UNIVERSITY OF TURKU

HAIF

GUIDE FOR APPLICANTS

HORIZON TMA MSCA COFUND

Human-Centric Artificial Intelligence for Sustainable Future (HAIF)

Instructions for applying for a funded doctoral researcher position at University of Turku

"Human-Centric Artificial Intelligence for Sustainable Future" (HAIF)

doctoral training programme

Co-funded by the European Union

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Guide for applicants

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1. Introduction to HAIF and the University of Turku, Finland

Human-Centric Artificial Intelligence for Sustainable Future (HAIF), hosted by the University of Turku (UTU), Finland, is a unique doctoral training project that addresses the shortage of AI professionals by training doctoral researchers with future-proof skill sets. In addition to their respective research topics, HAIF doctoral researchers will develop career-boosting transferable skills and interdisciplinary thinking. HAIF is co-funded by European Union's Horizon Europe research and innovation programme's Marie Skłodowska-Curie Action (MSCA).

The University of Turku, founded in 1920 and located in Southwest of Finland, is the first Finnish-language university in the world. Today, The University of Turku has over 22 000 students and over 3 300 staff members. Almost 2 300 international students from over 100 countries study annually at The University of Turku. The University of Turku is a multidisciplinary, international, research-intensive, entrepreneurial university, ranked 315th worldwide (QS Ranking 2024). The University of Turku has eight faculties: Humanities, Law, Education, Social Sciences, Turku School of Economics, Science, Technology and Medicine. The University's graduate school (UTUGS), established in 2011, consists of 16 Doctoral Programmes covering all disciplines and all doctoral researchers of the University of Turku.

HAIF, established on the long-standing grounds of UTUGS, is a creative framework for the training of doctoral researchers for human-centric artificial intelligence. By bringing together 14 University of Turku professors and 11 research groups, HAIF creates a scientific community with unprecedented interdisciplinary knowledge and global partner networks. HAIF doctoral researchers will perform novel research under scientifically distinguished and experienced supervisors. HAIF doctoral researchers get access to world-class research infrastructure such as high-performance computing offered by the Finnish CSC – IT Center for Science Ltd. The working culture at the University of Turku is transparent and inclusive, which promotes innovative collaboration.

Besides enhancing the doctoral researchers' academic skills and producing new interdisciplinary knowledge, HAIF will train doctoral researchers on transferable skills such as communications and project management, which are essential for widening their career prospects. HAIF doctoral researchers will become independent, internationally competitive researchers, innovators, technology developers and policymakers with entrepreneurial mindsets and extensive professional networks. The

secondments and other training activities provided in collaboration with the Associated Partners facilitate knowledge transfer between academia, industry and third sector organisations.

HAIF is a MSCA COFUND doctoral training project aiming to recruit 25 doctoral researchers to the University of Turku. HAIF unites research groups from the fields of computing, materials science, social sciences, law and humanities. The project's unique, human-centric approach stems from this interdisciplinary collaboration. HAIF's objective is to provide training that promotes safe and secure, legally and ethically sustainable use of AI, with an emphasis on humans as developers, users and decision-subjects affected by the technology. In addition to individual and societal perspectives, HAIF's research themes delve into the technological properties that shape interactions between humans and AI systems (e.g. transparency, interpretability, reliability and accountability).

2. Eligibility criteria

Eligible applicants must meet the MSCA and the University of Turku Eligibility Criteria. No exceptions will be made.

1) Eligible applicants **do not have a doctoral degree.** A researcher must not already be in possession of a doctoral degree at the deadline of the application call. Researchers who have successfully defended their doctoral thesis but who have not yet formally been awarded the doctoral degree are not eligible to apply.

2) Eligible applicants hold a **Master's degree or an equivalent degree in relevant discipline for HAIF**. Possible disciplines include computer science, ICT engineering, materials engineering, biomedical engineering, digital humanities, law, philosophy, philosophical ethics and health sciences. The total grade of the Master's degree must be at least on the level good (i.e. the weighted average grade of all courses and a Master's thesis must be at least 60 % of the maximum grade). An applicant, whose Master's degree is not completed when the application period ends, can apply. In this case, the applicant must complete their Master's degree and provide the degree certificates and transcripts **by Friday, 16 May, at 15:00** (Helsinki/Europe), as the degree is required to obtain doctoral study rights at the University of Turku.

3) **Mobility rule**: Applicants must not have resided or carried out their main activity (work, studies, etc.) in Finland for more than 12 months in 36 months immediately before the

deadline of the application call. Compulsory national service, short stays such as holidays, and time spent as part of a procedure for obtaining refugee status under the Geneva Convention are acceptable and do not breach the mobility rule. The selected doctoral researchers will be asked to provide proof of compliance with the mobility rule.

