

Paris, October 27<sup>th</sup>, 2017

## Post-doctoral Research Associate position on Higgs to diphotons in ATLAS at LPNHE-Paris

### Job description

LPNHE-Paris is opening a **two-year** post-doc position on ATLAS in the diphoton analysis team. The position can begin as soon as January 8<sup>th</sup> 2018 and will focus on the analysis of the Standard Model Higgs boson properties and new resonance searches using the diphoton final state.

The Laboratoire de physique nucléaire et des hautes énergies (LPNHE) is a high energy physics, astroparticle and cosmology laboratory located in the center of Paris with a staff of 90 physicists and 50 engineers and technicians. It is funded by CNRS/IN2P3, université Pierre et Marie Curie and université Paris Diderot. The ATLAS group at LPNHE is composed of about 30 physicists and engineers, heavily contributing to physics analysis and with strong experience in detector design, construction and commissioning. The group is largely involved in the study of the Higgs boson properties in the di-photon and b-quark pair final states, with leading roles in both axes. It is also contributing to the measurements of top quark physics, SM jet cross sections, and beyond-SM searches in final states with photons (dark matter and SUSY signatures or new resonances), jets or b-quarks. The group is very active in R&D studies for the Phase-II upgrade of the ATLAS tracking (ITk) and calorimeter (HGTD).

The successful candidate is expected to take a leading role in the activity of the diphoton analysis team, focusing on the measurement of the SM Higgs boson properties (**precision measurement of the fiducial, differential production cross sections of the Higgs boson and their Effective Field Theory interpretation**) and on **beyond-SM searches (low and high-mass resonance searches)** using the diphoton final state, as well as on **photon performance** improvements that would benefit the analysis. The diphoton analysis team is composed of six faculty members, one post-doc and four Ph.D. students.

The candidate will be primarily based in Paris, with frequent travels to CERN when necessary.

### Requirements

Candidates should have a PhD in experimental high-energy physics by the date of appointment, or a known defense date in the near future.

### How to apply

Applicants should send a curriculum vitae, a list of their most relevant publications, a brief statement of research interests and arrange to have at least three letters of recommendation sent to [photonportal@lpnhe.in2p3.fr](mailto:photonportal@lpnhe.in2p3.fr). This email address reaches LPNHE faculty members working in the photon portal project: Bertrand Laforge, Sandrine Laplace, Giovanni Marchiori, Irena Nikolic, Lydia Roos.

### Starting date

The position can start as soon as January 8<sup>th</sup>, 2018.

### Deadline

Applications received by November 16<sup>th</sup>, 2017 will receive full consideration. The call will remain open until filled.

### More information

The position is funded by an ANR (Agence Nationale de la Recherche) grant through the ANR PhotonPortal project, a joint project between LAPP-Annecy, LAL-Orsay and LPNHE-Paris (<http://lappweb.in2p3.fr/photonportal/>). For further information on the position please contact Giovanni Marchiori and Lydia Roos ([giovanni.marchiori@cern.ch](mailto:giovanni.marchiori@cern.ch), [lydia.roos@cern.ch](mailto:lydia.roos@cern.ch)). For more details on the PhotonPortal project please contact Marco Delmastro, the project leader ([marco.delmastro@cern.ch](mailto:marco.delmastro@cern.ch)).