



Lodz University of Technology

Department of Automation, Biomechanics and Mechatronics

POST-DOC RESEARCHER

Requirements:

1. Formal (according to the rules of the NCN OPUS18 project):

- Obtained a doctoral degree no earlier than 7 years before the year of employment in the project;
- Do not have contract employment or will take an unpaid leave for the duration of employment in project;
- Do not receive any other form of remuneration from Polish National Science Centre.

2. Following from project requirements:

PhD in one of the following: mechanics, applied physics, applied mathematics, computer physics.

Skills and knowledge in the field of:

- deriving the equations of state dynamics in various mathematical representations;
- programming numerical procedures in a script language and in a block form, solving ordinary differential equations;
- modeling of vibrating systems with a small and large number of degrees of freedom,
- modeling and mathematical description of the phenomenon of resonance, synchronization, friction and time delays;
- recording results and performing experimental measurements;
- compiling research results and submitting publications to scientific journals. Confirmed publication of scientific papers related to modeling, dynamic analysis and/or synchronization of mechatronic systems in the scope indicated in the proposal

Job Description

The duties of the person employed for this position will consist of conducting works of the entrusted by the Head of the Project and specified in the schedule of the project National Science Centre - OPUS 18: „Nonlinear vibrations of coupled self-excited oscillators with parametric/auto-parametric excitation and non-ideal energy sources” followed by documentation of their results in the form of publications in reputable scientific journals. They include:

- Selecting and examining the properties of dry friction models in terms of adapting them to the description of self-excited vibrations in multi-body systems.
- Preparing a skeleton of basic numerical procedures for modeling dry friction in discontinuous dynamical systems.
- Carry out analysis of parametrically/auto-parametrically excited systems to check the potential operating regimes of such systems in terms of behavior synchronization, chaotic vibrations, resonances and stability loss.

Employment conditions:

- Full-time position
- Expected monthly salary: 7050 PLN (with taxes) - allowing for comfortable life in Poland
- Expected employment duration 12 months

Please note that starting date and duration of employment can change in case of the need for additional employment permissions.



Required documents:

- application for employment (letter of intention) addressed to the Rector of the Lodz University of Technology;
- short CV
- list of achievements and scientific achievements (containing, among other: publications in reputable journals, awards resulting from academic research, scholarships, awards and research experience gained outside the home scientific unit in the country or abroad, workshops and scientific training, participation in research projects);
- diploma certifying possession of a doctoral degree;
- references from at least one independent researcher, along with his contact information.

Applications can be send as an e-mail titled “**PostDoc OP18_PS5_1R20**” with attached PDF to address W1K11@adm.p.lodz.pl or in form of a hardcopy posted to the following address:

Prof. Jan Awrejcewicz
Head of Department of Automation, Biomechanics and Mechatronics,
Lodz University of Technology
1/15 Stefanowskiego Str., 90-924 Lodz
POLAND

Deadline: December 30, 2021

Short description of the project available on the website:
in Polish:

<https://ncn.gov.pl/sites/default/files/listy-rankingowe/2019-09-16/streszczenia/459380-pl.pdf>

or in English:

<https://ncn.gov.pl/sites/default/files/listy-rankingowe/2019-09-16/streszczenia/459380-en.pdf>

WARNING!

* The date of receipt is decisive. Applications received after the deadline will not be considered. Department reserves the right to contact only candidates selected for the second stage of qualification, without notice to the other participants.

Lodz University of Technology, registered office Poland, 90-924 Łódź, ul. Żeromskiego 116, as the personal data administrator, informs that personal data of candidates for work will be processed only for the purpose of recruitment for the Post-Doc Researcher position. The candidate has the right to access the data contents and correct them, providing the data is voluntary. In the case of providing data in a wider scope than that resulting from art. 22¹ § 1 of the Act of June 26, 1974. The Labor Code (Journal of Laws of 1998 No. 21, item 94, as amended), please insert the consent clause in the documents sent for the processing of personal data