

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. Mirela Tulik, prof. WULS	
Scientific discipline/ disciplines	Forest sciences
Professional development (degrees and titles) in chronological order	PhD – 1999; Habilitation - 2013
Most important publications/ patents in the last 3 years (maximum 10)	<ol style="list-style-type: none"> 1. Tulik M., Jura-Morawiec J. An arrangement of secretory cells involved in the formation and storage of resin in tracheid-based secondary xylem of arborescent plants. <i>Frontiers in Plant Science</i>, 2023, vol. 14, s.1-6; DOI:10.3389/fpls.2023.1268643 2. Tulik M., Wojtan R., Jura-Morawiec J. Theoretical considerations regarding the functional anatomical traits of primary and secondary xylem in dragon tree trunk using the example of <i>Dracaena draco</i>. <i>Planta</i>, 2022, vol. 256, nr 3, s.1-9; DOI:10.1007/s00425-022-03966-4 3. Bieniasz A., Tulik M. The longest living xylem cells locked in lignified cell walls - the case of xylem parenchyma in European Ash (<i>Fraxinus excelsior</i> L.) stems. <i>Acta Biologica Cracoviensia Series Botanica</i>, 2022, vol. 64, nr 2, s.65-74; DOI:10.24425/abcsb.2022.143383 4. Buraczyk W., Tulik M., Konecka A. [i in.] Does leaf mass per area (LMA) discriminate natural pine populations of different origins? <i>European Journal of Forest Research</i>, 2022, vol. 141, s.1177-1187; DOI:10.1007/s10342-022-01500-5 5. Piętka J., Adamczuk A., Zarzycka E., Tulik M., Studnicki M., Oszako T., Aleksandrowicz-Trzcińska M. The application of copper and silver nanoparticles in the protection of <i>Fagus sylvatica</i> wood against decomposition by <i>Fomes fomentarius</i>. <i>Forests</i>, 2022, vol. 13, nr 10, s.1-13; DOI:10.3390/f13101724 6. Nowakowska J.A., Stocki M., Stocka N., Slusarski S., Tkaczyk M., Caetano J.M., Tulik M., Hsiang T., Oszako T. 2020. Interactions between <i>Phytophthora cactorum</i>, <i>Armillaria gallica</i> and <i>Betula pendula</i> Roth. seedlings subjected to defoliation. <i>Forests</i>, 11, 1107; DOI:10.3390/f11101107 7. Kozakiewicz P., Jankowska A., Mamiński M., Marciszewska K., Ciurzycki W., Tulik M. 2020. The wood of Scots pine (<i>Pinus sylvestris</i> L.) from post-agricultural lands has suitable properties for the timber industry. <i>Forests</i>, 11(10), 1033; DOI: 10.3390/f11101033 8. Świecimska M., Tulik M., Šerá B., Golińska P., Tomeková J., Medvecká V Bujdáková H., Oszako T., Zahoranová A., Šerý M. 2020. Non-thermal plasma can be used in disinfection of Scots pine (<i>Pinus sylvestris</i> L.) seeds infected with <i>Fusarium oxysporum</i>. <i>Forests</i>, 11, 837; DOI: 10.3390/f11080837 9. Tulik M., Grochowina A., Jura-Morawiec J., Bijak Sz. 2020. Groundwater level fluctuations affect mortality of Black alder (<i>Alnus glutinosa</i> Gaertn.). <i>Forests</i> 11, 134; DOI:10.3390/f11020134 10. Tulik M., Jura-Morawiec J., Bieniasz A., Marciszewska K. 2019. How long do wood parenchyma cells live in stem of Scot pine (<i>Pinus sylvestris</i> L.)? Studies on cell nuclei status along the radial and longitudinal stem axes. <i>Forests</i> 10, 977; DOI:10.3390/f10110977

Experience in work with doctoral students (defended doctoral dissertations, initiated doctoral programmes/procedures) in chronological order	Doctoral thesis initiated - September 17, 2019, the defense of which is scheduled for May 21, 2024.
Project/grants achievements (in the last 10 years)	<ol style="list-style-type: none"> 1. Project financed by the State Treasury - General Directorate of the State Forests, 2021, EZ.271.3.24.2021, topic: "Assessment of the degree of threat to pine stands caused by mistletoe and development of methods for its inventory and reduction", work on the morphology, anatomy and physiology of European mistletoe (<i>Viscum album</i> ssp. <i>austriacum</i> (Wiesb.)). 2. Project financed by: the State Treasury - General Directorate of State Forests based in Warsaw, 2013. Project number: EO-2717-13 / 13, topic: "Multifactorial analysis of the technical quality of silvery birch wood (<i>Betula pendula</i> Roth.) In Poland", Task - work on the preparation of birch wood. 3. GRANT N N309 108 640, National Science Center in Krakow, 2012 - 2014 Investigator - Mirela Tulik Subject: Changes in the structure and properties of Scots pine (<i>Pinus sylvestris</i> L.) wood on post-agricultural land as a response to environmental stress 4. GRANT N N309 077438 of the Ministry of Science and Higher Education (MNiSW), 2009 – 2012 Principal investigator - Mirela Tulik Topic: Structural and functional modifications of secondary wood of trunks of dying ash trees (<i>Fraxinus excelsior</i> L.).
Topic – research problem – for which the candidate supervisor seeks a doctoral student	<ol style="list-style-type: none"> 1. Wood morphogenesis, including the formation of heartwood in forest tree trunks. 2. Dieback of forest trees. 3. Functional traits of woody plants. 4. Developmental anatomy of vascular plants. 5. Selected aspects of mistletoe biology (<i>Viscum album</i>)
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