4) **English Language Proficiency**: Doctoral training emphasizes scientific work, and the doctoral degree includes courses for developing a variety of skills. For doctoral researchers to obtain the degree and integrate into the academic community, they must have sufficient oral and written communication skills in English. The applicant must demonstrate their English proficiency according to the requirements defined on the UTUGS website: https://www.utu.fi/en/research/utugs/how-to-apply/language

3. Selection and evaluation process

HAIF aims to recruit 25 doctoral researchers through open, transparent and fair selection procedure that is in line with the European Charter & Code. The merit-based selection will be executed by an international and diverse group of external evaluators, each a renowned expert in their field. The external evaluators will receive briefing to ensure ethical code of conduct and equal treatment of applicants. The applicant's personal details will be visible to the Selection Committee and the coordination team but the external evaluators will only know the name of the applicant. For that reason, the attached application documents such as CV should contain the name of the applicant, but should not contain personal details (such as age, gender, or photo of the applicant). Measures will be taken to prevent implicit biases in evaluation. The applicants will be informed about the application and selection process via HAIF website, call documents, evaluation progress updates, decision announcements and instructions for making an appeal. With their approval, the names of the recruited doctoral researcher will be published on the HAIF website. All applicants may provide feedback about the evaluation and selection process. Approximate selection schedule is shown in Figure 1.

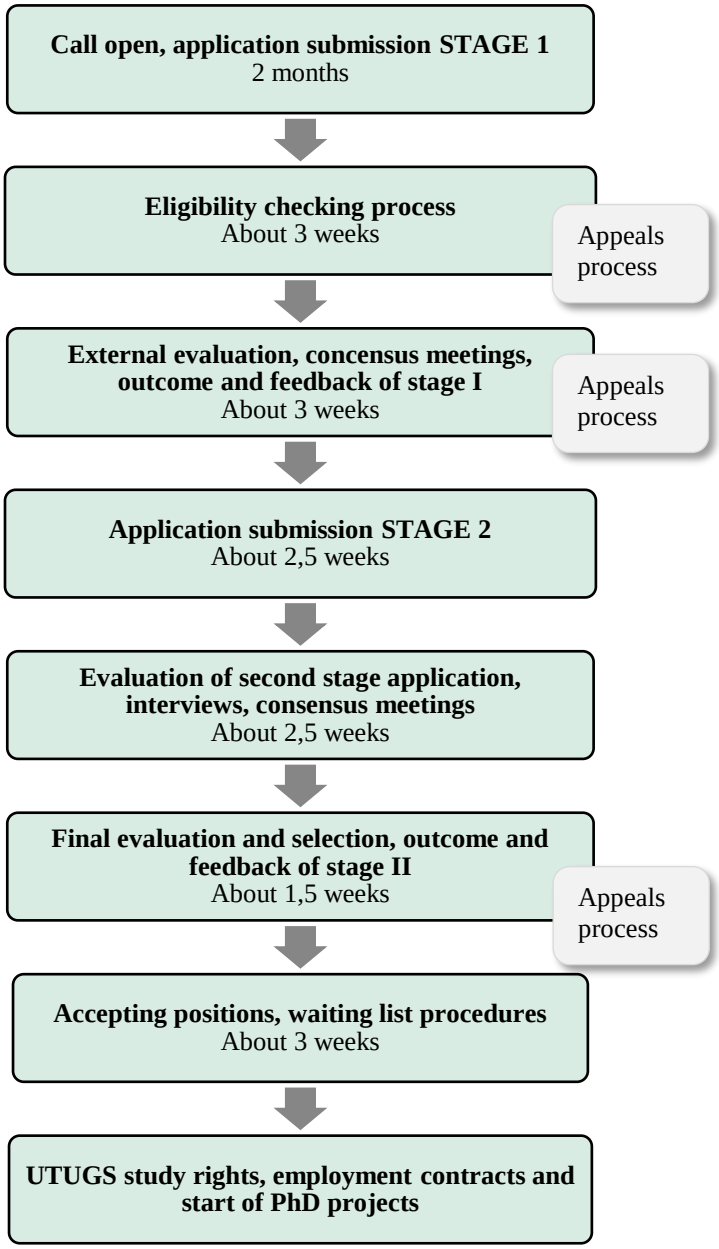

Figure 1: Approximate timeline for the different sections of the HAIF recruitment process. Applicants will be informed of accurate timings and deadlines at all stages of the evaluation process.

