

**PRETORIA CENTRE OF THE  
ASTRONOMICAL ASSOCIATION OF SOUTHERN AFRICA  
ANNUAL REPORT JULY 2017**

This has again been an active and successful year.

The paid-up membership for the period July 2016 – June 2017 was 80.

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.

The average attendance for the six months ending June 2017 was 28.

The following main topics were presented.

<b>2016 07</b>	General Relativity: 100(+1) years. Dr. Peet van der Walt.
<b>2016 08</b>	Johan Smit discussed the upcoming partial solar eclipse of 1 September 2016.
<b>2016 09</b>	"The historical significance of the computer that took us to the Moon" Francois Rautenbach.
<b>2016 10</b>	"Exoplanets – the amazing techniques used in discovering other worlds" Neville Young.
<b>2016 11</b>	"Moon machines - design of the Apollo space suits". Video presentation.
<b>2017 01</b>	"The Kerbal Space Program" by Michael Moller.
<b>2017 02</b>	"Meteors, black holes and dinosaurs – you got it all wrong". by Brian Fraser.
<b>2017 03</b>	"Observing transiting exoplanets from your back yard". by José da Silva.
<b>2017 04</b>	"Astronomy in the 17th century – travels and travails of Tycho & Kepler" by Neville Young.
<b>2017 05</b>	"Astronomy in Thailand" by Gerhard Bloemhof.
<b>2017 06</b>	"Telescope making in South Africa" by Chris Stewart

**Beginner's Corner** has been presented this year by Michael Poll, Michael Moller, Johan Smit, Danie Barnardo, Fred Oosthuizen and Johan Moolman.

"What's Up?" has been presented by Percy Jacobs, Fred Oosthuizen, Danie Barnardo, Michael Poll, and Johan Smit.

**Meetings have been chaired** by Johan Smit, Bosman Olivier, Michelle Ferreira, Danie Barnardo and Michael Moller.

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

### **Monthly Observing Evenings**

These evenings are popular and have been well attended, perhaps not as well as in previous years, although cloud has frequently been a problem. No register is kept.

On 2016 August 19<sup>th</sup> we hosted a church group from Centurion, and 20 third year Medunsa students. At least 50 people attended. Centre members provided 12 telescopes

No formal log of objects observed is kept but as many as possible are recorded in the "Observing Evening Report" in the newsletter.

### **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.

<b>2016 July 1 – 3</b>	<b>Karoo Star Party.</b> 30 -35 attendees, mostly from Pretoria, but elsewhere as well. Five Pretoria members completed the ASSA 100 Marathon.
<b>2016 July 8</b>	<b>Kleinfontein</b> Attended by Johan S, Bosman, Johan J, Jacques Mare, Carel H, Michael Poll. 30 – 40 attendees. Refreshments provided. Possible venue for ad hoc observing.
<b>2016 July 22</b>	<b>Tiegerpoort.</b> Attended by Johan S, Percy, Wessel Nel, Nigel Rotherham
<b>2016 August 5</b>	<b>Dark Sky Weekend at Shekinah.</b> Attended by about 10 members
<b>2016 August 7</b>	<b>Scouts conference at Wag 'n bietjie, Olifantsfontein.</b> Bosman Olivier, Johan Smit, Johan Jordaan, Nigel Rotherham, Anton Grobler and Roelof Strydom attended
<b>2016 August 17</b>	<b>Pretoria Centre hosted the ASSA AGM.</b> Arranged by Bosman Olivier

