

Postdoctoral Position on the ANTARES Neutrino Telescope at UNIVERSITY OF STRASBOURG



The INSTITUT PLURIDISCIPLINAIRE HUBERT CURIEN (*Department of Sub-atomic Research*) in Strasbourg (France) [<http://www.iphc.cnrs.fr>] is searching for a postdoc to work on neutrino astronomy with the 0.1 km^2 ANTARES Neutrino Telescope taking data since summer 2008 in the Mediterranean Sea. With 12 strings deployed, ANTARES is the first undersea neutrino telescope, and will mainly detect muon neutrinos in the TeV range, mapping out the high-energy sky and addressing several key physics issues, including the study of the most powerful astrophysical objects in the Universe, such as gamma-ray bursts. Data analysis is just beginning, so this is an exciting time to join the experiment.

The IPHC ANTARES Group is involved in MultiMessenger Astronomy. We are interested in using TeV gamma-ray sources detected by HESS and other gamma-ray observatories as calibration tools for ANTARES, and detecting high energy neutrinos in coincidence with gravitational wave bursts detected by interferometers such as VIRGO and LIGO. A *Letter of Intent* to perform such coincidences has been proposed by the group and the principle of such coincidences has been accepted. A workshop is organized in Paris in May 2009 [<http://www.gwhen-2009.org>] to foster scientific exchange, and to develop joint strategies and analysis tools to best utilize the common data.

The successful candidate will be expected to play a leading role in the ANTARES/ICECUBE/LIGO/VIRGO coincident analysis, from the definition of the event selection criteria to the analysis of concomitant data from ANTARES and LIGO/VIRGO itself in 2009 (*Virgo Science Run VSR2* and *Ligo Science Run S6*) and 2010. This work also includes the coincident analysis of 2007 ANTARES data in its 5 Lines configuration together with the *Virgo Science Run VSR1* and *Ligo Science Run S5* data. We also want to take part in the studies for the design of a future km^3 Neutrino Telescope [<http://www.km3net.org>] in the Mediterranean Sea. Some work on this effort, oriented towards multimessenger astronomy and calibration, will be encouraged.

We are looking for someone with a recent PhD in particle or astroparticle physics **obtained in a non-french University**. Previous experience in Gravitational Wave Astronomy and/or Neutrino/Gamma-Ray/Cosmic-Ray Physics is desired. Experience with modern analysis techniques (*e.g.*, C++ and ROOT) is required. The initial appointment will be for **1 year**, renewable by mutual agreement if funding permits.

To apply, submit a statement of interest, curriculum-vitæ, list of significant publications and arrange to have at least one letter of recommendation sent to Thierry Pradier [pradier@in2p3.fr] **before June, 25th**. Please contact Dr. Pradier if further information is needed. This postdoctoral position is funded by the *University of Strasbourg* [<http://www.unistra.fr>].