

MACHINE LEARNING TECHNIQUES FOR EVENT RECONSTRUCTION IN JUNO

Moscow Institute of Physics and Technology (National Research University)

Degree or qualification is awarded: **PhD (Candidate of Science)**

Language of study: **Russian**

Mode of study: **full-time**

Duration: **4 years**

Availability of free education: **yes**

Price: **375 000 RUB**

Programme webpage at the university website:

<https://eng.mipt.ru/programs/machine-learning-techniques-for-event-reconstruction-in-juno/>

Programme curator: **Denis Ustyuzhaninov**

Tel.: **+7 (498) 713 91 70**

E-mail: interadmission@phystech.edu

Entry requirements:

- Master's degree / equivalent in a related field
- B2 level of English
- Good track record of publications related to the topic of the intended research
- Strong research proposal 1,500 - 3,500 words

Research supervisor:

[Yury Malyshkin](#)

PhD

Supervisor's research interests:

Reconstruction of event characteristics with the use of modern machine learning techniques for Jiangmen Underground Neutrino Observatory being constructed in China.

Research highlights:

- Work in an international collaboration.
- The most advanced detector of the kind.
- Opportunity to join the experiment at the time of its launch (in 2022).

Supervisor's specific requirements:

- Basic knowledge of nuclear and elementary particle physics.
- Strong programming and data analysis skills (Python, NumPy, SciPy).
- Understanding of machine learning principles and experience of their usage.
- Extra financial support from JINR.

Main publications:

- F. An. et al. (JUNO collaboration), "Neutrino Physics with JUNO", Journal of Physics G: Nuclear and Particle Physics, 43(3), 2016. [arXiv: 1507.05613].

Specializations within this programme