



**Wellington Astronomical Society
2020-12 eNewsletter**

**Wellington Astronomical Society Inc.
Email Newsletter for December 2020 / January 2021**

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1. DECEMBER 2020 SOCIETY MEETING



The next Wellington Astronomical Society (WAS) meeting will be the WAS Christmas Party on Wednesday 2nd December at 7.30 pm at Space Place, Carter Observatory, 40 Salamanca Rd, Kelburn.

It will be the last WAS gathering for 2020 so come along, mingle, eat and drink. There will be prizes for the winners of the Annual Christmas Quiz. All attendees will get a raffle ticket and prizes are up for grabs! We will be showing the video of the NZ 2020 Astrophotography Competition winning images. If you have ordered WAS clothing merchandise or are wanting to purchase the 2020 RASNZ calendar, they will be available at the meeting.

Food will be provided but you are welcome to bring along food or any non-alcoholic drink. Everyone is welcome so do come along!

2. EVENTS

WAS Astrophotography Group / Dark Sky Observing

Saturday 12 December, 8 pm onwards, Star Field - John Whitby's dark sky site.



Come along to this Astrophotography / Deep Sky event at a dark sky site in the Wairarapa. There will be a tour of the Night Sky for beginners with a pointer before we get onto the telescopes. There is also a lot of expertise available for anyone wanting to photograph the Night Sky.

As this is a private property, you will need to register if you want to come along by contacting us through Facebook Messenger or by emailing antony.gomez61@gmail.com. Include your email and mobile phone in the text if you are using Facebook Messenger. Directions to the site and any updates will be emailed out. Preference will be given to members of the Society first. This event is free to all WAS members. Non-members are required to pay \$10 per person.

(To join the Society see <https://www.was.org.nz/join-us/>).

What to bring for astrophotography:

- A DSLR or mirrorless camera
- A wide-angle lens (preferably)
- A tripod to fix the camera to
- Warm clothes as it gets pretty cold at night
- Snacks and warm drinks if you want

With people taking photos, keep lights to a minimum (red lights if you can) especially car headlights (use parking lights). For those just interested in Deep Sky Observing, telescopes will be provided unless you want to bring your own.

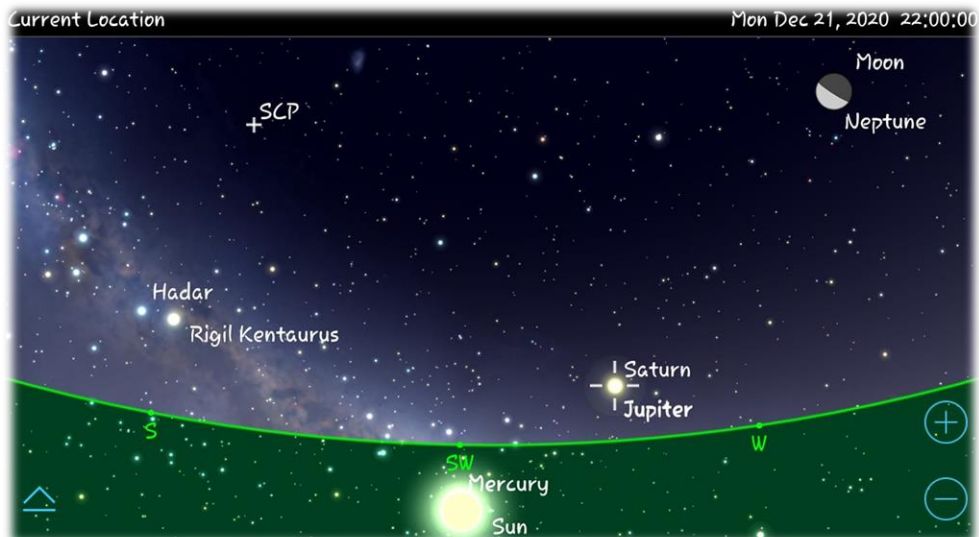
Please contact Chris (021 890 222) or Antony (021 253 4979) for further details or cancellations. Updates will be available by the afternoon on the day of the event if the weather forecast is not looking good. This site is made available to the Wellington Astronomical Society through the generosity of John Whitby.

The Great Jupiter – Saturn Conjunction

Fri 19th – Tuesday 22nd December, 9 pm – venue tbc.

