April 8, 2008

Personnel Contracts with CPAN partial financial support

The CPAN project of the CONSOLIDER–INGENIO 2010 program announces 12 contracts of personnel with partial financial support from CPAN. The proposed contracts are meant to provide technical support to the groups' research activities in a series of priority lines within the strategic actions of the CPAN Project. A detailed description of these contracts, 10 university graduate degrees and 2 university intermediate degrees, can be found in Annex I. The maximum duration of the CPAN financial support assigned to each appointment will be two years.

The groups participating in the CPAN Project will make an effort to give publicity to the present announcement in order to optimize the number and quality of the applications received.

1) Amount and nature of the financial support

The CPAN financial support for each of the contracts specified in Annex I will have the aim of co-financing the total contract cost, understood to be the sum of the net retribution plus the Social Security company fee. The beneficiary entities will hire the selected candidates in accordance with the current labour legislation.

For personnel with a university graduate degree, the amount of the CPAN financial support will be 30.000 euros per year, and the minimum annual retribution they will receive, which must be indicated in the contract, is 27.000 euros (brut salary).

For personnel with an intermediate university degree, the amount of the CPAN financial support will be 25.000 euros per year, and the minimum annual retribution they will receive, which must be indicated in the contract, is 22.000 euros (brut salary).

The remaining co-financing of the contract will be the responsibility of the beneficiary groups and organisms, who will assume the cost of retribution increments of the hired personnel in the following years, as well as the repercussions of any increases in the Social Security fee. The given financial support will be compatible with other aids or subsidies, as long as they do not jointly exceed the total cost of the contract.

An additional financial support of 14.000 euros per year will be assigned for the six university graduate degree contracts destined at CERN.

The beneficiary entities are obliged to put at the appointee's disposition all the installations and material means needed for the normal development of their work, as well as to guarantee the same rights and benefits enjoyed by the entities' personnel of similar category.

In case of interruption of the contract, the beneficiary entity and the appointed personnel are obliged to communicate such interruption to the CPAN Coordinator within 15 natural days from the date of the interruption.

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2) Candidate requisites

People whose contract is co-financed through this aid must have a graduate or intermediate university degree as required by the contract to which they apply. Candidates must be in possession of the required degrees by the date in which the application is presented.

3) Formalization and Application Process

Applications will be presented by the candidates through an internet application which can be accessed from the WEB page of the CPAN project: http://www.i-cpan.es. Applications must include:

1) The candidate's personal information.
2) The type of contract to which the candidate opts.
3) The candidate's Curriculum Vitae, including a scanned copy of the academic certification and university degree.
4) If needed, the additional documentation required in Annex I for this particular contract.

Applications must be presented from April 8, 2008 to April 30, 2008 (both inclusive).

The beneficiary group shall complete the application with a report about the optimal fitness of each candidate for the foreseen activities, assigning a tentative priority order to each candidate. These reports will also be processed through the internet application installed in the CPAN WEB page. The deadline for these reports is May 7, 2008.

4) Evaluation of applications

The evaluation of applications will be done by an Evaluation Commission named by CPAN's Executive Committee. The referred Commission will study and order the applications according to the following rules:

1) Compliance of the candidate to the development of the tasks to be performed, as function of the technical skills required.
2) CV of the candidate.

The resolution with the list of selected candidates will be published in CPAN's web page. The Evaluation Commission will propose, if needed, a list of supplants.

The proposed candidates must confirm in a period of 15 natural days their acceptance by means of e-mail which must be sent both to the receiving group as well as to the CPAN coordinator. If no notification is received within that period, the CPAN's Executive Committee will be entitled to select the following candidate in the list of supplants.

5) Payment of the CPAN financial support and follow-up

In general, the assigned funding will start on the date in which the contract between the candidate and the corresponding organization starts, either after the publication of the resolution

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or before that, in this last case always having as limitation the date in which the period for presenting applications is open.

Payments will be done on an annual basis to the corresponding organizations. The payment procedures for the first year will start after the publication of the resolution as soon as the contract being financed is presented. The payment for the following year requires the previous presentation (and positive evaluation by CPAN's Executive Committee) of a scientific-technologic report resuming the activities performed, signed by the contracted person and the IP responsible for the corresponding CPAN's group.

Any publication or result related with the activities performed under this program must contain a reference to the CPAN financial support.

