Dear Organising Committee member,

The Fourth COSPAR Capacity-Building Workshop held at the University of KwaZulu-Natal, Durban, South Africa from 28<sup>th</sup> June- 9<sup>th</sup> July, 2004, (RSA) finished a couple of weeks ago, so here is a brief report on it.

## Introduction

We had a total of nearly 50 applications, which were assessed by a panel consisting of Prof Arthur Hughes (RSA), Dr Peter Martinez (RSA), Dr H Mweene (Zambia), Dr Issur Nalini (Mauritius) and myself.

The scoring was basically on scientific merit, but we did give some preference (as stated in the workshop announcement) to groups or pairs from the same country which declared an intention to work together subsequently. As a result we selected 27 "students" from the following countries:

Egypt	2
Kenya	2
Malawi	2
Mauritius	2
Nigeria	6
RSA	10
USA	1
Zambia	2.

They were formed into 8 project teams, though often they produced individual reports. As with the previous workshops in this series, the projects were a major activity to which about half the time available was devoted.

The "lecturing team" consisted of

Keith Arnaud, GSFC, USA, David Buckley, SAAO, RSA, Carlos Gabriel, ESA, Spain, Matteo Guinazzi, ESA, Spain, Hans Haubold, UN/OOSA, Austria, Kurt van der Heyden, SAAO, RSA, Jonas Justin, HartRAO, RSA, Sandile Malingas, University of KwaZulu-Natal, RSA, Mariano Mendez, SRON, Netherlands, Randall Smith, GSFC, USA, Rowan Temple, Birmingham, England, Peter Willmore, Birmingham, England.

whilst the local organisation was in the hands of Prof. Arthur Hughes, assisted by Andrew Collier and Chantal Webster, (University of KwaZulu-Natal) and Dr. Peter Martinez, SAAO.

Funding was received from COSPAR, National Research Foundation of South Africa, IAU, UN/OOSA, Abdus Salam Centre for Theoretical Physics and the European Space Agency.

In addition, valuable support "in kind" was received from the University of KwaZulu-Natal. The lecturing facilities were excellent and so was the computing lab. The internet facilities were not fully what one might have hoped for in a university of this size and standing, but the local staff worked hard to overcome this problem.

## Outcome

It is clear from the reactions of the participants on the spot that they found the workshop both valuable and motivating. More of them than has been the case at previous workshops in this series had

backgrounds in astronomy and computing which were not particularly strong. We had anticipated this might be so, but it was still a concern.

The best indication of the immediate success of the workshop comes from the project reports. A reasonable criterion for successful completion is that the report should contain a light curve, an image and a calibrated spectrum, since to get to this point they must also have installed the analysis software on their machine, downloaded data and selected from it good periods for analysis. Only two "students" failed to produce a report showing they had reached this stage; all of those whose backgrounds had initially caused some anxiety were able to do so. We found this result extremely encouraging. By contrast, some groups had very strong backgrounds and about half the reports reached the point where real research results had been obtained, which would be publishable with a modest amount of further work.

Hence despite our initial reservations, this was certainly amongst the most effective of the three X-ray workshops held so far. On the other hand, some of the participants will certainly return to university departments where they will not be in very supportive environments for building on the skills they have obtained, and we will be investigating the possibility of obtaining financial, scientific and technical help for their future activities in X-ray astronomy.

## Acknowledgements

All of those listed in the introduction have made an important contribution to this gratifying outcome, either through their individual efforts or by providing the essential financial support.

However, I want particularly to highlight the contribution of the lecturers, who give up two weeks of valuable research time to take part (plus the time taken to prepare lectures). In addition, Arthur Hughes put a great deal of time and effort into the local organisation and, with Chantal Webster, into supporting the students' travel. Andrew Collier, pretty much single-handed, set up and maintained the computing lab to our special requirements under circumstances which were not always easy, a large and crucial task.

I am grateful for the support of the Organising Committee and the COSPAR Secretariat.

A P Willmore, 28<sup>th</sup> July, 2004