

Candidate supervisor's information summary form

Name and surname, degree, title: dr hab. inż. Agnieszka Karczmarczyk, prof. SGGW	
Discipline/ disciplines of science	Environmental engineering, mining and energy
Professional development (degrees and titles) in chronological order	<p>November 19, 2003 - obtaining a doctoral degree in agricultural sciences in the field of environmental management. Faculty of Engineering and Environmental Management, Warsaw University of Life Sciences</p> <p>July 4, 2018 - obtaining the habilitation degree in technical sciences in the field of environmental engineering. Faculty of Civil and Environmental Engineering, Gdańsk University of Technology</p>
Most important publications/patens over the last 3 years (maximum 10)	<p>Karczmarczyk A., Baryła A., Fronczyk J., Bus A., Mosiej J., 2020: Phosphorus and Metals Leaching from Green Roof Substrates and Aggregates Used in Their Composition. <i>Minerals</i> 10, 112</p> <p>Gajewska M., Skrzypiec K., Józwiakowski K., Mucha Z., Wójcik W., Karczmarczyk A., Bugajski P., 2020. Kinetics of pollutants removal in vertical and horizontal flow constructed wetlands in temperate climate <i>Science of the Total Environment</i> 718 (2020) 137371</p> <p>Johannesdottir S.L., MacUra B., McConville J., Lorick D., Haddaway N.R., Karczmarczyk A., Ek F., Piniewski M., Książek M., OsuchP.: What evidence exists on ecotechnologies for recycling carbon and nutrients from domestic wastewater? A systematic map, w: <i>Environmental Evidence</i>, vol. 9, 2020</p> <p>Karczmarczyk A., Bus A., Baryła A., 2019. Influence of operation time, hydraulic load and drying on phosphate retention capacity of mineral filters treating natural swimming pool water. <i>Ecological Engineering</i> 130,176–183</p> <p>Bus A., Karczmarczyk A., Baryła A., 2019: Permeable Reactive Barriers for Preventing Water Bodies from a Phosphorus-Polluted Agricultural Runoff-Column Experiment <i>Water</i> 2019, 11, 432;</p>
Experience in work with doctoral students (defended doctoral dissertations, doctoral programmes opened) in chronological order	
Project/grants achievements (from the last 10 years)	<p>Reducing Emissions by Turning Nutrients and Carbon into Benefits (RETURN). 1.12.2017 - 30.06.2018. EU Science for a Better Future of the Baltic Sea Region (BONUS)</p> <p>Testing the leachate from extensive green roofs in terms of the amount of water and phosphate content. 25.07. 2016 – 30.06.2018. Implemented under the cooperation agreement 1 / KKŚ / 2016</p> <p>Effect of biological membrane development on phosphate removal through flow-controlled mineral filters. 01.07.2017 implemented under the cooperation agreement CiTT / 27/2017</p> <p>Ecotechnology for Sustainable Development (EcoSuD). 2011 - 2013. Źródło finansowania: Svenska Institute (SI)</p>

<p>Topic – research problem – for which the candidate supervisor seeks a doctoral student</p>	<p>The aim of the proposed research is to describe the processes of phosphorus removal by reactive materials used in various structures (filters, beds, barriers); identification of factors influencing the effectiveness of reactive materials in various forms and with different types of polluted waters; and analysis of the possibility of recovering the phosphorus retained by the materials. The practical goal is to protect water against phosphorus pollution and to protect resources by using binded phosphorus to fertilize plants. The subject of the work is in line with the long-term EU strategy described in the document: Action plan for a resource-efficient Europe as well as the concept of the circular economy.</p>
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