

# PhD Position in Machine Learning for Very Long Baseline Interferometry

**100%, Zurich, fixed-term**

The [Chair of Space Geodesy](#) invites applications for an exciting PhD opportunity focused on advancing Very Long Baseline Interferometry (VLBI) research. VLBI is undergoing transformative advancements due to the global rollout of the VLBI Global Observing System (VGOS) and the upcoming Genesis satellite mission by the European Space Agency (ESA). These advancements present unprecedented opportunities to revolutionize data analysis and simulation methodologies in the field.

## Job description

The selected PhD candidate will join an innovative research team to explore cutting-edge techniques in VLBI.

The primary objective is to develop and apply novel strategies based on AI/machine learning (ML) to enhance VLBI data analysis and simulation. Specific tasks include:

- Designing and training ML models on VLBI observations and analysis residuals
- Simulation of space geodetic observations using AI/ML
- Contributing to the integration of ML methodologies in the context of VGOS and the Genesis mission
- Collaborating with the international VLBI and Genesis research communities to align developments with emerging needs and standards

In addition to research responsibilities, the candidate will contribute to teaching activities and the supervision of student projects.

## Profile

Required Qualifications:

- A Master's degree (MSc) in geodesy, geosciences, computer science, physics, or a closely related discipline
- A strong foundation in mathematics, physics, data analysis, and programming

- Excellent communication and collaboration skills, with fluency in English (spoken and written)

#### Preferred Qualifications (Not Mandatory):

- Experience with the analysis or simulation of space geodetic observations
- Knowledge of machine learning methods, frameworks, and applications
- Familiarity with VLBI is a plus
- A demonstrated ability and willingness to learn new technologies and adapt to evolving research challenges

## Workplace



## We offer

- A full-time 4-year PhD position at ETH with conditions and benefits defined [here](#)
- Independent research at a world-leading academic institution
- A dynamic and international team that embraces fresh perspectives
- A supportive and inclusive work environment that fosters professional growth and development
- Opportunities to attend conferences and collaborate with international experts
- Flexible working hours with the option for part-time home office
- An attractive workplace surrounded by nature with quick access to the city

center

The position is set to begin as soon as possible.

> [Working, teaching and research at ETH Zurich](#)

## We value diversity

In line with [our values](#), ETH Zurich encourages an inclusive culture. We promote equality of opportunity, value diversity and nurture a working and learning environment in which the rights and dignity of all our staff and students are respected. Visit our [Equal Opportunities and Diversity website](#) to find out how we ensure a fair and open environment that allows everyone to grow and flourish.

## Curious? So are we.

We look forward to receiving your online application with the following documents:

- CV
- Motivation letter (1 page)
- Name and email address of two referees
- Copies of university transcripts and certificates

Application deadline: until the position is filled.

Please note that we exclusively accept complete applications submitted through our online application portal. Incomplete applications or applications via email or postal services will not be considered.

Further information about the Chair of Space Geodesy can be found on our [website](#). Questions regarding the position should be directed to Benedikt Soja at [soja@ethz.ch](mailto:soja@ethz.ch) (no applications).

## About ETH Zürich

ETH Zurich is one of the world's leading universities specialising in science and technology. We are renowned for our excellent education, cutting-edge fundamental research and direct transfer of new knowledge into society. Over 30,000 people from

more than 120 countries find our university to be a place that promotes independent thinking and an environment that inspires excellence. Located in the heart of Europe, yet forging connections all over the world, we work together to develop solutions for the global challenges of today and tomorrow.