The University of Turku utilises the electronic application system "TalentAdore". The fixed-term doctoral researcher positions are applied for by filling in an electronic form and attaching the required additional documents to the application (in PDF form). The form will be accessible as the **application period begins on Thursday 2 January 2025 and closes on 28 February 2025 at 15:00**

(Helsinki/Europe). The link to the electronic form, the templates and all the necessary information can be found from at the HAIF website: https://haif.utu.fi/?page_id=61

The application should be written in English. Applications that arrive after the application period has ended will not be processed. The application documents will not be returned to the sender. Application documents of Stage I and Stage II are specified at the end of this call for applications (Annex). An applicant can only apply once. In the application, the applicant's preferred research group at the University of Turku must be stated (for more details, see Section 6 HAIF research projects and examples of dissertation topics).

After the application period ends, the eligibility of the applicants will be checked by the HAIF programme coordination team (PCT). Failure to submit all required documents results in a request to complete the application within 7 days. Applications with missing compulsory attachments will be excluded from evaluation. The applicants will be informed about the results of their eligibility, including any reason for ineligibility and process for appeals on procedural grounds. The Selection Committee approves the list of eligible applicants and assigns their applications for external evaluators.

Each eligible application will be graded by two external evaluators. The evaluation scores range from 1 to 10, with weighting applied (for more details, see Section 5 Evaluation Criteria). If the two evaluation scores of an application differ by four points or more, the external evaluators attend a consensus meeting, chaired by a member of the Selection Committee, to harmonize their scoring. In case of equal scores, the pre-specified priority order will be applied. Once the evaluations are complete, the Selection Committee will create a shortlist of maximum 75 applicants, who will be invited to the second stage. Applicants are informed of their evaluation, including individual evaluation statement. In the same email, applicants are provided with a link to a Webropol survey where they can submit feedback to the HAIF Programme Board regarding the application and evaluation process.

Any applicant who suspects procedural errors must file a justified appeal within seven days of receiving the evaluation. New application documents cannot be delivered during the appeal process. The Selection Committee considers the appeals and arranges a re-evaluation if the application appears to have been misprocessed. If the re-evaluated score is equal to or higher than that of the last short-listed applicant, the shortlist will be extended to include the applicant who filed the appeal.

In Stage II, the shortlisted applicants from Stage I will be asked to send their research proposals and initial Ethics self-assessment following the standard checklist provided by the European Commission. These documents are mandatory and must be delivered by the dead-line given in the invitation to the interview. Each shortlisted applicant will be interviewed, and the interview will be scored on a scale from 1 to 10.

The supervisors may declare a mismatch between the applicant's scientific ambitions and the profile of the research group. If this happens, the application will be redirected to another HAIF research group. Scientific excellence of the applicant (research proposal and ethics checklist) will be scored by one external evaluator and supervisor, applying the same principles as in Stage I. The final evaluation score of an applicant is the weighted total of Stage I score, Stage II scientific excellence and Stage II interview. The final scores of selected applicants must be 7 or higher.

3.1. Conflict of interest

All those involved in the selection process will be required to declare any conflict(s) of interest with regard to particular applications. In accordance with the University of Turku policy, these are defined as follows:

1) Close collaboration with the applicant (e.g. co-authorship and/or publishing of an article with the applicant over the past 3 years; involvement in the preparation of the application and/or in the exploitation of research results).
2) Occupies or has occupied a position of a superior, subordinate or instructor to the applicant.
3) Concurrent application for the same post as the applicant.
4) Close association with the applicant (e.g. spouse, child, sibling, de facto or otherwise, or close friend).

4. Decisions

With the final ranking complete, the Selection Committee presents the selection proposal to the Programme Board. The Programme Board will only contest the selection proposal in case of suspected misconduct or similar cause that puts the quality of the proposal into question. Up to 25 applicants will be offered a position in HAIF. If the number of qualified applicants exceeds the

number of positions available, the other top-ranking applicants will be lined up into a waiting list based on their final scores and, in ex aequo cases, priority order. Factors such as equal opportunities (e.g. where there is a clear under-representation, under 40%, of a gender) and the advancement of researchers' careers will be considered when making final decisions between closely ranked candidates.

The positions will be offered to the applicants. Applicants will proceed to formalize the final research plan together with their supervisors. This step is essential for ensuring that the research plans are feasible in practice (well-resourced and achievable within 4 years) and compliant with the UTUGS requirements for doctoral study rights. The overall research topics cannot be hugely changed at this point and hence supervisors will have no authority to overrule the original ideas presented by the applicants and highly ranked by the external evaluators.

The final decisions will be announced to all applicants in Stage II, including information on the waiting list. The evaluation statements, opportunity for feedback and appeals work as in Stage I. The selected applicants will have 14 days to accept the offer.

