

Monthly Meeting: Tuesday 17th JULY 2018

From 7:30p.m, room 701on the 7th floor of the West building (Old Rutherford) (Physics and Astronomy) at the University of Canterbury (see page 4 for a detailed map). Refreshments start at 7.30. Meeting starts at 8pm

JULY MEETING: SIMON LEWIS Astrophotography for Beginners.



Image taken by Simon Lewis at West Melton Observatory 7th July 2018 Stellarvue SV80ST + 0.8 FRFF ASI1600MM-Cool @ -20c Astronomiks 31mm 6nm Ha Filter 50 x 120" subs processed in Pixinsight

IN THIS MONTHS ISSUE

Front Cover: Monthly meeting information

- Page 2: In this Issue and Calendar Dates
- Page 3: Upcoming Events
- Page 4: Monthly Meeting information
- Page 5: New Members/ Meteor Shower chart
- Page 6: Observatory News /Herbert weekend/Mars Night at Oxford
- Page 7: Heathers Notes/Editors Notes
- Page 8: BBQ/Bonfire Reports
- Page 9: Photos from BBQ/Bonfire night
- Page 10: SOFIA Talk Photos
- Page 11: Evening Sky Text July 2018
- Page 12: Evening sky Map July 2018
- Page 13: Evening Sky Map August 2018
- Page 14: Evening Sky Text August 2018
- Page 15: Contact Information
- Page 16: Membership Form

CAS Calendar, JULY 2018—SEPTEMBER 2018

<u>July 2018</u>	
Friday 6th	Last Quarter
Saturday 7th-	Saturday 21st Kidsfest Nights
Friday 13th	New Moon
Tuesday 17th	CAS Members Meeting 7.30pm
Friday 20th	First Quarter
Saturday 21st	Members Night at Observatory
Saturday 28th	Full Moon
August 2018	
Friday 3rd	Public Open Night
Saturday 4th	Mars Night at Oxford Area School
Sunday 5th	Last Quarter
Saturday 11th	New Moon
Tuesday 14th	Committee Meeting 7.30pm
Friday 17th	Public Open Night
Saturday 18th	First Quarter
Tuesday 21st	CAS Members Meeting 6.30-9pm (see p4 for venue change)
Saturday 25th	Members Night At Observatory
Sunday 26th	Full Moon
Friday 31st	Public Open Night
September 20	<u>18</u>
Monday 3rd	Last Quarter
Monday 10th	New Moon
Tuesday 11th	Committee Meeting 7.30pm
Friday 14th	Public Open Night
Monday 17th	First Quarter
Tuesday 18th	CAS Members Meeting 7.30pm
Saturday 22nd	Members Night at Observatory
Tuesday 25th	New Moon
Friday 28th	Public Open Night

UPCOMING EVENTS: PUBLIC OPEN NIGHTS

This years Friday's Public Open Nights are listed below and we always welcome volunteers for these events:

July: 6th to 21st KIDSFEST

August: 3rd,17th,31st

September: 14th, 28th

Volunteers are always required to help run these events, New members are always welcome to come along and help. Information and Notifications will be on our website with contact details

If you'd like to help, please contact the open night organisers on our website.

Helpers must be society members, but all experience levels are welcome. Open nights are a great time to get training and experience using the society's telescopes, as there are always experienced members on hand to help.

KIDSFEST 2018

Kidsfest this year will run from Saturday 7th July till Saturday 21st July, and we will run open nights each night with the exception of Tuesday 17th (our members meeting night) We will of course need our volunteers to help on these nights and more details will follow in the next Casmag.

Rob Glassey is our contact and for Public Nights and Group Bookings and KIDSFEST and he can be contacted at vice.president@cas.org.nz

STARDATE SOUTH ISLAND 2019

The date has been set for this, It is the weekend of Friday 8th-Saturday 9th February 2019 More details to come in future CASMAGs Put this in your calendar.

