

Prospective supervisor's form

Name of the supervisor:

Academic title:

Orcid ID number: <https://orcid.org/0000>

Gdańsk University of Technology Faculty of

Department of

Phone: +48

E-mail:

Personal web page: [https:// pg.edu.pl/](https://pg.edu.pl/)

Discipline:

Optional

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

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Bibliometric indicators

1. Number of journal publications in WoS/ Scopus

2. Citations excluding self-citations WoS Scopus

3. Hirsch index WoS Scopus

1. The number of PhD students who have graduated under your supervision:

2. The number of PhD students currently supervised:

a. within the current doctoral school

b. within doctoral studies (previous system)

3. Are you currently accepting new PhD students:

a. Polish Yes/No

b. Foreign Yes/No

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

Research Interests:

Theoretical and practical knowledge in the scope of novel analytical techniques.

Environmental sampling and sample preparation for analysis.

Environmental protection, pollution of polar regions: problems and challenges.

Topics:

Current research into atmospheric pollution levels in the Arctic, which are monitored within the AMAP network, shows a decreasing role of primary POP emissions and a proportionally more and more important role of the secondary sources, i.e. re-emissions from the environment. Scientists demonstrate that ocean currents can act as a secondary source of POPs such as polychlorinated biphenyls (PCBs) and dichlorodiphenyltrichloroethane (DDT). Especially, the East Greenland and Labrador Currents were found to transport pollutants deposited within the Arctic, while the general concentration of PCBs in the Arctic surface waters was found higher than in mid- and low latitudes. For DDT the effect was less pronounced, yet still the Arctic is more exposed to its effects than tropical areas, despite the long-lasting ban of this pollutant (except the use for malaria prevention in the tropical zone). Indeed, this elevated sea water concentration may result in POPs volatilisation into the atmosphere. After decades since its primary emission, only up to 5.5% of sea-borne DDT is removed into sediment, which makes the volatilisation threat very important in the 21st century, especially as the sea surface temperature rises and sea ice cover decreases. This effect was already observed in the pollution trends, and not only for the highly volatile compounds, such as the α -HCH. Admittedly, it is observable only following the removal of the prevailing decreasing trend due to the international pollution bans. However, the correlation of such detrended POP concentrations with the sea-ice coverage (negative) and summer sea Surface temperature (positive) is a visible sign of the importance of the ocean as a secondary source of POPs.

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. | Kosek K., Łuczkiwicz A., Koziol K., Jankowska K., Ruman M., Polkowska Ż., Environmental characteristics of a tundra river system in Svalbard. Part 1: Bacterial abundance, community structure and nutrient levels, <i>Science of the Total Environment</i> , (2019) 653, 1571-1584 | 200 | 2019 |
| 2. | Kosek K., Koziol K., Łuczkiwicz A., Jankowska K., Chmiel S., Polkowska Ż., Environmental characteristics of a tundra river system in Svalbard. Part 2: Chemical stress factors, <i>Science of the Total Environment</i> , (2019) 653, 1585-1596 | 200 | 2019 |

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| 3. | Pacyna A.D, Jakubas D., Ausems A., Frankowski M., Polkowska Ż., Wojczulanis-Jakubas K., Storm petrels as indicators of pelagic seabird exposure to chemical elements in the Antarctic marine ecosystem, <i>Science of the Total Environment</i> , 692 (2019) 382–392 | 200 | 2019 |
| 4. | Pacyna A.D, Frankowski M., Koziol K., Węgrzyn M.H., Wietrzyk-Pełka P., Lehmann-Konera S., Polkowska Ż., Evaluation of the use of reindeer droppings for monitoring essential and non-essential elements in the polar terrestrial environment <i>Science of the Total Environment</i> 658 (2019) 1209–1218 | 200 | 2019 |
| 5. | Potapowicz J., Szumińska D., Szopińska M., Polkowska Ż., The influence of global climate change on the environmental fate of anthropogenic pollution released from the permafrost, <i>Science of the Total Environment</i> , Part 1: Case study of Antarctica, (2019) 651, 1534-1548 | 200 | 2019 |

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 ⁱ |
|----|--|-----------|----------------------------------|
| 1. | "The role and structure of the atmospheric deposition of pollutants contributed by dew and frost in Poland" - 2310/B/P01/2008/35 – 2008 – KBN (Scientific Research Committee) | 2008-2010 | PI |
| 2. | "The role of snow cover in the formation rate of deposition of atmospheric pollutants on the example of the Western Sudetes" - 3734/B/P01/2010/38 – 2010 – KBN (Scientific Research Committee) | 2010-2012 | PI |
| 3. | 3. "Green Analytical Chemistry in Air and Water Pollution Assessment" - DWM.WKE.183.77.2017 – 2017 - The Ministry of Science and Higher Education | 2017-2019 | PI |

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Additional relevant information – (no more than 1600 characters)^v

The PhD students I have supervised, who have already defended their PhDs, have obtained scholarships for outstanding achievements:

- Within the framework of the programme „InnoDoktorant – scholarships for PhD students. A project co-financed by the European Union from the European Social Fund (Operational Program Human Capital, Priority VIII, Action 8.2, Sub-measure 8.2.2: "Regional Innovation Strategies").
- Within the framework of the project "MISTRZ Programme" of the Foundation for Polish Science;
- Santander Universidades for the employees and PhD students of the Gdańsk University of Technology;
- from the scholarship call for PhD scholarships, funded by the quality subsidy;
- from the scholarship fund of the Vice-Chancellor of the Gdańsk University of Technology;
- funded by the project „The development of interdisciplinary doctoral studies at the Gdansk University of Technology in modern technologies”
- within the framework of the Inter PhD project at Gdańsk University of Technology;
- within the framework of the project „Integrated Development Program of the Gdańsk University of Technology - POWER 3.5”
- internships as part of the project „The development of interdisciplinary doctoral studies at the Gdansk University of Technology in modern technologies”
- internships as part of the project „Advanced PhD” at Gdańsk University of Technology.

The PhD students have also obtained grants from the PRELUDIUM programme, funded by the National Science

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)