The accepted applicants who have completed their prior degree in a country other than Finland, need to deliver either the original degree certificates or certified copies of the original degree certificates and their translations to the University of Turku on 30 September 2025 at the latest unless otherwise agreed. Further instructions will be provided once the accepted applicants have been granted their study rights. Link to instructions on providing original educational documents and country-specific requirements: https://www.utu.fi/en/study-at-utu/accepted-students/original-documents

If they decline, the first applicant from the waiting list will receive an offer. Applicants who provide no response within 7 days will be sent a reminder, and no response after 14 days will be considered as refusal. Once the offer has been accepted, the enrolment procedures begin, and the selected applicants will finalize their research plan together with their supervisors. UTUGS doctoral programmes and faculties will grant the study right using the final research plan and other application documents.

5. Evaluation criteria

The applications will be evaluated by four main criteria and associated sub-criteria. The evaluations will be conducted in a manner that respects University of Turku's policies on responsible research,

also covered in the briefing for external evaluators. Criteria A. "Educational background and qualifications of the applicant" and B. "Applicant's goals and motivation" will be evaluated in Stage I, whereas C. "Scientific excellence" and D. Interview will be evaluated in Stage II.

For each main criterion, evaluators will give a score of 1–10. The applicant's final score at the first evaluation round is the weighted average of the first two main criteria, resulting in a real number between 1 and 10. Stage II score is the weighted average of Stage I score and main criteria 3-4. The evaluation scores should be interpreted as follows: 1: Fail, 2: Poor, 3: Satisfactory, 4: Below average, 5: Average, 6: Above average, 7: Good, 8: Very good, 9: Excellent, and 10: Outstanding. A minimum acceptable average score of the Stage I and Stage II must be 7 for applicants to pass the acceptance threshold and to be considered further.

STAGE I Evaluation criteria	ESV Stage I	FSW Stage II	*Ex aequo* priority
A. Educational background and qualifications of the applicant **Documents:** Relevant degree certificates, study transcripts and Curriculum Vitae **Graded as**: points 1-10 ▪ A1. Course grades and the grade of MSc thesis ▪ A2. Suitability of the previous degree to the HAIF Project theme ▪ A3. Previous experience and qualifications, possible scientific papers, international activities	60%	30%	Stage I: A:1 B: 2 Stage II: A+B: 3
B. Applicant's goals and motivation **Documents:** Research, motivation and impact statement **Graded as**: points 1-10 ▪ B1. Research interests ▪ B2. Motivation ▪ B3. Career goals	40%		
STAGE II Evaluation criteria			
C. Scientific excellence **Documents:** Research proposal and Ethics checklist **Graded as**: points 1-10 ▪ C1. Scientific relevance and ambition ▪ C2. Research ethics ▪ C3. Connection to the HAIF Project themes	NA	40%	Stage II: C: 1
D. Interview **Documents**: none **Graded as**: points 1-10 ▪ D1. Research integrity and alignment with MSCA values (incl. diversity, equality and inclusion) ▪ D2. Collaborative experience and teamwork ▪ D3. Communication skills	NA	30%	Stage II: D: 2

Calculation		
STAGE I Evaluation score	= 0.6*(Score A) + 0.4* (Score B)	Max score 10; Minimum acceptable score 7
STAGE II Final score	= 0.3*(Stage I score) + 0.4*(Score C) + 0.3*(Score D)	Max score 10; Minimum acceptable score 7

Table: Evaluation criteria of the applicant. ESV = evaluation score weight; FSW = final score weight.

During the selection procedure, the HAIF Project follows recruitment and operation practices of European Charter for Researchers & the Code of Conduct for the Recruitment of Researchers. HAIF

positions will be open to all outstanding, internationally mobile doctoral researchers who comply with the eligibility requirements. For example, the applicants will not be requested to provide reference letters that might render implicit biases. The content and form of such letters can be highly variable due to a number of personal and cultural reasons, posing a challenge for evaluation.

The selection and evaluation of doctoral researchers will follow University of Turku's Equality Policy, including specific goals for the following themes: (i) equality and non-discrimination in teaching and learning; (ii) equality and non-discrimination in personnel policy; (iii) accessibility and availability of work and study environments; (iv) elimination of harassment and discrimination.

6. HAIF research projects and examples of dissertation topics

The novelty in HAIF lies in recognizing the field-specific challenges yet maintaining the broader perspective on human-centric and sustainable AI. This will be reflected in the project's research outputs, which may range from original research articles to reviews, opinion papers, commentaries and technical reports. While most AI study programmes incorporate state-of-the-art modeling techniques, the contributions from Social Sciences and Humanities remain marginal, often presented as isolated topics. Through HAIF's multifaceted research agenda, doctoral researchers will develop the skills and resilience to navigate the complex and rapidly evolving AI landscape. HAIF research projects will be designed to increase AI literacy, critical and ethical thinking, and technical capabilities that are transferable to different types of sectors and roles. The 11 HAIF research groups are already collaborating intensively with the international partner academic organizations. European priorities for trustworthy AI focus on making the AI systems usable, interpretable, privacy-preserving, secure and technically robust. These properties can be achieved with cutting-edge research and innovation that combines expertise from multiple fields. HAIF's scientific excellence is based on the novel concept that integrates several academic disciplines and application areas.