CAS Membership Subscriptions 2018-2019 The Current years subscriptions are NOW OVERDUE

PLEASE pay your current years subscriptions as soon as possible

Please use your name and member number as a reference when banking, then email membership@cas.org.nz to advise so payments can be matched to you correctly. PLEASE also include any changes to your contact details (eg: phone, email, address) Full details are included on the last page of this newsletter.





MONTHLY MEETINGS:

Carol Mc Alavey has again been busy organising speakers for this year, If you have any suggestion for topics please contact Carol via member1@cas.org.nz

The meeting venue has changed and is now held in room 701 on the 7th floor of the West building (Old Rutherford) (Physics and Astronomy) of the University of Canterbury

Car parking is available in the car park with entrances in Science Road or Engineering Road.



Disabled parking is in Engineering Rd

Upcoming Guest Speakers:

<u>17th JULY 2018,</u> Simon Lewis Astrophotography for Beginners

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21st AUGUST 2018, VENUE FOR THIS EVENT IS A2 LEATURE THEATRE AT UNIVERSITY of CANTERBURY CAMPUS 6.30-9pm Dr Jen Blake (Nasa Ames), Haritina Mogosanu (NZ Astrobiology Network - NZAN)

18th SEPTEMBER 2018,

Members Soapbox

16th OCTOBER 2018

Graeme Kershaw, (Dale is going to present this Talk about Graeme's working life) (Retired Technician Physics & Astronomy University of Canterbury) "My work at Mount John University Observatory"

20th NOVEMBER 2018

Alan Gilmore, (Former Superintendent Mt John University Observatory)

(correct as at 8th July 2018, Subject to change as required)

Many thanks go to Orlon Petterson and Rosalie Reilly from the School of Physical and Chemical Sciences, University of Canterbury for arranging the meeting room for CAS this year

Harcourts

Raewyn Marles Licensed Sales Consultant M 027 277 97 36 P 03 322 1197 raewyn.marles@harcourts.co.nz Grenadier Real Estate Ltd Licensed Agent TRAJ 379 Halswell Road, Halswell Christchurch 8025 www.harcourtshalswell.co.nz



4

WELCOME TO OUR NEW MEMBERS:

A warm welcome to our new members, We look forward to meeting you at our meetings or events, Please make yourselves known to others. It has be great to see our new members coming along to our open nights and meetings,

At our June Committee meeting we Confirmed and Welcome:

Josie Kircher Ranger Leary Phillip Robinson Sarah Jerard Robbie Orr Marc Bunyan





	Table o	f Sout	hern Meteor Showe	rs			
Shower	Dates		Moon	Peak Rate	RA	Dec	Near Star
	Active	Peak	2018				
Centaurids	Jan 28 - Feb 21	Feb 8	Last quarter	5 (-25)	14.1	-59	β Cen
gamma-Normids	Feb 25 - Mar 22	Mar 13	5 days before New moon	8	16.6	-51	y Nor
pi-Puppids	Apr 15 - Apr 28	Apr 23	First quarter	var to 40	7.3	-45	σPup
eta-Aquariads	Apr 19 - May 28	May 5	3 days before Last quarter	60	22.5	-1	η Aqr
Pisces Austrinids	Jul 15 - Aug 10	Jul 27	1 day before Full moon	5	22.7	-30	a PsA
alpha-Capricornids	Jul 3 - Aug 15	Jul 30	2 days after Full moon	4	20.5	-10	α Сар
Southern delta-Aquarids	Jul 15 - Aug 25	Jul 27	1 day before Full moon	20	22.6	-16	δAqr
Southern iota-Aquarids	Jul 25 - Aug 15	Aug 4	1 day before Last quarter	2	22.3	-15	ı Aqr
Northern delta-Aquarids	Jul 15 - Aug 25	Aug 13	2 days after New moon	4	22.3	-5	θAqr
Northern iota-Aquarids	Aug 11 - Aug 31	Aug 19	1 day after First quarter	3	21.8	-6	β Aqr
Piscids	Sep 1 - Sep 30	Sep 19	2 days after First quarter	3	0.3	-1	λPsc
Orionids	Oct 2 - Nov 7	Oct 21	4 days before Full moon	20	6.3	+16	γ Gem
Leonids	Nov 14 - Nov 21	Nov 17	1 day after First quarter	100+	10.2	+22	γ Leo
alpha-Monocerotids	Nov 15 - Nov 25	Nov 27	3 days before Last quarter	var to 5	7.9	+1	δMon
Pheonicids	Nov 28 - Dec 9	Dec 6	1 day before New moon	var	1.2	+53	Achernar
Geminids	Dec 7 - Dec 14	Dec 14	1 day before First quarter	120	7.3	+33	Castor

