



NEWSLETTER SEPTEMBER 2020

NEXT MEETING

Internet meeting. *

Date and time: Wednesday 23 September 2020 at 19h00.

Programme:

- ◆ Talk by Bosman Olivier.
- ◆ “Mars: Geology” – by Danie Barnardo.

Chairman: Louis Kloke.

* Johan Smit will email the link to join the meeting at 19h00. Please join as quickly as possible. The meeting will be locked at 19h10.

NO OBSERVING EVENING THIS MONTH

TABLE OF CONTENTS

Astronomy-related articles on the Internet	2
Astronomy basics: The cosmological distance ladder	2
Feature of the month: Rogue planets	3
Astronomy-related images and video clips on the Internet	3
Observing: NGC 3766, more than just a cluster	4
NOTICE BOARD	5
Web links for the astronomy enthusiast	6
Pretoria Centre committee	6

Astronomy-related articles on the Internet

How astronomers rediscovered a "lost world". What is a "lost world"? Why this rediscovery of one of them - called NGTS11b - bodes well for finding habitable exoplanets. https://earthsky.org/space/lost-world-ngts-11b-exoplanet-habitable-zone?utm_source=EarthSky+News&utm_campaign=8985d25a90-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-8985d25a90-394671529

Mars rover named "Perseverance" launched. It will search for signs of habitable conditions on Mars in the ancient past and for signs of past microbial life. <https://www.nasa.gov/perseverance>

Ceres' bright spots come from salty water below. https://earthsky.org/space/Bright-areas-dwarf-planet-ceres-salty-water-below?utm_source=EarthSky+News&utm_campaign=8006205fbf-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-8006205fbf-394671529

Mysterious dimming of Betelgeuse explained? https://earthsky.org/space/betelgeuses-early-2020-dimming-explained?utm_source=EarthSky+News&utm_campaign=0227b68890-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-0227b68890-394671529https://earthsky.org/space/closest-known-asteroid-flyby-ztf0dxq-2020-qg?utm_source=EarthSky+News&utm_campaign=f826e6954e-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-f826e6954e-394671529

Exoplanet-hunter TESS completes its primary mission. NASA's TESS (Transiting Exoplanet Survey Satellite) has found 66 new confirmed exoplanets and nearly 2100 candidates. It has also made other discoveries and has started its extended mission. https://earthsky.org/space/exoplanet-hunter-tess-completes-primary-mission?utm_source=EarthSky+News&utm_campaign=0227b68890-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-0227b68890-394671529

Truck-sized asteroid swept within 2 900 km from Earth. Astronomers did not detect it until six hours later. https://earthsky.org/space/closest-known-asteroid-flyby-ztf0dxq-2020-qg?utm_source=EarthSky+News&utm_campaign=f826e6954e-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-f826e6954e-394671529

SA se skitterende sterregekiedenis. <https://maroelamedia.co.za/tegnologie/ruimte/sa-se-skitterende-sterrekundegesiedenis/>

Astronomy basics: The cosmological distance ladder

A few of the primary methods used by astronomers to determine astronomical distances are introduced. Parallax is introduced first, then spectroscopic parallax, main sequence fitting, variable stars and supernovas are discussed.

<https://astro.unl.edu/naap/distance/distance.html>

Feature of the month: Rogue planets

Rogue planets are free-floating planets, unconnected to any star, wanderers from somewhere to nowhere (like hoboes). A new theoretical study suggests there are more of them than stars in our Milky Way galaxy. The number of stars in our Milky Way galaxy is 250 billion \pm 150 billion.

About a dozen or so confirmed rogue planets have been found so far. NASA's upcoming Nancy Grace Roman Space Telescope* is expected to begin finding hundreds more of them. This telescope will be a game changer for rogue planet searches.

When such an invisible rogue planet passes in front of a more distant star from our vantage point, gravitational microlensing can reveal its presence. The light curve of the star then does not show a dip, but a peak!