To make the call accessible for applicants with diverse backgrounds, full research plans will not be requested in the first stage of the application and evaluation process. Instead, the evaluation process will highlight the applicant's motivation, ambition, and career goals. In the first stage, applicants will be instructed to write a 2-page personal research, motivation, and impact statement. For the evaluation

of scientific excellence in the second stage, the aforementioned statement will be developed into a 3-page research proposal by up to 75 top candidates.

The HAIF concept and its thematic areas are outlined on the HAIF website. Supervisors of each research group have drafted a list of titles for potential dissertation topics. This list is non-restrictive, providing examples and ideas for applicants, and encouraging them to propose their own topics that align with the project's mission. Below are examples of titles for potential dissertation topics. Please read more about the research groups and potential dissertation topics on the HAIF website: https://haif.utu.fi/?page_id=59

Applicants must state their preferred research groups both in the online application system "TalentAdore" and in the Research, motivation, and impact statement. If these two preferences conflicts, the choice mentioned in the online application system will be prioritized.

HAIF research groups, group leaders, their contact information and examples of the titles for potential dissertation topics

Health Technology Research Group	
Group leader (PI) Prof. Pasi Liljeberg	 pasi.liljeberg@utu.fi
Potential dissertation topics: • LLM-powered Health monitoring • Trustworthy Non-contact Biosignal Monitoring for Improving Maternal Health • Human sensing via wearable technologies • Measuring Haemoglobin without Needles: A non-contact method for Haemoglobin level estimation	
Autonomous Systems Laboratory	
Group leaders (PIs) Prof. Juha Plosila Senior Research Fellow Hashem Haghbayan	 juplos@utu.fi hashem.haghbayan@utu.fi
Potential dissertation topics: • Active Learning of Human Behavior and Environmental Dynamics in Autonomous Systems	

AI Ethics and Issues of Responsibility	
Group leaders (PIs) Prof. Juha Räikkä Senior Researcher Susanne Uusitalo	 jraikka@utu.fi susuus@utu.fi
Potential dissertation topics: • Responsibility and AI • Agency and AI • Blameworthiness and AI • AI and democracy • AI and fairness as an ethical concept	
Regulating AI	
Group leader (PI) Prof. Mika Viljanen Asst. Prof. Annika Rosin	 mivevi@utu.fi annros@utu.fi
Potential dissertation topics: • LLMs in the AI Act. • AI Act compliance for medical devices. • LLM-based decision-making, justifications and legitimacy. • Validating and testing of LLMs under the AI Act. • Automatic monitoring and decision-making in employment relationships. • Using high-risk AI systems in employment.	
Materials Informatics Laboratory	
Group leader (PI) Asst. Prof. Milica Todorović	 milica.todorovic@utu.fi
Potential dissertation topics: • Natural language processing for information extraction in materials research. • Integrating scientific expertise into AI models for human-informed materials design. • Exploiting different sources of information in multi-fidelity AI models of materials.	
Materials in Health Technology	
Group leader (PI) Assoc. Prof. Emilia Peltola	 emilia.peltola@utu.fi
Potential dissertation topics: • Material Discovery. • Predicting synthesis outcomes. • AI-driven design of advanced electrodes for optimized electrocatalysis and biocompatibility.	

Algorithmics and Computational Intelligence (ACI) Laboratory	
Group leaders (PIs) Prof. Jukka Heikkonen Prof. Tapio Pahikkala	 jukhei@utu.fi aatapa@utu.fi
Potential dissertation topics: • Trustworthy and Transparent AI in Autonomous Systems. • Smart Agriculture. • AI for Sustainable Energy Management in Greenhouses. • Personalized AI systems. • Performance evaluation for personalized AI systems. • Human centric performance evaluation of AI methods. • Privacy preserving data analysis.	
Turku Natural Language Processing Group (TurkuNLP) - Computer Science	
Group leader (PI) Prof. Filip Ginter	 figint@utu.fi
Potential dissertation topics: • Curriculum learning in LLM training. • NLP on noisy data. • User-guided document embeddings. • Tracing the emergence and flow of ideas in multilingual corpora. • Text-based explainability.	
Turku Natural Language Processing Group (TurkuNLP) - Digital Linguistics	
Group leader (PI) Prof. Veronika Laippala	 mavela@utu.fi
Potential dissertation topics: • Tracing cross-lingual and language-specific tendencies in language use with LLMs and web-scale data. • From discrete to continuous – modeling web registers in a continuous space in large-scale multilingual web data. • Minority languages on the web. • Comparing LLMs and statistical methods in corpus linguistics.	
Communication and Cyber Security Engineering	
Group leader (PI) Prof. Seppo Virtanen	 seppo.virtanen@utu.fi
Potential dissertation topics: • Human-Centric AI for Cybersecurity Incident Response and Threat Intelligence. • AI-Driven Threat Detection with Human-in-the-Loop to Enhance Transparency and Interpretability in Cyber Defense Systems. • Generative AI powered self-securing system for critical infrastructure. • Assurance of user privacy and security in the age of AI proliferation. • Inclusive explainable security.	