We are going to have a spectacular Christmas Star this Christmas. On the 21 December, Jupiter and Saturn will be so close they will almost appear to be a single 'star' low in the west. This is called a conjunction when two planets get close visually.

We are planning a number of public observing events around this time. The dates and venue are still to be determined. These will be advertised on the [WAS Facebook page](#) a week out when we will have a better idea of what the weather is doing.



Because Jupiter and Saturn will be low in the west in December, you would have a little over an hour to see it before they set. It will be spectacular to see through a telescope with both planets in the field of view, though being that low, there will be quite a bit of atmospheric distortion.

This won't happen again for another 20 years and it won't be at Christmas time!

Central Star Party 2021

Thursday 14th – Monday 18th January 2021 - Tuki Tuki Camp, Hawkes Bay.

The sixth Central Star Party will be held from Thursday 14th to Monday 18th of January 2021 and will be held at the Tuki Tuki Camp site in Hawkes Bay. This is the site of many previous star parties. Central Star Party has been established to hold annual star parties in the central North Island for the benefit of the astronomical community of the North Island of New Zealand. The goal of the organisers is to provide a fun, social astronomical gathering laced with talks and activities. If you are interested in going or have any questions please contact Antony at antony.gomez61@gmail.com or on 021 253 4979. Bookings and more details are available at <https://censtar.party/>



Attendees at Central Star Party 2020

A review of the 2020 Central Star Party is available in the [WAS February 2020 newsletter](#)

3. SOCIETY NEWS

2020 – 2021 Subscriptions

The new WAS Financial Year began 1st September and membership renewals for the 2020/21 year are overdue if you haven't already paid it. Renewal of your subscription will enable you to maintain your membership till 31 August 2021. We want to thank all those that have already renewed their memberships.

To make astronomy fun and accessible for all, WAS would like to continue providing free events for everyone in and around Wellington, but we are only able to do this with your support. The Society has a number of fixed costs, including payment of insurance, affiliation to the Royal Astronomical Society of NZ, post-office box charges, venue fees and costs incurred when an international speaker is hosted.

There are also additional costs for telescope equipment to ensure members and the wider community have access to the universe through well-functioning equipment. We are also looking to fund a solar telescope as part of our outreach programme. Support from members through joining WAS and renewing their memberships allows us to promote astronomy through education and outreach for free. We appreciate your continued support of our Society's activities by renewing your membership.

Renewal forms can be found on the website, but a summary follows:

Adult/Waged: \$50.00

Student/Unwaged/Associate: \$30.00

Family: \$70.00

Payment methods:

- Direct Deposit or Internet Banking - use Account No: 03-0502-0508656-00, please include reference so we know who is making the payment
- Cheque - make out to Wellington Astronomical Society Inc, and mail to PO Box 3181, Wellington 6140
- Cash - please bring exact amount to meeting.

Please send an email to membership@was.org.nz informing us of your membership renewal and payment. Unrenewed memberships will no longer receive the newsletter and other members benefits in 2021.

WAS - Starfield Project



WAS is considering a project/facility in the Wairarapa and we need your thoughts to help shape our thinking. Please complete this [survey](#) by 19th December 2020.

WAS Branded Merchandise – Available for pick-up

Any WAS Branded merchandise ordered can be picked up at the Society meeting on Wednesday.



WAS RAG

The WAS research group (WAS-RAG) will be meeting online on 9 December and details will be communicated on the group's mailing list. Everyone in the group will be contacted beforehand for a decision on the timing.

The group will keep contact via the WAS-RAG mailing list. Roland can be reached on roland@cno.org.nz in the meantime.

WAS meeting presentations on Video

If you were unable to attend any of the Society meetings but are interested in watching our brilliant speakers deliver their presentations, you can find them online at <https://www.was.org.nz/2019-meeting-presentations/>. To access the videos, you will need the password: *WASvideo*.

WAS newsletters

Similarly, if you are interested in accessing WAS newsletters, going all the way back to 2007, you can find them on the following link: <https://www.was.org.nz/was-monthly-newsletters/>. The newsletters are accessible for anyone that is interested in reading them.

