

**PRETORIA CENTRE OF THE**  
**ASTRONOMICAL ASSOCIATION OF SOUTHERN AFRICA**  
**ANNUAL REPORT JULY 2009**

This has again been an active and successful year.  
The paid up membership for the period 2006 – 2007 was 111.

**Monthly Meetings**

Monthly meetings have been held as usual on the fourth Wednesday of the month, and still follow the format of previous years, with a Beginner's Corner, "What's Up?" and a main topic.

In July 2008, Gary Els gave a talk about "Sunspots – their history, legends and influence on us today", and in August we watched a video that compared the atmosphere of Titan with that of the early Earth. In September, Michael Poll and Johan Smit introduced the International Year of Astronomy, which was to be in 2009, and in October Gil Jacobs talked about "The Longitude Problem". November saw Prof Andre Buys presenting a follow up talk on his fascinating discussion about "Leonardo da Vinci's Telescope".

Meetings resumed in January 2009 when Prof Derck Smits from Unisa outlined current "Frontiers in Astronomy", giving us a short revision of current theories about the origin and state of the universe, and the types of telescope needed to unravel unsolved problems. In February Leon Croukamp from the Council for Geosciences talked about possible future exploration of the moon. In March Jacko Koen explained how the solar wind affects electrical power grids, and this was followed in April by a detailed exposition by Claire Lee on the work that can and will be done with the Large Hadron Collider. In May we were privileged to have Dr. Maria Diaz-Trigo from the European Space Agency who reviewed the missions of current space observatories, and discussed X Ray Binary Stars with reference to observations from the XMM Newton telescope. At the June meeting a DVD of a talk by Michael Melville, given at Scopex, was shown. Melville was the pilot of "Spaceship One".

Beginner's Corner has been presented this year by Percy Jacobs, Danie Barnardo, Andrie van der Linde, Pat Kuhn, Neville Young, Fred Oosthuizen and Gareth Gregory.

"What's Up?" has been presented by Johan Smit, Danie Barnardo, Wayne Mitchell, Percy Jacobs, Michael Poll, and Tony Viljoen.

The Centre thanks all these speakers for their contributions. Thanks go to those people who chaired the meetings, and dutifully submitted reports to the newsletter. Thanks are also due to those who make the running of our monthly meetings a success – including Johan Smit for the digital projector. We are, as usual, grateful to Christian Brothers College for allowing us the use of the Auditorium and classroom, and in particular to Gordon Britz for arranging these facilities.

**Monthly Observing Evenings**

These evenings are popular and have been well attended, and there have been a lot of newcomers and visitors. We have had up to 50 and more people attending on occasions, and as many as 14 telescopes in April. We have been troubled by cloud at times, but not as much as in some previous years.

There have been a number visiting groups to the observing evenings, including Rookshana and Nadine from Tukkies who were organising an astronomy week at the Science Outreach Centre; some visitors from the Johannesburg Centre; and in November a group of guests with Don Roos. In January we welcomed some of the Astronomy Africa Theatre Group and a group of about 20 third year medical students from Medunsa. In June there was a group of Swedish school children and some visitors with Marietjie Botes of the Kultiertjies Kinderboek Klub.

No formal log of objects observed is kept but as many as possible are recorded in the "Observing Evening Report" in the newsletter. Particular events seen at the observing evenings included a transit and shadow transit of Io in July last year, and a sighting of Comet Lulin in February 2009. Thanks are due to Johan Smit for operating the Centre 12 inch telescope, and for the maintenance of the instrument.

**Activities during the year**

A number of activities were mounted during the year, including outreach to schools and the general public. Presentations to other organisations are done by the Centre in the interests of the promotion of astronomy, and willing donations from the institutions go towards Centre funds.

**Goodlands     August 1<sup>st</sup> -2<sup>nd</sup> 2008**

This was a Dark Sky weekend for Centre members and was arranged by Fred Oosthuizen. The venue is a farm near Pretoria. Between 10 and 20 members attended.

### **ASSA Symposium : Durban August 7<sup>th</sup> -9<sup>th</sup> 2008**

Andrie van der Linde, Michael Poll and Adie Viljoen attended the ASSA symposium. Andrie van der Linde presented two papers : “Optical Coatings for the Amateur Astronomer” and “Lasers and Laser Safety for Amateur Astronomers”. Michael Poll presented a paper entitled “Astronomy in Cartoons”.

