



ASTRONOMICAL SOCIETY OF SOUTHERN AFRICA

Durban 'nDaba



Table of Contents

Chairman's Chatter	3
Astronomy Delights - Reticulum	4
At the Eyepiece	10
Big 5 of the African Sky - ASSA Astrophoto Competition	11
The Cover Image - The Running Chicken Nebulae	12
Upcoming Outreach & Events	13
On The Moon Again Event 23rd to 25th June 2023	14
Outreach Event - Mtunzini	15
Outreach - Sani Pass	16
Education Events & Programs	17
Librarian's Page & Update	18
Astronomy & Space News	20
Public Viewing Roster	21
Minutes of the Previous Meeting	22
For Sale	23
Notice Board	25



Member Submissions Disclaimer

The views expressed in 'nDaba are solely those of the writer and are not necessarily the views of the ASSA Durban Centre, nor that of the Editor.

All content and images are the work of the respective copyright owners

Chair's Chat



Greetings and salutations ASSA Durban.

We have been waiting with bated breath for clear winter skies, and we are sort of still waiting. Piet, Amith and I headed to Mtunzini for a private viewing and had mostly clouds (spectacular clouds at sunset, mind you).

Mike, Maryanne and Piet headed to Sani Pass a couple weeks later, on the opposite side of the province, to show our glorious southern skies to a group of international physicists who usually play with radio signals – clouds. Each time we were hoping to tick off the Big 5 of the Southern Skies, and each time we got Venus and a couple other bits and bobs (a fuzzy Big 1 or 2). They say life is a journey and we journeyed; clear skies at the end are a bonus.

There are many events squeezed into the next couple of winter months, listed elsewhere in this newsletter. Some are private for school groups and such (volunteers needed, please contact Sheryl), some are open, public events such as Monteseel (volunteers and visitors welcome). You don't have to be a rocket scientist or have a 10" telescope to volunteer (most of us claim neither) – just a passion for the stars and a little bit of knowledge (you'll pick up the rest quickly, listening to the ones with a little bit more knowledge – and of course, punt, punt, attending the Intro to Astronomy course in a few weeks' time).

The committee changed times and went to great lengths to arrange power, lights and wi-fi for the in-person May general meeting, only to have a grand sum total of 7 people (excluding committee) pitch up. Of those 7, at least 4 were past committee so I guess old habits and commitment die hard in some. 'Disappointing' is how we would politely describe the turn-out. For all our local efforts, the wi-fi signal died about half an hour into load shedding; that, sadly, we have no control over so we're moving a bit earlier still to try dodge that bullet, being finished by 8pm. This month we are again going hybrid. One of our own, Dr Mike Watkeys, will be in person at the school (upstairs lab) regaling us with his insights into 'Just how good were stone age astronomers?'. His presentations are always a mine of information with a healthy dose of humour so not to be missed. Please folks, we need you to work with us on getting meetings back to a semblance of 'normal' order. We'll see you there on the 14th June at 6:15pm (or else).

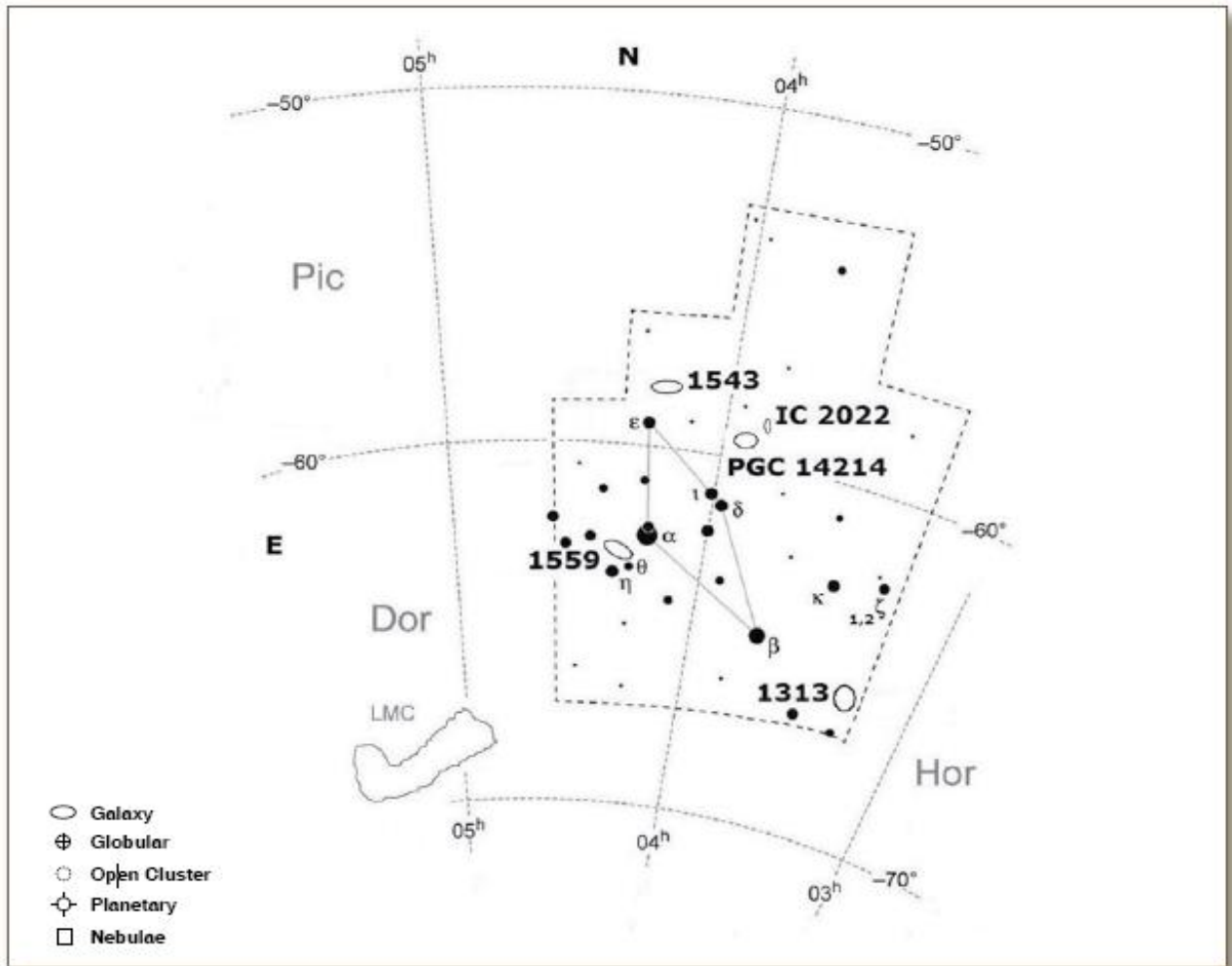
Wishing y'all clear skies.

Debbie Abel



Astronomy Delights - Reticulum

The Celestial Crosshairs



The constellation of Reticulum

A historical plaque, commemorating Nicolas Louis de Lacaille's monumental contribution to astronomy carried out in South Africa during the years 1751 to 1752 was affixed to the wall of a building in Strand Street, Cape Town.

The plaque, however, sadly disappeared in 2010

Photograph: The Astronomy of Southern Africa by Patrick Moore and Pete Collins, courtesy of South African Astronomy Library Cape Town

...Reticulum

It is most appropriate to discuss one of the most vital parts of the telescope – the reticule, immortalised by the constellation Reticulum. However, Reticulum is Latin for a “net”. One can imagine astronomers fishing out the discoveries from among the southern stars. But the name translates more simply as an eyepiece reticule rather than a net.

