

REPORT OF ACTIVITIES

HELEN GRANT First Year awarded to Prof. Luis Villaseñor from UMSNH-Mexico

The Job Description of the Helen Grant was the following (see <http://www.ifm.umich.mx/~villasen/HELEN/Helen.html>):

Latin America to Latin America

Grant	Type	Job Profile	Months	Host Institution Country
1.	RT	AUGER. Person with PhD. Work on air shower simulation and data analysis for the Pierre Auger Observatory.	0.5	Centro Brasileiro de Pesquisas Fisicas Brasil

REPORT

I arrived in Rio de Janeiro the morning of August 23th, 2006. In the afternoon I visited CBPF where I contacted Professors Mario Vaz (mariovaz@cbpf.br), Laudo Barbosa and Joao Dos Anjos. During my stay at CBPF I performed the following activities:

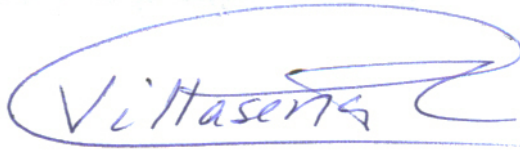
- 1) Discussed with Prof. Mario Vaz, Laudo Barbosa and Prof. Joao Dos Anjos about the inclusion of UMSNH-Mexico as a collaborating Institution in the ANGRA Project to detect neutrinos from the Angra Reactor in Rio with the goal of measuring one of the mixing angles in the neutrino sector. As a result of these discussions it was agreed that UMSNH would be accepted in the ANGRA COLLABORATION.
- 2) I gave a three-day laboratory course on “Data Acquisition with LabView” aimed at showing the participants some basic programs to acquire data from digital oscilloscopes and CAMAC modules using the GPIB and the RS-235 ports of a PC. The course was attended by 5 persons from CBPF including staff and students.
- 3) I collaborated with Prof. Mario Vaz and Laudo Barbosa in the setup of the DAQ program to use a Water Cherenkov Detector (WCD, located in the laboratory of Prof. Barbosa) to detect muon decays and delta rays in the WCD. We also analyzed the data produced using root.
- 4) I adapted a few DAQ programs written in LabView for their use at CBPF both to do research and to teach students.
- 5) I discussed details about our common participation of CBPF and UMSNH on the Pierre Auger Observatory and made plans to contribute to the AMIGA upgrade which consists of an infill array of WCDs within the normal array of the PAO.

I left Rio towards Mexico on September 5, 2006. In general this visit was very fruitful to enhance the collaboration of UMSNH-Mexico with CBPF-Brazil both within the context

of the Pierre Auger Observatory to study ultra high energy cosmic rays and the ANGRA Project to study neutrino properties.

Finally, I thank very much the HELEN management for making this trip possible.

Morelia, Mich., Mexico, October 26, 2006.

A handwritten signature in blue ink, enclosed within a blue oval. The signature appears to read "Villasenor" followed by a stylized flourish.

Luis Villasenor
Professor at the Institute of Phys. and Maths.
University of Michoacan
Mexico