

Candidate supervisor's information summary form

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

Name and surname, degree, title: Agata Jędrzejuk, P.hD., Professor of University	
Discipline/ disciplines of science	Agriculture and Horticulture/Horticulture
Professional development (degrees and titles) in chronological order	M.Sc. in Horticulture - 28.06.2001 Doctor of Agricultural Sciences - 18.10.2006 Postdoctoral Doctor of Agricultural Sciences in the discipline Horticulture - 09.05.2018 Professor of the University - 01.10.2021
Most important publications/patens over the last 3 years (maximum 10)	Jędrzejuk Agata, Kuźma Natalia, Nawrot Kamil : Mechanical [i in.] stimulation affects growth dynamics, IAA content and activity of POD and IAA oxidase in <i>Petunia x atkinsiana</i> , <i>Scientia Horticulturae</i> , 2020, vol. 274, s.1-7, DOI:10.1016/j.scienta.2020.109661 Rabiza-Świder Julita, Skutnik Ewa, Jędrzejuk Agata : Nanosilver and sucrose delay the senescence of cut snapdragon flowers, <i>Postharvest Biology and Technology</i> , 2020, vol. 165, s.1-13, r DOI: 10.1016/j.postharvbio.2020.111165 Rabiza-Świder Julita, Skutnik Ewa, Jędrzejuk Agata : Postharvest treatments improve quality of cut peony flowers, <i>Agronomy</i> , 2020, vol. 10, nr 10, s.1-19,. DOI:10.3390/agronomy10101583 Skutnik Ewa, Jędrzejuk Agata, Rabiza-Świder Julita : Nanosilver as a novel biocide for control of senescence in garden cosmos, <i>Scientific Reports</i> , 2020, vol. 10, s.1-9, DOI:10.1038/s41598-020-67098-z Skutnik Ewa, Rabiza-Świder Julita, Jędrzejuk Agata : The effect of the long-term cold storage and preservatives on senescence of cut herbaceous peony flowers, <i>Agronomy</i> , 2020, vol. 10, nr 11, s.1-14, DOI:10.3390/agronomy10111631
Experience in work with doctoral students (defended doctoral dissertations, doctoral programmes opened) in chronological order	D. thesis supervisor Julia Rochala, M.Sc.: The influence of post-harvest treatments on selected aspects of the ageing of cut flowers (<i>Clematis</i> sp., <i>Cosmos bipinnatus</i> , <i>Antirrhinum majus</i>)
Project/grants achievements (from the last 10 years)	2009 - 2012 principal investigator of the research grant funded by the Ministry of Science and Higher Education "Regulation of ageing of cut flowers of clematis (<i>Clematis</i> sp.) and lilac (<i>Syringa vulgaris</i> L.)" No NN310089336 2021 – principal investigator of a research grant by the Deutscher Akademischer Austausch Dienst (DAAD) at the Gottfried Wilhelm Leibniz University, Hannover: Detection of auxin synthesis and transport in plants subjected to mechanical stimulation (MS) by using immunolocalization method

	2021 – principal investigator in mini grant within the frames of Incubator 4.0: Mechanical conditioning as an environmentally safe method of growth control of plants (ornamental, herbs and vegetables) grown under covers
Topic – research problem – for which the candidate supervisor seeks a doctoral student	<p>Globally, the increasing scarcity of water resources is a key challenge for crop production. Water costs in nursery and greenhouse crop production can be quite high and increase rapidly in the short term in major regions of Europe. The need for sustainable water use in crop production has mobilized the scientific community to develop new methods for monitoring plant water stress and substrate moisture.</p> <p>The main goal of the current research will be:</p> <ol style="list-style-type: none"> 1. to develop an algorithm that indicates the right time to water plants using plant biomass analysis (with cooperation of employees of Institute of Information Technology). 2. to test the versatility of an algorithm that would plan a watering scheme for perennial and woody plants, which are characterized by a different type of growth than bedding plants. Here, intensive biomass growth is observed at the beginning of vegetation and slowed down considerably at later stages of plant growth. 3. perform biochemical, anatomical, and physiological analyses that will show the level of stress on water shortages in plants
Basic expectations towards a candidate for a PhD student	<p>Basic knowledge of plant anatomy, physiology and biochemistry. Knowledge of plant adaptation to water deficit stress. Knowledge of stress markers and their role in plants</p>
<u>Contact details:</u> Faculty/Institute E-mail address Phone.	<p>Institute of Horticulture Sciences, Department of Environmental Protection and Dendrology</p> <p>agata_jedrzejuk@sggw.edu.pl</p> <p>2259320 65</p>