



VECOM



A Marie Curie Initial Training Network (ITN) of the European Union

OPEN POSITION AT LAT/AUTH IN THE FIELD OF VEHICLE CONCEPT MODELING

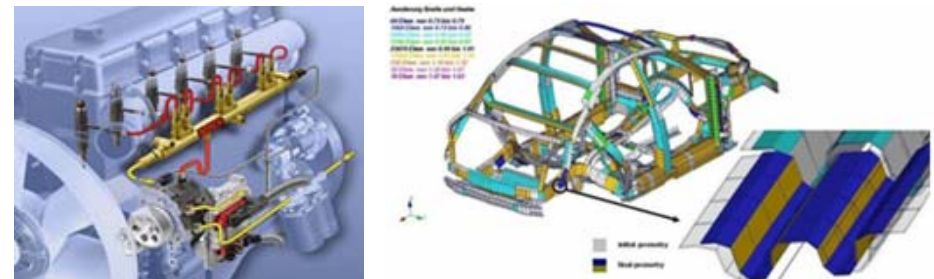
VECOM (Vehicle Concept Modeling) is an **Initial Training Network (ITN)** Nr. 213543, funded under the FP7 Marie Curie programme of the European Commission. **Duration:** Oct. 1, 2008 - Sept. 30, 2012.

BACKGROUND: Vehicle Concept Modeling refers to the emerging field of up-front pre-CAD functional performance engineering in the vehicle development process. The research area is of highly strategic importance to European automotive OEMs, who must launch products on an ever shorter time frame, at increased quality of multiple performance attributes. When simulation results become available in an early design stage, problems can already be solved before the first detailed CAD model is created, which will increase the quality of the first detailed simulation models and reduce the time to market. Moreover, early what-if studies can be performed to balance and optimize possibly conflicting performance attributes (safety, NVH, dynamics, durability ...) at an increased feasibility and at reduced costs. Novel methods will be developed to address this industrial need for a novel engineering process in which analysis leads the design. Applications will be worked out across partners and application fields, fully embedded in the vehicle industry context. Apart from benefits to researchers, partners and industrial stakeholders (additional OEM and other industry), the project will strengthen the competitive position of the European vehicle industry in the increasingly global market.

CONSORTIUM: a well-balanced group of 6 universities, 4 research institutes and 4 companies, active in concept CAE simulation and functional performance engineering of vehicles and its constituent subsystems. The industrial partners bring in application knowledge and expertise, and the academic partners bring in a range of CAE methodologies, the capability of research training, provision of courses and dissemination of results.

COORDINATOR: The project is coordinated by **UPVLC** (Universidad Politécnica de Valencia), Department CMT. The VECOM Project Manager is **Ms. Xandra Margot**, xmargot@mot.upv.es

OBJECTIVES: The ITN VECOM has the objective to form a European training network, bringing methodology and technology innovations in the field of vehicle concept modeling. The Training Program has a dual focus, covering on the one hand in-depth methodology R&D (using predecessor information in case of a design variant, development from scratch for entirely new concepts ...) and on the other hand enabling technologies such as multi-domain system modeling (behavioral 1D up to detailed 3D) and multi-attribute optimization. Dedicated short-term secondments will be organized to promote the researcher mobility and facilitate the exchange of information. The Training Program will be defined from an industrial perspective, to embed the researchers and their activity in an industrial context. By taking part in the training program, researchers will network across Europe, bridging industry and academia, which will fully prepare them for future career steps.



VECOM originates from, and is fully endorsed by EARPA, the European Automotive Research Partners Association, of which several partners are active members in the Task Force "Modelling and Simulation", see <http://www.earpa.org/>.

MARIE CURIE ELIGIBILITY CRITERIA – in short:

- **Early-Stage Researcher (ESR):** holds an MSc degree in Engineering and has less than 4 years of experience¹.
- **Experienced Researcher (ER):** holds an MSc degree in Engineering & preferably also holds a PhD degree. Has at least 4 years of experience (or a PhD degree), but has no more than 5 years of research experience¹.

The Laboratory of Applied Thermodynamics of Aristotle University Thessaloniki (LAT/AUTH) is looking for an ESR (3 to 12 months) focusing on exhaust gas aftertreatment modeling. LAT/AUTH already possesses a platform of simulation tools capable of predicting the behavior of exhaust after-treatment devices under transient driving modes. The main task of the researcher will be to apply and possibly further develop these tools in real exhaust system design cases. Experimental data for model calibration and validation will be available via the experimental database of LAT/AUTH. A smaller part of the work will deal with experimental measurements in the fully-equipped engine and vehicle dyno of the lab. Special emphasis will be given in the direction of developing as simple and fast simulation models to be used in the vehicle concept design stage.

CANDIDATE PROFILE: All candidates must be fluent in spoken and written English. An ideal candidate has a degree in engineering (mechanical, chemical, software) and an adequate mathematical background.

- Specific experience with CAE simulation methodology is an advantage.
- Specific experience with CAE simulation software (e.g. Computational Fluid Dynamics) is an advantage.
- Knowledge of programming languages (C/C++, Fortran, Visual.Basic) and knowledge of Matlab/Simulink are an advantage.

The research activities will mainly be carried out at the Laboratory of Applied Thermodynamics of Aristotle University located in Thessaloniki, Greece, possibly combined with visits of one or more months to other members of the network.

APPLY NOW! Targeted Start Date: September 15th, 2010.

APPLICATION: To apply, please send a **detailed CV** together with a **letter of motivation** and **names of reference(s)** to

Assist. Prof. Grigorios Koltsakis

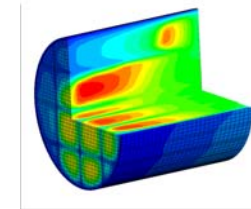
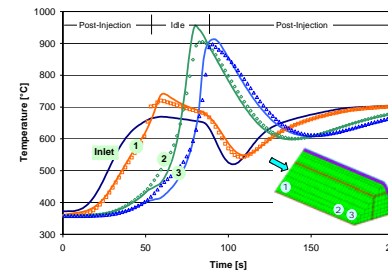
grigoris@auth.gr

Laboratory of Applied Thermodynamics

Aristotle University Thessaloniki

54124 Thessaloniki, Greece

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>.



¹ The research experience includes the period since gaining a university degree giving the candidate access to doctoral studies (the degree must entitle the holder to embark on doctoral studies, without having to acquire any further qualifications) 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.