



CAS MAG

The official magazine of the Canterbury Astronomical Society

www.cas.org.nz www.facebook.com/CanterburyAstronomicalSociety

Monthly Meeting: Our Monthly Meetings are held on the 3rd Tuesday night of the month

Our monthly members meeting are on hold
At time of publishing we are still not able to use our normal venue
due to the new Covid traffic light system.
We will update as soon as we have any news

CAS AGM Postponed

As you will be aware we have struggled to get back into our normal venue at the UC for our normal monthly meetings and this is likely to continue for the foreseeable future until this wave of Omicron has passed.

Due our lack of suitable venue and a desire to have a safe environment for our most important night of the year, the committee has decided to postpone our AGM until May.

Hopefully in May we will be over this wave of Omicron and able to function face to face again. If by that time we are still unable to hold a normal meeting we will have to move our meeting online and we will ensure AGM papers and reports are circulated by email before the meeting. We will post arrangements prior to that date

With the AGM postponed we will revert our monthly meeting for March and April to our normal agenda and we will continue to hold these online.

Meetings start at 7.30pm with check in and news followed by our guest speaker for the evening.

To join the video meeting, click this link: <https://meet.google.com/yiw-shsx-gmp>

Otherwise, to join by phone, dial +64 9-886 4058 and enter this PIN: 916 034 706#

March Speaker: Chester Hall-Fernández - topic TBC

IN THIS MONTHS ISSUE

Front Cover:	Monthly meeting information
Page 2:	In this Issue /Editor Notes
Page 3:	Important update re Covid -19 operations
Page 4:	Calendar Dates /2022 Open Night Season Info
Page 5:	Monthly Meeting Information
Page 6:	CAS Merchandise Available
Page 7:	Members Interest Section Info
Page 8:	Welcome to our new Members/Observatory News
Page 9:	CAS Members Reports/Items of interest
Page 10:	CAS Members Reports/Items of interest cont
Page 11:	CAS Members Reports/Items of Interest cont
Page 12:	RASNZ Conference /The Dark Skies Retreat/Quotes
Page 13:	Lodge Security <u>IMPORTANT INFORMATION</u>
Page 14:	Evening Sky in Map for March 2022
Page 15:	Evening Sky in Text for March 2022
Page 16:	Evening Sky in Map for April 2022
Page 17:	Evening sky in Text for April 2022
Page 18:	Contact Information
Page 19:	Membership Form/Payment Details

From Your Editor

This is your Casmag, for YOU our members,
So I welcome any ideas or articles you would like to share with the other members. Please email your Article or favourite photo with details so I can include it in future issues.

Deadline for each issue is 1st of each month

Remember you can have your advert added in the future casmag's,
(see page 17 for details)

Any questions, Ideas or suggestions please email to editor@cas.org.nz

Dale Kershaw

From 7.2.4.6 on page 15 of Constitution of the Society

“Any member wishing to have an article or paper published in CASMAG or other publications of the society shall in the first instance, forward a copy to the editor who may request the approval of the committee before publication.”

DISCLAIMER:

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.

IMPORTANT UPDATE FROM YOUR COMMITTEE

Covid-19 level Operations

While most of this information has stayed the same there are some changes

Traffic Light **RED** restrictions.

Public Open Nights: We hope these will start again in April when daylight saving starts The Covid-Sub-Committee and full committee have been and continue to discuss the requirements that will be put into place and advise when decided. (We will be following all government rules)

CAS Events At the UC: At this stage we are still waiting on when we will be allowed to use the rooms, If not We will look at other options.

If you have any ideas of other venues please contact the Committee

Training nights and Members nights at the observatory are cancelled until further notice.

We will continually evaluate when we may be able to safely restart these.

Observatory Use. Adhoc use of the observatory is allowed under **RED** Traffic Light but with the following guidance and parameters:

Do not visit the observatory if unwell.

Please sign in using the COVID tracer app using the QR code in the lodge.

Prior to your visit please post on the observatory activity forum when you intend visiting, or contact Terry our observatory director (number is on the site contacts page).

If you intend to remain outside and not enter the lodge at anytime then there is no requirement to enter the lodge to sign the logbook.

Maintain 2 m distancing inside or out.

You must wear a mask inside, or where 2m distancing cannot be safely maintained outside

No more than 4 people in the lodge at any one time and social distancing must be maintained at all times.

