



ASTRONOMICAL SOCIETY OF SOUTHERN AFRICA

Durban 'nDaba

**Monthly Newsletter of the Durban Centre
September 2023**

September 2023

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The one that was better late than never...

Member Submissions Disclaimer

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Chairlady's Chat.



Greetings and salutations,

Another month down; a much quieter month in terms of events than July – almost pedestrian by comparison.

A nice crowd joined us for the August monthly meeting; we look forward to the numbers climbing again. Francois Zinserling enlightened us on the First Point of Aries.

September sees Dr. Mike Watkeys repeating his presentation on ancient astronomers. This talk will not be recorded so if you snooze (again), you lose. He is already doing us a favour by repeating the talk so this is your last chance for some fascinating history. Since we are back at stage 6 load shedding, the lights will go out at 8pm; meeting starts at 6:30pm, at St. Henry's school.

Trees and Seas has been just over the horizon for some time and has finally arrived. Friday 8th sees a team revealing the heavens to a crowd at the Burman Bush scout camp in Morningside. Thank you to the regular volunteers and also the couple of new names that have stepped up to the plate. All the clichés about being better to give than receive, and you learn best when you teach, are out there because they are real. You get the most out of a society membership when you get involved ... and that requires a conscious effort to offer your time. Photos and feedback will be included in the next Ndaba.

Thanks to Claire for picking up the mantle of the Ndaba editor for the foreseeable future. After many years of John and Corinne Gill's well practised publications (big thank you there too), I'm sure it has been a steep learning curve for Claire to subdue Publisher. Her efforts are all the more challenged by the perpetually late chairman's chat. Please support Claire by submitting events or articles you think may be interesting for other members or write up your own article on an astronomical activity (with photos). Constructive feedback is welcome; unsubstantiated complaints are to be in triplicate, hand written, and delivered to the 18th floor (unfortunately, lifts have been knocked out by load shedding).

So, until next time ...

Regards

Debbie.

At The Eyepiece – September 2023

by Ray Field



The Sun reaches the Spring Equinox for the Southern Hemisphere on the 23rd.

The Moon is at last quarter on the 7th, new on the 15th, first quarter on the 22nd, and full again on the 29th.

The Moon is near Neptune on the 1st, Jupiter on the 4th, near the Pleiades and Uranus on 5th, near Pollux on the 10th, near Regulus on the 13th, near Spica on the 17th, Antares on the 21st, Pluto on the 24th, and Neptune again on 28th.

The moon is furthest away from Earth on the 12th, and nearest to the Earth on the 28th.

Mercury is visible in the morning twilight on the 22nd, about 18 degrees over the east, above the horizon over the east at sunrise.

Venus is at its greatest visibility on the 19th over the east as the morning star.

The Red Planet is the most earth like planet in the solar system. Surface probes have been sent to explore it. Mars is too close to the sun for observation this month.

Jupiter rises at 23:00 on the 1st, and at about 21:00 on the 30th and is a very bright object in the sky. Through a telescope, it's 4 bright moons can be seen. Over a few hours, movement of the moons can be detected.

Saturn: The ringed planet is visible the whole night, in Aquarius between the square of Pegasus and Fomalhaut in Piscis Austrinus.

Uranus, barely visible to the naked eye, is in Aries this month. Detailed maps of the area and binoculars, or a go to type automated telescope are needed. It is at opposition on the 13th of November.

Neptune, an even fainter object than Uranus, above, is more difficult to find without an automated telescope of at least a 200mm aperture. The moon is near Neptune on the 28th, and the 1st of September. Neptune is at opposition, on the 19th of September.

At The Eyepiece – Continued by Ray Field

The stary sky for September from Durban:

In the early evening, the Southern Cross is sitting over the SW, followed by its pointers. Scorpius and Sagittarius have just passed their highest point above the South. The Square of Pegasus is rising low over the NE.

