



**VECOM**



A Marie Curie Initial Training Network (ITN) of the European Union <http://www.vwcom.org>

## OPEN POSITION AT CZECH TECHNICAL UNIVERSITY IN PRAGUE IN THE FIELD OF VEHICLE CONCEPT MODELLING

**VECOM** (Vehicle Concept Modeling) is an **Initial Training Network (ITN)** Nr. 213543, funded under the FP7 Marie Curie programme of the European Commission. **Duration:** Oct. 1, 2008 - Sept. 30, 2012.

**The Czech Technical University, Josef Božek Research Centre <http://bozek.cvut.cz> is looking for an Early Stage Researcher (duration 6 months with the possibility to prolong the training up to 30 months if the results of initial period are satisfactory) focused on the simulation and optimization of vehicle powertrains, especially development of alternative methods for prediction of both fuel consumption and CO2 emission in the early stage of R&D. Elaboration of Ph.D. thesis in the field of Mechanical Engineering based on this research topics is possible.**

**CANDIDATE PROFILE:** All candidates must be fluent in spoken and written English. A candidate has a university degree (MSc or equivalent) in mechanical engineering or physics and an adequate mathematical background. The maximum time after graduation is 4 years<sup>1</sup>.

Specific topics include **the methods of optimization by simulation** for engine thermodynamics (including turbocharging), engine components, engine mechanical losses and powertrain operation efficiency. New concepts of engines and hybrid/power-splitting powertrains are about to be assessed. **Experience-based semi-empirical methods will be calibrated by detailed simulations at higher level of modelling.** The topics will be selected taking the specific candidate profile into account.

<sup>1</sup> The research experience includes the period since gaining a university degree giving the candidate access to doctoral studies or already in possession of a doctoral degree, independently of the time taken to acquire it. Among others, following criteria apply for eligibility: the researcher shall not be a national of the State in which the hosting partner's research team is located; at the time of appointment, the researcher may not have resided or carried out her/his main activity in the country of the hosting partner for more than 12 months in the 3 years immediately prior to her/his appointment; women are especially encouraged to apply.

Additional requirements on candidates:

- Specific experience with CAE simulation methodology (Finite Element Method (FEM), Computational Fluid Dynamics (CFD) or Multi-Body Simulation (MBS) in connection to CAD (Pro/Engineer, Catia v.5) is an advantage.
- Specific experience with CAE simulation software (FIRE, GT Suite, Fluent) is an advantage.
- Expertise with multi-domain system modeling (behavioral 1D up to detailed 3D) and/or multi-attribute optimization is an asset.

Knowledge of programming languages (Fortran, Visual.Basic) and/or knowledge of Matlab are an advantage.

The research activities will mainly be carried out at the Czech Technical University, Josef Božek Research Centre located in (Prague, Czech Republic), possibly combined with visits of one or more months to other members of the network and short-time stages at Škoda Auto or Ricardo Prague.

**APPLY NOW! Targeted Start Date: October 1, 2009, application deadline for the 1<sup>st</sup> turn of interviews is July 15.** To apply, please send a **detailed CV** together with a **letter of motivation** and **names of reference(s)** to

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The remuneration will be in line with the EC rules for Marie Curie grant holders and consists of a salary augmented by a net mobility allowance. <http://cordis.europa.eu/fp7>.