

Prospective supervisor's form

Name of the supervisor: Piotr Jasiński

Academic title: professor

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Gdańsk University of Technology Faculty of Electronics, Telecommunications and Informatics

Department of Laboratory of Functional Materials

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Discipline: control, electronic and electrical engineering materials engineering [IMa]

Optional

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

solid oxide cells

sensors

electroceramics

electronic materials

Bibliometric indicators

1. Number of journal publications in WoS/ Scopus 146/168

2. Citations excluding self-citations WoS 2037 Scopus 2147

3. Hirsch index WoS 23 Scopus 22

1. The number of PhD students who have graduated under your supervision: 6

2. The number of PhD students currently supervised:

a. within the current doctoral school 3

b. within doctoral studies (previous system) 4

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 research interest include, but not limited, to the development of gas sensors, fuel cells, electrolysers, gas separation membranes and materials for biomedical applications using cost effective technologies (spin coating, spray pyrolysis, dip coating, electrospinning). These technologies utilize metallo-organic polymers and can be used for fabrication of thin and thick, dense and porous, functional layers. The transport properties of applied materials are crucial for these applications. Therefore, the research tasks include fabrication of materials and devices, their microstructural and structural characterisation as well as investigation of electric transport properties.

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

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

2. Is the equipment needed to complete a PhD project available in your lab/department: *Yes/No/not needed*

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.	B. Hołowko, J. Karczewski, S. Molin, P. Jasiński, Preparation of Hydrogen Electrodes of Solid Oxide Cells by Infiltration: Effects of the Preparation Procedure on the Resulting Microstructure, <i>Materials</i> 13 (1), 131 (2020).	140	2020
2.	K. Cysewska, J. Karczewski, P. Jasiński, The Influence of the Co-Dopant Dexamethasone Phosphate on the Electrodeposition Process and Drug-Release Properties of Polypyrrole-Salicylate on Iron, <i>J. Electrochem. Soc.</i> 166 (12), G148-G155 (2019).	100	2019

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3.	K. Cysewska, J. Karczewski, P. Jasiński, Influence of the electrosynthesis conditions on the spontaneous release of anti-inflammatory salicylate during degradation of polypyrrole coated iron for biodegradable cardiovascular stent, <i>Electrochimica Acta</i> 320, 134612 (2019).	100	2019
4.	M. Chlipała, P. Błaszczak, S.F. Wang, P. Jasiński, B. Bochentyn, In situ study of a composition of outlet gases from biogas fuelled Solid Oxide Fuel Cell performed by the Fourier Transform Infrared Spectroscopy, <i>International Journal of Hydrogen Energy</i> 44 (26), 13864-13874 (2019).	140	2019
5.	A. Mroziński, S. Molin, J. Karczewski, T. Miruszewski, P. Jasiński, Electrochemical properties of porous Sr _{0.86} Ti _{0.65} Fe _{0.35} O ₃ oxygen electrodes in solid oxide cells: Impedance study of symmetrical electrodes, <i>International Journal of Hydrogen Energy</i> 44, 1827-1838 (2019).	140	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.	National Center for Research and Development, 5th Polish-Taiwanese Research Program DZP/PL-TWV/47-2018, Materials for Direct Power-to-Hydrocarbon Conversion (Power2Hcarbon)	2018-2021	PI
2.	National Science Centre Poland, Harmonia UMO-2017/26/M/ST8/00438, Quest for novel materials for solid oxide cell interconnect coatings (NoMaSOIC)	2018-2021	PI
3.	National Science Centre Poland, OPUS 2017/25/B/ST8/02275, Understanding and minimization of ohmic and polarization losses in solid oxide cells by nanocrystalline ceramic and cermet functional layers (MiLoSoc)	2018-2021	PI

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



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)