# Prospective supervisor's form

**Name of the supervisor:** Łukasz Piszczyk

**Academic title:** doctor habilitatus

Orcid ID number: https://orcid.org/0000- 0003-1363-4988

**Faculty of** Chemistry

**Gdańsk University of Technology** **Department of** Polymer Technology

**Phone:** **+48** 507628401

**E-mail:** lukasz.piszczyk@pg.edu.pl

**Personal web page: https://pg.edu.pl/** -

**Discipline**[i] materials engineering [IMa] chemical sciences [NCh]

**Optional**

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

**#** Polyurethane Materials

**#** Biomass/Biopolymers

**#** Thermal analysis

**#** Recycling of Polymeric Materials

**Bibliometric indicators**

1. Number of journal publications in WoS/ Scopus 46/45
2. Citations excluding self-citations WoS 447 Scopus 476
3. Hirsch index WoS 12 Scopus 13

1. The number of PhD students who have graduated under your supervision: 2
2. The number of PhD students currently supervised:
   a. within the current doctoral school 1
   b. within doctoral studies (previous system) 0
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]**

Main research interests:

1. The new sources of raw materials for applications in the technology of obtaining polyurethane materials.
2. The use of biomass to obtain new polyurethane materials and their composites/nanocomposites.
3. The use of waste from wood processing and wood-like waste in the technology of obtaining polyurethane materials and composites
4. Research on the influence of cell structure on the mechanical and thermal properties of polyurethane materials.
5. Thermal analysis of polymeric materials
6. Flammability of polymeric materials and methods of its reduction using halogen-free flame-retardant compounds
7. Research on polymer material degradation processes
8. Recycling materials and raw material of polymeric materials

**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 publicatio 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. | Kamila Gosz, Daria Kowalkowska-Zedler, Józef Haponiuk, Łukasz Piszczyk/Liquefaction of alder wood as the source of renewable and sustainable polyols for preparation of polyurethane resins/Wood Science and Technology | 200 | 2020 |
| 2. | Adam Olszewski, Paulina Kosmela, Aleksandra Mielewczyk-Gryń, Łukasz Piszczyk/Bio-based polyurethane composites and hybrid composites containing a new type of bio-polyol and addition of natural and synthetic fibers/Materials | 140 | 2020 |

**Prospective supervisor's form**

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|---|---|---|---|
| 3. | Paulina Kosmel, Aleksander Hejn, Jan Suchorzewski, Łukasz Piszczyk, Józef Tadeusz Haponiuk/Study on the Structure-Property Dependences of Rigid PUR-PIR Foams Obtained from Marine Biomass-Based Biopolyol/Materials | 140 | 2020 |
| 4. | Paulina Kosmela, Kamila Gosz, Paweł Kazimierski, Aleksander Hejna, Józef Haponiuk, Łukasz Piszczyk/Chemical structures, rheological and physical properties of biopolyols prepared via solvothermal liquefaction of Enteromorpha and Zostera marina biomass/Cellulose | 100 | 2019 |
| 5. | Kamila Gosz, Paulina Kosmela, Aleksander Hejna, Grzegorz Gajowiec, Łukasz Piszczyk/ Biopolyols obtained via microwave-assisted liquefaction of lignin - structure, rheological, physical and thermal properties/Wood Science and Technology | 200 | 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. | The effect of halogen-free flame retardant compounds on the cell structure and the stress suppression factor of rigid polyurethane bio-foams, Łukasz Piszczyk, National Science Centre (NCN) | 2019 | PI |
| 2. | Development of a non-flammable polyurethane foam composition, Łukasz Piszczyk, Morad Sp z o.o. National Centre for Research and Development (NCBR) | 2018-2019 | PI |
| 3. | Polyurethane nanocomposites containing reduced graphene oxide, Michał Strankowski, National Centre for Research and Development (NCBR) | 2013-2016 | Co-I |

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**Additional relevant information (no more than 1600 characters)[v]**

Additional information:
- assistant supervisor of the doctoral dissertation of dr inż. Aleksandr Hejna "Research on the use of waste glycerin derived from the biofuel production process in polyurethane technology", which in 2017 was awarded by the Gdansk Branch of PTCHem (Competition Winner)
- since 2013 I have been the President of the Management Board of a spin-off university company, which allows you to gain knowledge and experience in the implementation of R&D projects

[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)