ASTRONZ Binoculars for Sale



WAS, in conjunction with ASTRONZ, has these 10x50 high-quality light-weight binoculars available at a reduced price to members. Binoculars are available for **\$80** each (usually sell for \$99 excluding freight). Please email Antony Gomez antony.gomez61@gmail.com if you would like to buy a pair.

RASNZ 2021 Calendar



The RASNZ 2021 calendar with the winning images from the 2020 New Zealand Astrophotography Competition will be available at the December Society meeting. The recommended retail price is **\$10**. The Society has ordered 100 copies so come along to the meeting to pick up the calendars. If you are unable to attend the meeting, please email the secretary@was.org.nz if you are interested in purchasing one or more calendars.

4. ASTRONOMY NEWS



2020 RASNZ On-Line Conference Presentations

Here is the schedule of talks that have been arranged for the 2020 on-line RASNZ Conference. For abstracts and any last-minute changes please check out the RASNZ website (www.rasnz.org.nz).

The talks will be streamed via RASNZ's YouTube channel. Please go to - <https://www.youtube.com/channel/UCjE5Y-Eg2fkrfofBkDt3> EQ and subscribe to RASNZ's channel.

The only software you will need to watch these presentations is a web browser pointed to the RASNZ channel where all talks will be made available for later viewing.

Tuesday 1 December, 7:30 pm

John Hearnshaw

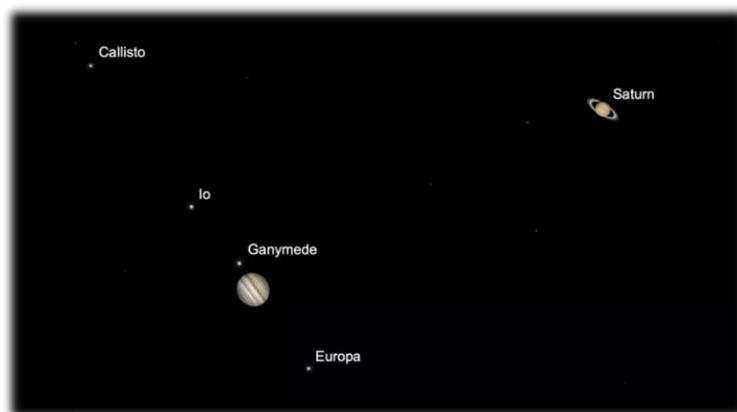
***New Zealand's progress towards becoming a dark-sky nation
(30 min)***

John Drummond

***Murray Geddes, an assiduous NZ observer of meteors, sunspots
and variable stars - as well as aurora and comets (20 min)***

Murray Geddes was described as 'an assiduous observer of meteors, sunspots and variable stars'. In addition, Geddes discovered a comet in 1932. He also developed a deep interest in aurora which led to an international collaboration with professional astronomers and significant contributions to the understanding of aurora. Unfortunately for the astronomical community (and others) his life was cut short, aged 35, during WW2. The RASNZ honours this New Zealand man's achievements with the Murray Geddes Memorial Prize named after him.

Get ready for the 'Great Conjunction' of Jupiter and Saturn



In their closest encounter since 1623, Jupiter and Saturn appear as a single star in the evening sky this month.

Whenever Jupiter and Saturn are in conjunction — that is, when they have the same right ascension or celestial longitude — it is referred to as a "Great Conjunction," primarily because unlike conjunctions with the other bright planets, these two don't get together very often. The average frequency of occurrence is merely the product of their sidereal periods divided by the absolute value of their difference.

A sidereal period is defined as the time required for a celestial body within the solar system to complete one revolution with respect to the fixed stars. Saturn's period of 29.65 years multiplied by Jupiter's

period of 11.86 years amounts to 351.65. Dividing this value by the difference in their sidereal periods gives us 19.76 years.

So, about every 20 years, Jupiter and Saturn will have a rendezvous. The next one is coming very soon; scheduled for Dec. 21.