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ANNEX I: Relation of Contracts

Reference: CPAN08-TS1

"Operation and Maintenance of the ATLAS EndCap Electromagnetic Calorimeter"

CPAN Group: Universidad Autónoma de Madrid

Candidate requirements:
The applicant should have a Ph.D. in experimental particle physics or a Engineer degree and is expected to have experience of at least two years active participation in a leading international particle physics experiment. The applicant should have expertise in operating a particle physics detector as well as some basic electronics and C++ programming language.

Job profile:
The successful applicant will be based at CERN and will work on the operation and maintenance of the ATLAS EndCap Electromagnetic Calorimeter (EMEC).

Main duties and responsibilities:
- Calculation of the Optimal Filtering Coefficients (OFC)
- Validation of the OFC
- Participation in the data quality monitoring
- Participation in the calibration monitoring

Information and contact: Prof. Jose del Peso; e-mail: jose.delpeso@uam.es

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Reference: CPAN08-TS2

"Operation and Maintenance of the CMS Muon Spectrometer"

CPAN Group: IFCA, Santander

Candidate requirements:
Applicants must hold a Ph.D. degree in Physics, with demonstrated experience in commissioning and/or operation of High Energy Physics detectors and data acquisition systems.

Job profile:
The candidate is expected to join the final phase of commissioning of the Muon system of the CMS detector, and will work on the operation and maintenance of the CMS Muon spectrometer. The work expands to all aspects related with the operation and maintenance of the central drift chambers, and the optical alignment system. The successful applicant will be expected to make significant contributions to one or more areas, depending on experience and interests. The successful candidate will be based at CERN, and be responsible for the daily operation, in close collaboration with the rest of CMS experiment, and in particular the Spanish groups in the experiment.

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Main duties and responsibilities:

- Participate in the operation of CMS detector as manager and/or expert in data taking and operation of the DT muon chambers, and alignment system.
- Participate in tasks related with data quality monitoring and data integrity.
- Works with technical staff and scientists to understand problems with hardware and DAC software and develops specifications to resolve them.
- Participate in the understanding of the CMS Muon detector performance and in the production of final operating calibration and alignment DB constants

Information and contact: Dr. Ivan Vila; e-mail: vila@ifca.unican.es

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Reference: CPAN08-TS3

"Operator for LHCb IT and SPD systems"

CPAN Group: Universidad de Barcelona / IGFAE, Santiago de Compostela

Candidate requirements:
Applicants must hold either an Engineer degree or Physics degree in the branch of Electronics, with demonstrated experience in commissioning and/or operation of High Energy Physics detectors and data acquisition systems.

Job profile:
The candidate is expected to join the final phase of commissioning of IT and SPD systems of the LHCb detector at CERN, and be responsible for the daily operation of these detectors, in close collaboration with the rest of LHCb experiment, the online and data acquisition personnel, the universities of Barcelona and Santiago de Compostela and their technical support staff. The candidate is expected to be based at CERN (Geneva) for the duration of the contract.

Information and contact: Prof. Lluis Garrido; e-mail: garrido@ecm.ub.es

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Reference: CPAN08-TS4

"Research Associate Position in ATLAS-TileCal"

The High Energy Physics Institute in Barcelona (IFAE-Barcelona), in collaboration with the CPAN, offers a 2 years research associate position to participate in the ATLAS experiment at the LHC at CERN (Switzerland). With the new position it is desired to strengthen the role of Spanish Institutes (Barcelona and Valencia) in the Tile Calorimeter of the ATLAS experiment.

CPAN Group: IFAE, Barcelona

Candidate requirements:
The candidate must have a Ph.D. in Experimental Particle Physics. Experience in detector operation and calibration techniques is expected, and experience in DAQ systems will be very

positively valued. The successful candidate will be based at CERN, working within a team of young physicists and engineers. Participation in the physics analysis of the LHC data will be possible upon mutual agreement.

Information and contact: Dr. Ilya Korolkov (korolkov@ifae.es) or Dr. Martine Bosman (bosman@ifae.es), IFAE, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, E08193 Spain.

Reference: CPAN08-TS5

"Operation and Maintenance of the ATLAS SCT Tracker"

CPAN Group: IFIC, Valencia

Candidate requirements:
The applicants should have a Ph.D. in Particle Physics or a Engineer degree, with experience in commissioning and/or operation of High Energy Physics detectors and data acquisition systems.

