

Ph.D. student - Machine learning-based tools for multiparametric enzyme optimisation

DC11: Machine learning-based tools for multiparametric enzyme optimisation

Workplace: RECETOX, Faculty of Science, Masaryk University in Brno, Czech Republic

Type of Contract: temporary position with 3-year contract (with possible extension), non-academic position

Working Hours: 1,0 FTE (full-time employment of 40 hours per week)

Expected Start Date: negotiable with respect to immigration timelines for non-EU candidates

Number of Open Positions: 1

Pay: CZK 108 000 CZK – 120 000 CZK depending on the eligibility for family allowance, and includes all compulsory deductions such as social security contribution, health insurance, and income tax

Application Deadline: 31.01.2026

EU Researcher Profile: R1

About the Workplace

Masaryk University is modern, dynamic and the most attractive university in the Czech Republic with ten faculties, more than 7 000 staff and 33 000 students, a wide range of research areas and a strong international position. We are the largest academic employer in the South Moravian Region.

Faculty of Science MU, a holder of the [HR Excellence in Research Award](#) by the European Commission, is a research-oriented faculty, offering university education (Bachelor's, Master's, and Doctoral degree programs) closely linked to both primary and applied research and high school teaching of the following sciences: Mathematics, Physics, Chemistry, Biology, and Earth sciences. We are the most productive scientific unit of the Masaryk University generating around 40 % of MU research results.

RECETOX focuses on interdisciplinary research and education in the area of Environment & Health, studying toxic compounds and their behavior, transport & bioaccumulation to evaluate environmental effects, assess the exposure and health risks to humans, and develop technologies and biotechnologies to break them down. <http://www.recetox.muni.cz/en/career/career-at-recetox>

The PhD student will be employed in **Loschmidt Laboratories**, one of the leading protein engineering groups in Europe and part of the RECETOX centre at the Faculty of Science of Masaryk University. The group focuses on studying the fundamental principles of enzymatic catalysis and developing proteins for environmental, chemical, and biomedical applications. Loschmidt Laboratories are currently working on a number of topics leading to new [computational tools](#), biomaterials, and biopharmaceuticals.

Roles and responsibilities

The PhD will be carried out in 4 years at Masaryk University under the supervision of Dr. Stanislav Mazurenko. Within this time, two research stays (2 x 3 months) are expected, at DTU (C. Acevedo) and in Provolut (J. Ivanovska). The Horizon Europe Marie Skłodowska-Curie Action (MSCA) Doctoral Network (DN) project is scheduled to start in January 2026. The date of recruitment and the start of the PhD project are planned for June 2026 and by December 2026 at the latest. Your PhD degree will be awarded based on the successful completion of the research work and fulfilling all the PhD study requirements at Masaryk University. You will also be required to participate in the training events organized by the DN, and you are expected to contribute to the dissemination of your PhD results via social media and public engagement.

The PhD project will focus on:

- Development of next-generation data-driven models for protein engineering and optimisation;
- Validation of the developed models on the new data coming from the DN project;
- Integration of those models into reliable, user-friendly, state-of-the-art tools for protein engineering pipelines.

Main supervisor: Stanislav Mazurenko, Masaryk University, Brno, Czech Republic

Co-supervisor 1: Carlos Acevedo, DTU, Denmark

Co-supervisor 2: Jelena Ivanovska, Provolut (previously Exazyme), Berlin, Germany

Qualifications:

- MSc degree in Computational Biology, Machine Learning, Bioinformatics, Biotechnology or related discipline
- Experience with computational tools for protein engineering or machine learning
- Demonstrated ability in biological data analysis
- Excellent English proficiency
- Excellent communication skills for working within an interdisciplinary research team
- Strong analytical skills and ability to work independently

Preferred qualifications, but not mandatory:

- Proficiency in Python or another programming language
- Familiarity with protein modelling and analysis tools like AlphaFold, Boltz, PyMOL, Chimera, etc.
- Experience developing machine learning models
- Interest in advanced computational methods for understanding and improving protein function

Conditions of employment

You must hold a two-year master's degree (120 ECTS points) or a similar degree with an academic level equivalent to that of a two-year master's degree.

