

Prospective supervisor's form

Name of the supervisor: Jarosław Guziński

Academic title: Dr hab. inż.

Orcid ID number: <https://orcid.org/0000-0003-3068-2447>

Gdańsk University of Technology Faculty of Electrical and Control Engineering

Department of Electric Drives and Energy Conversion

Phone: +48 583472960

E-mail: jaroslaw.guzinski@pg.edu.pl

Personal web page: https://pg.edu.pl/646c9941d7_jaroslaw.guzinski

Discipline: control, electronic and electrical engineering none Optional

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

Electric Drives

Power Electronics

Sensorless Control

Electric Vehicles

Bibliometric indicators

1. Number of journal publications in WoS/ Scopus 67/65

2. Citations excluding self-citations WoS 619 Scopus 1173

3. Hirsch index WoS 11 Scopus 13

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 3

b. within doctoral studies (previous system) 1

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

Induction motor and permanent motor sensorless control drives, multiphase motor drives, five phase induction motors, electric drives with inverter output filters, electric vehicles, modelling of multiphase motors, failures detection in electric drives, power electronics converters, pulse width modulation.

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*

No

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.	Fuzzy Control of Waves Generation in a Towing Tank / Drzewiecki M. , Guziński J. / ENERGIES	140	2020
2.	Feedback Control of Multiphase Induction Machines with Backstepping Technique / Morawiec M. , Strankowski P. , Lewicki A. , Guziński J. , Wilczyński F. / IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS	200	2020

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3.	Sensorless field oriented control for five-phase induction motors with third harmonic injection and fault insensitive feature / Wilczyński F. , Strankowski P. , Guziński J. , Morawiec M. , Lewicki A. / Bulletin of the Polish Academy of Sciences-Technical Sciences	100	2019
4.			
5.			

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.	On Line Continuous Monitoring, Detection, and Location of Partial Discharge and Dynamic Aging in Medium and High Voltage Electrical Insulation, Dr. Shady Khalil (LPI), Prof. Marek Olesz (PI), Texas A&M Engineering Experiment Station / Gdansk University of Technology.	2019-2021	PI
2.	Algorithms of control, estimation, and diagnostic for electric drives with multiphase induction motors and LC filters, Dr Jaroslaw Guzinski, 2014-2017, Gdansk University of Technology (Founded by National Science Centre, Poland).	2014-2018	PI
3.	Electric drive with induction motor, voltage inverter and LC filter – control and diagnostic”, Dr Jaroslaw Guzinski, Gdansk University of Technology, (Founded by Ministry of Science and Higher Education, Poland).	2008-2010	PI

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

The principal scientific and technological contributions of the Department include: original control methods of AC machines based on multiscalar machine models and nonlinear feedback; advanced speed observers for sensor less control of AC machines; original diagnostic methods of electrical machines and torque transmission systems; new concepts of power electronic converters, notably based on SiC devices; original control algorithms for grid connected power converters; analyses of inverters with output filters and novel control algorithms of such inverters; development of control principles for electric drives with multiphase machines.

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)