Job profile:
The candidate is expected to join the final phase of commissioning of ATLAS SCT and Inner Detector Tracker, and will work on the operation and maintenance of these detectors, in close collaboration with the rest of the ATLAS experiment and the IFIC-Valencia group. His/her duties will include the alignment of the Inner Tracker Detector and its monitoring. The successful candidate will be based at CERN for the duration of the contract.

Information and contact: Prof. Carmen García; e-mail: Carmen.Garcia@ific.uv.es

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Reference: CPAN08-TS6

"Maintenance and Operation of the CMS Barrel Muon System"

CPAN Group: CIEMAT, Madrid

Candidate requirements:
We will consider all applicants who will be able to prove having experience in the field of experimental particle physics, especially those with a Ph.D. degree in Physics or with an engineer degree, who have already worked in the commissioning, maintenance and operation of high energy physics detectors, and/or corresponding data acquisition systems.

Job profile:
The candidate is expected to participate in the final phase of the commissioning of the CMS Muon system at CERN and later on, once the LHC will start operating, play a leading role in the on-site activities associated to the data taking, operation and maintenance of the detector, as well as data analysis. Spanish groups inside the CMS-Muon community have responsibilities in the maintenance and operation of the Barrel Muon Drift Tube (DT) Chambers, readout electronics, link alignment system, Level 1 trigger (DTTF), detector calibration, data quality

monitoring, detector performance (DPG), and data analysis. The successful candidate will be based at CERN for the next two years and will work in close collaboration with the CMS team in charge of the daily operation of the experiment, assuming the responsibility of some of the previously mentioned tasks.

Information and contact: Prof. Marcos Cerrada; e-mail: Marcos.Cerrada@cern.ch

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Reference: CPAN08-TS7

"Development of the Ge prototype for the detector DESPEC (FAIR)"

CPAN Group: Universidad de Salamanca

Candidate requirements:
Applicants must hold either an Engineer degree or Nuclear Physics degree (DEA), with demonstrated experience or at least two years in commissioning and/or operation of Nuclear Physics detectors. Additionally, candidates should have experience on data acquisition systems, basic electronics and C++ programming.

Job profile:
The successful candidate will be involved in the construction and test of a segmented HPGe prototype for the DESPEC Experiment of FAIR. The candidate will also take charge of the electronics and DAQ. The candidate will be responsible of the development of algorithms to determine the interaction point from the signals of the crystal. The successful candidate will be at the University of Salamanca and will work in collaboration with the house group and groups from IFIC (Valencia), UAM and GSI.

Tasks and Responsibilities:
- Optimise the cryostat design for the HPGe planar detectors by Monte Carlo simulation with GEANT4.
- Develop tracking algorithms for the reconstruction of the interaction point
- Design the test bench
- To develop an annealing system for HPGe system and check the radiation resistance of the prototype.
- Characterize the response of the prototype.

Information and contact: Prof. Begoña Quintana; e-mail: quintana@usal.es

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Reference: CPAN08-TS8

"Development of high performance digitizer boards for the DAQ of the DESPEC experiment at FAIR"

CPAN Group: CIEMAT, Madrid

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Candidate requirements:
Applicants must hold a degree in engineering or technical engineering with demonstrated experience in electronics, telecommunications, industrial electronics, degree in Physics with specialization in electronics or any other equivalent degree.

Job profile:
The candidate will lead the development of a high performance digitizer board for the data acquisition system of the DESPEC experiment at FAIR. The digitizers will be used for the data-taking of a neutron Time Of Flight (TOF) spectrometer also developed by the GIN group at CIEMAT. The candidate will carry out its work at the CIEMAT laboratories and facilities. In addition, he/she will have to travel to GSI-Darmstadt (FAIR in the future) and other research centers for the integration of the work into the general DESPEC data acquisition framework.

Main tasks and responsibilities:
- Conceptual design of a 12 bit and 1 Gigasample/s digitizer board.
- Coordination of the performance tests.
- Coordination of the tests in the laboratory with real neutron detectors.
- Development and programming of the pulse shape analysis software
- Final design and coordination of the industrial production phase.