Information from the Royal Astronomical Society New Zealand website. http://www.rasnz.org.nz

Canterbury Astronomical Society is supported by grants and funding from organisations and individuals from across Canterbury. Including



MAINLAND FOUNDATION-Proud to Support Our Community

Your local Gaming Trust committed to 100% local funding

CERT



The lodge is now connected to the Alarm and this needs to be disarmed on entry to the building, Please check with a committee member if you need the code before going out to observatory

INTERNET AT THE OBSERVATORY

The installation of our internet at the observatory is now complete,

Ask a committee member for the password

CLEANING AT THE LODGE

Many thanks go to Karen W for her ongoing cleaning of the lodge and toilets when required for events and public open nights.

MID-WINTER BBQ & BONFIRE NIGHT

This was a very well attended event, with a added bonus of some of the SOFIA Crew attending and they had a great evening of socialising with those CAS members who enjoyed their company (see page photo's and Heathers report on page 8)

NORTH OTAGO ASTRONOMICAL SOCIETY ANNOUNCES STARGAZERS GETAWAY WEEKEND 2018

The North Otago Astronomical Society is pleased to announce after more than 10 years, the return of their Stargazers' Getaway weekend at Camp Iona, Herbert.

Please if this sounds like you, and you want to know more,

email Damien at solaur.science@gmail.com to express your interest or book in!

Adults - \$35, 1 night, \$60 for both nights. Children - \$20, 1 night, \$35 for both nights. Under 5 - FREE Day visits for speakers - \$10

> Saturday 4 August Mars Night in Oxford

From sunset till late



Celebrating the Opposition of Mars, we organise a Mars Night at Oxford Area School. It is an all weather event and it features a major new exhibition on Mars created with support from the New Zealand Astrobiology Network.

We expect hundreds of visitors and CAS members are cordially invited to join us with their telescopes for a major star gazing event (that of course depends on the weather). There is plenty of space next to the Observatory on the school grounds. Please let James Moffat (022 364 1959) know if you can come. Priority parking available if you arrive around 6 pm.

HEATHERS NOTE'S

The First night of Kid's Fest. July 7

The night sky this night turned out to be an absolute stunner – picture –perfect clear, which has been unusual lately. At the observatory, the helpers got set up all ready and as the time drew near to opening up and letting in the public, there was a gradual rise in noise outside the gate from excited little voices. We had a more-than-full house, and the lodge had to be filled twice for the pre scope- viewing talk. Once the talk inside the lodge was complete, the expectant excited little people with mums and dads made their way outside and there was another talk given outside on what you may see, a laser was shone at Saturn and as -- 'And here we have Saturn' I heard a collective 'AHHH' go up. The grounds seemed to be full of excited people everywhere.

My main object for the evening was M6 The Butterfly cluster in Scorpius,--most people could see the Butterfly shape, but one little person said it was a moth!

I asked one of the kids, 'What have you seen tonight?' and there was a long list of objects that had been enjoyed.

