



## Post-doctoral position at IPN Orsay on nucleon-structure experiments at Jefferson Lab

A post-doc position is now open at the Institut de Physique Nucléaire d'Orsay (IPNO, France), to work with the hadronic physics team on nucleon-structure experiments at Jefferson Lab (JLab, USA).

Studying and understanding the inner structure of the nucleon is one of the main challenges in hadronic physics. For more than 15 years our team at IPNO has been carrying out research at JLab, in particular measuring exclusive photon and meson electroproduction reactions in order to access the Generalized Parton Distributions (GPDs) of the nucleon. Our team has led a fruitful experimental program of GPD measurements at JLab (in the Halls A and B) with a 6-GeV electron beam. This program is continuing now with the 12-GeV upgrade of JLab, which allows us to attain kinematic regions optimally suited for the study of GPDs.

We are looking for a post-doctoral candidate to participate in our detector-development and data-analysis projects. The three main projects we are involved with are:

- The Central Neutron Detector (CND) for CLAS12, which we constructed to measure Deeply Virtual Compton Scattering (DVCS) on the neutron. The CND will be installed in CLAS12, tested and commissioned during the fall 2017. Data taking on proton target will follow, and we will be involved in the data processing and in GPD-related data analyses.
- A recoil detector for nuclear fragments (ALERT, A Low Energy Recoil Tracker) for CLAS12. This detector, which includes a drift chamber and scintillators, will be used to study, among other applications, nuclear GPDs. It is currently in R&D phase in our lab, requiring tests on the electronics and on prototypes.
- The Neutral Particle Spectrometer (NPS) for the Hall C, which will be used to measure proton DVCS and exclusive  $\pi^0$  electroproduction. We will perform radiation-hardness measurements for the PbWO<sub>4</sub> crystals composing NPS, and investigate new methods for the regeneration of the crystals after irradiation. These studies will be complemented with Monte Carlo simulations and performed in synergy with detector R&D for the future Electron-Ion Collider (EIC).

The appointment is for two years, starting on June 1<sup>st</sup> 2017. The candidate must have a PhD in Nuclear Physics, High Energy Physics or a related discipline, obtained within the past two years. Experience with nuclear physics instrumentation, particle detectors, as well as experience with programming and physics analysis are required. A demonstrated ability to perform research independently and as part of a research group is also highly desirable.

Please provide the following required materials along with your application:

- Cover letter
- Curriculum Vitae
- Three letters of recommendation

The application material, as well as enquiries related to this position, should be directed to Dr. Silvia Niccolai ([niccolai@ipno.in2p3.fr](mailto:niccolai@ipno.in2p3.fr)).

Gross salary: 2590 € - 2989 €.

IPNO is a French national laboratory funded by CNRS and located in the University Campus of Orsay, 20 km south of Paris, easily reachable by regional trains (35 minutes).

For more information: <http://ipnwww.in2p3.fr>

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