

Prospective supervisor's form

Name of the supervisor: Arkadiusz LEWICKI

Academic title: DSc PhD

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Discipline: control, electronic and electrical engineering none

Optional

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

Multilevel inverters

Multiphase Inverters

Space Vector Modulations

Power Elektronics

Bibliometric indicators

1. Number of journal publications in WoS/ Scopus: WoS 60 / Scopus 34

2. Citations excluding self-citations: WoS 361 Scopus 396

3. Hirsch index: WoS 8 Scopus 8

1. The number of PhD students who have graduated under your supervision: 0

2. The number of PhD students currently supervised:

a. within the current doctoral school: 0

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

Modulation algorithms for multiphase voltage and current source inverters
 DC-link voltage balance strategies for multilevel voltage source inverters
 Space Vector Modulation algorithms for Multilevel Inverters
 Cascade H-Bridge Inverters
 DC-DC-converters
 Dead-time effect compensation algorithms

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.	A.Lewicki, M.Morawiec, Structure and the space vector modulation for a medium-voltage power-electronic-transformer based on two seven-level cascade H-bridge inverters, IET Electric Power Applications	100	2019
2.	M. Morawiec, P. Strankowski, A.Lewicki, J. Guziński, F. Wilczyński, Feedback Control of Multiphase Induction Machines with Backstepping Technique, IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS	200	2019

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3.	M.Morawiec, A.Lewicki Application of sliding switching functions in backstepping based speed observer of induction machine, IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS [200	2019
4.	M.Morawiec, K.Blecharz, A.Lewicki, Sensorless Rotor Position Estimation of Doubly-Fed Induction Generator Based on Backstepping Technique, IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS	200	2019
5.	F.Wilczyński, P.Strankowski, J. Guziński, M. Morawiec, A.Lewicki Sensorless field oriented control for five-phase induction motors with third harmonic injection and fault insensitive feature, Bulletin of the Polish Academy of Sciences-Technical Sciences	100	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 ^{iv}
1.	2013/09/B/ST7/01641 „Control, estimation and diagnostics algorithms for electric drives with multi-phase induction motors and output filters of VSI”, Gdansk University of Technology (National Science Center)	2014-17	R
2.	UMO-2011/01/B/ST7/06593 „Sensorless control of multi-phase induction motors using multi-scalar models”, Gdansk University of Technology	2011-13	R
3.	INNOTECH-K1/HI1/3/159089/NCBR/12 „New generation high efficiency bidirectional converters for medium voltage” Gdansk University of Technology	2012	R

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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)