<b>2016 Aug 27 - 28</b>	<b>Astronomy training for Voortrekkers in Johannesburg.</b> Johan Smit assisted by JHB centre. About 60 learners.
<b>2016 Sep 10 or 24</b>	<b>ASSA/ESSA in Magaliesburg.</b> Johan Smit and Waldo Koen attended.
<b>2016 Sep 09</b>	<b>Clearwater Estate</b> Johan Smit, Bosman Olivier, Nigel Rotherham, Fred Oosthuizen, Waldo Koen and Johan Jordaan attended.
<b>2016 Oct 15</b>	<b>Scopex</b> Dawie Venter received two awards for astrophotography. Johan Smit, Johan Jordaan, and Fred Oosthuizen received ATM awards.
<b>2016 Oct 16</b>	<b>Volmaan Stap</b> Full Moon walk with Friends of Magalies. Michael Poll attended.
<b>2016 Oct 17</b>	<b>Laerskool Bakenkop</b> Bosman Olivier, Percy Jacobs, Michael Poll, Rudolph Strydom and Johan Smit attended. Short talk and some viewing done. Very busy event.
<b>2016 Nov 3</b>	<b>New Hope School</b> Johan Smit, Percy Jacobs, Anton Grobler and Michael Poll and Neville Young. 50 Learners and parents.
<b>2016 November</b>	<b>Spectroscopy Course via Skype:</b> Percy Jacobs reported 20+ attendees nationwide for each session. Theme was to show how to do it, and then people should do practical themselves.
<b>2016 Dec 1</b>	<b>Laerskool Menlo Park:</b> Book Prizes sponsored by the Centre were presented to Nathan Pretorius and Mila Compaan. Danie Barnardo attended.
<b>2017 March 31</b>	<b>Diocesan Girls School</b> about 200 attendees. Percy Jacobs, Danie Barnardo, Michael Poll, Fred Oosthuizen and Nigel Rotherham
<b>2017 April 24 – 28</b>	<b>Karoo Star Party</b>
<b>2017 May 10</b>	<b>Waterkloof House Primary School (WHPS).</b> Johan Smit, Bosman Olivier, Michael Poll, Michael & Robyn Moller, Rudolph Strydom, Wessel Nel, Danie Barnardo
<b>2017 May 20</b>	<b>CBC Camp out.</b> About 15 telescopes on the CBC fields.
<b>2017 May 27</b>	<b>Pretoria Zoo Organised by Percy Jacobs &amp; Ulrich Oberprieler</b> Percy Jacobs, Fred Oosthuizen, Anton Grobler, Rudolf Strydom, Johan Smit, Neville Young.
<b>2017 May 26 &amp; 27</b>	<b>Johannesburg Voortrekkers</b> JS did Friday evening training. Saturday evening, practical viewing.
<b>2017 June 22</b>	<b>Matariki event at New Zealand High commission.</b> Percy Jacobs, Johan Smit, Michael Poll and Bosman Olivier.
<b>2017 June 25</b>	Danie Barnardo hosted a Church group on a visit to the Tswaing Crater
<b>2017 June 23-25</b>	<b>Free State Star Party</b> Johan Smit & Andy Overbeek represented the Centre.
<b>2017 June 29</b>	<b>Girls High School, Pretoria.</b> More than 100 attendees. Johan Smit, Percy, Michael, Neville, Bosman, Anton and Rudolph were present

## Section Reports

### **Telescope Making Class, including ScopeX : Johan Smit**

Johan Smit, Percy Jacobs and Bosman Olivier serve as permanent instructors at the class.

Not many projects were completed by Pretoria members this year, but activity from Johannesburg has picked up well. Most of the activity from Pretoria this year involved advanced projects, notably Percy's homemade solar telescope, made up of a recycled telephoto lens and homemade narrow band filter.

At ScopeX in October 2016 Pretoria again set the standard by winning nearly all the awards. Dawie Venter achieved two awards for astrophotography. Johan Smit, Johan Jordaan and Fred Oosthuizen were recognised in the telescope making category. Johan, in a team with Monica Loubser, from the Voortrekkers received an award for Monica's light weight 10" telescope designed and built as a team effort.

Johan Jordaan received an award for a tracking table using Johan's triple threaded rod drive design, and an innovative homemade finder telescope. This drive method enables anyone to make a suitably accurate clock drive using simple material and tools.

Fred Oosthuizen was awarded for his finely crafted 10" string scope on a split ring equatorial mount.

