



**Wellington Astronomical Society
2018-08 eNewsletter**

**Wellington Astronomical Society Inc.
email Newsletter for August 2018**

Contents

1. **August 2018 Society Meeting**
2. **Events**
3. **Society News**
4. **Astronomy News**
5. **Night Sky for August 2018**
6. **Contacts**

1. AUGUST 2018 SOCIETY MEETING

The next WAS meeting will be held on Wednesday 1st of August at 7:30 pm at Space Place, Carter Observatory, 40 Salamanca Rd, Kelburn.

The meeting will consist of:

1. The Night sky in August
2. Astronomy News
3. Main talk at 8:00 pm

Are there Laws in Outer Space? Yes, of course there are! - Dr Maria Pozza



There is a large body in international law relevant to the activities undertaken by nation-states in outer space and most nation-states have domestic laws in place to ensure that they adhere to these laws. So what does New Zealand have in place? This presentation will discuss what international space law is, the problems with it, and will provide an overview of the new licensing framework in New Zealand.

Maria is an internationally recognised expert in space law, and the official legal adviser on space law to the Royal Astronomical Society in New Zealand. Maria's expertise extends to the law of Drones (unmanned aerial vehicles) and cybersecurity including cryptocurrencies and block chain - of which she is the course coordinator of INTP 201 and also lectures INTP 113 in international relations, at the University of Victoria, Wellington.

Maria is well known and regarded for her strategic legal advice and ability to offer outside of the box solutions for her clients. Recognised as a skilled lawyer, Maria was announced as a Finalist for the 2017 Young Private Practitioner Award at the New Zealand Law Awards. AI Global Magazine has referred to her as the New Zealand Woman in Law to Watch.

Maria has been the recipient of a number of awards and accolades including: the Inter-Pacific Bar Association Scholarship; the Peace and Disarmament Education Trust Award; the New Zealand Political Studies Association Projects Grant, the Ministry of Foreign Affairs and Trade Historical Research Grant; a visiting Lauterpact Fellowship at the Lauterpact Centre for International Law, University of Cambridge, UK; and, an Appreciation Award by the University of Otago's Disability, Information and Support

Unit, in recognition of her on-going work and support with tertiary level students.

Maria has published work in various journals, books and other high level review material across disciplines.

2. EVENTS

Mars: Red Planet Rising – Sat 4th August 7:00 – 11:00 pm, Wellington waterfront by the entrance of the lagoon.



WAS Astrophotography group / Dark Sky Observing - Saturday 11th August 7:00 pm, Brooklyn Hill Turbine.

We have access to this site for both astrophotography and dark sky observing. Please be at the gates by 7:00pm. The gates will be opened for cars to drive in and closed again at 7:15pm. There won't be anyone there to let you in if you are late. Any updates will be posted on the WAS Astrophotography Group Facebook page closer to the time. For further details or cancellations contact Chris 021 890 222, Paul 021 251 1559 or Antony 021 253 4979.

WAS Observing Evening - Saturday 18th August, 7:00 pm, Tawa College. See many wonderful objects, star clusters, galaxies, dying stars and nebulae. We will be focusing on the area around the Southern Cross and Milky Way which lies high across the night sky. The planets Venus, Jupiter, Saturn and Mars are also visible.

Come and learn how to star-hop through the night sky to find many of the various astronomical objects using the Society's Dobsonian telescopes. Chris is often there on Friday evenings too so feel free to come along though it would be best to give him a ring on 021 890 222 to check on conditions.

3. SOCIETY NEWS

2018 – 2019 Subscriptions

We are coming to the end of our Financial Year on the 31st August and membership subscription for the year beginning on the 1st September are now due. Please continue supporting our Society's activities by renewing your membership. As part of our mission of promoting astronomy through education and public outreach, we endeavour to keep our activities free for everyone to attend.

However, as a Society, we do retain a number of fixed costs. Every year we pay out for insurance, affiliation to the Royal Astronomical Society of NZ, post-office box, venues and costs incurred when we host an international speaker, and telescope equipment. We are also looking to fund a solar telescope as part of our outreach programme.

Your commitment to supporting our Society through renewing your 2018 – 2019 subscription is very much appreciated.

