Junior staff position in experimental hadron physics

The Nucleon Structure Laboratory (LSN) of CEA Paris-Saclay is opening a junior staff scientist position for an outstanding physicist in the field of experimental hadron physics with a focus on the development of the electron-ion collider (EIC) project, the construction of the sPHENIX detector and the participation to the associated experiments.

The LSN is part of the Nuclear Physics Division (DPhN) of the Institute of Research into the Fundamental Laws of the Universe (Irfu) located at CEA Paris-Saclay (France). It is composed of ten permanent staff physicists working in the field of hadron physics on both theoretical and experimental aspects. Irfu is a highly dynamic scientific environment including research divisions on astrophysics, nuclear and particle physics as well as strong technical and engineering divisions in instrumentation, cryogenics and accelerator technologies. Inside Irfu, DPhN focuses its research on the nucleon and the nucleus, with studies ranging from nuclear structure and reactions to hadron structure and quark gluon plasma.

The LSN has a strong commitment in the experimental and theoretical investigation of the three-dimensional structure of the nucleon. This is achieved through the study of generalized parton distributions (GPDs) and observables in hard exclusive scattering processes, or through the study of transverse momentum dependent parton distributions (TMDs) and observables *e.g.* in semi-inclusive processes. In particular, LSN physicists lead the deeply virtual Compton scattering (DVCS) experimental program using CLAS12 in Jefferson Lab Hall B. Along with the Quark-Gluon Plasma laboratory, the LSN is currently positioning itself to participate to the sPHENIX experiment at RHIC, and to develop an ambitious experimental program at the EIC. On the theory side, LSN physicists are pushing the limits of 3D hadron structure phenomenology to high energy.

In the first few years, the candidate will invest a significant amount of her/his time leading the LSN efforts towards designing and building the outer tracking system of the sPHENIX detector, and participate to this experiment. On a longer time scale, she/he will increase her/his implication in the EIC project, and take a major role in the definition and optimization of the EIC detectors developed at Irfu. She/he will develop the EIC science program in collaboration with the LSN theorists.

A Ph.D. or equivalent in experimental nuclear or particle physics with preferably at least two years of postdoctoral experience is required. In-depth experience in intermediate/high energy experiments with a broad range of detector systems, assuming an excellent knowledge about their functioning, and their integration, is required. A solid background in QCD, in GEANT Monte Carlo simulations, as well as in data analysis would be beneficial. Some experience in collider experiments would be a strong asset for the participation to the sPHENIX experiment and the planned EIC studies.

Candidates should send a cover letter describing their research activities and prospects, a Curriculum Vitae including a list of recent or important publications, at least two letters of

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recommendation, and when applicable a copy of their PhD thesis as well as the jury reports on their manuscript and/or PhD defense. Documents should be sent preferably by email to danielle.coret@cea.fr (cc: herve.moutarde@cea.fr), or alternatively by postal mail to:

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CEA Saclay
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For full consideration, all application materials must be submitted by March 5 2021. The hiring committee will release the list of candidates selected for interviews at the end of March 2021. The interviews of selected candidates are foreseen in April 2021.

For inquiries, please contact Hervé Moutarde (herve.moutarde@cea.fr).