski A., **Przybysz A**., Nawrocki A., Popek R.: Roadside noise barriers as biodiversity refuges under pressure: The role of particulate matter in shaping invertebrate communities, Land Degradation & Development, 36, 16, 2025, 5613–5627, DOI:10.1002/ldr.70024. 10. Zhang B.J., Zhou Y., Pawełkowicz M., Wójcik-Gront E., Pismanik M., Wnorowski Ł., Fu Z.Ch., Liu H., Małecka-Przybysz M., Moniuszko H., Zhu Ch.Y., **Przybysz A**: A comparative study of foliar particulate matter wash-off from plants under natural and simulated rain conditions, Scientific Reports, 14, 1, 2024, 28409, 1-15, DOI:10.1038/s41598-024-80071-4.
Experience in work with doctoral students (defended doctoral dissertations, doctoral programmes opened) in chronological order	Primary supervisor of PhD candidates, MSc Adam Nawrocki and MSc Mariia Pismanik, in their second and third years at the doctoral school.
Project/grants achievements (from the last 10 years)	1. 'Community-Led Creation of Living Spaces in Shifting Landscapes for Climate-Resilient Land Use Management and Supporting the New European Bauhaus (LandShift)' Founded by European Commission (EC), researcher. 2. 'PALUdiculture DEMOnstrations providing multi-actor approaches and recommendations towards large-scale deployment in the EU (PaluWise)', Founded by European Commission (EC), researcher. 3. 'High-end Foreign Experts Introduction Plan of China' 2025-2026, G2022157005L, researcher. 4. 'U-GARDEN: Promoting capacity building and knowledge for the extension of urban gardens in European cities (U-GARDEN), Founded by Narodowe Centrum Nauki. 5. 'High-end Foreign Experts Introduction Plan of China' 2022-

	2023, G2022157005L, researcher. 6. 'Mitigating climate changes and adapting to their effects in Wyszków', 2022-2023, project founded by the European Economic Area (EEA) Financial Mechanism, MFEOG.07.03.01-07-0057/21-00, leader in WULS-SGGW. 7. 'Air pollutants in road side environment of big cities: Microplastic, particulate matter, heavy metals phytoremediation and their effects on plants and insects', 2021-2024, SONATA (NCN), UMO-2020/39/D/NZ9/00969, researcher.
Topic – research problem – for which the candidate supervisor seeks a doctoral student	Topic: Macro- and Microplastic Accumulation in the Mangrove Root Zone and Its Impact on Ecosystem Functioning Mangrove roots exhibit a high capacity to trap plastic debris transported by coastal waters, leading to its accumulation within mangrove ecosystems and potentially disrupting their ecological functioning. Plastic pollution poses a significant threat to biodiversity, biogeochemical processes, and ecosystem services provided by mangrove forests. The main objective of this PhD research is to develop a comprehensive index of mangrove ecosystem vulnerability to plastic contamination by integrating ecological, environmental, and social indicators. The study will include assessments of macro- and microplastic accumulation in the root zone, evaluation of their effects on plant physiological condition and biological communities, and identification of anthropogenic drivers increasing environmental pressure. The proposed index will enable comparative evaluation of vulnerability across different mangrove areas and support evidence-based conservation and management strategies. The outcomes of this research will contribute to a deeper understanding of plastic–ecosystem interactions and promote more effective protection of coastal environments.
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