No more than one person in telescope buildings, both inside, or in roll off areas, unless assistance is required (use masks if more than 1 person).

Please maintain your hygiene and be aware that surfaces and equipment may be contaminated and we cannot guarantee your safety.

Wash / sanitise hands using the gear provided.

Do not clean optics as the sanitising chemicals can cause damage to equipment.

We will keep you informed as to any changes when the government announces them.

Please follow the rules at the observatory if visiting, and please stay safe

CAS Calendar March- May 2022

MARCH 2022

Tuesday 8th	Committee Meeting
Thursday 19th	First Quarter
Tuesday 15th	Cas Members Meeting (online)
Friday 18th	Full Moon
Friday 25th	Last Quarter

APRIL 2022

Friday 1st April	New Moon
Sunday 3rd	Daylight Saving Changes
Saturday 9th	First Quarter
Tuesday 12th	Committee Meeting
Friday 15th	Good Friday
Sunday 17th	Easter Sunday
	Full Moon
Monday 18th	Easter Monday
Tuesday 19th	Cas Members Meeting
Saturday 23rd	Last Quarter
Monday 25th	ANZAC Day

MAY 2022

Sunday 1st May	New Moon
Sunday 8th	Mothers Day
Monday 9th	First Quarter
Tuesday 10th	Committee Meeting
Monday 16th	Full Moon
Tuesday 17th	CAS AGM Meeting (note new date for this year)
Monday 23rd	Last Quarter
Monday 30th	New Moon



2022 Open Night Season

Our 2022 **Public Open Night** season starts after daylight saving changes on 3rd April, (clocks go back 1 hour)

Kidsfest is on 9th -24th July this year further details closer to the time

Private Group Bookings normally are done on Wednesday evenings set at 2 week intervals and these are advised via the website and email

All of these events will be confirmed closer to the dates and volunteers are requested to assist, full training is given if you are new to helping out

MORE INFORMATION TO FOLLOW AS COVID REGULATIONS CHANGE



MONTHLY MEETINGS:

Meeting Venue:

**Room ER 225 in the Ernest Rutherford Building, University of Canterbury, (1 building over from the east building we used last year)
Entrance to the building will be via the north side entrance,
Then using the lift or stairs up to level 2**

Carol McAlavey is asking you, our members to make suggestions or offer to give a talk at our monthly meetings.

PLEASE CONTACT CAROL WITH YOUR SUGGESTIONS OR IF YOU CAN GIVE A TALK via member2@cas.org.nz

Upcoming Members Meetings

15th March: Chester Hall-Fernández Topic to be confirmed

The link for this meeting is:

To join the video meeting, click this link: <https://meet.google.com/yiw-shsx-gmp>

Otherwise, to join by phone, dial +64 9-886 4058 and enter this PIN: 916 034 706#

19th April: TBC

17th May: AGM (note new Date)

(correct as at 28th February 2021, Subject to change as required)

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

Also Thanks to Associate Professor Karen Pollard for organising the Lecture theatres for our public talks

PLEASE Remember we are only able to hold our meetings at the University at Covid-19 Level 1

We will update the website if there are any changes and will host meetings via ZOOM if possible:

CAS YOUTUBE CHANNEL

Have a look at our new you tube channel

<https://www.youtube.com/channel/UChLhFm7yaLUTlgH3IJvA11g>

CAS MERCHANDISE

Cas branded items for sale

Coffee Mugs are \$15.00 each



Pens are also available to members (extras are \$2.50)



Waterproof Stickers with our logo are also available

2022 Cosmic Calendar

Price is \$15.00 (Pickup) \$20.00 (Posted)



CAS Beanies: Now in stock.

Wool Blend Beanie with the CAS logo in the front: \$20.00

CAS Sew-On LOGO Badges: Now in stock \$10.00 each

The following we will take orders and then we will order the items, 1-2 weeks delivery from order) We have samples of each of the following items

Cas Soft Shell Jackets = Sizes S— 8XL \$65.00

Cas Polo Shirts = Sizes S—5XL \$45.00

Cas Zip Front Polar Fleece Jackets = Sizes 2XS -5XL \$47.00

Cas T-Shirts = Sizes 3XS—8/9XL \$22.00

I have the full sizing charts on hand so you can make sure you are ordering the correct size.