Information and contact: Dr. Daniel Cano Ott; e-mail: daniel.cano@ciemat.es

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Reference: CPAN08-TS9

"Participation in the design and construction of calibration system and atmospheric monitoring prototypes for the CTA Design Study"

CPAN Group: IFAE, Barcelona

Candidate requirements:
Applicants must hold either an Engineer degree or Physics degree in the branch of Electronics, with demonstrated experience in the development, construction and commissioning of electronic instrumentation. Fluent communication in English and the willingness for travelling to remote observatories for the installation and commissioning of electronic instrumentation will be very highly rated.

Job profile:
The selected candidate will participate in the development of calibration systems using lasers and ultrafast LEDs, and atmospheric monitoring systems using LIDARs and similar instruments, as well and in their installation and commissioning in remote astronomical observatories. IFAE is leading the ATAC (Advanced Techniques for Atmospheric-monitoring and Calibration) Work Package within the CTA Design Study and is playing a first-line role in the startup of the CTA project.

Information and contact: Prof. Manel Martinez; e-mail: martinez@ifae.es

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Reference: CPAN08-TS10

"Participation in the design and development of the power and wifi data acquisition systems of the AMIGA "infill" at the South Pierre Auger Observatory and the power system of the North Pierre Auger Observatory"

CPAN Group: Universidad de Alcalá de Henares

Candidate requirements:
Applicants must hold either an Engineer degree or Physics degree in the branch of Electronics, with demonstrated experience in the development, construction and commissioning of electronic instrumentation. Fluent communication in English and the willingness for travelling to remote observatories for the installation and commissioning of electronic instrumentation will be very highly rated.

Job profile:
The selected candidate will participate in the design and development of the power and wifi data acquisition systems of the AMIGA "infill" at the South Pierre Auger Observatory, located at the "Pampa Argentina". The AMIGA "infill" is an upgrade of the South Pierre Auger Observatory consisting in 66 additional water tanks and 83 underground muon detectors located at 3 meters depth. Presently the UAH group collaborates in the development of the muon detector data acquisition software and is subtask leader of the AMIGA power system. The above tasks will continue with the participation of the candidate in the design of the power and data acquisition systems of the system North Pierre Auger Observatory.

Information and contact: Prof. Luis del Peral; e-mail: luis.delperal@uah.es

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Reference: CPAN08-TM1

"Development of a prototype for the HYDE detector"

CPAN Group: Universidad de Huelva

Candidate requirements:
The applicants will have a degree of Technical Engineer (intermediate degree) in electronics, with experience in the use of accelerators to test charged particle detectors and/or in techniques of particle identification by pulse shape analysis of the digital signals.

Job profile:
The successful candidate will participate in the development of a prototype of the electronics and cells of charged particle detection for the HYDE detector, in collaboration with the rest of the researcher groups of the experiment HISPEC/DESPEC of FAIR (Germany). The HYDE detector will use Si sensors and the collaboration will develop an algorithm to distinguish the different low-energy charged particles by the analysis of the digital pulse. The successful candidate will be at the Universidad de Huelva, although it will have to make short stays abroad to attend the collaboration meetings.

Information and contact: Prof. Ismael Martel; e-mail: imartel@uhu.es

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Reference: CPAN08-TM2

"R+D for the dipole separator of ELISe@FAIR. Fast-timing measurements"

CPAN Group: Universidad Complutense de Madrid

Candidate requirements:
Minimum academic level: bachelor in electronics engineering, bachelor in informatics, bachelor in physics knowledgeable in electronics and informatics. The willingness to travel and spend training periods abroad will be highly rated.

Job profile:
The ELISe experiment at FAIR will allow studying electron scattering off exotic nuclei in collider mode. The main experimental device for ELISe will be a high resolution electron spectrometer with a pre-deflector magnet and two vertical dipoles. The technician will be required to perform R+D tasks for the pre-deflector magnet of ELISe in collaboration with companies working on the field. He or she will also contribute to R+D and setup of ultra fast scintillators suitable for fast-timing measurements with detector arrays at new facilities. The applicant should be available to travel outside Spain for several months (to CERN, GSI, KVI or other facilities) in order to acquire adequate training on magnetic elements design for electron spectrometers.

Information and contact: J.M. Udías, L.M. Fraile; e-mail: grupo@nuclear.fis.ucm.es

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