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 Acc 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.

Society Newsletter Editor / Council Members

We are looking for someone one to take over the role of the Newsletter Editor. The person has the responsibility for producing the Society newsletter once a month (except for January). As can be seen, the format is straightforward with a template set up in MS Word. Essentially it is taking a copy of the previous month's newsletter and updating it with the latest events and astronomy news. It takes 6 – 8 hours a month to complete with

most of the information supplied by others. The Newsletter Editor is a position on the Society's Council.

As we approach our next AGM in November, we are also looking for more members to join the Council. If you are interested in being more involved with the Society's activities and help steer the future direction of the Society, please put your hand up and let us know. You are free to come along and join in our Council meetings 5:30 – 6:45pm on the 1st Wed of the month at Space Place, prior to our monthly Society meeting.

Please contact Antony (President) or any other Council member if you are interested in the Newsletter Editor position or have any questions about being a Council member.

Meteorites in Wellington? – Chris Monigatti

Every year between 37,000-78,000 tons of extra-terrestrial matter (**meteoroid** (asteroid if large)) is [estimated](#) to strike Earth's atmosphere producing trails of light (**meteors**, 'shooting stars').

Occasionally some of the original meteoroid survives and strikes the Earth (**meteorite**). A meteorite that is seen to fall is called a '**fall**', while those discovered as 'unusual' rocks on the ground are called '**finds**'.

Meteorites are extremely interesting, as they represent the primordial material from which our Solar System formed.

Meteorites are often divided into three overall categories based on whether they are dominantly composed of rocky material (**stony** meteorites), metallic material (**iron** meteorites), or mixtures (stony-iron meteorites). The stony meteorites are further sub-divided into **chondrite** (containing spherical grains or chondrules), **carbonaceous chondrites** (stony, with grains and higher organic content), and achondrites (not grainy).

Most meteorites that fall on Earth are stony meteorites. Only a few percent are irons. However, in populated places, people find a greater fraction of the irons because irons tend to be bigger and are more likely to catch peoples' attention. Most stony meteorites are chondrites, and most chondrites are ordinary chondrites. Chondrites contain iron-nickel metal, which is what makes them attracted to a magnet.

The on-line Encyclopedia TeAra contains the following [list](#) showing how few meteorites have been reported as discovered as either 'falls' or 'finds' in New Zealand:



Name	Date Found	Region	Finder	Classification	Type
Wairarapa	1863	Wairarapa	W.H. Donald	Stony (chondrite)	Find
Makarewa	1879	Southland	A. & I. Marshall	Stony (chondrite)	Find
Mokoia	1908	Whanganui	W. Syme	Stony (carbonaceous chondrite)	Fall
Morven	1925	Canterbury	W. Stewart	Stony (chondrite)	Find
View Hill	1953	Canterbury	C.G. Anderson	Iron	Find
Waingaromia	1970	Gisborne	H. Reeves	Iron	Find
Dunganville	1976	West Coast	T. Downey	Iron	Find
Kimbolton	1976	Manawatū	R.H. de Rose	Stony (chondrite)	Find
Ellerslie	2004	Auckland	B. & P. Archer	Stony (chondrite)	Fall

David Calder, in an article in Southern Stars, pp 95-100, December, 1975, describes some of these in more detail.

So where does Wellington fit in the 'meteorite' story?

Evening Post, 9 February 1927: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast>

NEW ZEALAND'S METEORITES.

One of New Zealand's meteoric stones fell at Tohirua, near Masterton, in 1864. It is known as the Wairarapa Meteor, and weighed about 30lb. At one time it was on view in the Dominion Museum on loan, but its two pieces are now in private custody in Wellington.

Where are these pieces now? The majority is believed to be held by the Auckland Museum.

Has there ever been a 'fall' in Wellington?

Dominion, 8 August, 1918: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast>

A meteorite that fell on the hills at the top of Britomart Street, Berhampore, was shown last night at a meeting of the Philosophical Institute. It is an egg-shaped mass weighing just under 2lb., black in colour, and crystalline in formation. Mr. A. Gifford said he understood the meteorite had been secured originally by a man who saw the fall about ten o'clock one night. The man marked the spot and dug the meteorite out the next day.

