

ASSA AGM 2022 23
Scholarships, Country Membership and Directors' Reports

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1. Report to ASSA from the Scholarships Committee

By Claire Flanagan, ASSA Scholarships Convener

Scholarships Overview

ASSA currently administers two scholarships:

- ASSA Scholarship – for studies in astronomy, 2nd to 4th year; and
- Cooke Scholarship – for studies in astronomy from 2nd year on.

Both scholarships are currently worth R25,000.

Due to poor performance of our invested funds during 2020, no scholarships were offered in 2021.

2022 Awards

Eleven eligible applications for scholarships were received in 2022. Most included excellent academic results, which is impressive considering the challenges faced by these students during the past two “COVID years”. None of the applicants were previous holders of either scholarship.

The two scholarships were awarded to Physics / Astrophysics students currently in their third year of studies at the University of Cape Town.

The ASSA Scholarship was awarded to Adnaan Nauthoo, a Mauritian national.

The Cooke Scholarship was awarded to Gary Louw.

Scholarships Committee

The current committee comprises:

- Claire Flanagan (Convener)
- Vanessa McBride (OAD and SAAO)
- Sivuyile Manxoyi (SAAO)
- Ian Glass
- Maciej Soltynski

--Claire Flanagan

2. ASSA Membership Secretary Report

By Eddy Nijeboer, Membership Secretary

Period: From 1 July 2022: Qty of 110 “ASSA County Membership Renewal Reminder” letters were sent to the members, which I had on the database.

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Membership Database: On the 2021-22 ASSA Country Members database, there are currently 113 members:

1. Qty of 13 Honorary members.
2. Qty of 100 confirmed paid-up country members.

Qty of 113 "County Membership and Honorary Membership Confirmation" letters were sent by email until 18 May 2022.

I still have a Qty 2 Members who paid their fees into the ASSA account, without completing a "Country Membership Application Form":

Yolanda Combrink

Peter Martintit

I have therefore no contact information on them and will not be able to send them their:

Membership Confirmation Letter, nor

The 2022 Sky Guide.

Anyone who can help with contact details, will be appreciated.

SG Distribution: Distribution of the 2022 Sky Guide was a slight challenge and sometimes a headache, we offered two delivery options:

1. The SA Post Office,
2. PAXI/PEP post.

SA Post Office: With the current functionality of the SA Post Office, it become untrustworthy, There are still members who are waiting for their 2022 SA Sky Guide.

PAXI: The second option PAXI post was an excellent distribution method. About Qty 30 2022 SG were send by PAXI. Yes, there were slight problem such as:

1. Incorrect telephone numbers, so members did not receive the required SMS's to collect.
2. Members who ignored the SMS's and never collected their SG in-time, which were send back.

But overall, the PAXI Post method was the winner of the SG Distribution.

--Eddy Nijeboer

3. Ask an Astronomer Report

By Case Rijdsdijk, MNASSA Editor

Queries received since 31 July 2021 number 117.

Many were about career opportunities and related questions like, "how much do Astronomers earn" to "Can I get a job" and "What qualifications do I need". These I often refer to the SAAO or to ASSA website.

The other popular question concerns advice for buying/selling a telescope and related to this are questions on "How do I set up my telescope" and one on is "where can I get my mirror aluminized".

On occasions where I am asked a question that I cannot answer I will pass it on the someone else who is an expert on that topic.

In the past year three of these have been passed on; two to Tim Cooper and one to Prof Peter Dunsby at UCT.

Quite a number were spam.

--Case Rijdsdijk

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4. ASSA Communications Report

By Dr Sally Macfarlane, Communications Director

In 2021, Dr Sally Macfarlane (South African Astronomical Observatory) was appointed the new Communications Coordinator for ASSA. A communications document has been prepared which details her responsibilities, as well as those of the other ASSA officers. This year also marks the 100th anniversary of the Society and, as such, a variety of events has been planned to celebrate this momentous occasion.

The previous year has been largely spent reviewing the various ASSA communication channels. The primary method of communication with members continues to be through mailing lists on Group.io which has proven to be effective. Although main sections of the website are regularly updated, some of the older sections will need to be reviewed and a redesign of the site could be considered in the future. The ASSA Facebook (@Astrosocsa), Twitter (@AstroSocSA) and Flickr accounts are regularly updated and well-received. Although ASSA's YouTube account is currently underused, it is very useful for livestreaming, recording and storing presentations. In general, regular communication to country members continues to be somewhat lacking and will need to be addressed in future.