The constellation was defined by the French astronomer Nicolas Louis de Lacaille, who adopted Reticulum to honour the eyepiece with rhomboidal crosshairs which he used to measure star positions while at the Cape of Good Hope. The constellation’s geometric shape had however been noticed and mapped as early as 1621 in German records by Isaac Habrecht (1589–1633) as a constellation he called Rhombus.



ABOVE: NGC 131 Galaxy

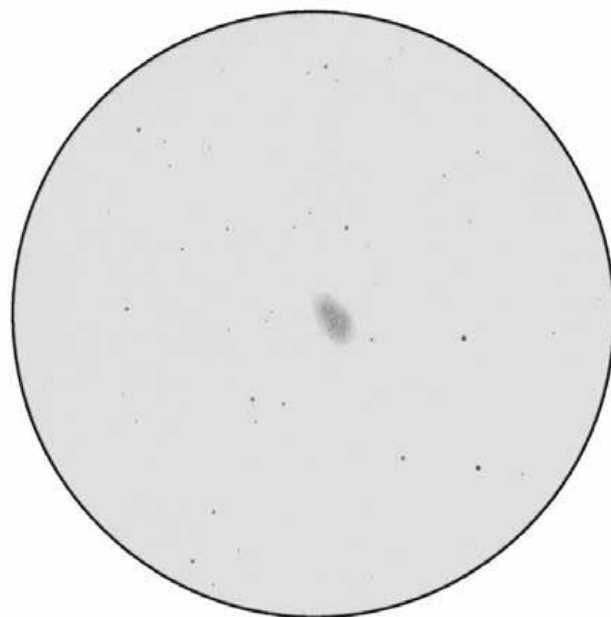
Known as the great Reticulum galaxy, **NGC 1313** is situated in the south-western corner of the constellation, and 3 degrees south-west of beta Reticuli. It appears bright, slightly hazy and irregular in a north-east to southwest direction. The north-eastern spiral arm, however faint, tapers slightly down to a slender curved righter tip. The galaxy had a high surface brightness with a barely visible distorted barred nucleus. The companion galaxy NGC 1313A is situated 16' to the south-east but very difficult to spot in any amateur instrument. The world’s largest telescopes indicate luminous H II regions which outline the two main arms and bar, with a break near the optical nucleus. Isolated patches of star formation are found in the south-west region of the galaxy, as well as beyond the rim of the northern arm.

NGC 1559, situated midway between alpha and theta Reticuli, is a galaxy with a story attached to it. The Reverend Robert Evans from New South Wales visually discovered three supernovae in this galaxy. The first one, 1984j, the next 1986L, and another one 2005df shortly after midnight on 5 August 2005.

With a magnitude of 12, supernova 2005df also turned out to be the brightest supernova discovered that year. Be sure to shift the glare of the bright alpha Reticuli, which is located only 30' north of NGC 1559 out of the field of view, in attempting to view this galaxy, which shows as a smooth glow in a north-east to south-west direction.

...Reticulum

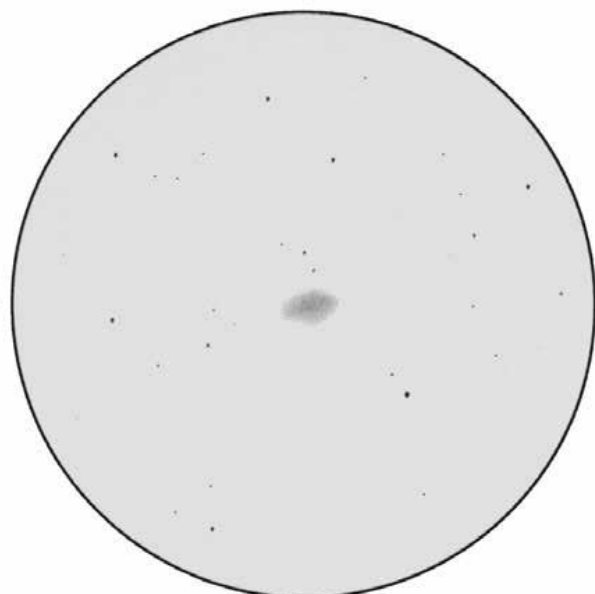
Be sure to shift the glare of the bright alpha Reticuli, which is located only 30' north of NGC 1559 out of the field of view, in attempting to view this galaxy, which shows as a smooth glow in a north-east to south-west direction. The north-eastern tip is covered in haze, with a slightly more defined south-western part with a magnitude 11.8 star situated just off the south-west. Higher magnification reveals that the galaxy gradually brightens towards the middle area. With careful observation and high magnification, I could just make out surface texture with uneven parts. This galaxy is roughly 50 million light-years distant.



BELOW: NGC 1543– Galaxy



ABOVE & BELOW: NGC 1559 – Galaxy



Reticulum is conveniently located between the two Magellanic Clouds, with a somewhat crooked diamond shape. The constellation houses a wealth of deep sky objects. The northern part of Reticulum is strewn with galaxies. NGC 1543 is but a small oval hazy glow in an east-west direction 1.5 degrees north of magnitude 4.4 epsilon Reticuli. The galaxy has a high surface brightness and a very compact bright nucleus. Deep images show this galaxy possessing an extended outer halo.

RIGHT: NGC 1543 – Galaxy

...Reticulum

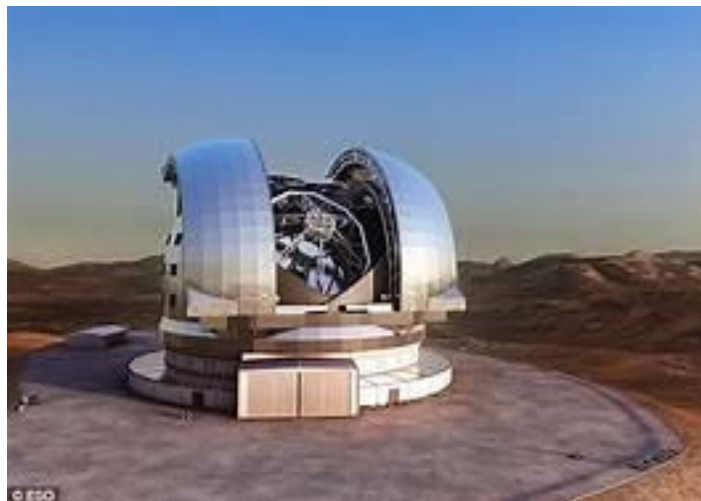
The constellation boasts a remote globular cluster that was discovered in 1973 with the 24-inch Maksutov telescope at Chile's Cerro Calán Observatory. Known as the Reticulum Globular Cluster, it is situated in the far north-eastern part of the constellation very close to the border with Dorado. The globular cluster is located only about 10 degrees from the centre of the Large Magellanic Cloud and most probably belongs to it. It has recently been studied with the 4-metre reflector at Cerro Tololo Inter-American Observatory, and is estimated to be about 157 000 light-years distant. The system also has a few pulsating variable stars with periods of less than a day.

The constellation's brightest star magnitude 3 alpha Reticuli indicates the eastern point of the cross hair-shape. The star has a visual companion of apparent magnitude 12 with a separation of 48".

The lovely outstanding yellow double star zeta Reticuli is situated in the far western part of the constellation and a few arc-minutes from the Horologium border. In real dark skies the pair, consisting of a magnitude 5.2 and 5.5 components, can be glimpsed with the naked eye.