It was nice interacting with the public and showing them around, some may be inspired to take up the hobby themselves after enjoying the night sky, or at least, hopefully, appreciate looking up at the stars from time to time and remembering their visit to the observatory. I think everyone was well satisfied with what they had seen and had had a good night. The noise level of excited, now tired kids gradually faded as they all started to go home, and then, Right, now, time for the astronomers to enjoy the beautiful night sky. I would have stayed later, but my phone battery had died, and

I didn't wanted to get home before it got too late just in case I had any car trouble, but, once home, I just couldn't ignore that beautiful sky, so, I had to have another photon fix, and I enjoyed even more photons using my 20X80 bino..

A good night was had by all... from Heather.

Photo from Tracey Richards on our BBQ/Bonfire night



From Your Editor

My grateful thanks to Euan for publishing last months CASMAG for me.

I would also like to thank those who sent messages/cards/flowers and those who assisted and/or attended Graeme's funeral Service in May, We (his family) were truly humbled by the respect shown to him during this very sad time

Remember you can have your advert added in the future casmag's, Contact me for detail's As always I look forward to receiving your items to include in future issues and I welcome contributions or suggestions and encourage you to send any articles or ideas you would like to be see included in upcoming issues. Please email to editor@cas.org.nz Dale Kershaw

Our CAS mid winter bonfire;--

Getting closer to the observatory, I heard some pretty loud music with plenty of base and beat and thought,

CAS is revving it up a bit, only to find out that there was a party going on down the road! I considered gate-crashing later, but, second thoughts,

I had not brought along my ear-plugs... I did however have plenty of fuel for the fire with some off cuts of wood and saved up cardboard. There were a lot of people there when I arrived;- and it was nice to catch up with some people who were in Christchurch at the time from other parts in NZ,- usually, I only get to see and talk to these people once a year at Staveley. There was a smorgasbord of food, and a very nicely decorated gazebo which worked out very well..

On to the bon fire, -well, I was sitting nattering with a friend, just the two of us at this stage, and I decided to go off and get myself something to eat;--

the bon-fire sort of 'had a little help' to get started, and next thing I knew, there was one almighty BOOM! I looked to where my friend had been sitting and she was gone! I thought for one horrible moment, after the explosion, she had been launched!!!! I was relieved to find that she was still on planet Earth, but, had just done a runner after the BOOM! It's a wonder it was not followed by the sound of sirens and a car with flashing lights! --- As usual, there was some very interesting chatting going on, with everything from what kind of dog to have, to heat pumps, and, everything in between.. I overheard snippets of conversation from a couple of CAS members about Barnacles on the bottom, and, a loose, muddy bottom, thinking, someone is in a bad way and should see their doctor, only to find out, the subject was about boats!

Either I should get hearing aids, or, stop ear-wigging! It wasn't long, before there were marshmallows being toasted [very carefully] in front of the fire, and, mulled wine joined the selection of food. The bon-fire revved up again when wooden palettes were added, not to mention, Ladies and Gents Loo doors,-- old ones I hope,-- well,

it is dark, but let's not go into that! The party down the road got louder and LOUDER ... We decided to leave them to it as we were happy with our own party..

There was a lot of planning and work that went on behind the scenes to make it a successful night for everyone, and it certainly was a success- there were so many people, it reminded me a little of the crowd of people we used to get many years ago... Thank you to all those people working behind the scenes who made it such a good night. From Heather.

From Michael Woodworth (Sofia Staff)

I wanted to thank you and the entire Canterbury Astronomical society for a great evening. I think I can speak for all of the attendees from the SOFIA crew when I say, we had a great time and were happy to be offered the opportunity to come out to meet all of you.

As for myself, it was an honor to be invited to meet you all and see the awesome facility you all have created.

The enthusiasm and love you all have for astronomy is evident in your knowledge and eagerness to share your facility.

Thank you for inviting us out. I greatly appreciate that you all took the time to invite us out and spend time with us.