In order to commemorate the impressive 100th anniversary of ASSA on 1 July 2022, we organised a special colloquium at the Iziko Planetarium and Digital Dome in Cape Town. Following light snacks and a showing of the planetarium film, *Rising Star*, honorary member and past president Dr Ian Glass gave a wonderful presentation on 'Milestones in South African Astronomy'. This talk was well-received by viewers both in-person at the planetarium, and virtually via the YouTube live stream. A link to the recording can be found on the ASSA website. We hope this wonderful collaboration between ASSA and Iziko (and other external astronomy institutes) only grows stronger in the years to come.

-- *Sally Macfarlane*

5. Comet, Asteroid and Meteor Section Report

By Tim Cooper, Director

After a period of several years where observations of comets, asteroids and meteors were incorporated into the Shallow Sky Section, the Comet, Asteroid and Meteor Section was revived as an ASSA Section as confirmed in the Minutes of the Council Meeting held on 7 March 2022. The following observations are reported for the full year ending 30 June 2022.

Comets

Comet C/2021 A1 (Leonard) was well observed. Visual observations meeting ICQ standards were made by Kos Coronaios, Magda Streicher and Tim Cooper. The comet was imaged by (in alphabetical order) Angus Burns, Tim Cooper, Kos Coronaios, Gary Deacon, Wim Filmalter, Chantal Fourie, Willie Koorts, Johan le Roux, Paul Ludick, Hanneljie Minnaar, Tiaan Niemand, Lafras Smit and Oleg Toumilovitch. All visual observations and many images were analysed and the results published in the April 2022 issue of MNASSA.

Meteors

Meteor shower observations totalling 48.23 hours were conducted as follows:

Meteor shower	Tim Cooper hours	Magda Streicher hours
July Pegasids	3.00	
September upsilon-Taurids	3.50	3.05
Bennu-ids	2.00	

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Meteor shower	Tim Cooper hours	Magda Streicher hours
Arids	4.25	
A-Carinids	2.79	
Geminids	2.48	
Pi-Puppids	3.23	
eta-Aquariids	14.88	5.08
Asteroid 2006 GY2- ids	1.33	
tau-Herculids	2.66	
Total	40.12	8.11

CAMS

The Cameras for Allsky Meteor Surveillance (CAMS) operates 16 cameras in two arrays, with 8 cameras at the Director's observatory (Station BR) and 8 cameras at Hartebeesthoek Radio Astronomy Observatory (Station HA). CAMS@SA captured and determined orbits for 10257 meteors during the past year. Several factors limited operations, including 21 days lost due to load-shedding, and during December 2021 there were captures only on 9 nights due to a protracted spell of rainy weather. CAMS@SA participated in the first detections from the Arid meteor shower during October 2021. The Arids are the debris from comet 15P/ Finlay, discovered by William Finlay on 26 September 1886 from the Cape Observatory. This was the first time meteors have been observed from the stream left behind by the comet.

Fireballs

Fourteen fireballs were reported to the Director, all of which were analysed before adding to the South African Fireball Catalogue (SAFC). Very bright events occurred on 9 August (SAFC Event 401) seen from Riversdale to George and associated with sounds, 24 September (Event 403) seen over a wide area from the Western Cape to Tankwa and Britstown, 8 June (Event 411) seen during daylight from Gauteng, Mpumalanga and KwaZulu Natal, and on 18 June over the Garden Route from Mossel Bay to Cape St Francis.

All members who contributed observations are warmly thanked.

--*Tim Cooper*

6. Cosmology Section Report

By Bruce Dickson, Director

The past year has yielded another treasure trove for those interested in Cosmology & Astrophysics.

The highlight was - as might be expected - the astonishing early images that have been published by the Webb telescope and the STScI team. Of course, amateur astronomers had to have their say and a Cloudy Nights member suggested that the Webb team should learn to process images or buy themselves a copy of Photoshop. Judge for yourself - <https://bit.ly/3vs1gl0>

At the more modest end of the professional budget, at least two arrays of 400mm camera lenses have been cobbled together and are being used to study ultra-faint galaxies. The CHIME array (British Columbia, Canada) continues to discover FRB's (fast radio bursts) and recently announced the discovery of their 21st repeater. Although it's an active area of research, the physics that generates these pulses is still poorly understood.