At the turn of the nineteenth century, Walter Gale was an active amateur astronomer living in Paddington, New South Wales and found a few double stars with his 8.5-inch reflecting telescope. He published a short list of discoveries in *Astronomische Nachrichten* in 1896, consisting of five double stars and a ring planetary nebula (IC 5148 - the Spare Tyre Nebula). Two of the pairs turned out to be already known so the WDS now contains but three of his double stars.

RIGHT: IC 5148 - the Spare Tyre Nebula).



ABOVE: 24-inch Maksutov telescope at Chile's Cerro Calán Observatory



ABOVE: The Reticulum Globular Cluster



...Reticulum



The second on the list was a close pair in Reticulum called GLE 1, to be found at RA:04h16m20.92 – DEC: -60°56'54.8"). The stars, just 2 degrees east of delta Reticuli, whose visual magnitudes are 6.8 and 7.5, passed through periastron in 2002 and are now slowly widening again, although the current separation of 0".35 at (PA) 218° does require at least a 30-cm telescope and a dark night sky. This system also contains the star TT Reticuli which is an alpha CVn variable with small amplitude and period of 2.8 days (*The Webb Deep-Sky Society* – Bob Argyle).

LEFT: Walter Gale – Photograph: Ianmaas Museum

Traversing the starry skies 2 degrees westwards from epsilon Reticuli, we arrive at a controversial galaxy known as **IC 2022**. During the years 1898 to 1901, DeLisle Stewart was sent by Harvard College Observatory to Arequipa, Peru, to carry out a photographic survey of the southern skies using the Bruce 24-inch refractor. On plate #4184 Stewart discovered a galaxy which was to become IC 2022. He describes the object as "exceedingly small, very extended at a position angle of 5".

RIGHT: IC 2022 – Photograph: Dale Liebenberg

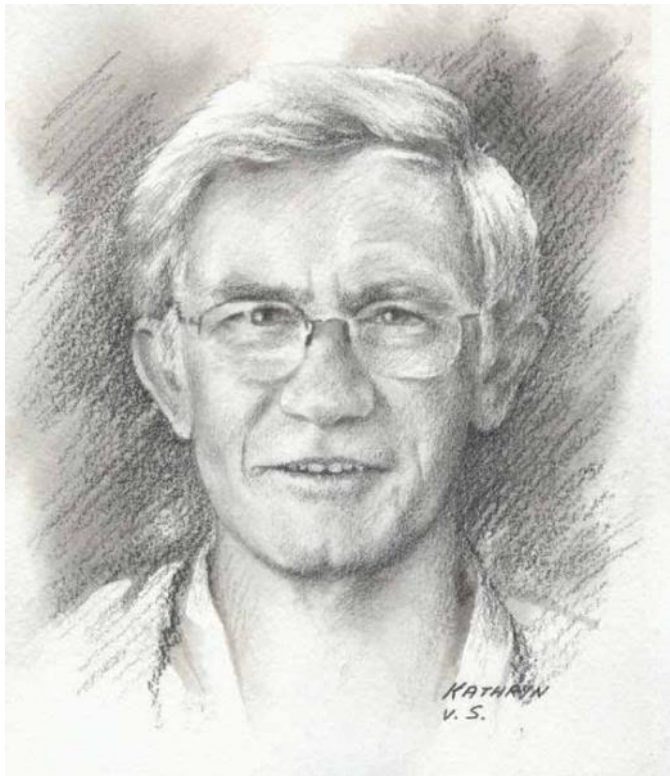
When examining the field on Deep Sky Survey, it showed two galaxies. The western, fainter galaxy matches Stewart's coordinates and description. The eastern galaxy is much brighter, slightly oval and listed as Fairall 9, also catalogued PGC 14214. This compact object is on the historic plate too, but was viewed as a star by Stewart.

If you need a reticule eyepiece for your telescope you can create one very easily. Make use of very delicate spider web silk to form crosshairs in front of an eyepiece not in use. But if you fear Mister Spider, ordinary silkworm thread, if you can get hold of some, will work just as well!



...Reticulum

OBJECT	TYPE	RA	DEC	MAG	SIZE
NGC 1313	Galaxy	03h18m.3	-66°29'.8	8.7	9.2'×6.9'
IC 2022	Galaxy	03h58m.7	-59°02'.7	14	1.1'×0.2'
Fairall 9 PGC 14214	Galaxy	03h58m.9	-59°03'.7	12.9	1'×1'
NGC 1543	Galaxy	04h12m.7	-57°44'.3	9.7	7.2'×4.9'
NGC 1559	Galaxy	04h17m.6	-62°47'.3	10.4	4.3'×2.2'



ABOVE: Anthony Patrick Fairall – Pencil Sketch: Kathryn van Schalkwyk

Anthony Patrick Fairall was born 15 September 1943 in London, England. Under the supervision of David Evans, he completed a BSc honours project on Quasars and Quasi-stellar Galaxies in 1966 at the university of Cape Town. He continued his postgraduate studies (PhD) at the university of Texas and completed his (PhD) dissertation on Compact Galaxies in 1970 and then lectured at the newly-formed Department of Astronomy at the University of Cape Town. He started a major photographic survey to find supernovae and compact galaxies in the southern hemisphere and discovered the most luminous active Seyfert galaxy Fairall 9" named in his honour as a catalogue designation. In 1988 he became director of the renovated Cape Town Planetarium, a post he held for 17 years. Fairall died after a diving accident in Hout Bay, South Africa, on 23 November 2008 (MNASSA, April 2009).



At the Eyepiece - June 2023

by Ray Field

The Sun will reach its June solstice on the 21st.

The Moon is full on the 4th, last quarter on the 10th, new on the 18th and first quarter on the 26th. The Moon is near Antares on the 4th, Saturn on the 10th, Neptune on the 11th, Jupiter on the 14th, near Uranus on the 15th, the Pleiades on the 16th and near Mercury on the 16th. The Moon is near Pollux on the 20th, near Venus and Mars on the 22nd, near Regulus on the 23rd and Spica on the 27th.

Mercury is not suitably placed for observation this month, but maybe seen briefly, low over the eastern horizon before dawn.

Venus is the very bright object in the evening twilight over the West. It sets a few hours after the Sun. On the 4th Venus will be at its highest above the western horizon at sunset.

Mars, the “red planet” is the most Earth-like planet in the Solar System, although its atmosphere is too thin for man to stand on without a spacesuit.

Jupiter, the largest planet in our Solar System, is visible in the morning sky this month. It rises a few hours before the Sun and is a very bright object over the eastern horizon. A telescope will reveal it four large moons and the movement of IO, the nearest of the four, is easily noticed over an hour or so, in a telescope.

Saturn, with its ring system, is the second brightest planet, visible from Earth. Its brightest and biggest moon, Titan is also easy to see in a telescope. Saturn is visible in the morning sky rising at about midnight at the beginning of the month and by 20:00 at the end of the month.

