

Postdoctoral Researcher in experimental particle physics - ALICE

Nikhef is the national institute for subatomic physics in The Netherlands. Nikhef itself is a collaboration between 5 major Dutch universities and the Dutch Science Funding Agency (NWO). Utrecht University is member of the Nikhef collaboration, and the Institute for Subatomic Physics as part of the Physics Department of the Science Faculty of Utrecht University performs experimental research in high-energy physics in close collaboration with the Nikhef institute. The main focus of the institute is on the ALICE experiment at the LHC.

The ALICE group of Nikhef/Utrecht University consists of sub-groups in Utrecht and Amsterdam, for a total of 7 staff, and typically 5 postdocs and 15 PhD students. We have constructed part of the Inner Tracking System of ALICE (the SSD) and play a leading role in the development and construction of the ITS upgrade to be installed in 2019/2020. Our group is active in several physics analyses including azimuthal correlations, heavy flavour, jets, and photons. We play a major role in the initiative to further upgrade ALICE with a Forward Calorimeter (FoCal) to provide constraints on the small-x gluon structure of the nucleus via forward direct photon measurements. In this context we are leading an R&D study on high-granularity digital calorimetry.

The position

We are looking for a candidate to take a leading role in studies related to the R&D of FoCal, with a focus on the construction of a new advanced prototype and corresponding test measurements and on the optimisation of the physics performance of the overall detector design. The candidate will be stationed at Utrecht University and work as part of a team consisting of two senior scientists (Prof Dr. Thomas Peitzmann and Dr. Marco van Leeuwen), a technician, another postdoc and MSc and/or PhD students.

We have collected test beam data with an existing pixel calorimeter prototype of world-wide unique granularity. The prototype has functioned as a proof of principle and provides data on shower development of unprecedented detail. These existing data can be analysed further, but as a next step we are preparing to build a new prototype with the next-generation pixel sensor. In addition, the candidate is encouraged to work on related topics, such as physics performance simulations, for example for jet measurements, the optimisation of reconstruction algorithms based on the experience from test beam measurements and simulation and the optimisation of the final design of the FOCAL detector. The candidate is also welcome to spend a fraction of his/her time on a physics analysis in the ALICE experiment, optimally using photons or jets.

Requirements

The position as postdoctoral researcher requires a PhD in Physics, candidates who are close to finishing their PhD thesis are also encouraged to apply. Experience in detector simulations (GEANT), data analysis and software development for particle physics experiments is required. Hardware experience with detectors in particle physics is an asset. The candidate is expected to have good communication skills and be able to work in an international team.

Offer

The position is for two years. The candidate will be employed by the NWO-I foundation and will obtain the status of postdoctoral researcher. You will receive a competitive salary. The conditions of employment are excellent and include extra months' salary payment in May and December and good travel facilities. The conditions of employment can be found at <http://www.nwo-i.nl/>.

Information and application

All qualified applicants are encouraged to apply by following the link at <https://www.nikhef.nl/en/vacancies/>. Please be prepared to upload curriculum vitae including a brief description of your research interests, and have the email addresses of at least three referents ready, who are willing to send a letter of recommendation on your behalf. The opening closes on Friday 25th of May 2018. Letters should arrive by the end of May 28 for full consideration.

Further information on this position can be obtained from Prof. Dr. Thomas Peitzmann (t.peitzmann@uu.nl).