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Efforts are underway to detect neutron star collisions optically and long period variability of cataclysmic variables (LU Cam, QZ Ser & BK Lyn) may be caused by planets upsetting the gravitational field between the companions. <https://bit.ly/3Bwznw2>

Which brings me to the apparently missing 96% of the universe. We still haven't a clue.

The Astrophysical Journal has decided to go open access. While its expensive to insert a paper, this is wonderful if you're an amateur from an endarkened economy.
<https://phys.org/journals/astrophysical-journal/>

All in all though, it has been a fairly good year.

The ASSA Cosmology group continues in its mission to share interesting papers and ideas.

--Bruce Dickson

7. Double and Variable Star Report

By David Blane, Director

Variable star observations

Berto Monard continued his work on high energy systems with 42000 observations being submitted to the AAVSO alone while others were sent to various organisations this past year. This brings his total observations submitted to the AAVSO to a staggering 2.8 million!

Berto reports a supernova discovery:

“SN searching efforts have been reduced to occasional short sessions just before dawn and observing low towards the East. These are the forbidden zones for the large survey telescopes as they might run a risk. However, as luck would have it, I did recently discover a bright nearby SN in one of the most beautiful spiral galaxies near the equator. SN 2022jli in NGC 157 was discovered on 5 June 2022.

This is the first find in more than six years since SN 2016jbu”.

Congratulations Berto!

He continued his observation of microlensing events as a team member of the microFUN alert-network.

Tim Cooper is getting back into the observation of variable stars. Tim's time is at a premium and he is observing certain selected objects, mostly cataclysmic variables.

The author submitted 2243 photometric measures to the AAVSO, VSS and other projects. Collaboration with the Variable Stars South group and other organisations continued with several articles on eclipsing binary stars being published.

Early warnings of nova and supernova discoveries and other interesting events were posted to alert observers. Observations, light curves and other information was posted on Facebook and WhatsApp.

The author continued with the AAVSO's mentoring programme and is currently supporting new variable star observers, mostly in the USA.

Talks were given on Variable Stars and DSLR photometry of eclipsing binary stars.

No variable star observations were received by the Section as most observers submit their data to organisations such as the AAVSO, BAA and VSS.

Double stars

No reports of double star observations were received.

--David Blane

8. Astrophotography Section Report

By Martin Heigan, Director

THE STATE OF ASTROPHOTOGRAPHY AND IMAGING

The Astrophotography Section (formally known as the Imaging Section in the ASSA constitution) was created to coordinate and promote the use of astronomical imaging technology in amateur observations, and to collect images created by amateur astronomers. In recent years, more and more South African amateur astronomers have begun using their imaging equipment to collect and provide data to professional astronomers around the world. The quality of artistic astronomical images produced by both professional and amateur photographers in South Africa continues to improve.

ASTROPHOTOGRAPHY AND COVID-19

Stargazing events and monthly meetings have returned to normal, as restrictions on social gatherings were lifted in stages during this period.

MEMBER ACTIVITY

The Astrophotography Section continues to encourage the submission of photographic images to the image archive on Flickr. We link to the photos on the ASSA website in the Gallery section, grouped by photographer and subject. We only accept submissions from Southern African photographers or of images captured in Southern Africa. We do not require the photographer to be an ASSA member, nor do we refuse photo submissions based on quality. The requirement that the section works to promote is simply to encourage the art of Astrophotography.

INITIATIVES

An ongoing collaboration between the Astrophotography Section and all ASSA Publications are proving very successful. This includes contributions to Sky Guide, MNASSA and Southern Skies. The image contributions by Astrophotographers of Comet C/2021 A1 (Leonard) in the April 2022 edition of MNASSA deserves a special mention.

INTERNATIONAL RECOGNITION

During the past year, members received international recognition for their contributions. Clyde Foster's prolific contribution to Planetary imaging continues to inspire. Clyde has been recognised for his work by NASA, and his discovery on Jupiter was named "Clyde's Spot" in his honour. Also see the Astrophotography Competitions section below, for more international achievements by members.