Payment can be cash or bank deposit

They are available from Editor (Dale),

contact via editor@cas.org.nz

or 0272426376

Soft Shell Jacket



Polo Shirt



Zip Front Polar Fleece



Members Interest Section



This section is dedicated to members on what **you** have as an interest under the umbrella of Astronomy.

Do you like: Meteors / Comets / Photometry / Solar observing / Photography / Telescope building / Spectroscopy / Aurora's / Occultation's / Variable Stars / Satellite tracking / Lunar observations / Jupiter impact monitoring / Radio Astronomy / Eclipses ?

Or

Do you have other interests that you would like to share and see who else would enjoy knowing some more? Form your own interest section.

Here's a couple of ideas that if you would like to know more about

Then contact Terry or Simon.

You can also use the CAS forum to discuss other ideas to check out who else would be interested.

Tune into Jupiter or the Sun with Radio Astronomy

Radio astronomy can be done during the day and even cloudy nights.

Terry has built a receiver and with his computer can log activity of the Sun and Jupiter.

Terry Richardson

observatory.director@cas.org.nz

Cell: 021 776 458

Bounce Signals off the Moon

Beam a signal at the Moon or at a lunar orbiting satellite

Simon Lewis

Vice.president@cas.org.nz

Cell: 022 640 6649

So check it out and so who else will be interested



WELCOME TO OUR NEW MEMBERS:

A warm welcome to our new members, We look forward to meeting you at our meetings and/or events, Please make yourselves known to others. We like to welcome our new members here after the membership is accepted by the committee at the meeting following memberships are received.

Neil Heslop
 Tony Hogg
 David Williams
 Renjie Zhou
 Mr Geoff Duff
 Adam Brand
 Jessica Westley
 Marie-Anne Peacock
 Jess Kenton



It is always great to see our new members coming along to our Members Meetings, Members Nights and Events. (When these can happen)

*(Apologies if your name
 is spelled incorrectly
 Editor)*

OBSERVATORY NEWS IMPORTANT INFORMATION

DOOR CODE & ALARM AT THE OBSERVATORY

The door code and Alarm code has been changed since our March AGM
 Ask a committee member for the passwords.

INTERNET WI-FI:

Ask a committee member for the password

LASER POINTERS:

There is a legal requirement when importing them, and information is on our website and at the observatory, CAS has a drafted a set of guidelines which we were presented at our AGM and were voted and added to our By-Laws, If you need a letter confirming your membership for your application, please contact either membership secretary or secretary, (This letter will state you are a current financial member of our society)

ACCREDITATION

A reminder that unless you have full accreditation on the equipment you are not to use the equipment unless there is an accredited person with you.

Full training is available

There is a full list of accredited person's on the wall above the kitchen sink inside the lodge

contact Terry (our Observatory directory via his email listed on our website or the inside back page casmag

CAS MEMBERS REPORTS

The following are reports/items sent to me for publishing,
Thank you to those who contribute to your CASMAG

HEATHERS NOTES:

2ND JANUARY 2022

Saturday night was a clear night and I was feeling, astronomically restless; I wanted to do some viewing and, I wanted to see the comet. I went out to the observatory hoping someone would be there who could show me where the comet could be found; And, I found it first go,- clever me!

The truth--- I was shown where to look and I found it just by very happy chance. I was looking through my 20x80 double focuser bino I had recently bought from Astronz,- very pleased with it and lovely crisp views...

The comet was very impressive to see,- a fuzzy comer, brighter nucleus, and very impressive tail that got easier to see as it got darker.. Beautiful clear night with very good seeing, and I enjoyed looking at the comet for a long time. The few of us that were there shared our comet viewing through the different instruments we were using,- [all of us double vaxed and only three of us.] It was such a good night, after quite a while, I eventually I tore my eyes away from the comet to view the stunning Pleaides cluster, M42 and, clusters along the Milky Way in Carina.

Who knows what the year will bring, but that night, at that time,
Happy New Year !!!!! Tired, happy astronomers go home.....

From Heather.....

8TH FEBRUARY 2022

Staveley Stardate SI this year was a little different as in,- there were fewer people there but enough attended to make it a very nice astro family get-together. We made our own 'safe bubble' and felt very relaxed about it and had to show our vax passes at the registration table of course, and certain guidelines had to be followed. Also, it was very informal and a 'take it as it comes', but saying that, we didn't miss out on anything except viewing as it rained all weekend, but, even that didn't spoil it ; we still had very interesting talks, a delicious potluck dinner,- cabins were warm and cosy as they have heating in them, and most of all, -- there was the lovely relaxed atmosphere; the feeling of getting away from it all and the comradery.

