

Prospective supervisor's form

Name of the supervisor: Katarzyna Kolečka

Academic title: Associated Professor

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Faculty of Civil and Environmental Engineering

Gdańsk University of Technology Department of Water and Wastewater Technology

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Discipline: environmental engineering, mining and pow none

Optional

Key words (obligatory four key words describing research interests / expertise):

reed systems

waste/sludge utilization

reject water

wastewater treatment

Bibliometric indicators

1. Number of journal publications in WoS/ Scopus 14/11

2. Citations excluding self-citations WoS 72 Scopus 80

3. Hirsch index WoS 6 Scopus 6

1. The number of PhD students who have graduated under your supervision: 0 (1 as auxiliary supervisor the PhD)

2. The number of PhD students currently supervised:

a. within the current doctoral school 0

b. within doctoral studies (previous system) 0

3. Are you currently accepting new PhD students:

a. Polish Yes/No Yes

b. Foreign Yes/No No

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Research interests or topics offered for PhD research (no more than 2000 characters)ⁱⁱ

The idea of the study offered for PhD research is to utilize beach wrack material in a reed beds system to obtain the final product, which is likely to be a fertilizer or an addition/enrichment to compost produced at the WWTP Swarzewo. Simple construction of reed systems could be included with an array of advantages. The reed systems allow for the possibility to fit in with field conditions and the natural look enables an easy fit to the existing landscape. Another advantage is that it requires low investment and exploitation costs, which are important issues for local authorities. The reed systems are based on natural processes, which means that the use of chemicals is not necessary. The lack of extra substances means lower costs. The proposed method is also environmentally friendly since it creates low emissions due to low energy consumption.

The research will include the collection of beach wreck material from Rzucewo and its addition to the model. The PhD student will collect the reject water as well as the material deposited on the bed and conduct quality tests in the laboratory of Water and Wastewater Department.

The research will be funded by CONTRA Project.

Funding or special equipment needed to carry out a PhD projectⁱⁱⁱ:

1. Is funding available for experimental work: *Yes/No/not needed*

Yes

2. Is the equipment needed to complete a PhD project

available in your lab/department: *Yes/No/not needed*

Yes

Most important publication no more than 5 published after 1.01.2018

No	Authors/title/journal	Number of points according to the current list of the Ministry of Science and Higher Education	Publication year
1.	Kołecka K., Gajewska M., Stepnowski P., Caban M., Spatial distribution of pharmaceuticals in conventional wastewater treatment plant with Sludge Treatment Reed Beds technology. SCIENCE OF THE TOTAL ENVIRONMENT, 647, 149-157.	200	2019
2.	Kolecka K., Obarska-Pempkowiak H., Gajewska M. Polish experience in operation of sludge treatment reed beds. ECOLOGICAL ENGINEERING, 120, 405-410	100	2018

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3.			
4.			
5.			

Most recent externally funded projects you were involved in – no more than 3

No	Project title, the name of the Principal Investigator (PI) and the institution the project was carried out	Years	Role in the project ^{iv}
1.	Baltic Beach Wrack - Conversion of a Nuisance To a Resource and Asset - CONTRA, Magdalena Gajewska, Project lider - University of Rostock, Lider of Polish Partners - Gdańsk University of Technology	2019-2021	Co-I
2.	Holistic planning, real time control and augmented reality in protecting Baltic Sea from untreated wastewater spillages during flood events - NOAH, Magdalena Gajewska, Project lider - Tallinn University of Technology, Lider of Polish Partners - Gdańsk University of Technology	2019-2021	Co-I
3.	Impact of municipal wastewater treatment processes on the distribution of selected new emerging pollutants, Katarzyna Kotecka, Project lider Gdańsk University of Technology	2018-2019	PI

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Additional relevant informatio (no more than 1600 characters)^v

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- ⁱ You may select up to two disciplines out of 12 disciplines represented in the Doctoral School
- ⁱⁱ Observe the limit of not more than 2000 characters
- ⁱⁱⁱ Leave only one answer
- ^{iv} Select the role in the project: PI stands for principal investigator (refers to the holder of an independent grant and the lead researcher for the grant project), Co-I for co-investigator (Co-I assists the principal investigator in the management and leadership of the research project), R for researcher
- ^v Add any other relevant information e.g. awards for PhD students whom you supervised (no more than 1600 characters)