Deneb the Bright star in Cygnus, the Swan is low over the North and to its right is Vega, the bright, blue-white star in Lyra the Harp to its left, the constellation of Hercules is setting. Look for the stunning blue and yellow double star Alamo, in Cygnus, the swan, with a telescope. The Milky Way runs through Cygnus but is harder to see being so far north and near the horizon.

References include: ASSA Skyguide 2023, Nortons Star Atlas, Phillips Hemisphere for 35degrees S, Sir P.Moore's Stars of the Southern Skies.

Photo Gallery –

Pics from our members:



OPPO Reno7 5G



OPPO Reno7 5G

Top and centre :

By Mike Hadlow— “Jupiter (Transiting a star) this morning from Ngwenya. My cell phone through Orion Apex 127mm. “

Right:

By Dylan Evans, (PMB) “Aug. Supermoon, shot using my cell phone through a 25mm eyepiece on an Orion XT10 Dobsonian telescope. “



ASSA Durban- Minutes of the Meeting

16 August 2023 - 18:30 at St Henry's Marist College

Attendees:

Present and Apologies: As per attendance sheet

1. Welcome (General Meeting)

- Debbie Abel welcomed the members into the Durban General Meeting.

2. Previous meeting minutes

- Acceptance of minutes proposed by Mike Hadlow and seconded by Maryanne Jackson.

- There were no matters arising from previous minutes.

3. Chairman Report

- Meetings are held earlier to avoid the 8pm loadshedding

- Members are asked to attend in-person meetings to justify having the meetings. Online and hybrid will still be considered.

4. Finance:

- Francois Zinserling prepared and presented finance report.

- Expenses were for website, use of school hall, and bank fees.

- Income received from member subscriptions, and Monteseel event.

5. Outreach and Events

- 8th Sept: Trees and Seas at Burman Bush Scout Camp.

- 13th Sept: Guest speaker, Mike Watkeys.

6. Observatory

- Next public viewing on 18 August.

- More trained telescope operators needed to assist with viewing nights.

7. General

- Remind members to pay their subscriptions.

- Need more members to assist at events.

8. Speaker

- **Francois Zinserling spoke about the 'First Point of Aries'**

9. Meeting closed

- There being no further matters to discuss, the meeting concluded shortly after 8pm.

- The next General Meeting will be held on 13 th September 2023, at school.





Cover Image: The Trifid Nebula

By Gerald de Beer.

During the new moon period of June I did some astrophotography from a dark sky Bortle 1 site in the Freestate Maluti mountains. It was very cold at night (-4.5 deg C) and that allowed the camera to cool to its minimum sensor temperature of -20 deg C eliminating sensor noise.

The total of nearly 7 hours of combined exposures has resulted in a different look with much finer detail especially from the blue coloured nebulosity.

Imaging Telescopes: Astro-Tech AT127EDT
 Imaging Camera: ZWO ASI2600MM Pro
 Mount: Sky-Watcher EQ6-R Pro
 Date: 14 Jun 2023

The Trifid Nebula (Messier 20 or M20) is an H II region in the constellation Sagittarius. It is a relatively young nebula, only about 300,000 years old. The nebula is located about 5,200 light-years from Earth.

The Trifid Nebula is a combination of an emission nebula, a reflection nebula, and a dark nebula. The emission nebula is caused by the light from young, hot stars exciting the hydrogen gas in the nebula. The reflection nebula is caused by the light from these same stars reflecting off the dust in the nebula. The dark nebula is caused by the dust blocking the light from the stars behind it.

The Trifid Nebula is named for its distinctive three-lobed appearance. The lobes are caused by three bands of dust that obscure the emission nebula. The nebula is easily visible in small telescopes.

It is about 21 light-years across.

It has an apparent magnitude of 6.3, which means it is visible to the naked eye under dark skies. It is home to a cluster of young stars, including several massive stars.

