

The Marietta Blau Institute for Particle Physics (MBI) of the Austrian Academy of Sciences
(OeAW)

is seeking applications for a

Postdoc Position (F/M/X)

Working on AI Applications for Rare Event Searches with Cryogenic Detectors

The Experimental Particle Physics Group, a joint working group of the Institute of Atomic and Subatomic Physics at the Technische Universität Wien and the Marietta Blau Institute for Particle Physics (MBI) of the Austrian Academy of Sciences, is actively involved in cutting-edge research within the NUCLEUS, COSINUS, and CRESST experiments. These experiments focus on rare-event searches, including coherent elastic neutrino-nucleus scattering and direct dark matter detection, using advanced cryogenic detectors. The MBI hosts a research group dedicated to Machine Learning in Particle Physics.

We are looking for a highly motivated postdoctoral researcher to play a key role in further advancing these experiments using new AI technologies. The successful candidate will contribute to the development and optimization of cryogenic detector systems and apply AI methods to analyze the data collected by these systems, addressing key physics questions related to dark matter and neutrino interactions. This position offers the opportunity to collaborate with world-class researchers and contribute to international efforts in understanding the fundamental nature of the universe.

Qualifications:

- PhD in Particle Physics, Astroparticle Physics, or a closely related field.
- Strong background in artificial intelligence, machine learning, and data science.
- Experience with cryogenic detectors or low-temperature experimental systems is highly desirable.
- Proficiency in programming languages such as Python or C++.
- Familiarity with deep learning frameworks (e.g., TensorFlow, PyTorch) and advanced data analysis tools.
- Excellent problem-solving skills and the ability to work effectively in interdisciplinary teams.
- Strong communication skills and a proven track record of scientific publications.

Preferred Qualifications:

- Experience with dark matter or neutrino physics experiments.
- Knowledge of hardware integration and real-time control systems.
- Familiarity with high-performance computing and parallel processing techniques.
- Proven track-record of project- and stake holder management in an international scientific environment

What We Offer:

- A stimulating and collaborative research environment with access to state-of-the-art facilities and resources.
- Close collaboration with the MBI research group “Machine Learning for Particle Physics”.
- Opportunities to work on internationally recognized experiments such as CRESST, COSINUS, and NUCLEUS.
- Competitive salary and benefits package, with a monthly gross salary of 5011,96€, in accordance with the collective agreement of the Austrian Academy of Sciences.
- Support for professional development, including conference travel, training opportunities, and access to cutting-edge technologies.
- The chance to contribute to transformative research in dark matter and neutrino physics, addressing some of the most fundamental questions in science.
- Flexible working arrangements, with the option for one home office day per week
- A welcoming community with diverse social and cultural activities
- Office location in the city centre of Vienna - consistently ranked as one of the most liveable cities in the world <https://www.eiu.com/n/campaigns/global-liveability-index-2024/>
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Position Details:

The position is offered for a period of two years.

More information about the Marietta Blau Institute for Particle Physics can be found at <https://www.oeaw.ac.at/mbi>.

Contact Information:

For further information, please contact Prof. Jochen Schieck at Jochen.Schieck@oeaw.ac.at.

Equal Opportunity Statement:

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

Join us in advancing the frontiers of experimental physics and artificial intelligence and help unlock the mysteries of dark matter and neutrinos through innovative cryogenic detection systems and cutting-edge data analysis techniques!