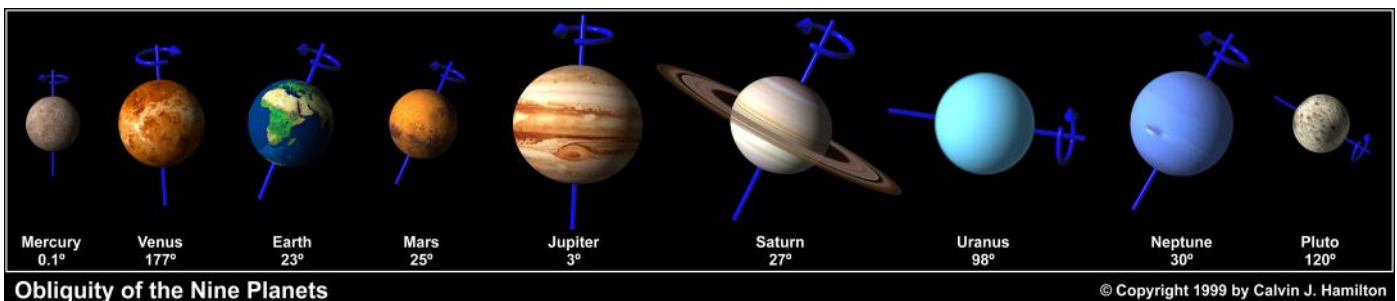
Uranus is further from the Sun than Saturn and much fainter and smaller in a telescope than Saturn. Just visible with difficulty, to the naked eye, it is visible in binoculars with the necessary star charts. A “goto” feature I had on my Meade 8” scope made it easy. It needed a high magnification to see its tiny, featureless disc.

Neptune, a “gas giant” like Jupiter, Saturn and Uranus is even fainter and more difficult to find. As per ASSA Sky Guide 2023, on page 71, you are given two very interesting diagrams for comparing the planets of our Solar System for magnitude and size in arc-seconds, as seen in a telescope from Earth.

There are no observable meteor showers this month.

The night sky from Durban from 19:00. Sirius, with the rest of Canis Major are setting in the West. The Southern Cross is as high as it gets over the South. Sagittarius is rising in the East. The bright orange star Arcturus is low over the North-East and Spica in Virgo, is above and to the left of it. Regulus, in the upside down Sickle asterism in Leo, is setting in the North-West and Scorpius is rising over the East.

References include the ASSA Sky Guide 2023, Philips Planisphere for 35° and Stars of the Southern Hemisphere by Sir Patrick Moore.



Big 5 of the African Sky ASSA Astrophoto Competition



ASSA is pleased to partner with Optolong manufacturers of high-quality astrophotography filters.

Enter your photo by 30 June 2023

The theme is “Big 5 of the African Sky”

The [Big 5](#) as follows are prime examples of the various object types:

- The Southern Pleiades – Open star cluster
- Omega Centauri – Globular cluster
- Eta Carinae Nebula – Bright nebula
- The Coalsack – Dark nebula
- The Milky Way – Galaxy (hint: nightscape potential)

There is one prize for each object, i.e. 5 in total.



The winning photographers for each category will be able to choose a filter from the [Optolong](#) range, in a format suitable for their equipment (e.g. 2” screw-in or clip-in for Canon/Nikon/Sony DSLR body).



For information on Optolong equipment, click on this link:
<https://www.optolong.com/cms/index/index.html>

Conditions:

All submissions will be presented in the ASSA Flickr gallery <https://www.flickr.com/photos/astrosocsa/albums>

All submissions may be used (with attribution) in ASSA publications such as the Sky Guide Southern Africa, on our website <https://assa.sao.ac.za/>, and by [Optolong](#) for their marketing.

For further information and rules: go to the below link:

<https://assa.sao.ac.za/sections/astrophotography/astrophotography-challenges/>



The Cover Image - NGC 2948

The Running Chicken Nebula

By Gerald De Beer

NGC 2948, also known as the Running Chicken Nebula, is a star-forming region located in the constellation Centaurus, about 6,000 light-years away from Earth.

Within the nebula, new stars are forming from the dense clouds of gas and dust, and their intense radiation causes the surrounding gas to glow in vivid colours. IC 2948 is a popular target for astrophotographers and amateur astronomers due to its unique shape and bright appearance.

IC 2948 is associated with a Bok globule, named Barnard 92, which is a dark cloud of gas and dust that appears as a dense, opaque patch against the background of glowing gas in the nebula. Bok globules are thought to be sites of ongoing star formation, where the dense material within the globule is collapsing under its own gravity to form new stars. The densest parts of Barnard 92 are shielded from the intense radiation from nearby stars, which allows them to cool and form molecules, making them the ideal locations for star formation. The Bok globule in IC 2948 has been studied extensively by astronomers, and it is thought to contain several young protostars, which are in the early stages of star formation.



This is a 2 panel mosaic captured over 2 nights; 18 Apr 2023 & 19 Apr 2023

Integration: 8h 30' / Avg. Moon age: 28.27 days / Avg. Moon phase: 2.10%

Total Frames for the 2 mosaics:

ZWO Blue 36 mm: 40×30"(20')

ZWO Green 36 mm: 40×30"(20')

ZWO H-alpha 7nm 36mm: 30×300"(2h 30')

ZWO O-III 7nm 36mm: 30×300"(2h 30')

ZWO Red 36 mm: 40×30"(20')

ZWO S-II 7nm 36 mm: 30×300"(2h 30')

Imaging Telescopes : Astro-Tech AT127EDT

Imaging Camera: ZWO ASI2600MM Pro

Mount: Sky-Watcher EQ6-R Pro

Processed in PixInsight



Upcoming Outreach Events

Save the Day July 2023

The purpose of Outreach is to introduce people to Astronomy. Our members have always enjoyed coming to the events for the pleasure of increasing their own and sharing their knowledge. We always hope this sharing will increase member numbers and keep the Durban Centre alive and well for the next 40 years.

Star Party Crews are needed to assist at all events. Any new member who hasn't been to a Public Viewing, a Public Outreach Event or to School Outreach is welcome. You will be meeting and learning from the experts in person which is the best way to increase your knowledge.

The admiration and awe from children (and their parents) when you tell them what they see in the sky is endlessly rewarding.

You won't need a telescope or a vast store of knowledge to enjoy Outreach Events as a member. Binoculars and lasers are excellent and simple tools. Phone Apps are great too.

Enthusiasm and joy are the best things you can bring to Outreach Events. Outreach is sharing our passion for Astronomy and sharing is good for everyone.

JULY OUTREACH EVENTS

15 July – Monteseel Star Party – Our annual Fundraising Partnership with Monteseel Conservancy in Drummond.

- A Family Star Party with braai fires, blanket picnics, and awesome night skies. Mike Hadlow, Debbie Abel, Yesen Govender will be there and we hope the legendary Ooma, Jean, Ray, and Peter D and John G and will join us too. Fiona and Cassim are also looking forward to Monteseel.
- All members are welcome to attend and help as every extra telescope or pair of hands helps make the event successful. Dress warmly.
- Monteseel Conservancy usually send a flier which we will share.

21 July – St Henrys School Open Evening for Scholars and Parents, organised by Moya O'Donoghue.

- Piet Strauss, Maryanne Jackson and Mike Hadlow are confirmed as Dome and Star Party Crew. Other crew needed to bring a telescope, binoculars, laser pointer or to answer questions. Whats App Sheryl on 0822022874 to join the team.

27 July – Visit by a school from Maseru, Lesotho. Piet Strauss, Moya o Donahue, Debbie Abel are on the team.

- There are 220 children. We need at least 6 telescopes on the field as we are unable to use the Observatory due to the numbers and the proximity to the swimming pool. Whats App Sheryl 0822022874 to volunteer your assistance.

