

Prospective supervisor's form

Name of the supervisor

Academic title:

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

Faculty of

Gdańsk University of Technology Department of

Phone: +48

E-mail:

Personal web page: <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

The aim of the project is investigation of antifungal potential of bee propolis and identification of crucial component of this product that exhibit high activity *Candida* spp.. The identification of the crucial ingredients will be based on correlation analysis between chemical composition and antifungal potential of the samples of propolis that exhibit the highest activity. Based on our previous observations the investigation of the modes of antifungal activity of propolis against *Candida* spp. will be performed particularly in relation to the cell wall, cell membrane, drug transporters, biofilm formation and the process of phenotypic switching. From the point of view of the abilities of application of propolis (and its ingredients) in clinical practice particularly important would be the identification of the components of this product that exhibit synergism with conventional antifungal agents. Using combinations of these agents could inhibit the process of acquiring resistance of *Candida* spp. to the activity of azoles – currently the drugs of choice in the treatment of most of candidiasis. New formulations e.g. suspensions of propolis nanoparticles in water, water/glycerol extracts will be proposed for the elimination of the problems associated with strong irritant properties of EEPs (ethanolic extracts of propolis). For better cell uptake the conjugates of CIEEPs with nanocarriers - cell penetrating peptides (Trojan Horse strategy) and triphenylphosphonium cation (TPP) will be prepared.

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

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

No

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.	New Approaches for <i>Escherichia coli</i> Genotyping. Kotłowski R, Grecka K, Kot B, Szweida P. <i>Pathogens</i> . 2020 Jan 21;9(2). pii: E73. doi: 10.3390/pathogens9020073.	100	2020
2.	Anthra[1,2-d][1,2,3]triazine-4,7,12(3H)-triones as a New Class of Antistaphylococcal Agents: Synthesis and Biological Evaluation. Zvarych V, Stasevych M, Novikov V, Rusanov E, Vovk M, Szweida P, Grecka K, Milewski S. <i>Molecules</i> . 2019 Dec 13;24(24). pii: E4581. doi: 10.3390/molecules24244581.	100	2019

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3.	The Anti-Staphylococcal Potential of Ethanolic Polish Propolis Extracts. Grecka K, Kuś PM, Okińczyc P, Worobo RW, Walkusz J, Szweda P. <i>Molecules</i> . 2019 May 3;24(9). pii: E1732. doi: 10.3390/molecules24091732.	100	2019
4.	Method-Dependent Epidemiological Cutoff Values for Detection of Triazole Resistance in <i>Candida</i> and <i>Aspergillus</i> Species for the Sensititre YeastOne Colorimetric Broth and Etest Agar Diffusion Methods. Espinel-Ingroff A et. al <i>Antimicrob Agents Chemother</i> . 2018 Dec 21;63(1). pii: e01651-18. doi: 10.1128/AAC.01651-18. Print 2019	140	2019
5.	<i>Paenibacillus alvei</i> MP1 as a Producer of the Proteinaceous Compound with Activity against Important Human Pathogens, Including <i>Staphylococcus aureus</i> and <i>Listeria monocytogenes</i> . Pajor M, Xiong ZR, Worobo RW, Szweda P. <i>Pathogens</i> . 2020 Apr 25;9(5). pii: E319. doi: 10.3390/pathogens9050319.	100	2020

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.	Ocena możliwości wykorzystania produktów pszczelich oraz bakteriocyn syntetyzowanych przez mikroflorę tych produktów jako alternatywę lub uzupełnienie klasycznej antybiotykoterapii. PI - Piotr Szweda,	2016-2021	PI
2.			PI
3.			PI

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

The research will be conducted in cooperation with abroad partners: Prof Patrick Van Dijck from the Catholic University of Leuven and Prof David Williams from Cardiff University

- 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)