### **Eldoraigne Dutch Reformed Church Sept 6<sup>th</sup> 2008**

This was a viewing evening for a church congregation. Six members from the Centre attended with telescopes, and there was good feedback about the visit. About 100 people attended.

### **Lord Milner School at Settlers Sept 26<sup>th</sup> 2008**

This ‘Dark Sky Weekend’ visit was arranged by for Centre members by Gareth Gregory. Nice dark skies were experienced. A number of friends and families of members attended, and members from the Johannesburg Centre attended as well.

### **Pretoria National Botanical Gardens Oct 4<sup>th</sup> 2008**

The Centre joined the West Rand Astronomy Club (WRAC) in a joint observing evening for the public. Approximately 200 people attended.

### **Pretoria University “UP with Science Week” Oct 11/17<sup>th</sup> 2008**

Michael Poll gave a talk about “What’s In the Sky?” to about 50 learners on Saturday morning, October 17<sup>th</sup>. The learners were going to come to the Centre practical evening the following Friday but it was rained out. One disappointed person joined the telescope making class.

### **Irene Oval /Jerome Place of Safety December 5<sup>th</sup> 2008**

Gareth Gregory, Michael Poll and Jim Prentice attended an observing evening at Irene Oval for the children of the Jerome Place of Safety. Unfortunately it was cloudy, but Gareth Gregory organised a room and projector at the nearby guesthouse. Michael Poll gave a presentation to about 20 people :- there were also some other guests there, from Irene Home.

### **Out of town Observing : November 28<sup>th</sup> 2008**

Although billed as an “End of Year Function”, the evening of November 28<sup>th</sup> at Erich Nockler’s plot turned into a nice observing evening for Michael Poll, Casper van der Linde and Pat Kuhn.

### **National Youth Development Trust December 8<sup>th</sup> 2008**

Michael Poll went to see At Meyer. Mr Meyer outlined the work of the NYDT, and indicated that for the Astronomy related modules, the intention is for the NYDT to co-operate with, and gain assistance from, local astronomy societies. Michael proposed that Mr Meyer send a memo about what had been discussed and what the NYDT would like from the Centre. Mr Meyer was invited to our January meeting, and it was suggested that perhaps Mr Meyer could address one of our meetings on behalf of the NYDT.

### **Children’s Camp, Goodlands December 12<sup>th</sup> 2008**

An observing session was organised for a Lutheran church youth group at Goodlands and the contact person was Rosel Meyer. About 60 children were there. Michael Poll, Johan Smit and Clive Callaway attended but there was heavy rain. Michael and Johan gave off-the-cuff talks.

### **Sutherland Star Party December 2008**

Danie Barnardo attended on behalf of the Centre and helped with stargazing for the attendees.

### **Partial Solar Eclipse Monday, 26<sup>th</sup> January 2009.**

Andrie van der Linde and Tony Viljoen used suitably filtered binoculars and a 6” telescope (and later a H-alpha filtered scope) at their place of employment in Irene for colleagues to view the partial eclipse from 07h30 till 09h30. About 30 or more people made use of the opportunity to view the eclipse.

### **Voortrekkers February 20<sup>th</sup> 2009**

This involved about 100 children. Johan Smit gave a presentation, and was assisted by Bosman Olivier and members of the Johannesburg Centre.

### **Visit to Tswaing Crater March 14<sup>th</sup> 2009**

About 35 people (12 cars) including members, family and friends went on this visit and it was enjoyed very much. Danie Barnardo organised the event, and gave a commentary on the local and crater specific geology.

### **Goodlands March 27<sup>th</sup>- 29<sup>th</sup> 2009**

About 12 people altogether from the Centre attended for a Dark Sky Weekend. On the Saturday night there were about 20 visitors from local farms who came for viewing. The event was again organised by Fred Oosthuizen.

### **Irene Oval 100 Hours of Astronomy : April 4<sup>th</sup> 2009**

This IYA event was considered successful, particularly since totally “new” people were there. There were 10 telescopes from the centre, and the estimate was that about 120 people attended.