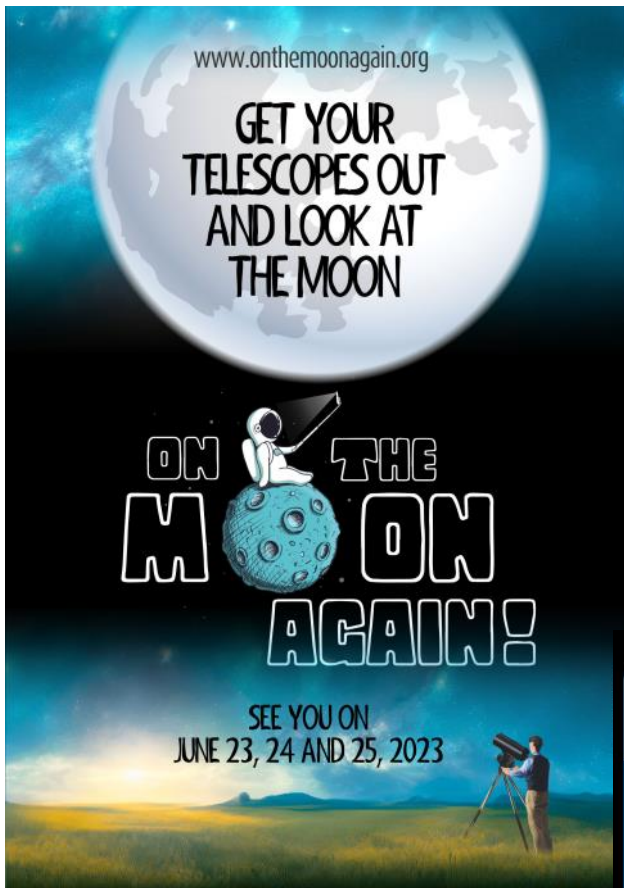
PUBLIC VIEWING 14 July - Public Viewings are open to school groups by arrangement with the Dome Master/Astronomer on duty.

- On these evenings a few extra members are needed to assist with additional telescopes, binoculars or lasers.



On The Moon Again Event

June 23rd to 25th 2023



In July 1969, 600 million people on all the continents followed the first step of a man on the Moon, together with their family or friends, around a radio, sometimes a TV. To celebrate the 50th anniversary, On the Moon Again brought together 1350 events in 77 countries in 2019. Every year from now on, we want to feel this enthusiasm for the Moon again in a global, universal movement, transcending all borders.

How? Nothing could be easier. We want everyone, young and old, to discover the Moon through an astronomical telescope in a worldwide event. Surprise passers-by by offering them this unexpected sight.

You have astronomical equipment? Install it at the corner of a street, along the side of a river, on a local park.

Join the event On the Moon Again on June 23rd to 25th 2023 and invite passers-by and friends to observe the Moon and share the wonder.

So get your telescope out, and register & partake in this international event. #OnTheMoonAgain2023

Register for On the Moon Again on below link:

<https://forms.gle/HFCQmoxV3EvLK1b76>

<https://www.onthemoonagain.org/>

https://docs.google.com/forms/d/e/1FAIpQLSepLumQBBx2jVdt_Ihun8FJ_4yL78rq-PNEJ1hBdoM5ug_npw/viewform

When to observe?
During the event On the Moon Again which will take place on **Friday 23, Saturday 24 and Sunday 25 June 2023** there are three lunar bases chosen because the Moon will show a new first quarter allowing a quality observation of several bases just after sunset.

WITH WHICH EQUIPMENT TO OBSERVE?
The Moon has the advantage of being visible and pretty with any instrument, from binoculars, to telescopes of 20-30 cm in diameter, to small telescopes of 60 mm in diameter or the famous telescope of 115 mm in diameter. Obviously, small instruments are practical because they are easily transportable in the street. If you have a non-motorized instrument, no worries! You will only have to put a low magnification (30-40x). This will allow you to refocus the Moon only once in a while. Don't put barriers under the pretext that you don't have sophisticated equipment! More info: www.onthemoonagain.org

Remember to immortalize this beautiful moon, without forgetting to post your photos on your social networks #OnTheMoonAgain2023

From June 23 to 25, the lunar crescent thickens to approach First Quarter (on the 16th). On the 23rd, the Moon is at 5.5° (11 times the apparent lunar diameter) from Regulus, the brightest star in the constellation Leo. Close to the west-northwest horizon, Venus is unmistakable, close to Mars, much less bright. In an instrument, Venus appears as a crescent. At this date, Mars is too far from the Earth (325 million kilometers) to detect details.

Copyright: Maximal Cléfi - Alain Salber



Outreach Event

Mtunzini Private Star Party

I don't think most people appreciate the amount of equipment one can gather that has to be lugged around for a remote public viewing on the 20th May 2023, especially if you are Amith and you have lots of toys you are willing to share the fruits of with others; plus screens and projectors, etc. Luckily, I don't drive one of those little Smart cars. Piet, Amith and myself were off to Fairbreeze, just south of Mtunzini. This was a location we have visited at least 3 times before for different organisers. In amongst the plantations, on a farm, far from town. The weather semi played ball.

We offloaded our kit bags at the WESSA self-catering cottage at Twestreams, across the freeway and a few km of dirt road away, then headed to the farm to set up before dark. Unfortunately, Piet's scope was not cooperating but Amith set his up connected to his laptop so more people could see what was in the cross hairs.



I was armed with my green light sabre and the cheat sheet winter sky map downloaded off Wits Observatory website (it's been so long since I had to sound like I knew what I was talking about re stars – and there is always that one person in the crowd). The clouds came and went and came again (but better than the rain we had last year); sunset was glorious.



Piet gave a short presentation on what was out there with a preview of the Big 5 of the Southern Sky. Just as well he did, because we couldn't really see them all in the sky .

The clouds were wispy and kept magically appearing over the object you had just focussed on. Good old Murphy.

There were about 30 people attending, including a representative of The Bugle (a North Coast community newspaper) so we may become famous.



It is a vegan event so Amith was in his element; I'm an omnivore myself but the snacks were really tasty. I think we may have a convert in the organiser's young ward; it's really great to see youngsters so excited about the stars, galaxies and everything celestial. She even ran to get her hair drier to dry off the condensation on the lens (I had forgotten how wet things get near the coast) so we didn't have to pack up too early.

Eventually the clouds and damp got the better of us and we wrapped up, heading back to warm beds at the cottage.

Debbie Abel



Outreach Event

Sani Pass - Astro Physicist Event

An International workshop relating to The Super Dual Auroral Radar Network (SuperDARN) group, was recently held at the Sani Pass Hotel. The workshop was hosted by the UKZN Physics Department (Dr Judy Stevenson) and SANSA (Prof Michael Gosh) and attended by some 35 Physicists from all over the world.

SuperDARN deals with RADAR measurements in the ionosphere and related weather patterns. This is an oversimplification of what they do, but we hope to hear more about this later.

ASSA Durban was invited to show the international visitors the southern sky on the night before the serious conference started. Maryanne Jackson, Mike Hadlow and Piet Strauss attended.

We left Durban at 11am and drove up in Mike's car. The hotel welcomed us and helped us carry our telescope equipment. It was cloudy when we arrived but we set up 3 telescopes on the deck below the verandah of the hotel, and bits of blue sky soon started to appear.



After a short introduction by Piet Strauss, to the delegates on the "Big Five of the African Sky", we all went outside where three telescopes were setup. By now we had some gaps in the cloud with a first quarter moon and Venus shining brightly. The Southern Cross was a popular constellation for the attendees from the Northern hemisphere and some of the "Big Five" were pointed out and observed; but the clouds were teasing us.

By 8pm we were starving and enjoyed a tasty buffet dinner. The next morning, after a leisurely breakfast, we made our way back down the hill.

Thanks to the organisers for inviting us and the generous hosting we received.

Collated from reports received from Piet Strauss and Maryanne Jackson.



Education Events & Programs

ASSA Durban will be holding an *Astronomy for Everyone* course in July held at St Henry's Marist College.