It was a night I won't soon forget. I look forward to seeing you all again,

With warm regards, Michael Woodworth



9

Many thanks for these photos from Ashley Marles Carol McAlavey Tracey Richards Dale Kershaw



This years SOFIA Public Talk was co hosted by CAS, Ara, the Antarctic Office, NASA and the DLR and held on Monday 25th June at the ARA Campus Photos below supplied by Ashely Marles & Raewyn Marles,



The Evening Sky in July 2018



All five of the naked-eye planets are in the evening sky. **Venus**, **Jupiter** and **Mars** appear soon after sunset. Silver **Venus** is in the west, above where the sun set. Golden **Jupiter** is in the northeast at dusk, moving to due north by 8 pm. Orange **Mars** is in the east. As the sky gets darker **Mercury** appears below and left of Venus. It sets around 7 pm. Mercury keeps the same distance from Venus till mid-month, then sinks lower. **Saturn** also appears in the darker sky, mid-way between Jupiter and Mars. It is in the middle of the Milky Way and is the brightest 'star' in that part of the sky.

Sirius, the brightest true star, sets in the southwest as twilight ends, twinkling like a diamond. **Canopus**, the second brightest star, is also in the southwest at dusk. It swings south later. South of the zenith are 'The Pointers', Beta and **Al-pha Centauri**. They point to **Crux** the Southern Cross on their right. Midway down the north sky is orange **Arcturus**, similar in brightness to Saturn. **Vega** rises in the northeast around 9 pm. It is on the opposite side of the sky to Canopus: low in the north when Canopus is low in the south.

Venus sets more than three hours after the sun so is a brilliant object in the dark night sky. It is bright enough to cast shadows in dark locations. In a telescope it is small and featureless, looking like the Moon after first quarter. It is 140 million km away mid-month. **Mercury** is tiny in a telescope. Through the month it becomes a thinner but taller crescent as it comes closer but more of its sunny side is turned away from us. Mercury is 150 million km from us at the beginning of July and 95 million km at the end. The crescent Moon will be right of Mercury on the 15th and near Venus on the 16th.

We pass by **Mars** at the end of July. It will then be 58 million km away, the closest it has been since 2003. It is still small in a telescope. At a magnification of 75x it appears as large as the Moon does to the naked eye. Its south polar cap of ice and frozen carbon dioxide might be seen as a white spot. Dusky markings are sometimes visible, crossing slowly as the planet rotates.

Jupiter and **Saturn** are always worth a look in any telescope. Jupiter's four 'Galilean' moons can be seen lined up on each side of the planet. Sometimes one or two may be missing as they pass in front of or behind Jupiter or are hidden in Jupiter's shadow. A small telescope shows Saturn's ring system and biggest moon Titan looking like a star about four ring-diameters from the planet. Big telescopes show fainter moons closer in. Jupiter is 740 million km away mid-month; Saturn is 1360 million km away. The Moon will be near Jupiter on the 21st and close to Saturn on the 25th.

Alpha Centauri is the third brightest star. It is also the closest of the naked eye stars, 4.3 light years* away. Beta Centauri, like most of the stars in Crux, is a blue-giant star hundreds of light years away. Canopus swings down to the southern skyline before midnight then moves into the southeast sky in the morning hours. It is a 'circumpolar star': it never sets. Crux and the Pointers are also circumpolar. Canopus is a truly bright star: 13 000 times the sun's brightness and 300 light years away.

Arcturus, in the north, is the fourth brightest star and the brightest in the northern hemisphere sky. It is 120 times the sun's brightness and 37 light years away. It twinkles red and green when setting in the northwest around midnight. It is an orange colour because it is cooler than the sun; around 4000°C.

The **Milky Way** is brightest and broadest in the east toward **Scorpius** and **Sagittarius**. In a dark sky it can be traced up past the Pointers and Crux, fading toward Sirius. The Milky Way is our edgewise view of the galaxy, the pancake of billions of stars of which the sun is just one. The thick hub of the galaxy, 30 000 light years away, is in Sagittarius. The actual centre is hidden by dust clouds in space. A scan along the Milky Way with binoculars shows many clusters of stars and some glowing gas clouds.

