



2020-IPR-C4-FGIV-013833

FG IV - Scientific Policy Officer – Heavy duty vehicle energy consumption simulation and CO₂ emissions modelling

<p>Position for:</p> <p>FGIV – Scientific Policy Officer</p>	<p>As the science and knowledge service of the Commission, the mission of DG Joint Research Centre is to support EU policies with independent evidence throughout the whole policy cycle.</p> <p>The JRC is located in 5 Member States (Belgium, Germany, Italy, the Netherlands and Spain). Further information is available at: https://ec.europa.eu/jrc/</p> <p>The Sustainable Transport Unit (STU) of the Directorate for Energy, Transport and Climate, is responsible for a series of activities aiming to characterize the energy performance and greenhouse gas emissions of heavy-duty road vehicles (HDV). The STU provides research for policy support to DG Climate Action for developing regulations and the tools necessary to support their implementation.</p> <p>In this context, the STU is scientific responsible for the Vehicle Energy Consumption calculation Tool (VECTO), the software tool introduced by regulation 2017/2400/EU for the certification of HDV CO₂ emissions in Europe.</p> <p>The STU conducts experimental and computational activities for validating the integrity and accuracy of VECTO, and for supporting its further development. With new powertrains and vehicle automation systems in place, VECTO and the HDV CO₂ certification methods will require substantial updates in order to incorporate the most advanced vehicle technologies, expected to appear on the market in the years to come.</p> <p>The STU is therefore looking for a researcher with proven expertise in vehicle simulation and emissions modelling.</p> <p>The jobholder will be responsible for research activities related to the development, extension, support, and validation of VECTO and the respective component-testing framework. In particular, the jobholder will be responsible for steering activities undertaken by the JRC regarding the development of new VECTO components and the update of existing ones, for conceptualizing and proposing new computational models covering new technologies at vehicle and component level, and for guiding computer experts in implementing those into software code.</p> <p>The tasks will include closely following the developments in vehicle technologies, and other technical issues of importance for future VECTO releases.</p> <p>The job tasks will also focus on priorities set by the European Green Deal, in order to generate the necessary feedback for the revision of existing regulations on heavy-duty vehicle CO₂ emissions and road-freight transport decarbonisation. Finally, the activity will include vehicle energy consumption and CO₂ emissions testing.</p>
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The researcher will be asked to design and follow test-campaigns in the VELA labs of the JRC, in real-world conditions or third party labs and proving grounds, with the objective to gather sufficient data to support the development and validation of the respective computer models.

The work will be carried out in close collaboration with colleagues within the STU, the Directorate, other Directorates of the JRC and Directorates General of the European Commission.

The tasks of the successful candidate will be to:

- Develop, calibrate and validate computer simulation models for heavy duty vehicles and their components;
- Contribute to the further development, support and validation of the VECTO simulator and the respective supporting software introduced by 2017/2400/EU;
- Propose new methods for modelling the operation of vehicle components and steer their implementation into software code;
- Follow the developments in EU policy in the field of heavy-duty CO₂ emissions and fuel consumption, and contribute in the respective activities of the STU;
- Design, support, and steer the execution of ad-hoc test campaigns;
- Collect, analyse data from the test campaigns, on-line sources, or data retrieved from the EU vehicle certification process;
- Writing software code to support the development of the aforementioned tasks, and extend existing tools.

Qualifications:

We look for a person with strong interest and understanding of automotive systems and vehicle technologies.

The ideal candidate shall have completed university studies of at least three years attested by a diploma in Science or Engineering and at least five years of professional experience in a field relevant to the position, or alternatively, shall have acquired a doctoral degree in Mechanical, Automotive, Energy, Vehicle or similar Engineering fields relevant to the position offered.

The candidate should exhibit proven experience in simulation of vehicles or energy systems, emissions modelling, and relevant research activity. The candidate should have a good aptitude of taking initiative, developing new concepts and being a strong team player.

In addition, the following qualifications are considered as an asset:

- Knowledge of modelling languages (Simulink, Modelica or similar) and/or vehicle simulation software (VECTO, Amesim, AVL Cruise, Autonomie or similar);
- Knowledge of python, R, or other computer language for data collection, handling, and analysis;
- Solid record of research activities relevant for the post including scientific publications and reports;

	<ul style="list-style-type: none"> • Proven ability to work in a team and in a multi-cultural environment. <p>Very good oral and written communication skills in English (B2) are essential.</p> <p>The Joint Research Centre is an equal opportunity employer and is committed to increasing the diversity of its staff. It welcomes applications from women and minority groups.</p>
Directorate Unit	<p>Energy, Transport and Climate Sustainable Transport Unit</p> <p>Further information: https://ec.europa.eu/jrc/</p>
Indicative duration	<p>36 months initial contract with possible renewals up to maximum 6 years</p>
JRC Site Country	<p>Ispra</p> <p>Italy</p>
Rules and eligibility	<p>The candidate must be on a valid EPSO reserve list for Function Group IV contract staff.</p> <p>If you are not in any valid EPSO reserve list for Function Group IV contract staff, you can still apply by following these steps.</p> <p>You express your interest by applying to the CAST Permanent or to the permanent JRC Call for researchers.</p> <p>1. CAST Permanent: open-ended selection procedure to create a pool of candidates from which the institutions, bodies, offices and agencies of the European Union (EU) can recruit contract agents. https://epso.europa.eu/documents/2240_en</p> <p>2. JRC Call COM/1/2015/GFIV – Research: open-ended selection procedure to create a pool of candidates from which mainly the JRC can recruit contract agents FGIV as researchers. Details available at the link below: https://ec.europa.eu/jrc/en/working-with-us/jobs/vacancies/function-group-IV-researchers</p> <p>Only then you can apply for this specific position, through http://recruitment.jrc.ec.europa.eu/?type=AX</p> <p>Auxiliary contract staff: https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/contract-staff-members</p> <p>Article 3b of the Conditions of Employment of Other Servants of the European Union applies: the actual period of employment within the Commission under this type of contract, including any period under renewal, shall not exceed 6 years.</p> <p><i>Please note that in case a high number of applications is received only shortlisted candidates will be contacted.</i></p>