Various subjects will be discussed; such as:

- The Solar System
- Our Sun and the Birth of Stars
- The Earth, the Moon, Satellites and Eclipses
- Nearby Stars
- The Milky Way Galaxy
- Near Galactic Neighborhoods
- Telescopes and other Equipment
- Meteors, Asteroids, Comets & Celestial Objects
- Positional Astronomy
- Astrophotography
- Navigating the Southern Sky

This course is designed for all to attend especially those new to astronomy and the use of a Telescope or Binoculars to navigate our galaxy.

Reserve your place urgently as spaces are limited!



2023
Basic Astronomy
5 DAYS | 10 MODULES.
A course by
THE ASTRONOMICAL SOCIETY OF SOUTHERN AFRICA - DURBAN CENTRE.

Dates: 4, 5, 11, 12, 18 July
Time: 18:00-20:00
Venue: Marist Association Hall,
St Henry's Marist College,
Glenwood Drive
(off Mazisi Kunene Road)
Glenwood, Durban

Cost: R300 per person.
Includes a year's membership.

**Bookings essential
as space is limited.**
secretary@astronomydurban.co.za



Your invitation to:
AN EXCLUSIVE VIEWING!

The Durban Astronomical Society welcomes St Henry's students, accompanied by their parents and staff to an exclusive viewing by the members of the society.

There will be telescopes set up around the school swimming pool for viewing of the planets, stars etc along with the main feature being access to the large telescope in the dome.

Date: Friday 21 July
Time: 18:00-20:00
Place: Meet outside the swimming pool gate, nearest the dome.

The viewing will be subject to clear skies.
Please dress warm for the evening.

For queries:
Moya O'Donoghue
031-261 7369

St Henry's School are holding an Open Evening on the 21 July – which is only open to the Scholars and their Parents, which is being organised by Moya O'Donoghue.

Piet Strauss, Maryanne Jackson and Mike Hadlow are confirmed as Dome and Star Party Crew.

Additional crew are required to bring telescopes, binoculars, laser pointers, and or to answer questions.

Please kindly come and join then by volunteering your knowledge, as well as your viewing apparatus as described on the left.

Please WhatsApp Sheryl on 0822022874 to join the team.

Volunteers need urgently please!



Librarian's Page

Dear fellow readers,

We're continuing with our list of epic astronomy books listed in astronomy.com! (Books 4, 5, and 6 are summarised here.)

Till next month,

Claire.

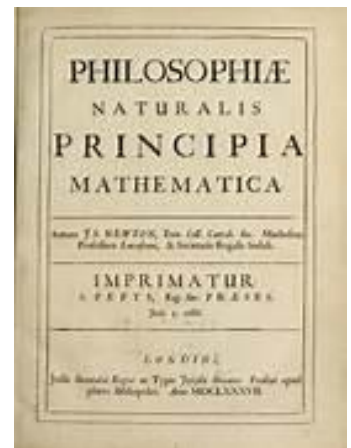
Top 10 astronomy books of all time

By [Raymond Shubinski](#) | Published: Monday, January 23, 2023 | astronomy.com

[...] These 10 astronomy books have had a significant impact not only on astronomical science, but also on the way humans think about our place and purpose in the cosmos. And for that, they should certainly be considered some of the most important astronomy books of all time.

4. *Philosophiæ Naturalis Principia Mathematica*, Isaac Newton (1687)

Strictly speaking, *Philosophiæ Naturalis Principia Mathematica* a (Mathematical Principles of Natural Philosophy) book, published in 1687 by Isaac Newton, is not an astronomy book. In 1684, Edmond Halley asked Newton to settle a dispute about the inverse square law, which describes, for instance, how a light dims farther away from its source. Newton said he had worked out that problem years before, but he could not find his papers. With Halley's prodding, Newton reworked his calculations. The result was his seminal book, the *Principia*. It was met with both amazement and ridicule. Astronomers, however, soon understood its relevance for positional and navigational astronomy, which was of extreme importance in the 18th century. In the 19th century, Newton's work was critical in determining planetary motions, the orbits of comets, the nature of binary stars, and even the scale of the visible universe. Sir John Herschel would later say, "The *Principia* of Newton is not, nor ever will be, put aside as an obsolete book."



5. *The Mechanism of the Heavens*, Mary Somerville (1831)

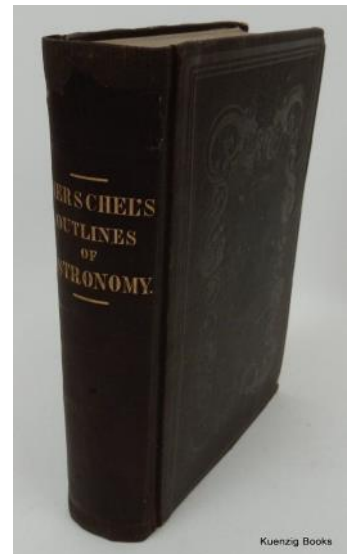
The Mechanism of the Heavens, written by Mary Somerville and published in 1831, quickly became one of the most influential books on astronomy since Newton's *Principia*. Somerville's book was rapidly embraced as an important contribution to the understanding of celestial motion. Somerville had been asked to provide a translation of Pierre-Simon Laplace's book *Traité de mécanique celeste* (*Treatise of Celestial Mechanics*). Instead, she produced a work of her own, which she said translated "from algebra into common language" the difficult concepts of celestial motions. It became extremely valuable to both astronomers and students, and it was used as a textbook for more than half a century. The book went through many revisions, keeping pace with astronomical developments over time. Mary Somerville was a brilliant mathematician and was hailed as the "queen of science" in her 1872 obituary in *The Morning Post*. During Somerville's 91 years, she wrote five additional important science books and many scientific papers. Somerville's astronomical talents and contributions proved that, if given the opportunity, women could match the men of science step for step.



...Librarian's Page

6. Outlines of Astronomy, John Herschel (1849)

In the first half of the 19th century, astronomers were making amazing discoveries, but there was no single comprehensive summary of astronomy. Sir John Herschel's 1849 book, *Outlines of Astronomy*, filled this void. In it, he writes about his own observations and research, as well as those of astronomers such as Giuseppe Piazzi, Heinrich Olber, Friedrich Bessel, and others. The topics in *Outlines* range from astronomical instruments to geography, time, comets, planetary perturbations, star clusters, and every other area of astronomical interest at that time. Herschel's 700-page book was so influential that it went through 11 editions between 1849 and 1873. An American edition was published in 1902, and it was translated into many languages, including Chinese and Arabic. The astronomer Agnes M. Clarke said it was "perhaps the most completely satisfactory general exposition of a science ever penned." High praise indeed.



Librarian's Update

Hello Members,

We have uploaded our first small selection of books into our "virtual library"

<https://drive.google.com/drive/folders/1MCgmoKopNej2vt5txD5TDZGc8o34WitH?usp=sharing>

It's just a few for now, but there are some interesting and excellent titles in there.