Evening Post, 6 September, 1929: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast>

A small but beautifully formed meteorite fell some years ago at Berhampore, Wellington. It was dug up next day and presented to the museum at Wellington College. Soon afterwards, however, the finder requested its return. It was about the size of a cricket ball, but not quite spherical, one axis being longer than the others.

Again, where is this object now?

Given that Charlie Gifford had possession of this object for some time, it is reasonable to assume that it was correctly identified as a meteorite.

Hopefully members of our Society will be able to identify the current owners of these 4.5 billion year old extra-terrestrial visitors, and lead to imaging and some further study.

4. ASTRONOMY NEWS

Stunning images of the 28th July 2018 eclipse taken from Wellington by [Arun Matthew](#).



[Total Lunar Eclipse: 2018 July](#)



including this one taken by Ian Griffin, Director of Otago Museum, Dunedin.

[Hubble Just Snapped Some Ridiculously Awesome Images Of Mars And Saturn](#)



NASA's Hubble Space Telescope has taken a rather incredible [set of images](#) of Saturn and Mars, revealing the beauty of the former and a storm engulfing the latter.

The images were taken when the two planets were almost at opposition – their closest points to Earth. Saturn, snapped on June 6, was 2.2 billion kilometres from Earth. Mars, seen on July 18, was 59.4 million kilometres (36.9 million miles) away.

Saturn's tilt, at 27 degrees to its orbit, means we get different views of the planet on a [decadal or so](#) cycle. At the moment we've got a pretty great view of it tilted towards us, as seen by these Hubble images.

[Milky Way Galaxy Is 'Disturbed' and More Revealed in ESA Gaia Mission Data](#)



The European Gaia spacecraft recently [released a catalogue of the positions of 1.7 billion stars](#), mapping our stellar neighbours around the Milky Way with unprecedented precision. The star map not only looks stunning but also includes a wealth of information about the evolution of our galaxy, the European Space Agency (ESA) said in a recent video.

The video, [posted to YouTube](#) in May, took place at the Paris Observatory. There, in 1887, astronomers attempted to map hundreds of thousands of stars in an effort called the Carte du Ciel (the Map of the Sky). Gaia is therefore part of a long line of star mappers, both on the ground and in space. But for all of our efforts, astronomers said in the video, we still have much to learn about the Milky Way — such as why certain stars' motion is "disturbed," and how the arms were formed.

[A Harvard Astrophysicist Says Outer Space Is Actually Closer Than We Think](#)



Space is Closing In - There's something just so incredibly satisfying about the idea of the [Kármán line](#) – the invisible boundary between Earth's atmosphere and space. Situated at an altitude of 100 kilometres, it represents the point at which aeronautics end, and astronautics take over.

But maybe it's a little too neat, according to a new paper that seeks to burst the 100-kilometre bubble. The boundary, the new research argues, should be some 20 kilometres or so closer to Earth.

That's the thinking of astrophysicist Jonathan C. McDowell of the Harvard-Smithsonian Centre for Astrophysics, at least, which is based on the orbital and suborbital trajectories of satellites.

5. NIGHT SKY FOR AUGUST 2018

The [Night Sky for August 2018](#) courtesy of the University of Canterbury.

6. CONTACTS

The following members were elected to Council at the Nov 2017 AGM

President: Antony Gomez (president@was.org.nz) - 021 253 4979

Vice President: Duncan Hall (vice-president@was.org.nz)

Secretary: Becky Bateman (secretary@was.org.nz)

Treasurer: John Homes

Membership Secretary: Janine Bidmead (membership@was.org.nz)

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

Telescope custodian: Chris Monigatti

Council: Andrew Fuller, Chris Monigatti, Frank Andrews, Janine Bidmead, Murray Forbes, Peter Woods, Roland Idaczyk

Postal Address:

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PO Box 3181,

Wellington 6140, New Zealand

Website: www.was.org.nz

Facebook page: [Wellington Astronomical Society](#).

Facebook group: [WAS – Wellington Astronomical Society](#) (for members)

Facebook Astrophotography group: [WAS Astrophotography Group](#) (for members)