ASTROPHOTOGRAPHY COMPETITIONS

The Conjunction of Mars, Venus and the crescent Moon (11-13 July 2021). 1st Prize: Angus Burns (Conjunction Newcastle 12 July 2021); 2nd Prize: Jaco Boshoff (Moon Venus Mars 12 July 2021_AJB_3); 3rd Prize: Percy Jacobs (CN0R4518 Processed). Marc Klynhans from telescopium.co.za sponsored the following prizes: Svfony 1.25" 18mm SWA eyepiece (1st prize); Svfony 2x Barlow and Svfony 1.25" to T-thread adapter (2nd prize); Svfony 1.25" UV/IR cut filter and Svfony 1.25" 0.6ND filter (3rd prize).

Janco Moolman achieved a category win in the SAAO and SciFest Africa - SAAO 200 Astrophotography competition, and was also awarded the 3rd Prize in the nPAE Southern Hemisphere 2021 competition.

--Martin Heigan

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9. ASSA Instrumentation Section Report

By Chris Stewart, Director

Activities of the Instrumentation Section continue to largely revolve around communication, outreach, guidance and education, plus the important aspect of encouraging people in the pursuit of their personal instrumentation projects. There is no drive to formally induct members into the Section. Rather, the approach is to address ASSA members' ad-hoc needs for information on a case-by-case basis.

In support of the Society's general communication efforts, which equally support the instrumentation Section's goals, activities in the following media are ongoing:

- ASSA FaceBook page
- .IO group mail lists
- Telescope Making SA and Amateur Telescope Making FaceBook pages
- Telescope Making Class WhatsApp group

The Section directly supports the needs of both ASSA members and the general public regarding selection, construction, purchase, maintenance and use of instrumentation. This is mostly done via the Amateur Telescope Making (ATM) class, the FaceBook pages, e-mail correspondence, telephonic discussion, and WhatsApp/SMS.

The distinctly South African "Telescope Making SA" Facebook group attracts members from around the world. International involvement produces an energetic flow of ideas, information, technical assistance and encouragement. Some of the (at times unusual) approaches to instrumentation developed locally have, after being highlighted in this medium, been favorably received and copied abroad. Prospective members are vetted prior to admitting them to the group and appropriate behaviour is gently but firmly enforced. At the time of writing, the Telescope Making SA Facebook page currently has 1,016 members, an increase of 24 since the last report. Of these, 353 are in South Africa and 8% are female, with a spread of ages from 18 upwards. In the 60 days prior to this report, 547 members have been active. Since FB have restricted the more detailed information previously enjoyed, due to heightened data privacy legislation globally, it is not possible to provide more detail.

The ATM class has been continuously active since July-1991, with expertise, materials and components freely shared for individuals' projects. Physical classes are ongoing, subject to intermittent interruptions due to Covid lockdowns, and school activities where we meet. Members come and go according to their needs and available time, work at their own pace on individual projects, and sometimes return after a long hiatus dictated by personal circumstances. The class is run informally in a flexible manner to accommodate the vagaries of members' lives. However, a handful of newcomers are making progress on their first instruments, whilst others are continuing their projects. Consequently, there is no easy way to ascertain the actual numbers of people or projects engaged in at any one time. Membership of ASSA, whilst encouraged, is not a prerequisite for participation in the ATM class. A class register is kept as an indication of activity levels, but signing it is not enforced. Recorded attendance averaged over the previous 2 years remains steady at 6 people per week. Apart from the Facebook interactions, there has been limited exchange of e-mails, phone calls and WhatsApp messaging.

One noteworthy instrument finished during the past year, is a Dobsonian where the mount doubles as a case enclosing the optical tube assembly and accessories for storage and transport, which becomes an interesting item of furniture when not in use. Twin heavy-duty binocular stands with unusually large height adjustability were completed, each adapted to different

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tripods. Novel components continue to be produced, with 3D printed parts rapidly becoming the norm. Approximately 35 eyepieces were constructed from salvaged optics and distributed pro bono to worthy candidates. An 8" Skywatcher telescope was acquired, refurbished, and donated to the Girl Guides head office, where it is seeing use and helping to promote youthful interest in astronomy.

Overall, the foregoing indicates a continuing healthy level of activity and interest.