Eligibility Requirements**Doctoral Candidates (DCs)**

- May not hold a doctoral degree at the date of recruitment
- May hold any nationality
- May not hold residence or have any main activity (such as work or studies) in the recruiting beneficiary's country for more than 12 months in the last 3 years
- Should meet the requirements to be enrolled in a doctoral programme

Approval and Enrolment

The scholarship for the PhD degree is subject to academic approval, and the candidate will be enrolled in one of the general degree programmes at Masaryk University. For information about our enrolment requirements and the general planning of the PhD study programme, please see [Doctoral degree study programme | Faculty of Science MU](#).

We offer

- An interesting job in a dynamically expanding university area
- Flexible working hours and occasional home office to support personal needs in family and career compatibility
- Employee benefits such as 6 weeks of paid vacation per year, pension insurance contribution or nursery/children's group allowance, a financial meal allowance, Multisport card, vaccinations free of charge, discounted language courses, exclusive mobile tariff offer by Vodafone, childcare groups at Campus and Komenského náměstí
- Opportunity to work and live in a modern and dynamic city (for more information on costs of living, you can refer to [Numbeo](#))

Salary and appointment terms

The preferred starting date is 1st June 2026 or, according to mutual agreement. The position is full-time. The period of employment on the ELEGANCE project is 3 years, with possible extension supported by RECETOX. Doctoral candidates are offered an employment contract, including social security coverage and health insurance, with a competitive remuneration based on the MSCA allowances in line with the [MSCA WP 2023-2025](#). The monthly salary in CZK corresponds to 4,484.52 - 5,144.52 EUR depending on the eligibility for family allowance, and includes all compulsory deductions such as social security contribution, health insurance and income tax. You can read more about [career paths at Faculty of Science of Masaryk University](#) here.

Funding Covers

- a living allowance (salary)
- a mobility allowance (for relocation, etc.)
- a family allowance, long-term leave allowance (if applicable)
- research, training, and networking events
- secondments

Further information

Further information may be obtained from Stanislav Mazurenko: mazurenko@mail.muni.cz

Website about MSCA Doctoral Network ELEGANCE: <https://elegance.dtu.dk/>

Google Scholar profile: <https://scholar.google.com/citations?user=zVQpC44AAAAJ&hl=en&oi=ao>

More information about Masaryk University: <http://www.muni.cz/en>

Loschmidt Laboratories: <https://loschmidt.chemi.muni.cz/peg/>

If you are applying from abroad, you may find useful information on studying PhD at MU at [Ph.D. studies | Masaryk University](#). [Welcome Office](#) provides support with your relocation to Brno.

Application Process

The application shall be **submitted online by 31.01.2026 via an e-application**, please find the reference to the e-application in the beginning and end of the advertisement.

Applications must be submitted as a **single PDF file containing all required materials to be considered**.

To apply, please click on the ["E-application" link](#), complete the online application form, and attach all your materials in English to a single **PDF file**.

The file must include:

- Cover letter
- Curriculum vitae
- Grade transcripts and BSc/MSc diploma (in English) including official description of grading scale
- Names and contact details of at least 2 professional references

You may apply prior to obtaining your master's degree but cannot begin before having received it.

After submitting your application successfully, you will receive an automatic confirmation email from jobs.muni.cz. In case of problems with filling in the e-application form, please contact us by e-mail: rcx-hr@recetox.muni.cz.

Selection Process

Received applications will be considered carefully in line with [principles of the EU Charter and Code for Researchers](#). Selection criteria: (i) meeting qualification requirements described above, (ii) all required documents provided. Shortlisted candidates will be invited for a personal or online interview. The Faculty Recruitment Policy (OTM-R) can be seen [here](#).

Faculty of Science, Masaryk University is an equal opportunity employer. We support diversity and are committed to creating an inclusive environment for all employees. [Visit our Career page](#).

We are looking forward to hearing from you!