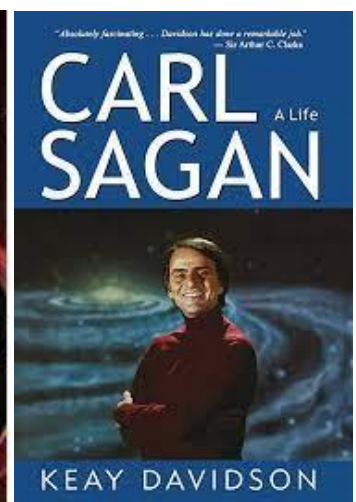
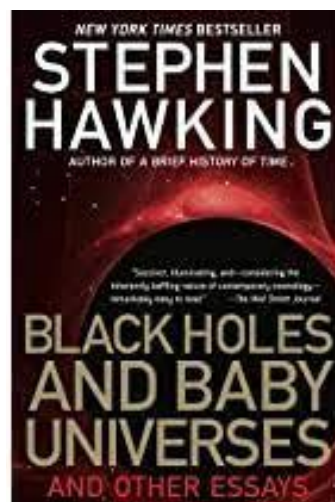
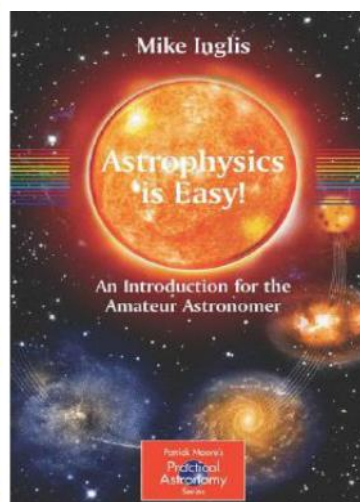
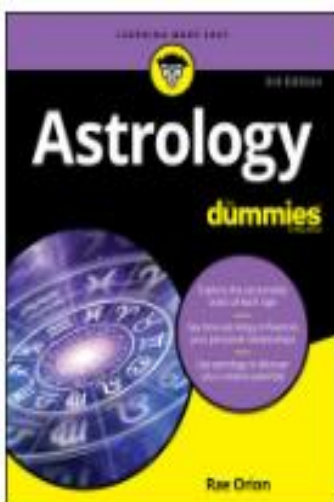
The plan is to grow this into a comprehensive multimedia resource. If anyone has any books or videos they would like to add, please PM me, or email to Claire@astronomydurban.co.za

Please feel free to download and enjoy. They are for personal (non-commercial) use only.

Happy Reading!

Claire

ASSA DBN Librarian



Astronomy & Space News

Below please find link to the latest Space News and Astronomical events for your viewing pleasure.

After Three Years of Upgrades, LIGO is Fully Operational Again. The Laser Interferometer Gravitational-Wave Observatory

<https://www.universetoday.com/161553/after-three-years-of-upgrades-ligo-is-fully-operational-again/>

Largest cosmic explosion ever seen is still ongoing

https://earthsky.org/space/largest-cosmic-explosion-at2021lwx-cloud-black-hole/?mc_cid=a45b987911&mc_eid=bdf6fa0ffe

NASA spots El Niño precursor from space: 'If it's a big one, the globe will see record warming

<https://www.space.com/nasa-spots-sign-of-el-nino-from-space-2023>

Axiom Space Private Astronauts Headed to International Space Station

<https://www.nasa.gov/press-release/axiom-space-private-astronauts-headed-to-international-space-station>

NASA space schedule 12:34 Eastern time - SpaceX Cargo supply ship to ISS - 3 June 2023

<https://www.nasa.gov/press-release/nasa-invites-media-to-next-spacex-resupply-launch-to-space-station>

Distant volcano-covered world is the size of Earth

<https://earthsky.org/space/volcano-covered-world-earth-sized-exoplanet-lp-791-18-d-io/>

Mercury at greatest elongation west

https://in-the-sky.org/news.php?id=20230529_11_101

Saturn's moon count grows by 62 for a record 145 satellites

<https://earthsky.org/space/saturns-moon-count-grows-by-62-to-145-satellites/>

Evidence for ancient river on Mars in new rover images

<https://earthsky.org/space/river-on-mars-perseverance-rover/>

James Webb detects water on a comet in the main asteroid belt between Mars and Jupiter

<https://gagadget.com/en/247984-james-webb-detects-water-on-a-comet-in-the-main-asteroid-belt-between-mars-and-jupiter/>

Strange sounds recorded high in Earth's atmosphere have scientists baffled

<https://www.space.com/strange-sounds-stratosphere-balloon-infrasound>

ESA Can't Deploy JUICE's Radar Antenna. It Needs It to Scan Under the Ice at Callisto, Europa, and Ganymede

<https://www.universetoday.com/161180/esa-cant-deploy-juices-radar-antenna-it-needs-it-to-scan-under-the-ice-at-callisto-europa-and-ganymede/>

We Now Have a Map of all 85,000 Volcanoes on Venus

<https://www.universetoday.com/160832/we-now-have-a-map-of-all-85000-volcanoes-on-venus/>





Public Viewing Roster ASSA Durban



Dome Master	Email	Assistant	Telescope Volunteer	Public Viewing
Alan Marnitz	alan@astronomydurban.co.za	TBC	TBC	14 June
Alan Marnitz	alan@astronomydurban.co.za	TBC	TBC	16 July
Alan Marnitz	alan@astronomydurban.co.za	TBC	TBC	18 August
Alan Marnitz	alan@astronomydurban.co.za	TBC	TBC	15 September

PUBLIC VIEWING:

Public viewing is on site at the Marist Brothers St Henry's School in the dome and around the pool area; usually on the first Friday evening closest to the New Moon.

Please note there is a roster with a booking system. Once the number of telescopes are confirmed, Individuals will be contacted to confirm dates and times. Please book your place!!!

NOTIFY OBSERVATORY MANAGER:

Members interested in attending the above viewing evenings and/or becoming involved in assisting with the viewing evenings, please send your names to Alan Marnitz on cell number 082 305 9600, or via email: alan@astronomydurban.co.za

VOLUNTEERS REQUIRED:

Volunteers to please identify which role you are willing to assist with, Dome Master, Viewing Assistant or a Telescope Volunteer. After which, attendance will be confirmed and viewing dates will be announced.

Viewing Assistant - Learning about the new telescope, assisting with the viewing evenings and viewing members as required.

Telescope Volunteers - Members willing to bring their telescopes to the viewing evenings to set up around the pool for public viewing.

VOLUNTEERS TUTORIAL:

John Gill will organise another afternoon / evening to train volunteers as Dome Masters and the use of the large telescope. Date to be confirmed and viewing dates will be announced ASAP.

Volunteers to submit names to the Chair Debbie Abel on Debbie@astronomydurban.co.za.

Viewing Contact:	Phone	Email
Alan Marnitz	082 305 9600	alan@astronomydurban.co.za



ASSA Durban Minutes of General Meeting



10 May 2023 - 18:45 via Zoom

1. Welcome - to Dbn members joining Jhb @ 7:30pm
2. Present as per recording - as per register
3. Confirmation of previous meeting minutes and matters arising – Confirmed
4. Treasurer's report - Francois Zinserling
 - Current Account R 29 737.41
 - Investment Account R 65 749.09
5. Month Ahead - Presented by Piet Strauss
6. Upcoming Events
 - 15 July – Monteseel community viewing – need ASSA team and 3 telescopes; someone to give short talk
 - 21 July – St Henry's school group.
 - June 23rd to 25th 2023 - On The Moon Again Events
7. Observatory
 - Next public viewing evening 14th June
 - Seeking viewing team; hoping John can be imposed upon to run another Saturday training to increase numbers of volunteers
8. General
 - A few Sky-Guides still available from Piet Strauss or Mike Hadlow at R100 each. (sells in shops for R260)
 - Library – cupboards have been removed and books/records will be stored temporarily at Peter Wunderlin's office. Committee will be sorting through that in the next while and deciding on what to do with everything.
 - Sutherland refunds can be applied for individually. Piet will email each person with reference number for their refund.
 - We used a borrowed power pack for load shedding. Since load shedding is not going way anytime soon, members present agreed society will price around and purchase a mobile power pack for meetings and outside viewings (for laptops and projector) going forward.
9. Guest speaker – Chris Stewart .
 - ASSA Durban joined Jhb group for a presentation on eye pieces.
10. NEXT ASSA Durban General Meeting on:
 - 14th June Zoom @ 18:45, Meeting ID: 880 3770 1479 Passcode: 297674
 - <https://us02web.zoom.us/j/88037701479?pwd=UU5xMUUfjbWlVWUtMWTd1Y1I2ZDlQdz09>

NEXT ASSA JHB Meeting on :

 - 14th June Zoom @ 19:30 Meeting ID: 837 1685 6658 Passcode: 848148
 - <https://us02web.zoom.us/j/83716856658?pwd=dzJsRWJ3aUdlmdwekhZjdkS0Y5QT09>
10. Close of meeting – Jhb thanked everyone for attending and closed the meeting.