We see the beginning of a **lunar eclipse** around dawn on the 28th. The Moon begins to enter the outer part of the Earth's shadow at 5:15 a.m. At 6:24 is touching the inner shadow. By 7:30 it is fully immersed in the inner shadow. Southern locations will see more of the eclipse as the Moon sets later in the south.

*A **light year** (**l.y**.) is the distance that light travels in one year: nearly 10 million million km or 10^{13} km. Sunlight takes eight minutes to get here; moonlight about one second. Sunlight reaches Neptune, the outermost major planet, in four hours. It takes four years to reach the nearest star, Alpha Centauri.



Evening sky in July 2018

To use the chart, hold it up to the sky. Turn the chart so the direction you are looking is at the bottom of the chart. If you are looking to the south then have 'South horizon' at the lower edge. As the earth turns the sky appears to rotate clockwise around the south celestial pole (SCP on the chart). Stars rise in the east and set in the west, just like the sun. The sky makes a small extra clockwise rotation each night as we orbit the sun.

Three bright planets appear soon after sunset: silver Venus in west, golden Jupiter in the northeast and orange Mars in the east. As the sky darkens Mercury (not shown) appears below and left of Venus and Saturn is seen between Jupiter and Mars. Sirius, the brightest true star, sets in the southwestern twilight, sparkling colourfully. Low in the north is orange Arcturus, the same brightness as Saturn. The Pointers and Crux, the Southern Cross, are south of the zenith. Canopus, the second brightest star, is low in the southwest. It swings down to the southern horizon later. Vega rises in the northeast around 9 p.m.

Chart produced by Guide 8 software; www.projectpluto.com. Labels and text added by Alan Gilmore, Mt John Observatory of the University of Canterbury, P.O. Box 56, Lake Tekapo 7945, New Zealand. www.canterbury.ac.nz

12



Evening sky in August 2018

To use the chart, hold it up to the sky. Turn the chart so the direction you are looking is at the bottom of the chart. If you are looking to the south then have 'South horizon' at the lower edge. As the earth turns the sky appears to rotate clockwise around the south celestial pole (SCP on the chart). Stars rise in the east and set in the west, just like the sun. The sky makes a small extra clockwise rotation each night as we orbit the sun.

Silver Venus, golden Jupiter and orange Mars are bright 'stars' in the evening sky, appearing soon after sunset. Between Jupiter and Mars is Saturn, fainter than the others but the brightest 'star' in that region. Orange Arcturus in the northwest often twinkles red and green. Vega crosses the northern sky, staying low. The Pointers and Crux, the Southern Cross, are midway down the southwest sky. Canopus is low in the south. The Milky Way spans the sky from northeast to southwest with its broad centre overhead. The Scorpion's tail curls around the zenith.

Chart produced by Guide 8 software; www.projectpluto.com. Labels and text added by Alan Gilmore; Mt John Observatory of the University of Canterbury, P.O. Box 56, Lake Tekapo 7945, New Zealand. www.canterbury.ac.nz

The Evening Sky in August 2018



Four naked-eye planets are visible in the early evening sky. Three of them are the brightest 'stars' in the sky. Silver **Ve-nus** appears midway down the northwest sky soon after sunset. Golden **Jupiter** is north of the zenith and orange **Mars** is midway up the eastern sky. As the sky darkens **Saturn** appears roughly midway between Jupiter and Mars, more toward Mars as the month progresses. It is fainter than Jupiter and Mars but still the brightest 'star' in its part of the sky. Bright stars are widely scattered. Vega on the north skyline is balanced by Canopus low in the south. Orange Arcturus is in the northwest. The Southern Cross, Crux, and the Pointers are midway down the southwest sky. The Milky Way spans the sky from northeast to southwest.