### **Hartbeespoort 100 Hours of Astronomy April 3<sup>rd</sup> 2009**

Eugene Geldenhuys did a successful 100HA activity at Hartbeespoort on April 3<sup>rd</sup> 2009 with 5 telescopes, about 35 people attended.

### **Karoo Star Party April 25-27<sup>th</sup> 2009**

This was held at the Kambro Akkommodasie en Padstal, near Britstown. About 30 people, including members and visitors from Johannesburg and Cape Town, attended a very successful weekend. There were up to 20 telescopes and much other equipment. This event was organised by Danie Barnardo.

### **Tswaing Crater May 23<sup>rd</sup> 2009**

Danie Barnardo and Bosman Olivier gave a presentation and viewing at Tswaing Crater for about 40 Sanparks Honorary Rangers. The intention is that the Rangers can show the night sky to visitors at the national parks to which they are seconded.

### **Menlo Park Primary School. June 3<sup>rd</sup> 2009.**

A number of members presented a viewing evening at the school. There were about 8 telescopes there, and the usual large attendance of children and parents.

### **Scopex Telescope Exhibition May 30<sup>th</sup> 2009 (Report submitted by Johan Smit).**

Because ScopeX is an initiative of the ASSA Telescope Making class, the presence of the ATM community and their handiwork is a fundamentally important component of the exposition. Once more we were gratified by a good turn-out of exhibits: Twenty one entrants presented an interesting variety of 24 exhibits of generally high standard, several of which embodied several innovative ideas. Bosman Olivier, Percy Jacobs and Pat Kuhn assisted in manning the ATM stand. Johan Smit presented his very popular talk “How a telescope sees” which includes how to build a simple telescope in less than 5 minutes.

From the Pretoria centre the following were exhibited:

Percy Jacobs	6” f/6 Dobsonian and 10” f/6 Dobsonian
Johan Smit	6” f/8 Dobsonian and Binocular stand
Joop de Jager	12” f/5.6 truss tube Newtonian on split-ring equatorial mount
Pat Kuhn	6” Dobsonian on equatorial platform & observing chair
Bosman Olivier	6” Dobsonian

Joop de Jager’s efforts were rewarded with the presentation of a 10mm eyepiece from Telescope SA. Bosman Olivier and Johan Smit were presented with special recognition certificates for the services they provided to the “Voortrekkers.

The evening Star Party afterwards probably had the highest attendance to date for any ScopeX.

### **Telescope Making Classes (ATM Classes). (Report Submitted by Johan Smit).**

Twenty five new students have joined the ATM class since July 2008, and of these 9 were from Pretoria. Several persons completed their telescopes and went on to more advanced projects.

Noteworthy projects currently under construction by Centre members are:

Fred Oosthuizen: 6" Stevick-Paul unobstructed multi-mirror telescope.  
Percy Jacobs: 6" Kutter Schiefspiegler.  
Bosman Olivier: 14" Newtonian primary mirror.  
Danie Barnardo: 10" Newtonian primary mirror.  
Johan Smit: 10" and 16" mirrors and mirror grinding machine.

There are about 10 or more people from Pretoria with 6 or 8 inch mirrors in various stages of completion. If all these complete then Pretoria could fill the field at the next Scope-X.

Johan Smit and Percy Jacobs are serving as instructors from Pretoria. From Johannesburg the class is manned by Chris Stewart, Dave Hughes, Julian Shellard and Keith Lou. Since starting his large mirror Bosman Olivier is also regularly helping in the class.

With heightened public awareness created by IYA2009, and a successful Scope-X exhibition, the class picked up dramatically, with two new students joining every Saturday since Scope-X. At just 13 years old, Zachariah Maiter from Pretoria is now the second youngest student ever. He is from Pretoria and started a 6" mirror in June 2009. Considering that our oldest student was over 80 years old, the ATM class truly caters for everyone.

### **Library (Report submitted by Danie Barnardo).**

The Library functioned very well this past year, and was opened and manned at the monthly meetings. The Library database was completed and all the textbooks in the Library were indexed into the system. Loans are also handled through the system, which proves to be a big improvement over the old card system. Unfortunately no statistics regarding new books or loans of Library books were kept. A few new books were acquired during the year.

