

Prospective supervisor's form

Name of the supervisor: Zbigniew Czaja

Academic title: dr hab. inż.

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Discipline: control, electronic and electrical engineering none Optional

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

microcontrollers

analog sensors

measurements

fault diagnosis

Bibliometric indicators

1. Number of journal publications in WoS/ Scopus 24 / 34

2. Citations excluding self-citations WoS 98 Scopus 127

3. Hirsch index WoS 8 Scopus 9

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 (0

3. Are you currently accepting new PhD students:

a. Polish Yes/No Yes

b. Foreign Yes/No No

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Research interests or topics offered for PhD research (no more than 2000 characters)ⁱⁱ

1. Development of new measurement methods and new solutions of smart sensors based on a direct microcontroller-sensor interface, where the sensor is modeled by two-terminals consisting of RLC components. It is assumed that in the methods we use only internal measurement resources (timers/counters, ADCs and DACs, analog comparators, event systems, etc.) and small computing power of 8-bit microcontrollers.
2. Development of new and modification (adaptation) of existing methods and algorithms of data acquisition and data processing for microcontrollers, especially for low power microcontrollers. This activity is due to the need to adapt these methods and algorithms to the limited computing resources of 8-bit microcontrollers.

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.	Czaja Z. / A measurement method for capacitive sensors based on a versatile direct sensor-to-microcontroller interface circuit / Measurement	200	2020
2.	Czaja Z. / Time-domain measurement methods for R, L and C sensors based on a versatile direct sensor-to-microcontroller interface circuit / Sensors and Actuators A-Physical	100	2018

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3.	Czaja Z., Kowalewski M. / A random signal generation method for microcontrollers with DACs / Metrology and Measurement Systems	100	2018
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.			PI
2.			PI
3.			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)