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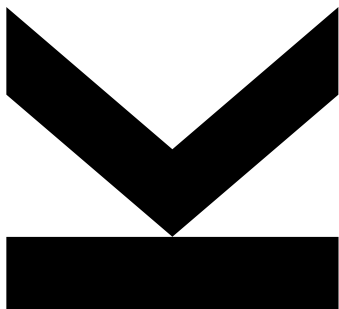# TENURE-TRACK POSITION IN "KNOWLEDGE AND DATA PROCESSING" FOR FEMALE CANDIDATES

INFORMATION FOR APPLICANTS

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1. General

The Johannes Kepler University (JKU) Linz offers a unique interdisciplinary teaching and research environment in technology and natural sciences, social sciences and economics, law, medicine, and education. It sees itself as an internationally oriented university with regional roots that promotes scientific and cultural exchange and deals with issues of current social relevance. The JKU defines the following topics "Digital Transformation" und "Sustainable Development: Responsible Technologies & Management" as university-wide research priorities.

Research and teaching at the Faculty of Engineering and Natural Sciences at JKU are characterized by a high degree of interdisciplinarity and a combination of basic and applied orientation. The outstanding scientific achievements are documented by a large number of publications, research contracts, FWF and EU projects, and dissertations. In collaborative research and competence centers, Christian Doppler laboratories and spin-off companies, the Faculty of Engineering and Natural Sciences is also an internationally valued partner for technology-oriented companies.

The Department of Computer Science (https://informatik.jku.at) at the Faculty of Engineering & Natural Sciences consists of 14 institutes and several permanent research labs which are hosted at the Linz Institute of Technology (LIT) of JKU.

The JKU was the first university in Austria to introduce studies in Computer Science back in 1969 and studies in Artificial Intelligence in 2019. Today, more than 1,000 students are enrolled in Computer Science and more than 2,300 in AI. The Bachelor's and Master's degree programs in Computer Science and AI are internationally renowned, which is reflected in relevant program rankings. Many computer scientists from Linz are research leaders in their fields (including ERC and Wittgenstein awardees). Computer Science at the JKU is distinguished by outstanding fundamental research and close collaboration with industry.

The advertised position is assigned to the Institute for Application-oriented Knowledge Processing (FAW). This institute's research and teaching covers the spectrum from databases, information systems, knowledge representation to the automated data analysis for knowledge discovery. Particular focus is placed on the areas of data modelling and data quality assurance, secure and trustworthy knowledge-based and information systems, information retrieval and web mining, as well as symbolic machine learning and data mining. It is involved in both application-oriented projects with industry as well as basic research. In particular, the FAW is also active in the FWF cluster "Bilateral Artificial Intelligence" (BILAI).

The future holder of the announced position should further strengthen the institute's expertise in the areas data and knowledge processing, and contribute to improving the supervision ratio and the practical training of students in the AI Bachelor's and Master programs. The opportunities for cooperation within the JKU and the Faculty of Engineering and Natural Sciences in particular should be utilized and further expanded.

The Johannes Kepler University Linz wishes to increase the proportion of academic female faculty and therefore, this position is open solely to female applicants in support of the Development Plan.

2. Research

Applicants should hold a Doctorate/PhD degree in computer science, artificial intelligence, mathematics, or related fields. We are looking for a researcher who can advance the design and development of knowledge representation and data processing techniques for analyzing complex, structured and unstructured data with robust and scalable data processing pipelines, thereby supporting efficient knowledge-based and learning systems. Specific research areas may include but are not limited to:

- Knowledge representation
- Semantic networks
- Knowledge graphs
- Knowledge extraction
- Information systems
- Data quality assurance and metrics
- Data preparation and preprocessing
- Data and knowledge integration
- Robust and scalable data processing pipelines
- Data catalogs and metadata management

Qualifications of the candidates will be considered in the context of the candidates' individual biography under the following criteria:

- research expertise in one or more areas of knowledge and data processing
- academic track-record based on high-quality publications (please include a list of publications and 3 publications you consider most important), scientific presentations, national and international cooperation efforts, reviewing and/or editorial work, organization of conferences and workshops, awards, etc.

- international experience, e.g., research stays at and/or cooperation efforts with international universities and research institutions

- organization of and collaboration in research projects (e.g., role in the project, volume of the project, source of funding, duration, project leader or number of full-time equivalent positions in case of project lead)

- a research concept for the planned activities at JKU in case of hiring

When assessing the candidates' accomplishments, performance, and future potential, the JKU will take the candidates' individual background and personal history into account by acknowledging that academic and professional success and accomplishments can happen at different stages in life (and can include periods of reduced employment, or career interruption on account of having to provide care, childcare, etc.). In this regard, qualifications are assessed and evaluated in terms of equal opportunity, taking life-course factors, such as academic age, into account.

3. Teaching

The JKU is committed to research-led teaching. The Institute for Application-oriented Knowledge Processing is involved in the following academic degree programs:

- Artificial Intelligence (Bachelor and Master)

- Computer Science (Bachelor and Master)

The position requires teaching of 4 academic semester hours per week.

The candidate should be able to teach university-level courses in the fields knowledge representation, knowledge graphs, and knowledge processing, as well as databases, data modelling, and information systems. Special emphasis is placed on supporting the Bachelor's and Master's programs, in particular through the supervision of thematically relevant practical student projects and theses.

In accordance with the internationalization strategy of the university, the ability of teaching in English is expected.

Qualifications of the candidates will be considered under the following criteria:

- ability to hold courses in the field of knowledge and data processing (e.g., previously held university-level courses, teaching evaluations, if available)

- experience in supervising student theses, such as Bachelor's, Diploma/Master's degree theses and/or PhD dissertations (list of supervised theses)

- a teaching concept for the tenure-track position in case of hiring

4. Research Infrastructure

The position is affiliated with the Institute for Application-Oriented Knowledge Processing. For administrative and technical support, the future holder of the position will have access to the resources of the institute. Access to the compute infrastructure of the institute will be provided as well as access to the HPC infrastructure of the university.

Collaboration with the FWF Cluster of Excellence "Bilateral AI" is possible and desirable.

5. Additional Requirements

Apart from research expertise with a Doctorate/PhD and post-doctoral experience in the relevant fields, successful candidates should bring the following additional qualifications:

- a high level of motivation, ability to work in a team and good communication, also with regard to the acquisition and execution of research projects
- high level of social competence
- the ability to take up new, efficient teaching methods and develop them further, in particular in the context of digital and hybrid teaching.

Additional experience in the organization and implementation of cooperations with companies and industrial partners is seen as an advantage for the application.

The willingness to take on tasks within the university's self-administration is expected.

6. Tenure (Qualification) Agreement

This position is intended for highly qualified junior researchers in the field of Knowledge and Data Processing and will be initially limited to a six-year period. The successful candidate will be offered a tenure agreement specifying the required higher qualifications to be attained. If the requirements of the agreement are met, employment will continue as a tenured Associate Professor (in accordance with § 99 Sec 5 and 6 of the Austrian Universities Act). Potential promotion to a Full Professorship position is possible in a simplified appointment procedure (in accordance with § 99, Sec 4, Austrian Universities Act).

The qualification agreement is designed to reach the following objectives:

- provide the job holder with outstanding academic and scientific qualifications, proven by earning a post-doctoral/habilitation degree (venia docendi)
- provide the job holder with a high level of didactic qualification
- provide the job holder with a high level of social skills and the ability to work well as part of a team

- involvement in the teaching and research activities of the institute to which the position is assigned

- qualification for professorship positions in accordance with § 98 of the Austrian Universities Act