Venus sets due west more than three hours after the sun, making it a spectacular object in a dark sky. It is bright enough to see by naked eye during the day if you can focus on infinity. At noon Venus is level with the Sun and 46 degrees east (right) of the Sun. That's a bit more than two hand-spans at arm's length. It is best to be in the shade to try this sighting. In a telescope Venus looks like a first-quarter Moon.

The Moon is near Venus on the 14th and 15th, near Jupiter on the 17th and 18th, close to Saturn on the 21st, and passing by Mars on the 23rd and 24th.

At the beginning of August **Mars** is the closest it has been since 2003, 58 million km from us. It is also brighter than Jupiter, a rare sight. Mars is half the diameter of Earth so is small in a telescope. A magnification of 75x is needed to make Mars appear as big as the full Moon does to the unaided eye. It will get smaller in a telescope and slowly fade as we leave it behind.

Canopus, the second brightest star, is near the south skyline at dusk. It swings upward into the southeast sky through the morning hours. On the opposite horizon is **Vega**, one of the brightest northern stars. It is due north in mid-evening and sets around midnight.

Arcturus, in the northwest at dusk, is the fourth brightest star and the brightest north of the equator. It is 120 times the sun's brightness and 37 light years away. When low in the sky Arcturus twinkles red and green as the air splits up its orange light. It sets in the northwest around 10 pm mid-month.

Midway down the southwest sky are 'The Pointers ', Beta and **Alpha Centauri**. They point down and rightward to **Crux** the Southern Cross. Alpha Centauri is the third brightest star and the closest of the naked eye stars, 4.3 light years* away. Beta Centauri, like most of the stars in Crux, is a blue-giant star hundreds of light years away and thousands of times brighter than the sun.

Antares marks the heart of the Scorpion. The Scorpion's tail hooks around the zenith like a back-to-front question mark. Antares and the tail make the 'fish-hook of Maui' in Maori star lore. Antares is a red giant star: 600 light years away and 19 000 times brighter than the sun. It is relatively cool for a star, 3300 C, giving its orange colour. Below or right of the Scorpion's tail is 'the teapot' made by the brightest stars of **Sagittarius**. It is upside down in our southern hemisphere view. Saturn is near the teapot's lid.

The **Milky Way** is brightest and broadest overhead in Scorpius and Sagittarius. In a dark sky it can be traced down past the Pointers and Crux into the southwest. To the northeast it passes **Altair**, meeting the skyline right of Vega. The Milky Way is our edgewise view of the galaxy, the pancake of billions of stars of which the sun is just one. The thick hub of the galaxy, 30 000 light years away, is in Sagittarius. The actual centre is hidden by dust clouds in space. The nearer dust clouds appear as gaps and slots in the Milky Way. Binoculars show many clusters of stars and some glowing gas clouds in the Milky Way.

The Large and Small Clouds of Magellan LMC and SMC look like two misty patches of light low in the south, easily seen by eye on a dark moonless night. They are galaxies like our Milky Way but much smaller. The LMC is about 160 000 light years away; the SMC about 200 000 light years away.

*A **light year** (**l.y**.) is the distance that light travels in one year: nearly 10 million million km or 10^{13} km. Sunlight takes eight minutes to get here; moonlight about one second. Sunlight reaches Neptune, the outermost major planet, in four hours. It takes four years to reach the nearest star, Alpha Centauri.

CAS Committee and Officers 2018/2019

Public Nights and Group B	ookings
President	Euan Mason
Vice President	Rob Glassey
Treasurer	David Brian
Secretary	Spencer Lintott
Observatory Director	Terry Richardson
Editor	Dale Kershaw
Membership Secretary	Christina Lewis
Librarian	Colin Fortune
Web Master	Simon Lewis
Committee Members	Graeme Kershaw
	Carol McAlavey
	Malcolm Flain

bookings.liaison@cas.org.nz president@cas.org.nz vice.president@cas.org.nz treasurer@cas.org.nz secretary@cas.org.nz observatory.director@cas.org.nz editor@cas.org.nz membership@cas.org.nz librarian@cas.org.nz webmaster@cas.org.nz member2@cas.org.nz member1@cas.org.nz

