

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. inż. Robert Popek, PhD	
Scientific discipline/ disciplines	Agriculture and Horticulture
Professional development (degrees and titles) in chronological order	2017. Engineer of Horticulture, specialization in plant genetics. 2018. MSc of Horticulture, specialization in agroecology. 14.04.2013. PhD of agricultural sciences in the field horticulture. 07.03.2024. Habilitated PhD in the field of agricultural sciences in the discipline of agriculture and horticulture.
Most important publications/ patents in the last 3 years (maximum 10)	<ol style="list-style-type: none"> 1. Roy A., Mandal M., Das S., Popek R., Rakwal R., Agrawal G. K., Awasthi A., Sarkar A. 2024. The cellular consequences of particulate matter pollutants in plants: Safeguarding the harmonious integration of structure and function. <i>Science of the Total Environment</i>, 914, 1–21. 2. Mandal M., Das S., Roy A., Rakwal R., Jones O.A.H., Popek R., Agrawal G.K., Sarkar A. 2023. Interactive relations between plants, phyllosphere microbial community, and particulate matter pollution. <i>Science of The Total Environment</i> 890:164352. 3. Przybysz A., Nawrocki A., Mirzwa-Mróz E., Paduch-Cichal E., Kimic K., Popek R. 2023. Species-specific influence of powdery mildew mycelium on the efficiency of PM accumulation by urban greenery. <i>Environmental Science and Pollution Research</i> 29:70228–70241. 4. Das S., Roy A., Masiwal R., Mandal M., Popek R., Chakraborty M., Prasad D., Chyliński F., Awasthi A., Sarkar A. 2023. Comprehensive analysis of PM1 composition in the eastern Indo-Gangetic Basin: A three-year urban study. <i>Sustainability</i>, 15, 1–17. 5. Moniuszko H., Malonga W.A.M., Koczoń P., Thijs S., Popek R., Przybysz A. 2023. Accumulation of plastics and trace elements in the mangrove forests of Bima City Bay, Indonesia. <i>Plants</i> 12:462. 6. Popek R., Fornal-Pieniak B., Chyliński F. 2023. The role of spontaneous flora in the mitigation of particulate matter from traffic roads in an urbanised area. <i>Sustainability</i> 15:7568. 7. Popek R., Fornal-Pieniak B., Chyliński F., Pawelkiewicz M., Bobrowicz J., Chrzanowska D., Piechota N., Przybysz A 2022.

	<p>Not only trees matter – Traffic-related PM accumulation by vegetation of urban forests. Sustainability 14: 2973.</p> <p>8. Nawrocki A., Popek R., Sikorski P., Wińska-Krysiak M., Zhu Ch.Y., Przybysz A. 2023. Air phyto-cleaning by an urban meadow. Ecological Indicators 151:110259.</p> <p>9. Popek R., Przybysz A. 2022. The importance of precipitation in the process of air phytoremediation. Desalination and Water Treatment 275:14–23.</p> <p>10. Przybysz A., Popek R., Stankiewicz-Kosyl M., 2021. Where trees cannot grow – Particulate matter accumulation by urban meadows. Science of the Total Environment 785:147310.</p>
Experience in work with doctoral students (defended doctoral dissertations, initiated doctoral programmes/procedures) in chronological order	<p>Assistant Promoter – MSc. Elżbieta Dąbrowska PhD in progress, planned defense in 2025.</p> <p>Assistant Promoter – MSc. Adam Nawrocki - PhD in progress, planned defense in 2026.</p>
Project/grants achievements (in the last 10 years)	<ol style="list-style-type: none"> 1. Coordinator of the project titled "Phytoremediation of microplastic particulate dust and heavy metals and their impact on vegetation and insects" – within the Sonata 16 NCN program: 07.2021–07.2025. 2. Coordinator of the project titled "Ability of Australian trees and shrub species growing in urbanized area to clean the environment from Particulate Matter (PM) pollution" Ministry of Education, Government of Australia 02.2018–06.2018. 3. Coordinator of the project titled "Physiological characterization of Hemeoxygenase under Cd induced oxidative stress in crop plant of Indian Thar Desert" TECO 11.2017–12.2017. 4. Coordinator of the project titled "Exploring the role of trees and shrubs in phytoremediation of suspended dust from the air in urbanized areas" Fuga 3 NCN 12.2014–11.2017.
Topic – research problem – for which the candidate supervisor seeks a doctoral student	<p>The thematic scope concerns air phytoremediation, particularly the impact of suspended dust on the condition of plants and their ability to accumulate PM, microplastics, heavy metals, and organic compounds. The research topic also includes the impact of green infrastructure elements on environment in urban areas.</p>
<p><u>Contact details:</u></p> <p>Institute</p> <p>E-mail address</p> <p>Tel.</p>	<p>Institute of Horticultural Sciences, Department of Plant Protection, Section of Basic Research in Horticulture.</p> <p>Email: robert_popek@sggw.edu.pl</p> <p>Phone: +48 22 593 20 85, Mobile: +48 787 245 973</p>