Letter to ASSA Durban:

From Ts'akholo High school in Mafeteng district, Lesotho



A FASCINATING JOURNEY INTO THE UNIVERSE

This is a report following my visit to the **ASSA** demonstrations which was held at **St. Henry's sports ground** on the 27th July 2023, where your institution had held an Astronomy demonstration. As a student at **Ts'akholo High School** and a vast universe enthusiast, I was thrilled to immerse myself in the world of astronomy and witness the groundbreaking discoveries that have propelled our understanding of the universe. In this review report, I will share my thoughts and impressions about your institution and its dedication to advancing astronomical knowledge.

One aspect that truly impressed me was the diverse range of educational programs offered by your institution. They catered for students and the educators at large, aiming to inspire a passion for astronomy while nurturing scientific curiosity. The informative talks conducted by dedicated astronomers and researchers were inspiring and left a lasting impact on the visitors. Additionally, the hand-on activities, such as telescope workshop and stargazing sessions, provided an immense experience that made abstract astronomical concepts tangible and exciting.

In conclusion my visit to your institution was an unforgettable journey that deepened my appreciation for the vast expanse beyond our planet. From the first-class facilities to the educational programs, innovative research and the sheer magnitude of the telescopes, the institution impressed me on all front. I left with a sense of awe, inspiration and an increased desired to explore the mysteries of the universe. I highly recommend a visit to your institution for anyone seeking to embark on a celestial adventure and expand their understanding of the universe.

R.N. Mahao
Grade 11 Student
Ts'akholo High School
Mafeteng Lesotho



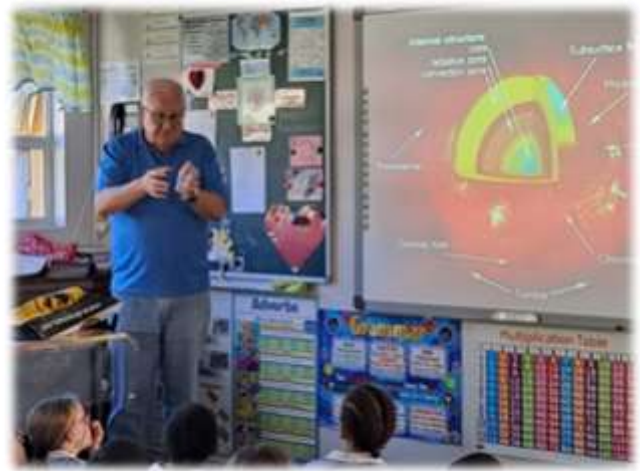
South Coast School visit

By Piet Strauss.

The South City Christian School, near Margate, invited me to give a talk on the Solar System to their Grade 3 learners. They are currently learning the Solar System as part of their curriculum. The talk was attended by about 40 children and their two teachers.

The basics of the solar system was covered but they already knew all the planets and some even knew the names of Jupiter's Galilean moons. They had some very intelligent questions, ranging from planetary orbits, the Solar activity and black holes.

Their enthusiasm and the dedication of their teachers were very inspiring.



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:

083 378 8797

John.gill013@gmail.com

Price: R 4500

Astronomy & Space News:

Chandrayaan-3 successfully landed near the moon's south pole on Aug. 23, 2023,



Prime Minister Narendra Modi on a live broadcast also announced the mission's success as a triumph that extended beyond India's borders. "On this joyous occasion I would like to address the people of the world," said PM Modi from the sidelines of the BRICS diplomatic summit in South Africa. "India's successful moon mission is not just India's alone," he added. "This success belongs to all of humanity."

Above: Chandrayaan-3 launched to the moon on July 14, 2023, at 5:05 a.m. EDT (0905 GMT or 2:35 p.m. local time July 14) (Image credit: R.SATISH BABU/AFP via Getty Images)



Left: The lander Vikram captured several images of the lunar surface during the power descent. The images show a portion of the landing site, the lander's metal leg and its shadow.

Below: The first image of the Chandrayaan 3 mission's Vikram lunar lander on the moon's surface taken by the mission's Pragyan rover.

(Image credit: ISRO)



The mission is managed by the Indian Space Research Organisation (ISRO). ISRO's roots go back to the beginning of space exploration, as a predecessor agency was set up in 1962 and its first rocket launch was in 1963. ISRO itself was established in 1969.