* Formerly known as the **Wide Field Infrared Survey Telescope** (WFIRST). It has a 2.4 meter diameter primary mirror - the same size as that of the **Hubble Space Telescope** (HST) - but with a field of view 100 times as great as that of the HST. Ω

https://earthsky.org/space/rogue-planets-milky-way-roman-space-telescope?utm_source=EarthSky+News&utm_campaign=b6f0c2e103-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-b6f0c2e103-394671529

Astronomy-related images, video clips and documentaries on the Internet

Venus: What did we find on the hellish planet? A 7-minute documentary.

<https://www.youtube.com/watch?v=rISkL7NZKV4>

Amazing photos in Mars Reconnaissance Orbiter celebration.

https://earthsky.org/space/mars-photos-mars-reconnaissance-orbiter-15th-anniversary?utm_source=EarthSky+News&utm_campaign=7a22d10494-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-7a22d10494-394671529

This image from the HST is absolutely mind blowing.

<https://www.youtube.com/watch?v=8EKI9aF4NnM>

The 10 strangest planets in space that defy all logic.

<https://www.youtube.com/watch?v=6KZ1kvlUFRU>

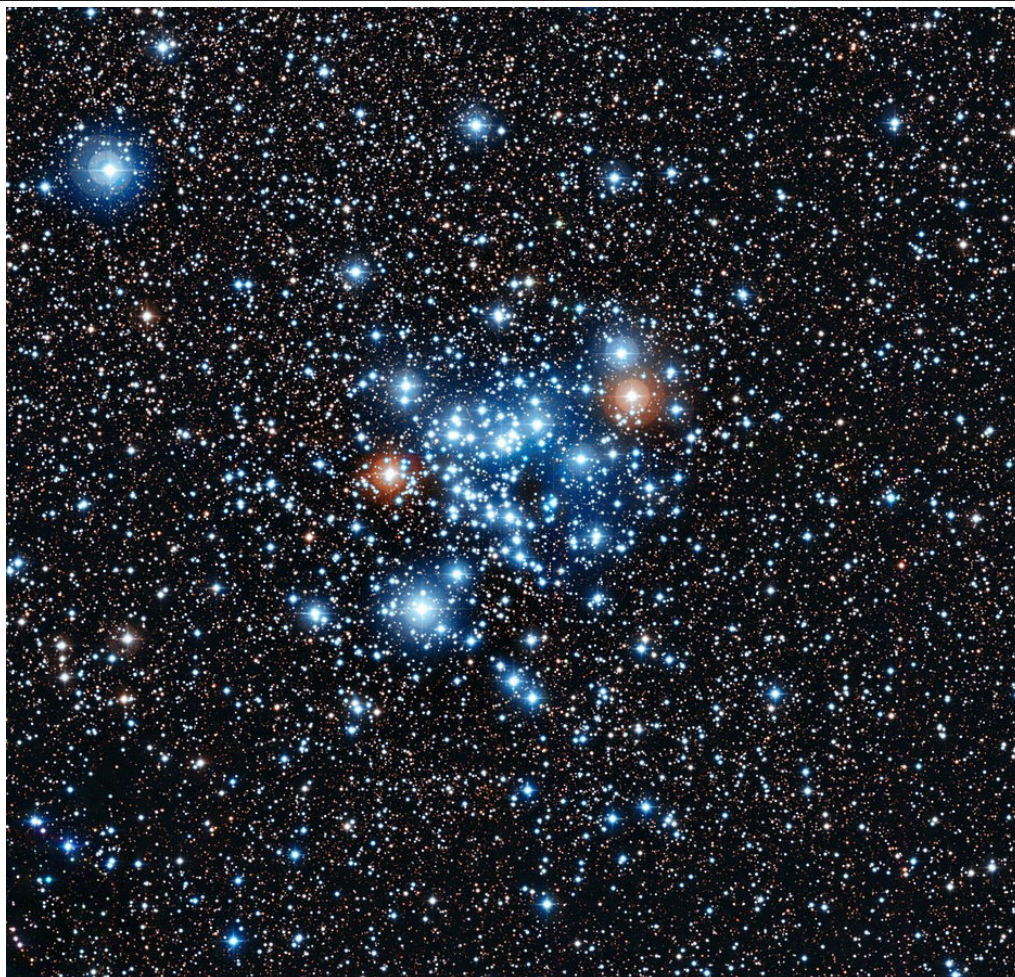
Observing: NGC 3766, more than just a cluster - by Magda Streicher

