



Job offer
Royal Military Academy - Patrimony

Research scientist/engineer (M/F/X)
Departement of Mechanics
project "MSP/20-04"
Publication: 29 September 2023



Job description and associated tasks

The Royal Military Academy is looking for a **full-time research scientist/engineer with a master's degree in applied science/engineering/physics/computer science in the field of fluid mechanics and/or numerical simulation**. The work consists of continuing the implementation of a numerical model for dispersion following the release of a chemical, nuclear or biological agent (by a weapon or other), as well as response management modeling. The model will run on the ECMWF infrastructure (<https://www.ecmwf.int/>) and will provide a user-friendly Web-based interface.

Context:

The Royal Military Academy of Belgium (RMA) is a military institution responsible for the basic academic, military and physical training of future officers, and for the continuing advanced training of officers during their active career in the Belgian Defense department (www.rma.ac.be). It is fully recognized as a university, fulfilling the same criteria as civilian universities. The Royal Military Academy is also conducting scientific research at university level for projects funded by the Belgian Defense department or external sources.

You will work within the Department of Mechanics at the Royal Military School, but in close collaboration with researchers in the Department of Mathematics and also with the RMI. The work builds on an already ongoing research project (end date Aug 31, 2025), but the intention is to build a follow-up to this, with a duration of four years. It is also possible (and encouraged) to do a PhD in this context.

Main Tasks

- Further development and fine-tuning of the existing model:
 - Front-end development in Angular
 - Back-end development in Julia (<https://julialang.org/>)
- Implement new dispersion models
- Using "ensemble forecasts" to determine probabilities for predictions
- Develop a follow-up scientific project for a duration of four years

Required skills

Technical skills

- The candidate will have a master's degree in applied science/engineering/physics/computer science in the field of fluid mechanics and/or numerical simulation.
- The ideal candidate will have training or experience in at least some of the following areas:
 - a. Numerical simulation and modeling.
 - b. Scientific programming

- c. Cloud- and web-based technologies
- d. Modeling of fluids and dispersion
- e. Event-based simulation
- f. Weather modeling and weather forecasting.

Personal skills

- You conduct scientific research in an independent and upright way within a multidisciplinary environment
- You think in an innovative and creative way.
- You communicate your results in a clear, concise and precise manner.
- You take initiative.
- You are involved and result oriented.
- You are honest, loyal toward the institution and respect confidentiality.
- You plan and manage proactively your self-development, while being critical to your own functioning and striving to your self-improvement.
- You improve the team-spirit and solve interpersonal conflicts.
- You solve problems autonomously and find alternatives or solutions.
- You behave in a respectful way toward the others, their ideas and opinions as well as toward procedures and instructions.
- You are flexible for change and adapt yourself.
- You commit yourself in your job by giving the best of your aptitudes in striving toward the highest quality standards and persevere when needed.

Other skills

- The applicant shall have good knowledge of English (oral / written).
- Minimum knowledge of French or Dutch is an added value for collaboration with peers.

Specific requirement

- The researcher may be exposed to classified information and will therefore have to obtain the required security clearance. The candidate must consent with the background check required to obtain this clearance, which will be executed by Belgian Defense.
- Working for the Patrimony requires living in Belgium for the duration of the study.

Application

You will be working in a military environment. That is why everyone is expected to undergo a security verification. Please add to your application the filled out document. The form can be downloaded from: <http://www.rma.ac.be/nl/aanvraag-veiligheidsverificatie>

Send by email:

- a motivational letter;
- a CV
- a scan of your ID card (both sides);
- the filled out security document

to Mr Bart Janssens (bart.janssens@mil.be) and to Mrs Helena BRUYNINCKX (erm-deao-rsw@mil.be).

Please mention clearly the reference of the project: “**MSP/20-04**”.

Application deadline: **31 Oct 2023**.

The interviews will take place at the Royal Military Academy, Hobbemastraat 8, 1000 Brussels. In case of access restriction due to COVID-19 or non-Belgian application, on-line interviews will take place. The date and time of the interview will be communicated to the preselected candidates.

Miscellaneous

Contract

- Probable date of recruitment: From November 2023, in consultation with the applicant.
- Status: Full-time employment based on an open-ended contract with the Patrimony of the Royal Military Academy (you will not be a civil servant).
- Wage scale: NA11 (holder of a Master's degree in Science or equivalent), NA21 (holder of an Ir degree or equivalent Master's in Engineering Sciences, doctor's degree in the same area of expertise). RMA-Patrimony applies a merit-based research career track, allowing researchers to advance in wage scale based upon annual evaluations.
- Holiday pay.

Extra-legal benefits

- Possibility to benefit from a bilingualism allowance (Dutch/French) following a SELOR test;
- End-of-year bonus;
- Free DKV hospitalization insurance. Possibility of additional affiliation for one or more persons living under the same roof: spouse, child(ren) (50% of the price per additional member);
- Bike allowance / Free public transport (home-work commute);
- Free access to campus sports facilities outside working hours;
- On-campus restaurant and cafeteria with democratic prices (discount on the daily menu);
- Flexible working hours within the 38-hour week;
- Teleworking possible with allowance ;
- Holidays:
 - 26 days holiday / year from the 1st year of contract (then from 45 years: +1 day holiday every 5 years)
 - + 3 extra days-off / year of “service dispensation” offered by the department
 - + 1 week OFF every year between Christmas and New year's Eve (independent of the annual balance of holidays).
- Advantages and interesting offers thanks to the Benefits@work card (discounts, vouchers...);
- Entitlement to services offered by the ‘Office Central d'Action Sociale et Culturelle de la Défense’ (OCASC): among others holiday centres, discount on travel organised by the tour operator...;
- Possibility of benefiting from the nursery funded by Belgian Defence (subject to availability).

Workplace

- Royal Military Academy, Avenue de la Renaissance 30, 1000 Brussels;
- Occasional travels abroad for scientific conferences, etc.

Points of contact

- Concerning the research project: to Mr. Bart Janssens (bart.janssens@mil.be)
- Concerning the recruitment modalities: Mrs Helena Bruyninckx (erm-deao-rswo@mil.be)
- For more information about the Royal Military Academy, see <http://www.rma.ac.be>