Intelligent health	
Group leaders (PIs) Prof. Anna Axelin Docent Tella Lantta	 anmaax@utu.fi tella.lantta@utu.fi
• A Conversational Health Agent for Mental Health Promotion	

7. Working conditions for selected doctoral researchers

Employment starts on Monday 18 August 2025 at the earliest, but at the latest on Friday 29 August 2025, unless otherwise agreed. Please note that the position cannot start before the employment contract has been signed and doctoral researcher has arrived in Finland. The duration of the position is four years. The positions are intended for full-time doctoral dissertation research and postgraduate studies. A doctoral researcher position requires living in Finland for the duration of the employment contract.

Gross salary in the beginning of the employment is around 2900 € per month. Salary will be evaluated during the 48-month employment period and will be increased based on the progress of the doctoral studies. Mobility allowance (100€/month) will be paid for all doctoral researchers on top of their gross salary. Family allowance (100 €/month) will be paid if eligibility according to the MSCA actions is fulfilled (persons linked to them by marriage, or a relationship with equivalent status to a marriage recognised by the legislation of the country or region where this relationship was formalised; or dependent children who are actually being maintained by the researcher). Should this eligibility criteria become fulfilled after recruitment, the family allowance can be added during the employment contract. Long-term leave allowance and Special needs allowance will be applied on an as needed basis.

The employment contract is based on the total working time of 1612 hours per year, which gives the doctoral researchers freedom to plan their working hours. Doctoral researchers are provided with a modern and well-equipped workspace at the University of Turku campus. All University of Turku staff are insured for work travel, are entitled to daily allowances during professional travels and receive comprehensive occupational health services.

All University of Turku working contracts fall under Finnish law and are governed by Finland's Employment Contracts Act (55/2001). Doctoral researchers therefore benefit from the same extensive statutory rights and obligations as all other employees in Finland.

A trial period of six (6) months applies to all positions.

The Doctoral Researcher works in one of the following: The Department of Computing, the Department of Mechanical and Materials Engineering, the Faculty of Law, the School of Languages and Translation Studies, the Faculty of Social Sciences, or the Department of Nursing Science.

The selected applicants must obtain and accept the study right to pursue a doctoral degree at the University of Turku before signing the employment contracts. The doctoral researchers are most likely to apply to one of these doctoral programmes: The Doctoral Programme in Technology (DPT), the Doctoral Programme in Law, the Doctoral Programme in Languages and Translation Studies (Utuling), the Doctoral Programme of Social and Behavioural Sciences, or the Doctoral Programme in Nursing Science (DPNurs).

7.1 Legal and ethical prerequisites of HAIF

HAIF applicants are expected to abide by the University of Turku's policies on equal opportunities and open science and comply with University policies (including those on research ethics) and with local law.

One of the main objectives of the University of Turku is to promote ethically conducted research that complies with the methods and principles endorsed by the scientific community. The University of Turku follows the guidance of ALLEA (All European Academies) for the European Code of Conduct for Research Integrity. Like all universities in Finland, the University of Turku is committed to the ethical guidelines of the Finnish National Board on Research Integrity (TENK). Appointed by the Ministry of Education and Culture, TENK promotes the responsible conduct of research, prevents research misconduct, and promotes discussion and spreads information on research integrity in Finland. All research undertaken as part of HAIF activities will comply with legal and ethical requirements at both national and European levels, including the EU's AI Act, which aims to ensure that AI systems are developed and used responsibly.

In collaboration with the Finnish research community, TENK has published the Finnish Code of Conduct for Research Integrity and Procedures for Handling Alleged Violations of Research Integrity in Finland 2023 (RI Guidelines). The aim is to promote responsible research practices and ensure that alleged violations are handled expertly, fairly, and with consistent criteria. The RI Guidelines provide the basis for the University of Turku's ethical guidelines and academic misconduct handling process.