The open star cluster NGC 3766 is a beautiful, bright, rich grouping, which is located in the southern part of the Centaurus constellation. The cluster stands out against the star field with a triangle of bright stars forming the basis of the cluster and immediately attracting the attention, also situated in a very star-rich part of the Milky Way. The southern brilliant white star is also a double star with a magnitude of 7. The other two stars display colours ranging from a deep yellow to orange. The heart of the open cluster is jam-packed with a large variety of bright and fainter stars forming something like an S-shape. There is a string of faint stars running from north to south. Observed through a telescope, NGC 3766 is quite simply a beautiful cluster, but it is still bright enough to appreciate through a pair of binoculars. Of course, if you are under a really dark sky, averted vision will perhaps allow you to spot this faint haze.

Why is the cluster special, and what mysteries does it hold that have led to the searching questions it has raised? The mystery of this cluster is that it is home to a few massive B and A stars that are still youngsters, fusing hydrogen in their cores with very high temperatures. The surprise is that they pulsate slightly, which is not at all what one would expect, as this would be more frequently seen in cooler main-sequence stars or older red giant stars. They vary by a magnitude of a few thousandths in a few hours. Much more study is needed to sort out the variable stars, although the fast rotations were expected (Geneva Observatory Switzerland).

Be sure to scan the area – it is packed with clusters, and with some of the famous nebulae. The cluster is situated between the constellations Crux and Carina – and what could be better. It will remind you of its mystery but also its beauty. Ω

OBJECT	TYPE	RA	DEC	MAG	SIZE
NGC 3766	Open cluster	11 h 36.2 m	- 61° 36.5'	5.3	12'



NOTICE BOARD

- ◆ **Discover brown dwarf stars using your computer.** 95 of them have been discovered in the neighbourhood of the Sun by citizen scientists. On the following website, left click on “**Backyard Worlds: Planet 9**” : https://earthsky.org/space/brown-dwarfs-cosmic-neighborhood-backyard-worlds-citizen-scientists?utm_source=EarthSky+News&utm_campaign=cdef83bdf5-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-cdef83bdf5-394671529
See also the following newsletters: April 2006, p 4; June 2006, p 4; February 2013, p 10.
- ◆ **Discover TNO’s (Trans Neptunian Objects) using your computer.**
https://www.zooniverse.org/projects/fulsdavid/catalina-outer-solar-system-survey?utm_source=Newsletter&utm_medium=Email&utm_campaign=coss11aug2020
- ◆ **Astronomy Festival 19-25 October 2020.** This was planned to take place in Cape Town. **The festival will not take place in a physical sense any more.** However, the organisers are coordinating online lectures and workshops for that week. More information will be given to members when things will have been finalised.
- ◆ **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.
- ◆ **Data base:** Members are reminded that a data base of the books in our library is to be found on our website.

Web links for the astronomy enthusiast

- ◆ **The website for all information about the ASSA and the ASSA Centres:**
<https://assa.saa.ac.za/>
- ◆ **ASSA Specialist Sections:**
ASSA has various areas of interest. Join and participate!
<https://assa.saa.ac.za/sections/>
- ◆ **ASSA Publications to download and enjoy:**
MNSSA: <https://www.mnassa.org.za/>
Nightfall: <http://assa.saa.ac.za/sections/deep-sky/nightfall/>
To receive as part of ASSA membership benefits - *Sky Guide*, the astronomical handbook for Southern Africa: <http://assa.saa.ac.za/about/publications/sky-guide/>
- ◆ **Mail Groups to join:**
For general ASSA related information: <https://groups.io/g/ASSA-announce>
For posting general items and discussion: <https://groups.io/g/ASSA-discussion>
- ◆ **Social Media to join and share:**
Facebook: https://www.facebook.com/Astrosocsa/?_rdc=1&_rdr
Youtube: https://www.youtube.com/channel/UCJ4b1fhmPvYTOsy15YP-_JA
Twitter: <https://twitter.com/AstroSocSA>
- ◆ **More web links can be found on page 118 of “2020 Sky Guide Africa South”. Ω**

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