<https://www.space.com/jupiter-saturn-great-conjunction-2020>

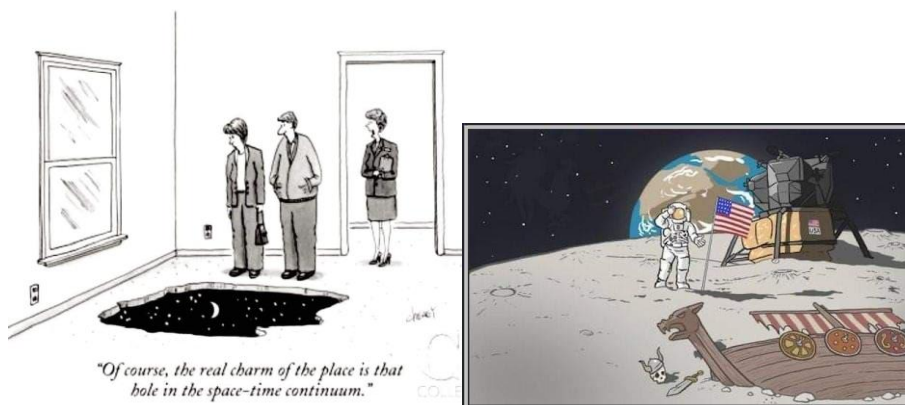
Earth Is a Whole Lot Closer to Our Galaxy's Supermassive Black Hole Than We Thought



It seems that Earth has been misplaced. According to a new map of the Milky Way galaxy, the Solar System's position isn't where we thought it was. Not only is it closer to the galactic centre - and the supermassive hole therein, Sagittarius A* - it's orbiting at a faster clip. It's nothing to be concerned about; we're not actually moving closer to Sgr A*, and we're in no danger of being slurped up. Rather, our map of the Milky Way has been adjusted, more accurately identifying where we have been all along.

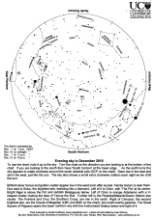
<https://www.sciencealert.com/earth-is-significantly-closer-to-our-galaxy-s-supermassive-black-hole-than-we-thought>

Astronomy Humour



5. NIGHT SKY FOR DECEMBER 2020 / JANUARY 2021

The [Night Sky for December 2020](#) and the [Night Sky for January 2021](#) courtesy of the University of Canterbury.



NASA Night Sky Notes December 2020



This article is distributed by NASA Night Sky Network.

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach.

Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

Visitors to Both Jupiter and Saturn - David Prosper

Have you observed Jupiter and Saturn moving closer to each other over the past few months? On December 21, the two worlds will be at their closest, around 1/5 of a full Moon apart! While the two gas giants may *appear* close, in reality they are hundreds of millions of miles apart. Despite this vast distance, a select few missions have visited both worlds by using a gravity assist from giant Jupiter to slingshot them towards Saturn, saving time and fuel.

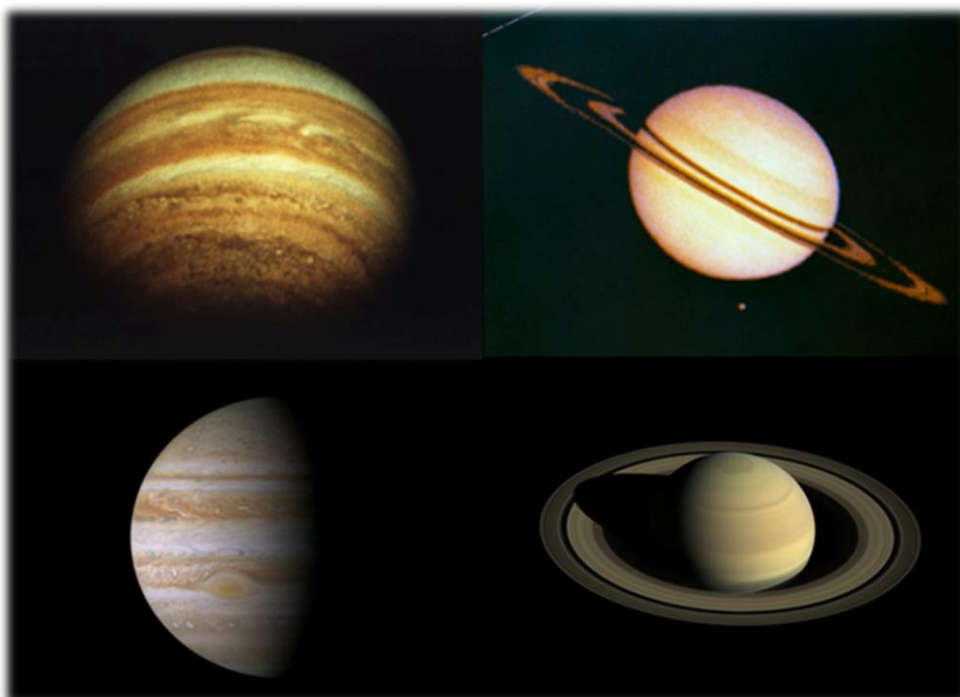
Pioneer 11 was the first mission to visit both worlds! Launched in 1973, the probe flew past Jupiter in late 1974, passing just 26,400 miles above its stormy clouds. In 1979, it became the first spacecraft to encounter Saturn. Pioneer 11 took the first up-close photos of Saturn and its satellites, and made many exciting discoveries, including the detections of its magnetic field and a faint “F” ring, before departing Saturn and eventually, the solar system.

