BOKU University is looking for an Assistant Professor with tenure track to establish a Vienna Research Group in the field of Artificial Intelligence and Machine Learning

Offer description:

BOKU University is looking for excellent candidates to start a new research group in one of the two tracks:

1) **"Foundational AI/ML Research":** candidates who advance the theoretical or methodological foundations of AI/ML in their own right, or
2) **"Advancing discipline(s) with AI/ML":** candidates from any other discipline (e.g. life sciences, physics, environmental sciences, social sciences and humanities...) who develop or advance AI/ML concepts or methods to address open questions in their own field.

The proposed work of the future research group is expected to make genuine methodological contributions to AI/ML or to the respective discipline via the development or advancement of AI/ML tools and concepts, rather than merely applying existing tools, and to demonstrate the ambition to advance the state of the art.

We offer successful candidates a career position in compliance with § 99 (5) UG (tenure-track) and a EUR 1.8 million grant for six years from the Vienna Science and Technology Fund (WWTF) https://wwtf.at/funding/programmes/vrg/index.php?lang=EN#VRG27.

We are looking for a highly qualified scientist who will advance the field of AI/ML with ambitious and novel approaches, enthusiasm for inter- and multidisciplinary research, and commitment to teaching.

BOKU University is the best Life Sciences and Sustainability University in Austria and meets the major global challenges (climate crises, biodiversity crises, scarcity of resources, food security, natural hazards etc.) with scientific excellence and sustainable developments. BOKU provides an excellent research environment, including international doctoral programmes and state-of-the-art equipment bundled in Core Facilities (https://boku.ac.at/cf). BOKU claims to be the leader in research and teaching in its six fields of competence (https://boku.ac.at/en/fos/themen/boku-competence-areas): Ecosystem management and biodiversity; agricultural production and food; sustainable materials and technologies; biotechnology; landscapes, water, and infrastructure; resources and social dynamics.

Your profile:

- Researchers up to eight years after PhD, counting backwards from submission deadline (cut-off date is 02.03.2019); care duties may extend this period up to four years.
- Outstanding achievements and potential in research, excellent publication record, international reputation.
- Experience in designing and participating in research projects, ability to lead research groups, willingness to acquire third-party funding.
- Experience in teaching. Candidates are expected to develop their own teaching concept and to teach with enthusiasm students at all level (bachelor's, master's, or doctoral level), to supervise academic theses and to promote junior colleagues.
- Eligible for the WWTF grant are applicants with (i) no employment contract with an Austrian institution within three months before the submission deadline (ii) being employed at a foreign research institution for at least two years in the last three years counting from the submission deadline.

What BOKU offers:

- Official nomination and support for the Vienna Science and Technology Fund Call VRG Call 2027 AI/ML, which provides funding of up to EUR 1.8 million over six to eight years to the successful candidates.
- A group leader position at BOKU University upon successful application to the above-mentioned program.
- A tenured position upon positive evaluation of the group leader´s performance, a stimulating research environment and excellent research infrastructure.

Possible hosting labs for VRG at BOKU:

- Institute of Hydrology and Water Management, contact Karsten Schulz (karsten.schulz@boku.ac.at)

Potential topic of research for VRG: Our group develops AI methods that make hydrological modelling more accurate, transferable and interpretable, while keeping it grounded in physical process understanding. One line of work uses generative AI to learn parameter relationships for process-based models directly from data, yielding compact, explicit equations that can be embedded in the model and transferred across regions. A second line applies deep learning, in particular LSTM networks, to prediction hydrological processes in ungauged basins, exploiting information shared across many catchments to estimate streamflow where no observations exist. A third line improves rainfall-runoff modelling with a focus on extremes such as floods and droughts, where conventional models and standard training strategies often fall short. Together, these efforts combine the flexibility of machine learning with domain knowledge and are

designed to be transferable beyond hydrology to other fields that rely on process models.

- Institute of Geomatics, contact proponent: Fabian Faßnacht (fabian.fassnacht@boku.ac.at)
  Potential topic of research for VRG: We invite proposals on the interface of AI, photogrammetry, remote sensing and biodiversity inventories. Compelling proposals will combine ecologically-informed active 3D scene simulation, geometry-grounded representation learning, and AI-based inference. Besides bringing substantial methodical innovation to the AI field by integrating ecological and photogrammetric principles into the AI workflow, the conducted research should also result in tools that are able to characterize complex ecological structures from limited labelled data. The research conducted in the project will advance transferable AI methodologies for learning and making reliable predictions in complex, data-scarce natural environments, with forest biodiversity providing a challenging and scientifically important application domain.

