



INVESTMENTS IN EDUCATION DEVELOPMENT

European Social Fund in the Czech Republic – Ministry of Education, Youth and Sports of the Czech Republic – Czech Technical University in Prague

## OPEN POSITIONS FOR PH.D. GRADUATES (POST-DOCS) AT THE CZECH TECHNICAL UNIVERSITY IN PRAGUE IN THE FIELD OF VEHICLE POWER TRAIN AND POWER MANAGEMENT MODELLING AND CONTROL

**Project OP VK CZ.1.07/2.3.00/30.0034**

**Support of research teams at Czech Technical University in Prague.**

**Duration: 3<sup>rd</sup> October 2014 (earliest date of employment) - June 30, 2015.**

The Czech Technical University, Faculty of Mechanical Engineering (CTU) <http://www.fs.cvut.cz> is looking for recent doctoral study graduates<sup>1</sup> focused on the simulation and optimization of vehicle powertrains and predictive control of power systems.

**CANDIDATE PROFILE:** All candidates must be fluent in spoken and written English. A candidate has a Ph.D. degree (or equivalent) in mechanical engineering or physics and an adequate mathematical background. The maximum time after graduation is 5 years<sup>1</sup>. He or she published at least one journal paper impacted and registered by WoS.

Specific topics of research and mentors:

Experience-based semi-empirical methods will be calibrated by detailed simulations at higher level of modeling.

**Prof. Ing. Michael Valášek, DrSc.,** <http://www.fs.cvut.cz>

1. **Research of efficient simulation of fully nonlinear predictive control with constraints for advanced powertrains or chassis systems involved in integrated vehicle control.**

The topics should be selected preliminarily by the candidate.

Additional requirements on candidates:

- Proven abilities of publishing the results of R&D are the most important criterion for applicant's assessment.
- Specific experience with CAE simulation methodology (Finite Element Method (FEM), Computational Fluid Dynamics (CFD) or Multi-Body Simulation (MBS) in connection to CAD (Creo or Pro/Engineer, Catia v5) is an advantage. Specific experience with commercial codes FIRE, GT Suite, Adams, Simpack is an advantage.
- Expertise with multi-domain system modeling (behavioral 1D up to detailed 3D) and/or multi-attribute optimization is an asset.
- Knowledge, experience and skills in the field of experimental investigation of combustion engines and motor vehicles are an advantage.
- Knowledge of programming languages (Fortran, VisualBasic, C++) and/or knowledge of Matlab are an advantage.

### Conditions:

- the contract with the employee will be valid for the period since date of admission (at the earliest 3<sup>rd</sup> October 2014) till 30<sup>th</sup> June 2015;
- the research activities will be carried out at the Czech Technical University, Josef Božek Research Centre located in Roztoky (<http://www.vtp-roztoky.cz>) suburb of Prague, Czech Republic;
- the employee will take part in teaching activities in the range of 3-5 hours/week;

<sup>1</sup> Graduation between March 29, 2008 and the date of admission. Studies took place at Czech or foreign universities.



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- gross salary of at least 56 000 Czech Crowns (CZK) – approx. 2000€, well above the national average salary (950€); social and health insurance paid by the employer; possible increase in case of excellent results after the first 6 months; the result assessment depends on contribution to publishing activities of research teams;
- paid business trips to present the results at one or more congresses or conferences annually ;
- paid, minimum of 3 months practice in industrial R&D in the Czech Republic or abroad (e.g., Škoda Auto, Porsche Engineering Services Prague, AICTA Design Works, Ricardo Prague, Honeywell Turbo Technologies, etc.);
- possibility to continue employment and academic carrier after the end of the project, especially in case of successful grant applications.

The employer will help participants of the project in finding accommodation, if necessary.

**APPLY NOW! Targeted Start Date: October 3, 2014 or later. The application are accepted since September 20, the application deadline for the 6<sup>th</sup> turn of assessment is September 28<sup>th</sup>, 2014, till 24:00.**

**The assessment committee meetings will be held on September 29 and September 30, 2014. The results of preliminary application assessment with the list of candidates eligible for the final assessment will be announced at <http://bozek.cvut.cz> on October 1. The final assessment, during which the interview with present or skype contacted candidate may be required, will take place on September 30.**

To apply, please send by e-mail and (followed) by a letter, **which both should reach contact person at CTU in Prague till 28<sup>th</sup> September, midnight:**

1. a detailed CV in English or Czech, at least one page A4 (including list of published papers with the full bibliographic data and

**impact factor of the journal according to WoS, patents and realized engineering works – applicants with better publication activities will be preferred);** the applications without detailed information on impact factor will not be assessed;

2. a **letter of motivation in English or Czech stating the selected # of topics mentioned above and commenting details of your intentions in doing that research;**
3. **copy of the certificate of English language knowledge (e.g., CAE or TOEFL or electronic version of Ph.D. Thesis in English);**
4. **copies of the master and Ph.D. diplomas;**
5. **one recommendation letter in English or Czech with the full e-mail and phone contacts to the recommending person.**

Additionally (voluntarily),

6. **full-text electronic copies of three of your best published papers/articles.**

Contact person for letters and mail is Ing. Eva Zbožínková

[eva.zbozinkova@fs.cvut.cz](mailto:eva.zbozinkova@fs.cvut.cz)

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The full description of tender conditions (including the rules for assessment committee procedure, etc. – in Czech) is exhibited at <http://bozek.cvut.cz>.