Astronomy & Space News:

... Continued.
www.space.com

The Chandrayaan-3 mission landed on the moon on Wednesday, Aug. 23. One day later, the Pragyan rover descended from the lander, and both spacecraft began their scientific explorations.



In the week since the landing, the mission has sent home a series of images and videos of Pragyan roaming around on the lunar surface, leaving tracks in the lunar soil. The image released today is the first showing the lander through the rover's eyes.

The mission's ChaSTE payload made headlines earlier this week when it took temperature measurements of the lunar surface, the first such measurements taken near the southern polar area by a sensor placed directly on the surface rather than from orbit. The instrument has a probe, which drilled 4 inches (10 centimeters) deep into the soft lunar regolith to understand how temperature of the soil changes with depth.

The measurements revealed an incredibly steep thermal gradient in the surface layer: Just 3 inches (8 cm) below the surface, the soil is a freezing 14 degrees Fahrenheit (minus 10 degrees Celsius), while the surface is boiling at over 140 degrees F (60 degrees C).

The moon's surface can get incredibly hot during the two-week lunar day because the body, unlike Earth, is not protected by a thick atmosphere that would absorb the sun's heat and balance out the differences between the times when sun rays reach the moon's surface and when they don't.

The temperatures measured by Vikram are still rather mild. Previous measurements by spacecraft orbiting the moon showed that, especially around the moon's equator, temperatures can reach a hellish 260 degrees Fahrenheit (127 degrees Celsius) during the day and plummet to frigid minus 280 degrees Fahrenheit (-173 degrees Celsius) at night, according to NASA. For this reason, crewed missions to the moon have to take place during the lunar dawn when the moon warms up just enough for humans to be able to work but before it gets too hot.

In a separate announcement, ISRO said that Chandrayaan-3 found traces of sulfur in the lunar soil. Sulfur has previously been found in small quantities in samples brought to Earth by the 1970s Apollo missions, but scientists were unsure how common this mineral is on the moon. Scientists think that lunar sulfur comes from past tectonic activity and therefore learning more about its abundance could help them better understand the moon's past.

Chandrayaan-3 is now half-way through its planned lifetime as neither the rover nor the lander are expected to survive the upcoming two-week lunar night. The solar-powered vehicles' batteries are not powerful enough to keep their systems going when temperatures plummet and darkness covers the lunar surface.

The mission is India's first successful attempt to land on the moon and the world's first successful landing in the southern polar region. Previously, only the U.S., the former Soviet Union and China have managed to place their spacecraft on the lunar surface with a controlled descent. Earlier this year, a Japanese lander called Hakuto-R crashed when it hit a crater rim during its descent. Russia's Luna-25 mission met a similar fate just three days before Chandrayaan-3's success. India itself previously attempted a lunar landing with Chandrayaan-2 in 2019; although the Chandrayaan-2 lander crashed due to a software glitch, its orbiter still studies the moon from above.

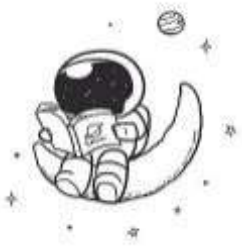
The southern polar region that Chandrayaan-3 studies is of immense scientific interest as its permanently shadowed craters are believed to hold substantial amounts of frozen water. This water, scientists believe, could be extracted and used to make drinking water and oxygen for future human crews, which would bring down the cost of such missions.

Astronomers are also eyeing the dark craters in the region. As temperatures inside these craters are very stable, scientists think they could provide an ideal environment for next-generation space telescopes that would enable researchers to peer deeper into the universe than is currently possible.