Its principles support high-quality research and education. More on the ethical values of the University of Turku can be read here: https://www.utu.fi/en/fairutu.

The University of Turku has guidelines on using artificial intelligence in research. These guidelines follow the responsible conduct of research principles set by TENK and the requirements for processing personal data stated in the EU General Data Protection Regulation. More on these guidelines can be read here: https://utuguides.fi/artificialintelligence. Fundamental ethical principles will be respected throughout. All researchers and supervisors across all domains of research at the University of Turku are expected to follow the "Responsible conduct of research and procedures for handling allegations of misconduct in Finland" guidelines prepared by TENK.

Researchers at the University of Turku must also comply with Finnish legislation and the Charter of Fundamental Rights of the European Union. To ensure that the legal and ethical prerequisites of the research proposal are fulfilled, the ethics self-assessment following the checklist provided by the European Commission (application attachment 6) is evaluated in evaluation stage II. Hence, ethical management is initiated when the applicant prepares an ethical self-assessment, which is a mandatory application document. Scientific integrity and research ethics will also be covered as part of the interview stage of the selection and evaluation process. Selected doctoral researchers are expected to discuss the initial ethics self-assessment with their supervisors to identify best practices and potential next steps for ensuring the ethical code of conduct in doctoral research. The final research plan will include a section on research ethics to document the key takeaways from these discussions.

8. What HAIF and the University of Turku will offer to the doctoral researcher

HAIF provides systematic and high-quality doctoral training. Each doctoral researcher has at least two supervisors, and the progress of the doctoral dissertation is followed regularly. The aim of doctoral training is to train highly qualified experts with the skills required for both professional career in research and other positions of expertise. Besides enhancing the doctoral researchers' academic skills and producing new interdisciplinary knowledge, HAIF will train doctoral researchers on transferable skills. The secondments and other training activities provided in collaboration with the Associated Partners. HAIF has commitments from academic organizations world-wide (8 partners from 7 EU countries and 3 partners from the US), companies (Orion PLC, Wärtsilä PLC and Lingsoft)

and other organizations (City of Turku, CSC – IT Center for Science Ltd and Lindholmen Science Park, Sweden). The partner network will be expanded by matching additional secondment host organizations with the personal research interests and career goals of the selected doctoral researchers. By training the future professionals in the critical themes of human-centric and sustainable AI, HAIF increases competitiveness, jobs and growth in the regional scale and in the EU. The joint actions in non-EU countries will be carried out following the funder's terms and conditions. The research conducted during the secondment must be legal in at least one EU Member State. The consistent ethical code of conduct and regulatory alignment within HAIF will be enforced by signing Partnership Agreements with secondment host organizations.

The university of Turku has invested in improved research infrastructures and research data management. Finland boasts strong infrastructure in high-performance computing, facilitated at no cost to the Finnish academic community by CSC-IT Center for Science Ltd., the Finnish national supercomputer facility. CSC services include LUMI, Puhti and Mahti supercomputers (among the top in Europe), cloud computing for standard and sensitive data, educational services, and large-scale data repositories. LUMI is part of the EuroHPC infrastructure, currently the fastest European supercomputer and is in the top ten on the Green500 list in terms of energy efficiency. The TurkuNLP group of PI Ginter have been selected as one of only two Finnish groups to pilot the use of the LUMI supercomputer in open large language model training. PI Todorović has completed 2 peer-reviewed Grand Challenge computational projects on CSC platforms, resulting in open-access large materials science datasets. Consequently, the doctoral researches will benefit from these resources.

9. Responsibilities of the HAIF doctoral researchers

All HAIF doctoral researchers are expected to commit themselves to interdisciplinary working, knowledge transfer, mobility, and personal development activities. They should actively participate in regular HAIF meetings and events as part of their contribution to the project's academic, intellectual and social life. Doctoral researchers are required to produce and maintain

Career Development Plans (CDPs) and

Data Management Plans (DMPs)

following the FAIR principles (Section 1.2.4). As part of their multi-faceted training, doctoral researchers may choose to undertake teaching activities up to a maximum of 5% of their annual

workload. All University of Turku working contracts fall under Finnish law and are governed by Finland's Employment Contracts Act (55/2001). Doctoral researchers therefore benefit from the same extensive statutory rights (e.g. to equality, holiday, trade union membership, unemployment, and social security benefits) and obligations as all other employees in Finland. Doctoral researchers must also adhere to Finnish law and University of Turku policies in areas such as equality, research ethics and Open Science. Doctoral researchers must additionally comply with all Horizon Europe requirements applicable to MSCA COFUND doctoral training programmes (e.g. concerning mobility).

