

PhD scholarship in Advanced Training Strategies for Neuromorphic Neural Networks

The group of Robert Legenstein at the Institute of Machine Learning and Neural Computation (IML) at Graz University of Technology (Austria) is seeking a candidate for a PhD position to research advanced training strategies for neuromorphic neural networks.

The PhD student will participate in an international team in an EU-funded Doctoral Network project called MINDnet. The project consists of 15 Ph.D. students at 7 universities, one research center and two companies. The project has partners from eight different EU countries. All 15 Ph.D. projects are within the overall theme of neuromorphic computing and analog signal processing, targeting applications in the fields of communication, sensing, geolocalization, space and biomedical.

This Ph.D. project will take place at Graz University of Technology. Apart from the time at TU Graz there will be secondments of minimum 3 months at Università di Trento (IT) and Fraunhofer Heinrich Hertz Institute (DE). There will also be regular meetings with the other 14 Ph.D. students in the doctoral network, including 4 training schools and two workshops.

As a participant of the project, the PhD student will become part of a team at TU Graz with expertise in brain-inspired computing, machine learning, and neuromorphic computing. The activities within the project will benefit from synergies with other projects in the group as well as with other activities at the department. The main supervisor will be Univ.-Prof. Dr. Robert Legenstein.

Responsibilities and qualifications

The exponential surge in artificial intelligence (AI), internet traffic, and online services demands a revolutionary leap in devices, computing architecture, and integration technologies. As digital computing struggles to keep up with the growing demand, MINDnet will investigate neuromorphic computing as a promising solution to support such a demand by getting inspired by the brain's powerful and energy-efficient processing capabilities. MINDnet aims at addressing the challenge through a holistic optimization - from individual computing devices to the overall architecture, including a focus on applications, and training methods - across multiple technological platforms - photonics, electronics, biological neurons.

The work at TU Graz will focus on the development of learning/training approaches applicable to the neuromorphic devices/systems developed in MINDnet. We will develop algorithms to train spiking and non-spiking neural network architectures implemented in photonic, optoelectronic, and electronic hardware, in particular utilizing Reservoir Computing architectures. These will be applied to different neuromorphic systems in collaboration with project partners.



The doctoral candidate (DC) is expected to travel to network partners under two secondments for a typical total duration of 2-3 months. Additionally, the DC is expected to participate in outreach activities including, but not limited to, YouTube videos, social media updates, participation in public events and campaigns, as well as dissemination to popular press. Furthermore, due to the mobility rules of the Marie Skłodowska-Curie program, the applicant must not have resided or carried out her/his main activity (work, studies, etc.) in Austria for more than 12 months in the 36 months immediately before the recruitment date.

Candidates must have a two-year master's degree (120 ECTS points) or a similar degree with an academic level equivalent to a two-year master's degree in computer science or similar.

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 TU Graz. For information about our enrolment requirements and the general planning of the PhD study programme, please see the [overview on doctoral programmes](#).

We offer

Graz University of Technology is the longest-established university of technology in Austria. Here, successful teams of students, talented up-and-coming scientists, ambitious researchers and a lively start-up scene enjoy an inspirational environment as well as access to top-quality equipment. And all this in one of the most innovative and livable regions in Europe. TU Graz offers an inspiring working environment with outstanding infrastructure and service-oriented university management.

Salary and appointment terms

The appointment will be based on the collective agreement with the Austrian Collective Bargaining Agreement for University Staff.

The period of employment is 3 years.

The salary is based on seniority with the minimum wage, which is 3.578,80 EUR monthly gross salary and 710 EUR monthly mobility allowance.

Further information

Further information may be obtained from Univ.-Prof. Robert Legenstein (robert.legenstein@tugraz.at). You can read more about IML at <https://www.tugraz.at/institute/iml>.

If you are applying from abroad, you may find useful information on working in Austria and at TU Graz at <https://www.tugraz.at/en/studying-and-teaching/studying-at-tu-graz/prospective-students/living-in-graz> and in the [checklist for international students](#).

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Start for the grant: January 1, 2026.

Expected start of position: July 1, 2026

Application procedure

Your complete online application must be submitted no later than **15 March 2026** through the TU Graz job portal. A link to the portal will be available at the [Institute Job Advertisement page](#) starting 30 January 2026 at the latest.

The submitted documents must include:

- A letter motivating the application (cover letter)
- Curriculum vitae
- Grade transcripts and BSc/MSc diploma (in English), including official description of grading scale

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

Applications received after the deadline will not be considered.

Graz University of Technology aims to increase the proportion of women and therefore qualified female applicants are explicitly encouraged to apply. Graz University of Technology actively promotes diversity and equal opportunities. Applicants are not to be discriminated against in personnel selection procedures on the grounds of gender, ethnicity, religion or ideology, age, sexual orientation (Anti-discrimination). People with disabilities and who have the relevant qualifications are expressly invited to apply.

The recruitment is taking place following the [European Code of Conduct for Recruitment of Researchers](#), which all candidates are encouraged to study.

Selection process: MINDnet is open to researchers regardless of gender, religion, ethnicity, disability, sexual orientation, political views, language, age and nationality. Applications from highly qualified applicants from outside the EU will thus be equally considered as other applicants. The integration of refugees is an EU priority and we will ensure equal opportunities for researchers whose scientific careers have been interrupted. To ensure a gender balance in the project and work towards the Commission's own policies on narrowing the gap between the genders in research, should two applicants be found to be equally qualified, the preference will be given to the one who will balance the gender distribution in the entire Network. After the deadline, all submitted applications will be checked against the defined admissibility and eligibility criteria (e.g. submitted electronically, readable, complete, in English, including grades and references), and applicants will be informed by email within three work weeks of the outcome. The following interviews and selection process will be carried out by a temporary Selection Committee constituted by the Coordinator (when possible) and the supervisors. Evaluation

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criteria include: Scientific background, capacity for creativity and independent thinking and leadership, mentoring and presentation abilities.

Protection of personal data: The personal data of the applicants will be handled in compliance with applicable EU and national law on data protection (GDPR).

