

Prospective supervisor's form

Name of the supervisor: Marek Tobiszewski

Academic title: PhD. DSc. Eng.

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Department of Analytical Chemistry

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Discipline: chemical sciences [NCh] none

Optional

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

green analytical chemistry

liquid microextraction techniques

multi-criteria decision analysis

green solvents

Bibliometric indicators

1. Number of journal publications in WoS/ Scopus 57/59

2. Citations excluding self-citations WoS 1600 Scopus 1928

3. Hirsch index WoS 17 Scopus 19

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

2. The number of PhD students currently supervised:

a. within the current doctoral school 0

b. within doctoral studies (previous system) 2

3. Are you currently accepting new PhD students:

a. Polish Yes/No Yes

b. Foreign Yes/No Yes

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

The topic of PhD student is within green analytical chemistry. They include:

- The application and characterization of alternative solvents in liquid microextraction processes. They are solvents not frequently applied as extraction agents in analytical chemistry, such as organic carbonates. Another example is obtaining and application of bio-solvents, such as limonene from citrus waste or other terpenes from wood or food industry wastes.
- Development of metric systems to assess the sustainability of organic solvents, ionic liquids or processes applied in analytical chemistry. This should be done in process-specific or generic perspective. This is performed with multi-criteria decision analysis or any parametric
- The multiobjective optimization of microextraction procedures parameters to incorporate sustainability goals next to effectiveness. It is worth to note that sustainability and effectiveness/technological goals are often contradictory so special decision making tools are required to find the golden mean.
- Development of analytical procedures based on everyday life devices, such as smartphones, cameras or scanners. The development of such procedures is very important from the point of view of accessibility of chemical information to society.

Funding or special equipment needed to carry out a PhD project ⁱⁱⁱ:

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 publications – 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.	Marć, M., Bystrzanowska, M., & Tobiszewski, M. (2020). Exploratory analysis and ranking of analytical procedures for short-chain chlorinated paraffins determination in environmental solid samples. <i>Science of The Total Environment</i> , 711, 134665.	200	2020
2.	Bystrzanowska, M., Petkov, P., & Tobiszewski, M. (2019). Ranking of heterogeneous catalysts metals by their greenness. <i>ACS Sustainable Chemistry & Engineering</i> , 7(22), 18434-18443.	140	2019

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3.	Bystrzanowska, M., & Tobiszewski, M. (2019). Multi-objective optimization of microextraction procedures. TrAC Trends in Analytical Chemistry.	140	2019
4.	Bystrzanowska, M., Pena-Pereira, F., Marcinkowski, Ł., & Tobiszewski, M. (2019). How green are ionic liquids?—A multicriteria decision analysis approach. Ecotoxicology and environmental safety, 174, 455-458.	100	2019
5.	Bystrzanowska, M., & Tobiszewski, M. (2018). How can analysts use multicriteria decision analysis?. TrAC Trends in Analytical Chemistry, 105, 98-105.	140	2018

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.	Zastosowanie technik mikroekstrakcyjnych w układzie ciecz-ciecz w celu oznaczania chlorofenoli w próbkach ciekłych, Marek Tobiszewski, Gdańsk University of Technology	2014-2016	PI
2.			PI
3.			PI

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

PhD students under my supervision are winning Rector's prizes for outstanding scientific records.

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)