

PhD for Advanced Transformer-Based Geostatistical
Simulation Research (F/M/X)
Austrian Academy of Sciences

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Posted Apr. 23, 2025, set to expire Aug. 23, 2025

Job Title	PhD for Advanced Transformer-Based Geostatistical Simulation Research (F/M/X)
Department	Institute For Interdisciplinary Mountain Research https://www.oeaw.ac.at/en/igf/home
Institution	Austrian Academy of Sciences Innsbruck, Tyrol, Austria
Date Posted	Apr. 23, 2025
Application Deadline	Jun. 30, 2025
Position Start Date	Sep. 1, 2025
Job Categories	Graduate Student
Academic Field(s)	Statistics & Actuarial Science Mathematics/Applied Mathematics Geology - Hydrogeology Geology/Geosciences - General Earth Sciences Computer/Information Sciences
Job Website	https://www.oeaw.ac.at/en/oeaw-home/jobs
Apply Online Here	https://oeawnr.onlyfy.jobs/job/86lj6q5q
Apply By Email	
Job Description	

As a central non-university institution for science and research, the **Austrian Academy of Sciences - OeAW** has the task of "**promoting science in every respect**". Founded in 1847 as a learned society,

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it now has over 760 members and around 1,800 employees dedicated to innovative basic research, interdisciplinary knowledge exchange and the dissemination of new insights. The OeAW initiates and maintains partnerships worldwide and represents Austria in international scientific organizations; it cooperates with numerous institutions in the scientific field in order to actively **shape the research landscape**.

PRAEDOC DISS for Advanced Transformer-Based Geostatistical Simulation Research (F/M/X)

Job ID: IGF052DOC225

The Austrian Academy of Sciences (OeAW), Austria's leading non-university research and science institution, is offering a Position as

PRAEDOC DISS for Advanced Transformer-Based Geostatistical Simulation Research (F/M/X)

(Part-time employee / 30h per week)

This position is part of a FWF-funded project within the Digital Landscape group at the IGF, based in Innsbruck, Austria, and will involve collaboration with Grégoire Mariethoz from the University of Lausanne. The position is for a fixed term of 4 years with an expected start on 1st September 2025 (negotiable).

(Office & remote)

Your Tasks

- Develop and merge innovative approaches in spatial data encoding, continuous output representation, and multi-variable simulation with dynamic data integration (Retrieval Augmented Generation, RAG) to push the boundaries of spatial stochastic simulation research.
- Design, prototype, and test advanced transformer-based methods tailored to complex spatial and multi-variable data.
- Create robust training protocols to manage non-stationary data and develop strategies for continuous output (e.g., raw value predictions, Fourier decomposition).
- Implement tokenization and cross-attention techniques to efficiently handle multi-variable simulations.
- Collaborate with international partners and contribute to an environment that values scientific

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freedom, interdisciplinary work, and curiosity-driven exploration.

Your Profile

We recognize that maybe no single candidate will cover all qualifications; if you are passionate about the topic, please explain how your background can contribute.

- A Master's degree (or equivalent) in computer science, machine learning, statistics, applied mathematics, or a closely related discipline. We are also open to atypical profiles if you can demonstrate in your cover letter how your background is relevant to the project.
- Strong programming skills with proficiency in TensorFlow or PyTorch.
- Ability to demonstrate competence through your Master's thesis, academic record, and coding examples (e.g., GitHub link).
- Excellent analytical, problem-solving, and communication skills.
- Open-mindedness, genuine curiosity, out-of-the-box and critical thinking, ability to embrace interdisciplinary and non-conventional approaches.
- Prior experience in advanced simulation or stochastic modelling is a plus.

Our Offer

- Engaging Research Environment: Work in a dynamic, interdisciplinary setting that encourages scientific freedom and curiosity-driven research, collaborating with international experts.
- License to AI tools (e.g., ChatGPT)
- Work-Life Balance: Up to 40% remote work available.
- Location: Be part of the Digital Landscape group at IGF in Innsbruck, Austria—a city renowned for its exceptional mountain landscape and vibrant academic community.
- The position offers an annual gross salary of € 39.208,82 (based on the salary scheme of the ÖAW)

Please apply online including a letter of motivation, your CV, your Master's grade sheet and thesis summary and a code example (e.g., a GitHub link) **no later than 30 June 2025**.

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EEO/AA Policy

The Austrian Academy of Sciences (OeAW) pursues a non-discriminatory employment policy and values equal opportunities, as well as diversity. Individuals from underrepresented groups are particularly encouraged to apply.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact Mathieu Gravey
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Austria

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