For further reading:

<https://www.space.com/chandrayaan-3-indian-moon-mission-rover>

<https://www.space.com/all-moon-missions>



Librarian's Corner: Book Review:

Celestial Geometry:

Understanding the Astronomical Meanings of Ancient Sites

By Vicky Derksen. www.nightskytourist.com

Occasionally, I will come across a book that makes me say, "I wish I wrote this!" Such is the case with Ken Taylor's book, *Celestial Geometry: Understanding the Astronomical Meanings of Ancient Sites*. This book will take you across continents, into urban and suburban areas, into the countryside, into museums and tombs, and into the myths of ancient cultures around the world to introduce you to ancient archaeoastronomy sites. It fits right in line with what readers of Night Sky Tourist have grown to love.

Right from the beginning pages, the Introduction spells out the powerful message that these ancient sites whisper to us today.

"Today we live secure in the knowledge that the sun will always rise in the morning, and the moon and stars won't fall from the sky, but these facts have only be understood in the last few centuries. Before the laws of gravity and motion were discovered, people really had no idea what kept the sun on track and held the stars aloft. These mysteries were the stuff of legend, and the heavens were the abode of gods. It may seem absurd to us that our ancestors thought the sun travelled over the sky in a chariot and back under the Earth in a boat, to re-emerge in the dawn sky. Yet the intense energy that sinks below the Earth to be magically reborn is an evocative symbol of human death and resurrection or reincarnation.

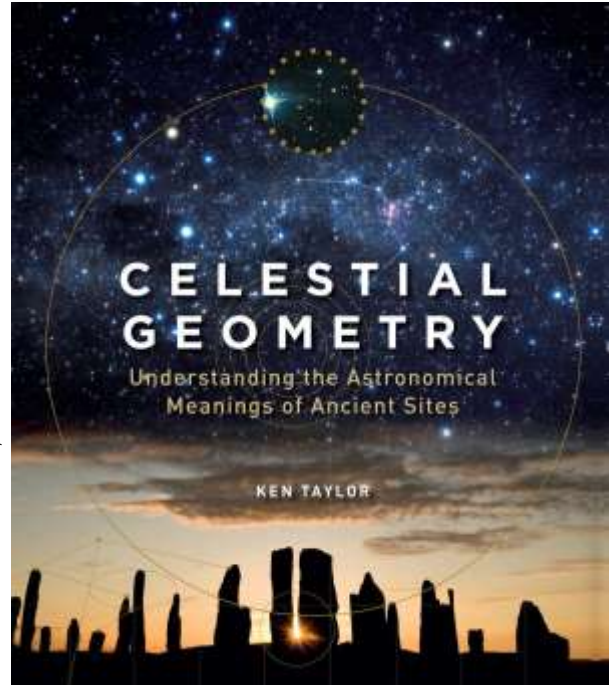
The name of the Roman sun god Sol Invictus ("the unconquerable sun") capitalizes on this powerful metaphor, and there is no gainsaying the influence such religious metaphors have wielded throughout the millennia." The first thing that will catch your attention is the beautiful photographs and artistic diagrams of fascinating archaeological locations around the world. Some, such as Stonehenge and Machu Picchu, are instantly recognizable. **Others, such as Germany's Goseck Circle and Peru's Temple of the Fox, are far less known. Each location or object is shown in stunning photography that will transport you to these often far away locations.**

Taylor separates the book into sections according to objects or phenomena in the sky. In section one, he takes you on a journey to 37 locations around the world that were built in alignment with the solstices and equinoxes. Section two introduces you to eleven sites that pay homage to lunar eclipses and standstills. Section three, you will explore nearly two dozen places around the world that emphasize a relationship with the stars and planets, including Venus, Pleiades, the Milky Way, and more.

In addition to these physical locations in all corners of the world, Taylor also acquaints readers with solar, lunar, and stellar deities and mythologies. He expertly brings together the ancient stories of legend and myth with modern science.

Taylor does an excellent job of introducing you to dates of the origins of these sites according to archaeologists, highlighting controversies in the interpretations of the sites, and admitting what is not known. He has earned a reputation for carefully researched writing. Taylor himself has worked as an archaeologist and has written extensively about Paleolithic alignments, celestial events, astronomy, and mythology.

More than 50 sites are covered in this book. It opens a whole universe of mystery and wonder, and a window on the inner life of ancient civilizations.



