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Operational Programme Research,
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SELECTION PROCEDURE

“1-FEL 04”

The Dean of the Faculty of Electrical Engineering of the University of West Bohemia in Pilsen (hereinafter referred to as the “Announcer”) announces the opening of a selection procedure for **academic workers** for the following positions:

Academic Worker – Research Assistant

Research focus of the expert team: Intelligent Drives and Advanced Machine Control / New Concepts of Drive Units for Electric Vehicles and Cars / Power Flow Control in Distribution Grids and Active Filters

Intelligent Drives and Advanced Machine Control

- The aim of this project is definition of new class of electric drives and complex mechatronic systems with higher level of embedded intelligence. The main application of investigated technologies is expected in the fields of robotics, servo-drives, machine tools, and special manipulators and actuators. This research will be focused on new control and parameter identification strategies especially for ac motor drives (e.g. stochastic approaches, optimal control).

New Concepts of Drive Units for Electric Vehicles and Cars

- This project should discover new concepts of drive units for electric vehicles. The application of these technologies is expected predominantly in both public transportation vehicles (mainly trams and EMUs) and new concepts of personal cars. This research will be significantly focused on the utilization of high-speed drives in combination with appropriate mechanical components securing a transfer of tractive effort to either axle/wheelset or wheel.

Power Flow Control in Distribution Grids and Active Filters

- The aim of this project is research of new technologies, devices, principles and control algorithms of power flow control in distribution grids. The main attention is paid to hybrid and fully power electronics based solutions.

The postdoc will work in a power electronics and drives group in R&D center RICE at the Faculty of Electrical Engineering, UWB. The research team has around 50 experienced researchers. The team has world-unique R&D infrastructure and unique industrial background.

Description of the work position:

Selected researchers will strengthen an existing top-quality research team of the University of West Bohemia in Pilsen. Their main tasks will be to engage in the activities of the team of experts under the guidance of a mentor and to fulfill tasks specified by the R&D activity plan. Their own scientific work will include publication of R&D results in prestigious foreign impact journals, participation in major conferences, obtaining applied results, involvement in national and international research projects, and organization of the professional life at the workplace (seminars, conferences).

This activity is carried out as part of implementation of the Mobility 3.0 Project reg. no. CZ.02.2.69/0.0/0.0/16_027/0008370.



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The mentor of the position is prof. Ing. Zdeněk Peroutka, Ph.D., e-mail: pero@rice.zcu.cz,
<https://www.zcu.cz/en/about/people/staff.html?osoba=18415>

Qualification Requirements:

- a properly completed Doctoral Study Programme at university or higher education institution in the Czech Republic or a properly completed similar Study Programme abroad recognized in accordance with Act No. 111/1998 Coll., on Higher Education Institutions and on the Amendment and Supplementation of Other Acts (Higher Education Act), as amended, with the study completion date after **1 October 2011**¹, in either Electrical, Mechanical or Control engineering (or related discipline),
- good understanding of either power electronics and electric drives or systems & control theory,
- the candidate for the position must be a researcher from abroad, i.e. a researcher who has worked outside the Czech Republic for at least two years during the prior three years in the field of research, including at least half work load, or has been a Ph.D. (or similar forms) student abroad; citizens of the Czech Republic are not excluded,
- the candidate must provide at least 2 publication outputs over the last 3 years²,
- good knowledge of English (at least at the CAE level or its equivalent),
- experience with research on the research topic of the specialist team.

The position can be held only by a candidate working full time for the period of up to 6 months.

Salary proposed: 63 000 CZK (gross monthly wage; workload 1.0 – 40 hours/week)

Expected commencement of work: 1 November 2018

Required Form of the Applicant's Application:

- structured curriculum vitae, relevant supporting documents proving the Applicant's activity outside the territory of the Czech Republic to the extent corresponding to the qualification requirements,
- a copy of the documents proving achieved education (Ph.D. diploma or its equivalent),
- copies of documents proving the achieved level of the English language (CAE level or its equivalent),
- full bibliographic data of articles published in impacted journals (please provide, in particular, articles relating to the orientation of the working position, including the impact factor of the journal at the time of their publication),
- complete bibliographic data of works published in proceedings of significant (referred to in WoS or SCOPUS) international conferences relating to the focus of the activity at the listed position,

¹ The stated period may be extended because of maternity leave or long-term illness (longer than 90 days), a family member treatment (longer than 90 days), exams preparation, or military servis.

² Professional publications registered in the database Thomson Reuters Web of Science, Scopus, or Erih Plus as well as such publications as "article", "book", "book chapter", "letter", and "review".



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- overview of research teams (especially international) with whom the Applicant has worked so far, including the projects in which the Applicant was involved,
- overview of collaboration with the application sphere and achieved application outputs.

*Note: The reference date for values of impact factors and inclusion of a work in proceedings and/or relevant databases is: **1 October 2018***

For detailed information, please refer to <https://projekty.zcu.cz/mobility-3.0-homepage.html> website.

Deadline for publishing: 2 October 2018

Period for submission of applications is from 2 October 2018 to 2 November 2018.

Candidates should send their applications to the attention of:

Lucie Šmuclerová, e-mail: lsmucler@rek.zcu.cz, University of West Bohemia – Section of Vice-Rector for Research and Development, Univerzitní 8, 301 00 Pilsen, Czech Republic

The application form, together with all the required documents, is to be submitted electronically. If you have any technical questions, please contact the mentor of the relevant position.