For more specialized information see the contact information page on www.cas.org.nz

CAS Contact Information

Canterbury Astronomical Society Inc. PO Box 25-137 Victoria Street Post Office Christchurch 8144 Web: <u>www.cas.org.nz</u> CanterburyAstronomicalSocietyFacebook Group: <u>www.facebook.com/groups/CanterburyAstronomicalSociety</u> <u>West Melton Observatory.</u> 43° 29' 55.5" S, 172° 20' 59.0" E 218 Bells Road, West Melton

CAS Members Meetings

The CAS monthly members meeting is currently held from 7:30pm onwards every third Tuesday of the month (except December and January), in room 701 on the 7th floor of the West building (Old Rutherford) (Physics and Astronomy) of the University of Canterbury Any member of the public who is considering joining the Society is most welcome to attend the meeting.

CAS on Facebook

CAS has a facebook presence. Useful to keep in touch for when your planning to head out to the observatory, asking other members for advice and or post interesting information. Follow the link listed in the contact information and request to join us.

<u>CAS on Twitter</u> CAS has a Twitter presence at https://twitter.com/canterburyastro

CAS Membership

Subscriptions are due 1st April.

Fees for current members who renew before 31 May, are at the discounted price shown on the membership form included on the back page of this casmag Full details are included on our website

Contributions to CASMAG

Member contributions to CASMAG (e.g., letters, observing notes, articles, news) are always most welcome. Please submit articles to email to <u>editor@cas.org.nz</u> The deadline for the next issue is the 1st of each month. Small personal advertisements (less than 8 lines in a column) are free to financial members.

Charges for larger items range from \$5 to \$40; email the editor for full details

The Constitution of The Canterbury Astronomical Society Inc

This can be found on our website via this link https://www.cas.org.nz/files/file/3-the-constitution-of-the-canterbury-astronomical-society-inc/

<u>Disclaimer</u>

This newsletter is for general information purposes only. The views expressed herein are not necessarily those of the Canterbury Astronomical Society Inc. (CAS). CAS has taken all reasonable measures to ensure that the material contained herein is correct, but gives no warranty for, and accepts no responsibility for, its accuracy or completeness. Readers are advised not to rely solely on this information, and should seek independent advice before making any decision. CAS reserves the right to make changes at any time, as deemed necessary.

Canterbury Astronomical Society Inc.

APPLICATION FOR MEMBERSHIP

To: Membership Secretary Canterbury Astronomical Society Inc. P.O.Box 25-137 Victoria Street CHRISTCHURCH 8144



Home phone:		Cell phone	:	
mail:Date of Bir		Sirth (if under 18):		
Membership Category (tick; s Discounted if membership is	ubscription must accompany a renewed before 31 May	application)		
Adult (any person 18 years of a Family (two or more persons lw Junior (under 18 years of age of Senior (over 65 years) Community Services Card Hold Student (any person studying fit Corporate (members have voting of family membership, please lis	ge or over who is not eligible for any ing at the same address) § in 1 April of the current year) ler ull-time at a tertiary institution; must n ing rights of one member but cannot to t the other persons involved.	other category) eapply annually) ake offlice)	Discounted \$70 \$105 \$35 \$35 \$35 \$35 \$35 \$35 \$210	Full \$80 \$120 \$40 \$40 \$40 \$40 \$240
Name	Date of birth (if under 18)	Signature		
All CAS members receive CASMs by email as a .pdf attachme Do you have access to a telescop , the undersigned declare that the	ag, a monthly newsletter. Would y nt? or by pos xe? What type and size? a information given herein is true.	ou prefer to rece st as a hard copy	ive this (plea	ase tick)

By signing this application, the applicant agrees to comply with the Constitution and By-laws of the Canterbury Astronomical Society. A copy of the Constitution may be downloaded from http://www.cas.org.nz/constitution/CAS constitution.pdf.