For Sale

Intes-Micro 152mm F5.9 Mak-Newt



Tripod and extensions

APM or Explore Scientific eyepieces – 20, 13, 9, 5.5 and 3.5 mm

2 x Laser finders and battery rechargers

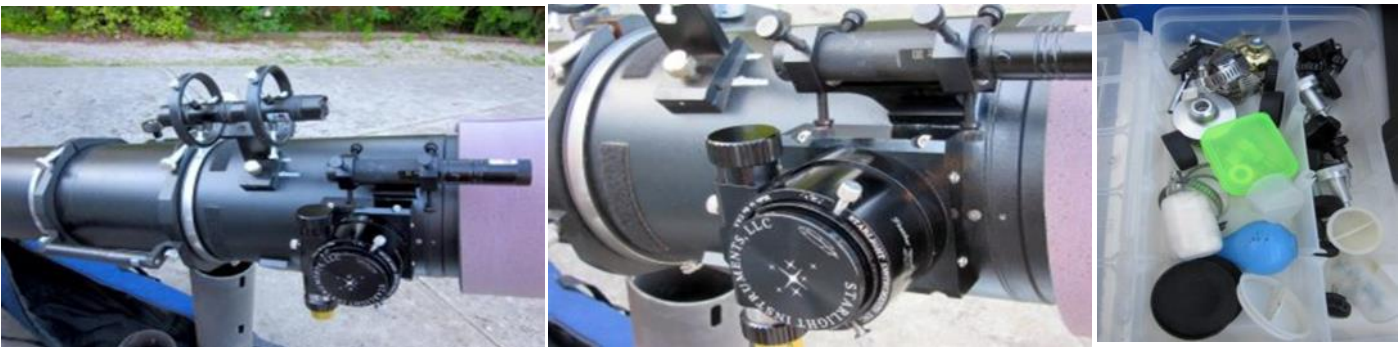
Celestron 2-inch UHC filter

Orion padded telescope case

Orion laser collimator

Cheshite tube

The telescope is nearly perfectly collimated and I haven't had to



recollimate in the last 7 years. The Intes-Micro 152mm scope has its original shipping papers and documentation from Orion (where it was marketed under the "Argonaut" badge.)

It gives a perfect Airy disc and partial first diffraction ring at 257x in the 3.5mm 100° eyepiece — at that power the Trapezium looks like the Pleiades to the naked eye.

The secondary is only 21% of the primary diameter, which makes it a superb lunar and planetary scope with minimal contrast loss due to secondary shadow.

It is a perfect startup system for a newcomer

Price R 24 000

Doug Bullis – 083 347 0856 – douglasbullis@gmail.com



...For Sale

Celestron LCM114 Telescope and Mount



Equipment includes:

- 3 x eyepieces
- Barlow
- External battery,
- Laser pointer
- Travel case

Excellent condition

Equipment location - Durban

Contact John Gill for information:

- **John Gill 083 378 8797**
- John.gill013@gmail.com



Celestron 8" Edge HD Telescope

- Celestron 2" and 1.25" diagonals
- Celestron Luminos 2.5 barlow for 1.25" and 2" eyepieces
- Celestron 1.25" plossl 40mm eyepiece
- Celestron .7 focal reducer
- Televue 2" Panoptic 35mm eyepiece
- T-Ring and T-Adapter for Canon EOS camera
- Extra small and large dovetails
- Finder scope 9x50
- Dew shield
- Bahtinov mask

Excellent condition

Equipment in Durban



Contact John Gill for information:

- **John Gill 083 378 8797**
- John.gill013@gmail.com

Price: R 50 000



Notice Board

MEETINGS:

- GENERAL MEETING to be held on **14th June 2023** via Zoom <https://us02web.zoom.us/j/88037701479?pwd=UU5xMUJFjbWlVWUtmMWTd1Y1I2ZDNQdz09> @ 6:45 pm or as notified.
- PUBLIC VIEWING MEETINGS - please refer to website under the tab "Viewing and Events" for any updates with regards dates & public viewing, please click here: <https://astronomydurban.co.za/events-viewing/>

MNASSA:

- Monthly Notes of the Astronomical Society of Southern Africa.
- Available at www.mnassa.org.za to download your free monthly copy.

NIGHTFALL:

- Fantastic astronomy magazine. Check it out on the ASSA national website
- assa.saao.ac.za/about/publications/nightfall/

MEMBERSHIP FEES & BANKING:

- Membership Subscriptions were due on the 2022-07-01 for the 2022-2023 financial year. PLEASE pay outstanding subscriptions fees.
- Please pay Subscription fees via EFT - Banking details below.



Membership fees indicated below:

- Single Members: **R 190:00**
- Family Membership: **R 230:00** for family membership.
- Under 18 members: **Free to join meetings**
- Cash/Cheques: **Please note: NO cheques or cash will be accepted - Cash deposits incur bank charges**
- Account Name: **ASSA Natal Centre**
- Bank: **Nedbank**
- Account No. **1352 027 674**
- Branch: **Nedbank Durban North**
- Code: **135 226**
- Reference: **SUBS 22-23 SURNAME and FIRST NAME**
- Proof of Payment: treasurer@astronomydurban.co.za

SKY GUIDE 2023 - Limited number available !!!

- Contact: Mike @ Mike@astronomydurban.co.za
- Price: **R 100.00**
- Reference when paying: **SG 2023 SURNAME and FIRST NAME**



RESIGNATIONS from ASSA:

Please send an email immediately notifying the Secretary at secretary@astronomydurban.co.za stating your wish to resign from the society.

COMMITTEE POSITIONS & CONTACTS:

• Chair	Debbie Abel	Debbie@astronomydurban.co.za
• Vice Chair	TBC	
• Secretary	Francois Zinserling	Secretary@astronomydurban.co.za
• Treasurer	Francois Zinserling	Treasurer@astronomydurban.co.za
• Guest Speaker Liaison	Piet Strauss	Piet@astronomydurban.co.za
• Observatory & Equipment	Alan Marnitz	Alan@astronomydurban.co.za
• Observatory Assistant	TBC	
• Publicity & Librarian	Claire Odhav	Claire@astronomydurban.co.za
• Out-Reach - Public	Cheryl Venter	Sheryl@astronomydurban.co.za
• Out-Reach - Schools	Sihle Kunene	Sihle@astronomydurban.co.za
• St. Henry's Marist College Liaison	Moya O'Donoghue	Moya@astronomydurban.co.za
• 'nDaba Editor	Corinne & John Gill	John@astronomydurban.co.za
• Website & Facebook	John Gill	John@astronomydurban.co.za

ELECTRONIC DETAILS:

- Website: www.astronomydurban.co.za
- Emails : AstronomyDurban@gmail.com
- Instagram: <https://www.instagram.com/astronomydurban/>