The Voyager missions quickly followed up, taking a “Grand Tour” of the four largest and most distant planets in our solar system. Both probes were launched within two weeks of each other in 1977. Voyager 1 flew past Jupiter in March 1979, discovering Jupiter’s faint ring and two new moons, along with active volcanoes on Io’s surface! The probe then flew past Saturn in November 1980, discovering five new moons, a new “G” ring, mysterious ring “spokes,” and “shepherd

moons” shaping the rings. After a brief encounter with Titan revealed evidence of complex organic chemistry and liquid on the moon’s frigid surface, Voyager 1 was flung out of the plane of the solar system. Following close behind, Voyager 2 took detailed photos of Jupiter’s moons and cloud tops in July 1979. Flying past Saturn in August 1981, Voyager 2 measured the thickness of Saturn’s rings and took detailed photos of many of its moons. This second explorer then captured images of Uranus and Neptune before leaving our solar system.

Cassini-Huygens was the last mission to visit both worlds. Launched in 1997, the mission flew past Jupiter in late 2000 and took incredibly detailed photos of its stormy atmosphere and faint rings. Cassini entered into Saturn’s orbit on July 1, 2004. The Huygens probe separated from Cassini, landing on Titan to become the first probe in the outer solar system. Cassini discovered geysers on Enceladus, fine details in Saturn’s rings, many more moons and “moonlets,” the changing oceans of Titan, and seasonal changes on Saturn itself. After revolutionizing our understanding of the Saturnian system, Cassini’s mission ended with a fiery plunge into its atmosphere on September 15, 2017.

What’s next for the exploration of the outer worlds of our solar system? While Juno is currently in orbit around Jupiter, there are more missions in development to study the moons of Jupiter and Saturn. Discover more about future NASA missions to the outer worlds of our solar system at [nasa.gov](https://www.nasa.gov).



The difference in technology between generations of space probes can be stunning! The top two photos of Jupiter and Saturn were taken by Pioneer 11 in 1974 (Jupiter) and 1979 (Saturn); the bottom two were taken by Cassini in 2000 (Jupiter) and 2016 (Saturn). What kinds of photos await us from future generations of deep space explorers?

6. CONTACTS

The following members were elected to Council at the November 2020 AGM:

President: Matt Boucher (president@was.org.nz) – 022 0104842

Vice President: Andrew Fuller (vice-president@was.org.nz)

Secretary: Grace Esterman (secretary@was.org.nz)

Treasurer: Duncan Hall (treasurer@was.org.nz)

Newsletter Editor: Anne French (editor@was.org.nz)

Membership Secretary: John Homes (membership@was.org.nz)

Website: Peter Woods (webmaster@was.org.nz)

Other Council members: Murray Forbes, Isabella Eftimov, Adam Rosner, Antony Gomez

Non-Council members: Telescope custodian – Chris Monigatti,
Research Group coordinator – Roland Idaczyk

Postal Address:
Wellington Astronomical Society,
PO Box 3181,
Wellington 6140, New Zealand

Website: www.was.org.nz

Instagram: [@was.nz](https://www.instagram.com/was.nz)

Facebook page: [Wellington Astronomical Society](https://www.facebook.com/WellingtonAstronomicalSociety).

Facebook group: [WAS – Wellington Astronomical Society](https://www.facebook.com/WAS-WellingtonAstronomicalSociety) (for members)

Facebook Astrophotography group: [WAS Astrophotography Group](https://www.facebook.com/WAS-AstrophotoGroup) (for members).
