

PhD studies in experimental neutrino physics

Competition opened on: 24 August 2018

Application submission deadline: 7 October 2018 (All day)

National Centre For Nuclear Research (NCBJ), Poland, is inviting students of physics to apply for 4 year-duration doctoral studies in experimental neutrino physics.

Holders of the MSc degree in physics (preferably elementary particle physics, nuclear physics, astrophysics, computing method in physics, or a similar specialization) are invited to apply for this position which is related to the project “*Indirect search for dark matter with water neutrino detectors*”. The scholarship will be partially funded with the SONATA-BIS 2015/18/E/ST200758 project granted by the National Science Center, Poland, (NCN) and run by the Warsaw Neutrino Group (<http://neutrino.fuw.edu.pl/>).

The successful candidate is expected to conduct sensitivity studies for dark matter induced neutrino detection with a new generation of neutrino telescopes, to analyze experimental data acquired by the detectors, to participate in development of the simulation software and occasional hardware tests. Team members will participate in the international research related to development and operation of the KM3NeT neutrino telescope in waters of the Mediterranean Sea (<http://www.km3net.org/>). Some involvement in works conducted at the Super-Kamiokande neutrino detector (2015 Nobel Prize in Physics) operating in Japan (<http://www-sk.icrr.u-tokyo.ac.jp/sk/index-e.html>) is also planned along with a possible R&D work related to the Hyper-Kamiokande. Specifics of the job will depend on the individual preferences of the candidate.

The successful candidate is expected to complete his/her PhD degree thesis in elementary particle experimental physics within 4 years.

Funding necessary to cover travel costs to cooperating institutions in Europe/Japan and costs of participation in relevant international scientific conferences/workshops has been allocated in the project budget.

Only the candidates meeting the requirements specified by NCN’s Regulations of issuing study grants for young scientists, see <https://www.ncn.gov.pl/sites/default/files/pliki/regulamin-przyznawania-stypendiow.pdf> (in Polish), are eligible to apply.

Requirements:

- MSc in physics (preferably elementary particle physics, nuclear physics, astrophysics, computing method in physics)
- Very good command of written/spoken English (sufficient to write scientific publications/technical documentation and to fluently communicate in international teams).
- Very good knowledge of at least one low-level programming language (preferably C++ or Python) and the UNIX/LINUX environment. Familiarity with the ROOT, Pandas/NumPy, scikit-learn or Geant4 software packages will be an asset.
- Analytical skills.
- Thinking independence combined with good communication/team-working skills.

After being selected in this application process the successful candidate should qualify and pass the entry exams for the PhD studies at the NCBJ.

As an attachment to your application please sign and enclose the following declarations:

I agree to the processing of my personal data included in this application for the needs necessary to carry out the recruitment.

We offer:

- 3,000 PLN/month scholarship (this is a netto salary, after all taxation) for the first 12 months with the possibility to extend to additional 36 months (PhD study program lasts 48 months at NCBJ).

Documents:

- CV with a description of scientific output/achievements including the following formal consent:
„ I hereby authorize you to process my personal data included in the job application for the needs of the recruitment

process in accordance with the Personal Data Protection Act dated 29.08.1997 (uniform text: Journal of Laws of the Republic of Poland 2002 No 101, item 926 with further amendments).”.

- List of publications, record of received training courses, internships, scholarships, participation in scientific conferences, received awards etc.
- Motivation letter with a description of applicant’s scientific interests.
- Transcript of BSc and MSc courses grades.
- MSc degree diploma copy/photo (also BSc degree diploma copy if applicable).
- Contact to 1-2 persons (email, telephone, institute name) who might be later requested for the reference letter.
- Valid e-mail address to the candidate.

Application submission deadline:

7 October 2018

E-mail your application/motivation letter and CV to Piotr.Mijakowski@ncbj.gov.pl specifying „[phd]” in the mail subject field. One position is available and only the selected applicants will be contacted for the possible interview.

The recruitment process shall be finished until the end of October 2018.

The successful candidate is expected to start his/her research from November / December 2018.

Job location: Warsaw downtown.