Francis o' Reilly, president of Stellafane in the USA, was invited as judge and speaker at this ScopeX event. This resulted in formalising relationships between our telescope making class and Stellafane in the USA. Chris Stewart has been appointed as an official Stellafane instructor, and was invited to attend the 2017 Stellafane convention as a judge and speaker.

We can be proud to be involved with one of the two most active classes in the world.

**Curator of instruments: Johan Smit**

There is very little to report on the use of our 12 inch Newtonian in the dome at CBC. Due to the fact that the dome rotation and slit bearings need maintenance it is very difficult to use the dome effectively. Apart from that, the system remains viable.

This, and the fact that it is more social to use telescopes outside, resulted in the observatory just being opened on request and then just to show everyone what an observatory looks like inside.

The 12" Meade LX200 that was donated to ASSA Pretoria, some time back, also takes up space in the observatory. Due to its size and weight this instrument is not being used either, and needs a permanent installation to achieve its full potential. A project to house it at a dark sky site in the Vredefort/Parys area is in the pipe-line. The telescope will remain the property of ASSA Pretoria, and will be rented at a nominal amount by the owner of the dark sky site. Two site visits have convinced us of the practicality of this plan.

Once there is space in the dome, and the drive bearings maintained I look forward to us using our main telescope again regularly.

**Library: Danie Barnardo.**

The Library functioned very well this past year. At every third Wednesday meeting the Library was opened and manned. The Library database is continuing to function extremely well and is stable. It simplifies the loan of Library books and keeps a decent record of transactions. The Library database is also available on the ASSA Pretoria Centre website and can be searched by users. The online library database is still a unique feature of the ASSA Pretoria Centre Library.

A number of books were donated to the collection during the year by an ex-member who moved to the coast. It was of interest that the use of the Library is on the increase and members visit the Library before meetings and in leg breaks during meetings.

**Website: Danie Barnardo**

The website is functioning as planned. It is possible to contact the Committee members via the website, eliciting several queries to Committee members during the year. The website proved extremely useful for the advertisement of the Kambro weekend and other Centre meetings during the year. A website section to advertise used equipment was also extremely popular.

Compliments for the look and functionality of the website are frequently received and it is generally expressed that the website is fulfilling its role admirably. An Observing section was added to the website during the year, containing information about this activity at the Centre. Information on the telescope-making activities of Centre members is also added.

The Archive section of the website contains all newsletters since 2004 and an initiative to add older newsletters to the Archive is underway.

The website is hosted by Afrihost, who provides a reliable service.

The table below contains information on monthly access to the website and shows the monthly use of the website. Thanks to Johan Smit for providing this information. Johan is also thanked for taking care of e-mail management.

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth (GB)
Jul-16	718	1,013	2,023	21,623	1.69
Aug-16	1,362	1,664	3,628	50,922	1.94
Sep-16	1,000	1,383	2,431	44,937	1.67
Oct-16	1,196	2,131	3,182	19,571	1.91
Nov-16	1,065	1,714	2,574	13,874	1.02
Dec-16	848	1,403	2,138	14,692	0.718
Jan-17	964	1,437	2,229	14,082	0.956
Feb-17	869	1,177	1,798	10,690	0.889
Mar-17	772	1,128	2,442	17,942	1.45
Apr-17	822	1,187	1,832	10,640	1.11
May-17	785	1,303	2,124	11,670	1.44
Jun-17	786	1,315	2,613	13,942	2.03
Total	11,187	16,855	29,014	244,585	17
Average per month	932.3	1404.6	2417.8	20382.1	1.4

**Public Relations: Fred Oosthuizen**

The publication of the Centre's monthly events in the "COMMUNITY NOTICE BOARD" section of the Pretoria News has resulted in a number of visitors attending both our viewing and business meeting evenings.

**Newsletter Editor: Pierre Lourens**

The newsletter was written and sent out for all the months during the abovementioned year, except December 2016. It was sent out to all members, to people on a list who receive complimentary copies and to visitors at the previous monthly meeting. In most months it was sent out before the monthly viewing evening. In a few cases, it was sent out later, but always before the monthly meeting.