During the year the Library cabinets were improved through the installation of additional shelving. A big "thank you" is due to Pat Kühn in this regard.

Plans for the future include the making available of the Library catalogue on the internet. This project is currently a bit behind schedule, because the programmer who wrote the new system needs new software to complete the transition of the system to the internet. In this regard, a big "thank you" is due to the programmer, Nols Smit, who is known to the Librarian, but is not a member of the Centre.

### **Website (Report submitted by Danie Barnardo)**

The website is functioning as planned. Andries Oberholzer, a web developer, was commissioned to design the website and he did an admirable job. It is possible to contact the Committee members via the website, eliciting several queries to the Chairman and Vice-Chairman during the year. Every month's program is posted on the website, just after the previous meeting. Newsletters are also available through the website and the last year's newsletters are all available through the website. The website proved extremely useful for the advertisement of the Karoo weekend and several contacts and bookings were made through this medium.

### **Skanskop Observatory Project (Report submitted by Fred Oosthuizen)**

This project, facilitated by Fred Oosthuizen, proposed to house a telescope in an observatory at Fort Schanskop. The telescope is a 14.5 inch F8 which was donated by, and is being constructed by, Pierre Lourens and is nearing completion. The Centre is not able to go ahead at the Schanskop site, because obtaining funding of approximately R1.2 Million has become a major problem.

- There is a high cost due to design restrictions considering the locality. The observatory had to blend in with the surroundings, which meant that nearly half of the building would be positioned below ground level.
- There has been a long delay on the part of the City of Tshwane Metropolitan Municipality (CTMM) in implementing the Infrastructure Development Programme approved in 2005.

*(With a view to encouraging tourism, this Development Programme aimed to extend the existing Groenkloof Nature Reserve boundaries around the Klapperkop Ridge and to incorporate the Voortrekker Monument Nature Reserve, Fountains Valley Nature Reserve and parts of the Airbase grounds into one large secure conservation area open to the public. It was envisaged that organised day tours of the Tshwane area would end in a night tour of the conservation area and would culminate at the Observatory with a tour of the night sky, facilitated by ASSA Pretoria. I believe that if this concept had come to fruition and was duly publicized it would have made the funding of the Observatory viable).*

## **Tswaing Observatory Project (Report submitted by Fred Oosthuizen).**

The management of Tswaing Crater, through Danie Barnardo, approached the ASSA Pretoria Centre with a view to establishing an Observatory at the crater site. The building to house the telescope will be funded in full (we hope) by the Museum. The telescope will be the one originally slated for the Fort Schanskop project. The Committee, in conjunction with the Architect and the Tswaing management, have identified a site for the building; preliminary drawings are at present in progress and should be completed in the near future.

*Tswaing, meaning Place of Salt in Setswana, is a 2000-hectare heritage site, some 40 km north-west of Central Pretoria, surrounded by settlements inhabited by more than a million people.*

*The main features of Tswaing are a 220 000-year old meteorite impact crater (100 m deep and 1,3 km across) and a wetland area resulting in a variety of ecosystems. It is one of the best birding spots in Gauteng, with some 240 species recorded. It is also home to a fair amount of game such as Kudu, impala, hartebeest, zebra and smaller mammals like vervet monkeys and mongoose.*

*The Tswaing conservatory offers self or guided walks with trail maps, good overnight accommodation. It also has good camping and picnic facilities and is a popular tourist destination.*

### **Committee**

The committee comprised 10 persons after the last AGM. The Committee met 5 times during the year. Thanks go to all the committee members for their support and for helping the Centre to remain active.

We are fortunate to have obtained quality outside speakers for the main topics, and thanks are due to those committee members who were able to make contacts. Please note that any contribution from the membership is always welcome.

### **Thanks**

Thanks are due to all others, who may have not been mentioned, who contributed to the successful activities of the Centre during the year. One person who should be mentioned is Pat Kuhn, who organised the production of the caps with the Centre logo.

On a personal note, some of you may know that I have been nominated to be President of ASSA for 2009 – 2010. I will be stepping down as Chairman of the Pretoria Centre as of this AGM, not only for this reason, but because the Centre has a policy of the Chairman being in office for a maximum of three years.

I thank everyone for their help and support during the years that I have been Chairman.

Michael Poll (Chairman)