--- *Chris Stewart*

10. ASSA Observing Section (deep and shallow sky combined)

By Angus Burns, Director

With the amalgamation of the shallow and deep sky sections of ASSA under the Observing section, it was agreed that an approach would be pursued to develop interest in the night sky through the creation of a new platform as a means towards achieving this. The "Southern Skies Quarterly" was thus developed and has been met with much interest and support. The idea behind the publication was to offer an opportunity for members of ASSA and the general public to share what they have observed/imaged over the course of 3-4 month periods, questions to be answered, reviews on astronomical equipment to be shared and ASSA events mentioned.

To date, 4 publications have been released representing observations and imaging from around South Africa:

The first edition of Southern Skies Quarterly was released in September 2021 and featured 22 observations from KZN, Mpumalanga, Gauteng and the Western Cape. Submissions included a mix of shallow sky images/observations (planetary, lunar and a submission focusing on space debris which had been prominent in the media and incorrectly attributed to a comet and /or meteor shower), and a range of fascinating deep sky contributions. Over this period, there were also 4 queries logged about a "bright object towards the east after sunset" which on each occasion turned out to be the planet Jupiter.

The second edition of Southern Skies Quarterly was released in December 2021 and featured 30 observations from KZN, Mpumalanga, Gauteng, Freestate and the Western Cape. Once again there was a vibrant mix of shallow and deep sky submissions received with several observations focused on sunspots and the partial solar eclipse that took place over this period. The second edition also featured a review on the Williams Optics Redcat51 telescope.

The third edition of Southern Skies Quarterly was released in March 2022 and featured 28 observations from KZN, Mpumalanga, Gauteng and the Western Cape. Besides another healthy mix of shallow and deep sky submissions, there was also a feature on Clydes Spot and the scientific recognition it had received in formal Jovian Scientific literature. There was also a feature on comet C/2021 A1 (Leonard) and a review on the NEXYZ smartphone adapter.

The fourth edition of Southern Skies Quarterly was released in July 2022 and featured 37 observations from KZN, Mpumalanga, Gauteng, Western Cape and the Free State. This edition also included several observations / images of comet C/2017 K2 (PanSTARRS) and the full lunar eclipse that a few were able to observe and image. Included were two reviews – one on the Celestron StarSense DX 130mm Newtonian Telescope and the other on the Celestron RASA 8.

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In summary:

Month	Provincial contributions	Total observations logged via Southern Skies Quarterly
June-Sept 2021	KZN, Mpumalanga, Gauteng and the Western Cape	22
Oct-Dec 2021	KZN, Mpumalanga, Gauteng, Freestate and the Western Cape	30
Jan-March 2022	KZN, Mpumalanga, Gauteng and the Western Cape	28
April-July 2022	KZN, Mpumalanga, Gauteng, Western Cape and the Free State	37
13 months	5 provinces	117 observations

Outreach

Despite Covid 19 restrictions preventing large gatherings, one outreach did take place at St Dominics school in Newcastle KZN and this consisted of a lecture on the solar system. Further events are being planned for August 2022 (an astronomy evening at St Dominics) and October 2022 (an astronomy-focused roadshow at rural schools partnering with Mittal Steel).

Conclusion

I would like to express my sincerest gratitude to everyone who supported me in my first year as Director for this expanded section within ASSA. I hope to grow the section further and look forward to the coming year.

--*Angus Burns*

11. ASSA Archivist and Historical Section Report

By Chris de Coning, Director

Introduction:

During the past year (Calendar Year 2021) the following has happened concerning the History of Astronomy.

Website:

Due to Covid-19 Lockdown there were lots of time available to do things that otherwise would escape attention. A concerted effort was made to update the website. Selected sections of the website was updated and research were initiated for the upcoming centenary of ASSA next year.

Archive:

Attention were given to a possible overhaul of the Digital Archive

MNASSA:

Publications:

Individuals in their private capacities wrote articles with historical content. Please note my appreciation to the following people:

- Thackeray, F; "The Aristarchus-Coleridge hypothesis", MNASSA Vol 80 nos 3&4, 2021 April, p.59.
- Glass, IS; "The Herschel "20-feet" Mirror at SAAO", MNASSA Vol 80 nos 7&8, 2021 August, pp. 132 – 137.

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- Glass, IS; “Photographic plate measuring machines at the SAAO”, MNASSA Vol 80 nos 11 – 12, 2021 December, pp. 203 - 213

Obituaries:

MNASSA published obituaries on the following astronomers:

- Tony Foley MNASSA Vol 80 nos 3&4, 2021 April, p.40.

--*Chris de Coning*