What is Archaeoastronomy?

By Vicky Dersen.

www.nightskytourist.com

It may be a long, clunky word, but the definition is simple. This combination of the words archaeology and astronomy is the study of astronomical practices, celestial lore, mythologies, religions, and worldviews of all ancient cultures.

The study of archaeoastronomy goes back to the discoveries made at Stonehenge in the 1960s. Since then, it has grown into numerous interdisciplinary fields of study. This includes native calendar systems, concepts of time and space, mathematics, geometry, counting systems, surveying, navigational techniques, and the origins of urban planning.

SOURCE MATERIALS

Archaeoastronomy examines a variety of source materials to give us insight into ancient astronomical worldviews.

ALIGNMENTS

There are numerous examples around the world of structures that were built with remarkably precise astronomical alignments. Some mark the summer or winter solstice, the equinoxes, the rising of Venus, and other cosmic phenomena.

One example is Chankillo in Peru. A notched wall was built on top of a ridge over 2,400 years ago. It served the ancient Casma/Sechin culture as a solar observatory. Every month, the sun rises inside the next notch in the structure. One end marks the Winter Solstice and the other marks the Summer Solstice.

ARTIFACTS

The ancients may not have had telescopes, but that doesn't mean they lacked tools to aid in their navigation of the sky.

The ancient Greeks created an analog computer over 2,100 years ago called an Antikythera mechanism. The complex clockwork was made with 37 bronze gears. It was able to follow the movements of the Sun and Moon through the zodiac, model the irregular orbit of the Moon, and predict eclipses.

ART AND INSCRIPTIONS

Before there was written language, there were pictographs and petroglyphs to tell stories and pass along information.

Chaco Canyon features a remarkable petroglyph high up on a lonesome butte. It is a large spiral pecked into a cliff face. Three tall slabs of stone were placed by the ancient Pueblo people so that a shaft of light fell across the center of the spiral on the Summer Solstice. Another smaller spiral marked the equinoxes. The large spiral also showed the 18.6-year cycle of the Moon called the Major and Minor Lunar Standstills.

ETHNOGRAPHIES

Ethnographers give us a glimpse into the worldview of other cultures. These writings can help archaeoastronomers understand ancient astronomical thinking.

For example, people who live near the equator experience two days a year when the Sun stands directly overhead and casts no shadow. The Maya Indians of Central America view this as a significant time because it means the rains are coming. The rains always ensure their agricultural survival.

Archaeoastronomers look at the ethnographic record and the reports of today's cultures and conclude that these days were likely sacred to the ancient Maya, too.

TOPICS OF RESEARCH

Archaeoastronomy touches on many areas of study, but there are three main areas where much research is directed.

... continued: What is Archaeoastronomy?

By Vicky Dersen. www.nightskytourist.com

CALENDARS

Many ancient cultures created calendars to track planting and harvesting seasons, ritual ceremonies and celebrations, and astronomical cycles.

The V Bar V Ranch Heritage Site near Camp Verde, Arizona is an excellent example. The thousand-year-old calendar was created by the Pueblo over the span of almost 200 years. The enormous rock slab is filled with petroglyphic markings. Two rock outcroppings cast shadowy shafts across the rock face. As the shadows shift throughout the year, it shows the agricultural seasons for corn crops, the equinoxes and solstices, and times of ritual celebration.

MYTH AND COSMOLOGY

Ancient cultures didn't have a scientific eye when it came to astronomy. Most of them were more concerned about the relationship between the phenomena in the sky and their native myths and cosmologies.

The Inca built their entire empire to reflect their cosmology. The layout of cities near their capital of Cusco resembled what they saw in the night sky. Cusco itself reflects the Inca perception of the night sky as being divided into quarters. They saw the Milky bisecting the night sky in a certain direction in one season, then shifting to a perpendicular position and bisecting it in a different direction. Together, this divides the night sky into quarters. Their streets were built to resemble this cosmological view.

