

Postdoctoral fellow with Vrije Universiteit Brussel in the SoLid experiment

The Vrije Universiteit Brussel group at the Interuniversity Institute for High Energies (IIHE) has an immediate opening for a postdoctoral fellow, to join our team on research with the SoLid experiment.

The research with the SoLid experiment targets potential Short baseline neutrino Oscillations with a novel Lithium-6 composite scintillator (SoLid, <http://solid-experiment.org/>). The highly segmented plastic scintillation detector coated with Lithium-6 is designed to provide a measurement of the rate of electron antineutrinos at very short baseline distances between 6 and 11 metres from the BR2 research reactor core in SCK-CEN at Mol (Belgium, <https://www.sckcen.be/>, <https://www.sckcen.be/en/Research/Infrastructure/BR2>). This measurement will provide confirmation or exclusion of the so-called reactor anomaly present in the ratio of the observed to predicted number of electron antineutrino events at short baseline distances.

The observation of reactor antineutrinos has been established with the SoLid detector technology. Currently, the first oscillation analysis is well on track to be shown at summer conferences this year. In addition, an upgrade of the SoLid experiment is planned, in particular for the MPPCs, to increase the light yield and hence the sensitivity of the experiment.

The selected candidate is expected to collect, reconstruct and analyze the data recorded by the SoLid experiment in order to perform the oscillation analysis and measure the energy spectrum of the antineutrinos. We welcome expertise in performing calibrations, energy reconstruction, machine learning to optimize the event selection criteria, and simulation. In addition, the selected candidate will contribute to the upgrade and recommissioning during summer 2020. The position is open to candidates of any nationality. The review of applications will continue until the position is filled.

The Interuniversity Institute for High Energies or IIHE in Brussels (<http://w3.iihe.ac.be/>) combines the experimental particle physics and astroparticle physics research groups from two Brussels universities: Vrije Universiteit Brussel and Université Libre de Bruxelles. The IIHE is currently involved in frontier research in CMS, FCC-ee, IceCube, SoLid, JUNO, Auger, milliQan, LOFAR and in R&D in data acquisition systems. The working language is English.

We offer a position for 2 years. Applications should include a curriculum vitae of maximally two pages, a list of key publications explaining your contribution and a motivation letter to be send to Jorgen D'Hondt (Jorgen.DHondt@cern.ch). Applicants should arrange for at least two letters of recommendation to be send to the same email addresses. For more information, please take contact via this email address.

Prof. Dr. Jorgen D'Hondt

Vrije Universiteit Brussel (VUB), Pleinlaan 2, 1050 Brussels, Belgium

Interuniversity Institute for High Energies (IIHE), <http://w3.iihe.ac.be>

Phone: ++32 496 704865

Skype: [jorgen.dhondt](https://www.skype.com/people/jorgen.dhondt)

Email: Jorgen.DHondt@cern.ch