It was written with MicroSoft Publisher and then converted to pdf format for circulation.

The items in the newsletter were the following:

- On the front page: an announcement of the place, date and time of and the programme at the next monthly meeting; the place, date and time of the next monthly viewing evening and the index of contents.
- The report of the chairman of the previous monthly meeting.
- A summary of what will be presented under "What's Up?" at the next monthly meeting, written by the person who will do the presentation.
- A report of the previous observing evening by a committee member, usually Michael Poll..
- An article on observing by Magda Streicher.
- A "NOTICE BOARD" with notices.
- A feature titled "Astronomy-related articles on the Internet" which gives a list of web links to such articles.
- Another titled "Astronomy-related images and video clips on the Internet" which gives a list of web links to such items.
- Another titled "Feature of the month" written by the editor..
- Another titled "Astronomy Basics" written by the editor.
- Several astrophotos taken by members, with captions.
- A list of committee members of the Pretoria Centre with cellphone numbers.
- Notes about the old newsletters as well as the database of the books in our library, both on our website.

Occasionally, members submitted articles about outreach events, excursions or other topics, which were also put in the newsletter.

**Observations Co-ordinator Percy Jacobs**

The year was rather quiet with regards to the official Monthly Observing Challenges and ASSA 100 activities. Currently, Michael Poll is the only active observer in process of completing his ASSA 100.

On Monthly Observing Challenges, the monthly submissions have not been as plentiful as wished. Barbara Cunow submitted her ASSA 100 photographic list. For this, which was laid out professionally, on one page, with individual titles, she received the Pretoria ASSA 100 badge.

Of course, our 2 Astro Photography experts, Johan Moolman & Dawie Venter, have through the months, submitted many of their "deep-sky" photographic wonders, and we thank them for this. We ask that they continue and hopefully inspire others to follow or for the rest of us to admire.

On the 1<sup>st</sup> Sept 2016, for the partial Solar Eclipse, Johan Moolman, Percy Jacobs, Anton Louw, all submitted pictures of the event.

The tracking of Asteroid Vesta, a challenge offered, was taken up by Michael Poll, over 2 weeks, 3 observations, and he showed us his sketch of the Asteroids movement.

With regards to the Solar Eclipse, 26 Feb 2017, photos were submitted by Johan Moolman, Anton Louw, Johan Smit, Barbara Cunow, Danie Bernard.

Barbara Cunow showed a time-lapse video she took of Jupiter's rotation. She used a simple webcam on an undriven 6-inch Newtonian and recorded 10-second video snippets as Jupiter drifted across the field of view.

With regards to our "Dark Sky" Weekends, the scheduled 2 per year did not take place at Shekinah due to management changes at Shekinah, and due to attempting to select a suitable weekend which conflicted with our very busy "outreach" activities and the Karoo Star Party & of course the weather. A "Dark Sky" weekend for our members is being planned for the 22<sup>nd</sup> July. Going into 2017 / 2018, we shall attempt to provide our members to 2 "Dark Sky" weekends.

The observing section is here to motivate people to go outside and observe and use the equipment they have and have fun doing this.

**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**

#### **Christian Brothers College**

We are, as usual, grateful to Christian Brothers College for allowing us the use of the Auditorium and classroom. Some members of the Committee had a meeting with the new Principal, Bernard Langton in May 2017. Mr Langton was most interested and enthusiastic about CBC interacting with the Centre and we subsequently held a viewing evening at the CBC "Camp out" on May 20<sup>th</sup>.

Mr Langton was to put us in touch with two or three teachers who may be interested in being a contact person with the Centre. We await further developments in this respect. Mr Langton also said that they would put a link to the Centre website on their own website. The Centre will continue to send a complimentary newsletter to CBC.

Thanks are due to all others, who may have not been mentioned, who contributed to the successful activities of the Centre during the year