- Institute of Mathematics, contact proponents: Norbert Kaiblinger (norbert.kaiblinger@boku.ac.at) and Fernando Cordero (Fernando.cordero@boku.ac.at)
  Potential topic of research for VRG: We invite proposals that combine rigorous mathematical modelling with the development of novel AI/ML methods to address open questions in the life and environmental sciences. Compelling proposals will integrate mathematical theory, stochastic or Bayesian modelling, or time-series analysis with innovative AI/ML concepts to tackle challenges in high-dimensional inference, prediction under changing conditions, causal analysis, and uncertainty quantification. Areas of interest include, but are not limited to, population genetics, ecology, immunology, agricultural science, clinical research, chemistry, and materials science. The scientific question should drive the research, with mathematics linking theory to real-world applications and the AI/ML methods developed advancing beyond the application of existing tools.

- Centre for Transformative Sciences, contact proponent: Bianca Vienni-Baptista (bianca.vienni@boku.ac.at)
  Potential topic of research for VRG: We invite proposals at the intersection of AI/ML, transformative sustainability sciences, and Science and Technology Studies (STS). We are interested in investigations that develop and advance AI/ML methods that better account for cultural practices, social values, and power relations in sustainability transformations. The aim would be to contribute methodological innovations that support more socially and culturally sensitive approaches to future-making processes for sustainable transformations.

- Institute of Production and Logistics, contact proponent: Patrick Hirsch (patrick.hirsch@boku.ac.at)
  Potential topic of research for VRG: State-of-the-art algorithms for solving combinatorial optimization problems in corporate logistics are usually based on heuristic or metaheuristic methods. The search strategy of metaheuristics adapts automatically depending on the results of the past iteration steps of the calculation, which is why they already contain machine learning elements. The aim is to further develop these solution methods to include additional aspects of artificial intelligence, which can be, for example, the inclusion of unstructured data from external sources (e.g. traffic reports, weather reports, camera information, etc.), the prediction of time-dynamic data, or the optimal parameterization of metaheuristics. The areas of application are to be in sustainable logistics (including transport, warehousing, production, and reverse flows) with its special, often multi-dimensional, objectives.

- Institute of Bioprocess Science and Engineering, contact proponent: Johannes Buyel (johannes.buyel@boku.ac.at).
  Potential topic of research for VRG: We invite proposals at the intersection of artificial intelligence (AI), protein engineering and nanotechnology, with a particular focus on predictive machine learning models for the design, engineering, and scalable production of protein nanocages with applications in human and plant health. Research directions may include the development and integration of data-driven and mechanistic models, AI-guided high-throughput experimental workflows and statistical design of experiments to establish predictive frameworks for the rational engineering of protein-based bionanomaterials. We particularly encourage interdisciplinary approaches that combine computational modeling, experimental validation and innovative data integration strategies for continuous model improvement to accelerate the development and translation of protein nanocages bioproduction.

Application deadline: 20th of December 2026

To apply for this position, please send your documents in English to BOKU University, to the attention of recruiting@boku.ac.at, reference: "**Vienna Research Groups AI/ML + Name of the proponent**".

The **application documents** should comprise:

- **Research Statement**:
  - 2-page application letter including a brief description of current research interests and research plans for the immediate future. The name of the BOKU proponent and hosting lab must be mentioned at the beginning of this document
- **Curriculum vitae including:**

- List of publications with specification of five key publications which the applicant considers particularly relevant to the advertised position.
- List of given talks including information about invited keynote lectures at international conferences, list of acquired third-party funds (subject, duration, origin, volume) as well as, if applicable, inventions/patents.
- Overview of academic teaching and (co-)supervised theses.
- Information about experience in organization, management and group leadership.

For scientific questions please contact the corresponding proponent from the hosting lab.

For details regarding this call please contact Dr. Olivier Guillaume at (projektsupport@boku.ac.at), Research Support, Innovation & Technology Transfer of BOKU.