From Machu Picchu's emphasis on marking the Winter Solstice to the worship of the emperor as the son of the Sun God, Inti, Inca life was centered around the observation of the cosmos.

DEMONSTRATIONS OF POWER

The ancient Egyptians were obsessed with astronomical observances and used it to prove the power of their deities.

One example is the construction of the Temple of Amun-Re in Karnak. It was designed almost 4,000 years ago to align with important celestial events. On the day of the Winter Solstice, the sun rises between the portals of the Great Gate of Nactanebo and bathes the sanctuary of Amun-Re with light.

ARCHAEOASTRONOMY AND THE NIGHT SKY TOURIST

One of the things that make the Night Sky Tourist website unique is that it weaves together such a diverse mix of astrotourism destinations. It introduces you to dark sky places, observatories, planetariums, science centers, and ancient archaeoastronomy sites.

One of the leading figures in the field of archaeoastronomy is Clive Ruggles. He warns that it is misleading to consider it a field of ancient astronomy. Modern astronomy relies on scientific discipline. Archaeoastronomy, on the other hand, looks at the symbolically rich interpretations of phenomena in the night sky by ancient cultures. While these ancient cultures patiently tracked the motion of the sky in extraordinary detail and accuracy, they often used these things in creating the structure for their mythologies.

Archaeoastronomy is still a small sliver of the astrotourism industry, but I believe these places are just as important as the dark sky locations and the educational locations. They connect us to nature and preserve our night sky heritage passed down from ancient generations. They remind us that, although the cosmos is bigger than our tethered lives on earth, it is one thing we share in common with those cultures who diligently tracked the motions of the celestial bodies. We look up at the same stars, the same constellations, the same Sun and Moon. They follow the same patterns today as they did back then, waiting to tell you whatever story you need to hear today.



Public Viewing Roster ASSA Durban



Dome Master	Email	Assistant	Telescope Volunteer	Public Viewing
Mike Hadlow	Mike@astronomydurban.co.za	TBC	TBC	15 September
Mike Hadlow	Mike@astronomydurban.co.za	TBC	TBC	13 October
Mike Hadlow	Mike@astronomydurban.co.za	TBC	TBC	10 November

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 Mike Hadlow on cell number 083 326 4085, or via email: Mike@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 Mike Hadlow on Mike@astronomydurban.co.za

Viewing Contact:	Phone	Email
Mike Hadlow	083 326 4085	Mike@astronomydurban.co.za

Notice Board:

MEETINGS:

- GENERAL MEETING to be held in person, on **13th September** @ 6:30 pm in the science lab, upstairs.
- PUBLIC VIEWING - 16th September. Please refer to website under the tab "Viewing and Events" for any updates, 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 2023-07-01 for the 2022-2023 financial year. PLEASE pay your fees ASAP via EFT - Banking details below.

Membership fees indicated below:

- Single Members: **R 210:00**
- Family Membership: **R 250:00** for family membership.
- Under 18 members: **Free to join meetings**
- Cash/Cheques: **Please note: NO cheques or cash 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 23-24 SURNAME and FIRST NAME**
- Proof of Payment: treasurer@astronomydurban.co.za

RESIGNATIONS from ASSA:

Please notify the Secretary at secretary@astronomydurban.co.za stating your wish to resign from the society.

COMMITTEE POSITIONS & CONTACTS:

• Chairlady	Debbie Abel	Debbie@astronomydurban.co.za
• Vice Chair	Mike Hadlow	mike@astronomydurban.co.za
• 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	Mike Hadlow	Mike@astronomydurban.co.za
• Observatory Assistant	TBC	
• Publicity & Librarian	Claire Odhav	Claire@astronomydurban.co.za
• Outreach	Sheryl Venter	Sheryl@astronomydurban.co.za
• St. Henry's Marist College Liaison	Moya O'Donoghue	Moya@astronomydurban.co.za
• 'nDaba Newsletter	Claire Odhav	Claire@astronomydurban.co.za
• Website & Facebook	John Gill	John@astronomydurban.co.za

Click here for info:

