



NEWSLETTER JANUARY 2020

NEXT MEETING

Venue: The auditorium behind the main building at Christian Brothers College (CBC), Mount Edmund, Pretoria Road, Silverton, Pretoria.

Date and time: Wednesday 22 January at 19h15.

Programme:

- **Beginner’s Corner:** “Geomagnetic reversal and its possible impact on life.”
by Fred Oosthuizen.
- **What’s Up:** by Johan Smit.
- 10-minute break. Library will be open. -----
- **Main talk:** “The Helderberg air disaster: conspiracy, accident or design error?”
by prof André Buys.
- Socializing over tea/coffee and biscuits.

The chairperson at the meeting will be Craig Kloke.

NEXT OBSERVING EVENING

Friday 17 January from sunset onwards at the Pretoria Centre Observatory, which is also situated at CBC. Turn left immediately after entering the main gate and follow the road.

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Astronomy-related articles on the Internet

For telescope builders. Scientific American top 10 emerging technologies. See item number 3 in this list: “*Engineering: tiny lenses.*”

<https://www.scientificamerican.com/article/top-10-emerging-technologies-of-2019/>

Satellite constellations: Astronomers warn of threat to view of Universe. A campaign to launch thousands of new satellites has started. They offer high-speed internet access from space. But the first fleets of these satellites, which have already been sent into orbit by US company SpaceX, are affecting images of the night sky. But there is hope. Read the item after this one.

<https://www.bbc.com/news/science-environment-50870117>

SpaceX Starlink mega-constellation: 'Limited time' to fix brightness issue.

California's SpaceX company says it will work constructively with the scientific community to fix the brightness of its satellites.

<https://www.bbc.com/news/science-environment-51049746>

SOFIA reveals how the Swan Nebula hatched. New observations from the Stratospheric Observatory for Infrared Astronomy (SOFIA), is helping scientists chronicle the history and evolution of this nebula.

<https://www.nasa.gov/feature/sofia-reveals-how-the-swan-nebula-hatched>

Star ejected from Milky Way's 'Heart of Darkness' reaches mind-blowing speed. It is an example of the “Hills Mechanism”, proposed by astronomer Jack Hills 30 years ago, in which stars are ejected from the centres of galaxies at high speeds after an interaction between a binary-star system and the black hole at the centre of the galaxy.

<https://www.livescience.com/star-ejected-milky-way.html>

Astronomy-related images and video clips on the Internet

Astronomers just found a dead star evaporating a giant, icy planet. See two video clips. <https://www.longroom.com/discussion/1721666/astronomers-just-found-a-dead-star-evaporating-a-giant-icy-planet>

Report of observing evening on November 22nd 2019 – by Michael Poll

Total cloud again. There were four of us who came – Centre members Michael and Rudolph and two visitors – Chris and wife Penny. In the end we had an interesting talk but no viewing. Michael showed his telescope with explanations as to how it worked. We had a session discussing the Skymap and how to go about looking for things. Rudolph explained about the telescope making classes and how home-made telescopes are can be made and said that he was involved in making one at present. We also talked about casual observations that could be made, such as the fact that sunset is at about the same time for most of January.

The next observing evening will be on January 17th 2020, when, amongst other things, the Milky Way will be well placed, from bright Capella (Alpha Aurigae) in the north, through Taurus, Orion, Canis Major and further south to the False Cross. Ω

Observing: Two Milky Way specials - by Magda Streicher

The constellation Sagittarius does not only mark the centre of our Milky Way, it is also home to some of the most exceptional objects imaginable. When I see this starry constellation so splendidly displayed against the night sky, I am involuntarily reminded of that noted gentleman of astronomy, Charles Messier, as Sagittarius is known for the bright Messier objects, some of which can be observed even with the naked eye. Of course, the requirement is a very dark, star-filled night sky, away from the city lights. About 3 degrees north of the Sagittarius Cloud, the **Swan Nebula M17** occupies a prime spot. In Messier’s words, the “splendour of this bright elongated south-east to north-west glow has the perfect ray or tail of a comet”. The northern section is well defined against the background in contrast to the southern wispy, hazy part. The western part, however, is quite impressive; it shows the elegance of the Swan’s neck with a sprinkling of faint stars. (See the fourth item in **Astronomy-related articles on the Internet.**)

Follow the curve of the wispy Milky Way southwards to discover the real beauty of Messier’s soul. Let your eyes slowly follow this intense complex of bright nebulosity that also contains **Messier 8**. The entire field of view around M8, also known as the **Lagoon Nebula**, is bathed in a flimsy cloud. A curved dark lane bisects the Lagoon, showing the brighter part of the nebula to the west. The much fainter eastern part of the nebula houses the open cluster NGC 6530, which displays a scattering of faint stars. With the use of a telescope, more dark lanes, cloudy wisps and bright knots come alive. What would have been going through Messier’s mind as he observed these wondrous objects one by one through his small handmade telescope – and to be doing so from the top of the Hotel de Cluny in the city of Paris? It shows once more what light pollution is doing to us these days, slowly robbing us of our starry heritage.

NAME	OBJECT	RA	DEC	MAG	SIZE
NGC 6523 Messier 8	Bright Nebula	18 h 03.51 m	-24° 22' 34"	4.6	35' x 50'
NGC 6618 Messier 17	Bright nebula	18 h 21.54 m	-16° 11' 04"	6	30' x 30'



**NGC 6523, aka Messier 8
or the Lagoon Nebula**



**NGC 6618 aka Messier 17
or the Swan Nebula**

Chairperson's report for the meeting on 27 November 2019 - by Michael Moller

19:25

Meeting started late due to exceptionally heavy traffic on the N1 highway.

Beginner's Corner was presented by Craig Kloke with the topic "The history of the telescope". He started with Hans Lippershey who attempted to patent the telescope in 1608. He talked about the telescopes used by Galileo Galilei, Johannes Kepler and Christiaan Huygens. The contributions of Isaac Newton and William Herschel were also mentioned.

19:40

What's Up was presented by Danie Barnado, in which he covered the highlights for both this coming December and January.

20:00

Break.

20:15

The main talk for the evening was presented by Pierre Lourens in which he talked about the exploration of Mars. He focused on the robotic orbiters, landers and rovers; and their discoveries. Special attention was paid to the composition and density of the atmosphere and its effect on surface water. The poles and the ices that compose them were covered. The geology of Mars, with special attention to Olympus Mons and the Valles Marineris canyons were covered in some detail with many breathtaking images and a virtual fly-through animation of the canyons. Some interesting impact craters on the surface was discussed, and the talk concluded with an overview of some future exploration missions to watch out for.

21:10

The main talk concluded and member Andre Buys asked for an opportunity to invite club members to a talk he was giving on the Helderberg air disaster the next evening. He accepted an invitation in return by Johan Smit to come and present the talk to the club in the future.

21:15

The meeting adjourned and coffee and biscuits were provided by Michael Poll. **Ω**

Feature of the month: SETI

SETI is an acronym for **S**earch for **E**xtraterrestrial **I**ntelligence. Will 2020 be the year in which we find intelligent alien life? Probably not, but there are reasons to be optimistic about our near future prospects.

<https://www.livescience.com/will-alien-life-be-found-2020.html>

Astronomy basics: Helioseismology

<https://astro.unl.edu/video/demonstrationvideos/>

NOTICE BOARD

- ◆ **Sky Guides Africa South 2020.** Members who have not yet received their copies of the Sky Guide, can collect them at the meeting on 22 January.
- ◆ **Scientific American e-book:** If your interest in Mars has been sparked by the talk at the last monthly meeting, get the e-book **“Exploring Mars: Secrets of the Red Planet”**. It can be bought over the Internet @ \$6.99 (about R100.)
https://www.scientificamerican.com/store/books/exploring-mars-secrets-of-the-red-planet/?utm_source=newsletter&utm_medium=email&utm_campaign=tech&utm_content=link&utm_term=2019-05-07_featured-products&spMailingID=59219095&spUserID=NDAzMzk1ODIxMTMwS0&spJobID=1640950873&spReportId=MTY0MDk1MDg3MwS2
- ◆ **Beanies:** Beanies will be offered for sale @ R40.00 each at every monthly meeting, until they are sold out.
- ◆ **Old newsletters:** All old newsletters from January 2004 onward are on our website. They contain a record of our Centre’s activities as well as astronomical information.
- ◆ **Database:** Members are reminded that a data base of the books in our library is to be found on our website.
- ◆ **Request to members:** Members are requested to inform Danie Barnardo of any good books on astronomy that they encounter, so that he can purchase them for our library. His contact details are to be found immediately below.

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