



## NEWSLETTER – MAY 2013

The RAT centre is very proud of our first post graduate student to qualify through the centre. Mrs Aritha Pillay received a Master's Degree in Technology at the April 2013 graduation ceremony. Her work titled "Development of a Transit Radio Telescope Operating at the Hydrogen Line Frequency" resulted in the now successful operation of the Indlebe Radio Telescope.

We are also proud to announce that Ruvano Casper received the National Diploma: Engineering: Electrical (Cum Laude) at the same graduation. Ruvano is currently continuing his studies towards the BTech degree.

We have made very good progress so far this year with all of the RAT centre projects.

### 1. The Indlebe Radio Telescope (IRT):

Although this telescope is fully operational it is by no means optimal. Several on-going projects aim to improve the data from this instrument. The Google image in **Figure 1** clearly shows the 5m parabolic reflector housed within the building (inside the circle).



**Figure 1**

### 2. Indlebe Enkulu Radio Telescope:

After some gearbox problems, construction of this telescope is now complete and it is at the commissioning stage. John Fielding is seen in **Figure 2** making final adjustments to the 16 quad loop yagi antennas that make up the telescope antenna array. We hope that this telescope will see first light within the next month.



**Figure 2**

### 3. Phased Experimental Demonstrator 2 (PED2):

Although still a few months away from seeing first light, much progress has been made on this telescope. We have two SKA sponsored BTech students, Ruvano Casper and Monde Manzini, working on putting all the components together.

This telescope will consist of two 2,6m fully steerable parabolic reflectors. One of the reflectors and feed horn can be seen in **Figure 3**.

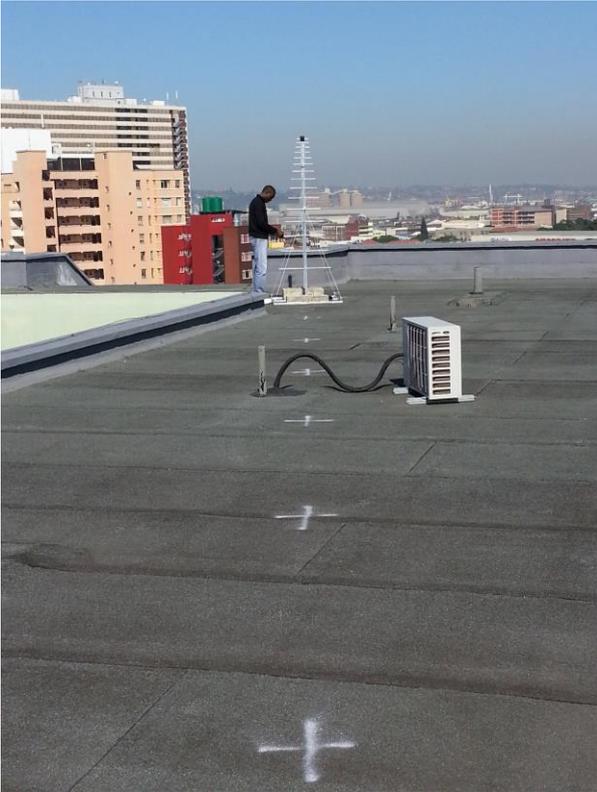


**Figure 3**

### 4. Multifrequency Interferometer Telescope for Radio Astronomy (MITRA):

With the laboratory looking a little like a production line, all sixteen of the dual polarised log periodic dipole antennas which make up the array will be in position on the roof by the end of June. They will be positioned to the left of the IRT shown in **Figure 1**.

**Figure 4** shows Master's student, Dominique Ingala with the first of the antennas on the roof of our building.



**Figure 4**

If you have any comments or questions please feel free to contact me by return email. Should you wish to be removed from the mailing list, please send me an email with the words 'remove me'? Please feel free to pass this newsletter on to anyone not receiving it.

Gary J van Vuuren