10. Contact information

https://haif.utu.fi/

HAIF Coordinator Annastiina Mäkilä, HAIF@utu.fi, +358 50 590 5447

An information session for applicants will be held online on Monday 3 February 2025 between 14.00 and 15.00 (Europe/Helsinki). The HAIF coordination team will introduce the Call, explain the applications and reviews process and answer questions. PowerPoint slides of the event will be placed online. Online meeting link: https://utu.zoom.us/j/61904823571.

ANNEX

All the necessary links and templates for the application, including the link to the online application system "TalentAdore", can be found on the project's website:

https://haif.utu.fi/?page_id=61

Please, note that **you are not allowed to attach any other type of documents to your application**. For example, reference letters may not be submitted.

All documents must be written in English and named using the last name of the applicant and the document title. The documents should be attached in PDF format.

The attachments of the HAIF application: Stage 1

In Stage I, applicants are expected to provide the following documents as attachments to their application:

1) **Research, motivation and impact statement** (max. 2 pages) is a document, in which applicants describe their research interests, motivation for pursuing a doctoral degree and career goals. Applicants should also state their preferred research groups at the University of Turku. A template is provided for structural reference, but the content will be freeform with the following exceptions: the applicant's personal details should be maskable for unbiased evaluation, and applicants should avoid mentioning their age, gender or nationality in the main text. The use of artificial intelligence (AI) to assist in the preparation of the research statement wider role than checking grammar or generating short expressions should be clearly indicated in the statement. **If the length of the statement exceeds the maximum length, extra pages will not be considered for evaluation.**
    - See https://haif.utu.fi/?page_id=61: "Link to the **template for research, motivation and impact statement**."
2) **Curriculum vitae** (CV) (max. 2 pages), including the list of peer-reviewed scientific publications with full reference details. Please use the template from the HAIF webpage, which is based on the CV template of the Finnish National Board on Research Integrity. The CV should not include any of the following: age, gender or a

photo of the applicant. Acknowledging that some if this information could be inferred, the external evaluators will be trained to prevent biased outcomes. **If the length of CV exceeds the maximum length, extra pages will not be considered for evaluation**. Read more about the CV template of the Finnish National Board on Research Integrity:

https://tenk.fi/en/advice-and-materials/template-researchers-curriculum-vitae

- See https://haif.utu.fi/?page_id=61: "Link to the **CV template**."

3) **Degree certificates (diploma) and study transcripts**: A scanned or digital original transcript of study records and a scanned or digital original master's degree (or equivalent degree) certificate (diploma).

   If the original degree certificates or transcripts of study records are not written in English, Finnish, or Swedish, official translations to one of these languages must also be submitted. Failure to provide degree certificates and transcripts accepted by the University of Turku by the deadline will result in the application being rejected.

   - If the applicant has not completed the master's degree at the time of submission, an up-to-date transcript of study records has to be attached to the application.
   - If the applicant has not completed the master's degree at the time of submission, they must complete the degree and provide the degree certificate (diploma) and transcript of study records **by the Friday, 16 May, at 15:00** (Helsinki/Europe).

4) **Certificate of the language proficiency**: This is either a valid language proficiency test certificate or a degree certificate supplement which follows the requirements of the eligibility considering the language proficiency. The University of Turku follows the Rector's decision on the means of verifying their language proficiency. Please check the language requirements and what you will need to provide as a proof of language proficiency from the University's graduate school (UTUGS) website:

   https://www.utu.fi/en/research/utugs/how-to-apply/language

The attachments of the HAIF application: Stage 2

In Stage II, applicants invited to 2nd stage are expected to provide the following documents:

5) **Research proposal**: The applicants invited to the second stage of the process will prepare a research proposal that describes the proposed research objectives, methods, timeline and required infrastructure or other resources. The use of artificial intelligence (AI) to assist in the preparation of the research proposal in wider role than checking grammar or generating short expressions should be clearly indicated in the proposal. **If the research proposal exceeds the maximum length of 3 pages, the extra pages will not be considered for evaluation.** By attaching research proposals to the application form, applicants give permission to check the document with Turnitin Originality Check plagiarism detection software. If selected for the position, the doctoral researcher will continue to develop the research proposal into a final research plan with support from their supervisor(s). This step ensures the feasibility of the research project while maintaining the original ideas presented by the applicant.

6) **Initial Ethics self-assessment** following the standard checklist provided by the European Commission. The final research plan will include a section on research ethics, jointly developed by the doctoral researcher and their supervisors with the initial self-assessment serving as the starting point.

   - See https://haif.utu.fi/?page_id=61: “Link to the Initial Ethics self-assessment following the standard checklist provided by the European Commission”