

TWINNING between Institutions in developed and less developed countries: an ideal way to set-up an astrophysics program

Claude Carignan

Dep. of Astronomy, University of Cape Town, Private Bag X3, Rondebosch 7701, South Africa
email: ccarignan@ast.uct.ac.za

Abstract. It is very difficult to start from scratch a new Astrophysics program in a country with very little or no researchers in the field. In 2007, we began to set-up an Astrophysics program by TWINNING the Université de Ouagadougou with the Université de Montréal in Canada, the Université de Provence in France and the University of Cape Town in South Africa. Already, courses are given at the undergraduate and Master levels and a teaching Observatory has been built. A 1m research telescope was also moved from the La Silla Observatory in Chile to Burkina Faso and the infrastructure is being built at the moment on mount Djaogari in the north-eastern part of the country. In the meantime, 6 students are doing their PhD in Astrophysics overseas (Canada, France and South Africa) and will become the core of the research group at the Université de Ouagadougou. An engineer is also doing his PhD in Astronomical Instrumentation to help with the maintenance of the equipment on the Research Telescope.

1. Astrophysics program in Burkina Faso

The initiative of the project came from the Burkina Faso minister of Higher Education. During the time that Burkina Faso students are doing their PhD overseas, the courses are given by professors and PhD students of the 3 partner Universities. Between 2007 and 2012, the undergraduate Astronomy course was given 4 times, each time to groups of more than 100 students, while the 4 courses given at the Msc levels were given to group of ~20 students. Three DEA diplomas in Astronomy were given, from projects done using the teaching Observatory. Those three students have now started their PhD in one of the partner University. The signing of the two tri-partite agreements helped a lot in setting clear objectives for the project, each partner University developing one particular aspect of the program.

The building of the road to the summit of Mount Djaogari, where the research telescope will be built, has started and the building of the Observatory should start beginning of 2013. The dome is not bought overseas but is being built by the technical University in Bobo. This is a pedagogic project of the technical students for 2 semesters. It should be completed in mid-2013, in time to reconstruct the Marly telescope. In this way, when the first PhD students will return to Ouagadougou, there will be a research instrument in the country. The instrumentation on the telescope will be provided by the instrumentation groups at the Université de Montréal, at the Laboratoire d'Astrophysique de Marseille and at the University of Cape Town. The whole project (with the students back) should be completed around 2015 and will have taken ~ 8 years.

References

Carignan, C. & Koulidiati, J. 2011, *The International Academic Research Journal*, Volume 2, Issue II, pp.2-13