



10 PhD positions in Cutting-Edge Leukemia Research: Advancing the Understanding of minimal residual disease (positions in 7 EU countries)

Job description

The largest challenge associated with leukemia treatment is persistence of residual therapy-resistant cancer cells, called minimal residual disease (MRD), which underlies disease relapse and is responsible for the low survival rates of patients. Currently, knowledge on mechanisms of persistence of MRD and initiation of leukemia relapse is lacking, making development of therapeutics eradicating MRD difficult and hampering improvement of patient cure rates. The MIRACLE network will take an integrated, multidisciplinary and intersectoral approach to address the key unresolved questions on the molecular and cellular basis of acute leukemia MRD.

MIRACLE is a Marie Skłodowska-Curie doctoral network aiming to educate a new generation of researchers optimally equipped to advance and accelerate development of novel therapeutics directed to leukemia MRD, and to progress effective treatments to the clinic. MIRACLE will elucidate the leukemia MRD landscape by integrating the knowledge on mechanisms driving persistence of MRD from different angles, and by the subsequent design of efficient and less toxic, novel targeted combination therapy with increased capacity to induce deep responses in patients.

The project is an international, multidisciplinary and multisectoral training program consisting of 23 academic and non-academic partners from 8 EU countries (The Netherlands, Belgium, Germany, France, Spain, Italy, Czech Republic, United Kingdom). MIRACLE aims to train 10 doctoral candidates to become the next generation of entrepreneurial researchers with leading positions in academia and industry. The researchers will be trained to obtain a unique combination of skills in innovative high-tech technologies, advanced data analysis tools and artificial intelligence, organ-on-chip MRD models, and drug and immunotherapy testing, and will come up with innovative ideas to advance future leukemia treatment by integration of several disciplines and data sources. The MIRACLE joint programme will consist of an individual research project and a comprehensive training program including international mobility and intersectoral secondments.

MIRACLE-Leukemia is a European project funded by the European Union's Horizon Europe's Research and Innovation Program under the Marie Skłodowska-Curie Actions Grant Agreement nr. 101167512.



What we are looking for:

10 highly motivated PhD candidates to fill positions across our European research centres/medical university hospitals located in 7 EU countries.

We welcome applicants of any nationality and background, provided that they fulfil the following specific requirements:

Skills/Qualifications needed:

- You hold a MSc or equivalent degree in a subject specified in the description of the individual PhD projects.
- You have the necessary academic skills and background to make the success of a doctoral degree. The skills needed will depend on the project chosen.
- You demonstrate high level of proficiency in written and spoken English, which will be assessed with the motivation letter and the interview, respectively.
- You have a strong interest in conducting international collaborative research.
- You do not hold a PhD degree or have successfully defended your PhD.
- You comply with the transnational mobility rule. You did not reside or carry out your main activity (work, studies, etc.) in the country of the host organisation for more than 12 months in the 3 years immediately before the recruitment date. Compulsory national service, short stays such as holidays, and time spent as part of a procedure for obtaining refugee status are not considered.
- You fulfil the local requirements and must be eligible to enrol the PhD programme at the host institution.
- You are an ambitious, dedicated professional with solid social skills.

What we offer:

- The opportunity to pursue a PhD in a top European research centre.
- Working in an international team and interdisciplinary environment.
- A comprehensive program that contains scientific, technical, and entrepreneurial training [including strong mentoring, career support and connecting with valuable professional communities]
- An attractive salary in accordance with the MSCA regulations for Doctoral Researchers. The exact (net) salary will be confirmed upon appointment and is dependent on local tax regulations and on the country correction factor (to allow for the difference in cost of living indifferent EU Member States). The salary includes a living allowance, a mobility allowance, and a family allowance (if applicable)]
- Guaranteed PhD funding for 36 months [additional funding is possible, depending on the local supervisor, and in accordance with the regular PhD time in the country of the institution]

The 10 PhD candidates are recruited for the following research projects:

- **DC1:** Optimizing treatment decisions by using MRD data combined with artificial intelligence.
- **DC2:** In-depth analysis of phenotypic acute leukemia MRD dynamics using single cell data and advanced computational techniques.
- **DC3:** The establishment of clinical translational AML MRD on-chip models.
- **DC4:** Characterization of AML MRD using single cell transcriptomic and epigenetic analysis.
- **DC5:** The characterization of acute lymphoblastic leukemia MRD and relapse using single cell omics.
- **DC6:** Multiomic and metabolomic characterization of AML residual disease after AZA/VEN treatment.
- **DC7:** Dissecting and targeting niche-dependent vulnerabilities of protection from therapy in AML.
- **DC8:** Therapy-induced senescence as anti-cancer and immune-stimulatory strategy in AML.
- **DC9:** Characterization of persisting leukemic blasts in down syndrome patients to define targets for immune-therapy.
- **DC10:** Targeting MRD and LSCs in the bone marrow niche by chemokine modified, dual targeting CAR T cells in AML.

>>> click here for more information about the MIRACLE-Leukemia individual research project, the host organisation and the work locations >

Further information on the individual projects can be obtained at the [MIRACLE website](#), at [Euraxess](#) or by sending an e-mail to miracl@amsterdamumc.nl.

Selection process

You can apply for these jobs no later than February 15th.

Please apply by sending an email to: miracl@amsterdamumc.nl

Important notes:

- Your application may be forwarded to other Beneficiaries in the MIRACLE consortium.
- Candidates will be evaluated based on their academic background, research experience, and alignment with the project's objectives. The selection process will be open, transparent, merit-based, impartial, and equitable.
- Shortlisted candidates will be invited for a structured interview and a scoring system.
- The MIRACLE selection committee will comprise diverse experts ensuring gender balance, nationality diversity, and relevant experience.

Annexes

Annex 1: Description research projects, host organisations, duration and work locations

Annex 2: Application form

Last updated: 3 January 2025