I think we all needed it and was so pleased that This, was still going ahead. I t was like spending a weekend away with family. I know it did me good....

A big Thank you to Dale and Carol for organising it all, and making it a successful and enjoyable weekend...

From Heather

CAS MEMBERS REPORTS cont

The following are reports/items sent to me for publishing,
Thank you to those who contribute to your CASMAG

Musings about Stardate in the time of COVID from Preetha

So here is my tribute to Stardate and both Dale and Carol this year :
The last two years has been different. It's been one where as people we have had to change the way we interact with each other and change the way we interact with the world.

Stardate this year was no exception - Omicron in the community, then the move to RED, then that 'lovely' low that showered out any further hopes of gazing at stars.

Anyone else would have packed up and admitted defeat.

Fortunately we had Dale and Carol and between the two of you kept the Stardate train going - albeit a much smaller crowd, appropriately social distanced, double vaccinated train.

Although it was a much smaller crowd with no prospect of seeing any stars, it was a nice casual affair of people who spent a couple of days chatting and catching up about astronomy and getting to know those present better.

I learnt to play Canasta (thanks to Andre for being a patient Canasta master) during what would have been stargazing time and shared chats about the challenges COVID continues to pose.

The lesson here is that COVID is here to stay for a while and it is, as Carol and Dale so clearly demonstrated. within us to find ways to continue doing the things we love despite the challenges that come up.

Being careful is quite different to being fearful.

Being reckless is quite different to being brave.

My wish for 2022 is to be brave but careful

Thank you for not letting COVID and rain stop the Stardate train

Preetha

CAS MEMBERS REPORTS cont

The following are reports/items sent to me for publishing,
Thank you to those who contribute to your CASMAG

COMET LEONARD

I was invited by John Pickering to join in with several others at the top of Wolsey's road on New years day night to view Comet Leonard, It was well worth the time and effort to see this, and as bonus we were also able to view the James Webb Telescope using the co-ordinates and his ev scope. We viewed the comet using the ev scope, a dob scope and some binos, It was a great way to start this year. (Also my new CAS beanie had it 1st test run, it was very comfortable and keep my head very warm). Dale.K



Above Left:

Comet Leonard

24/1/2021

Above Right:

Christmas Day 2021

Sun Halo from

Christchurch

Bottom Right:

Comet Leonard

1/1/2022

Photos from

John Pickering



2022 RASNZ CONFERENCE

RASNZ Conference and AGM will be hosted by the Northland Astronomical Society over the weekend of Friday 3rd to Sunday 5th June 2022.

The venue for the conference will be the Barge Community Events Centre, Whangārei.
Submissions of conference papers are being accepted now .

CHECK THE CONFERENCE WEBSITE FOR MORE INFO
<https://rasnzconference.org.nz/>

THE DARK SKIES RETREAT—JUNE 23-26TH 2022

The Dark Skies Retreat, June 23-26, Thursday-Sunday.
Supported by ASTRONZ.

A weekend getaway of astronomical proportions!
Astronomy, astrophotography, night sky education, outreach,
with a big focus on dark skies.

Held over the first Matariki Public Holiday in June,
under the dark skies of

Camp Iona, Herbert Forest, Herbert
(20-minutes south of Oamaru).

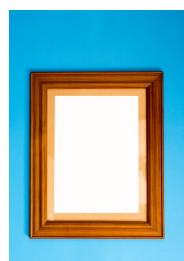
Contact Damien McNamara, solaur.science@gmail.com

QUOTES FROM THE RASNZ E-NEWSLETTER

"Your call is important to us. Please stay on the line till it is no longer important to you."



"Kids today will never know what it was like to take a ton of pictures - and have to wait a week to find out they were useless."



OBSERVATORY NEWS **IMPORTANT INFORMATION**

New Security System in Lodge

We are trialling a new security system in the Lodge. This takes the form of an intrusion sensor outside, and a Wifi cam inside the lodge in the back corner at the car park end. The intention is to add another camera outside the lodge overlooking the car park area. The advantage of these is that they will trigger on intrusion alert and can be viewed remotely in real time or reviewed within 2 weeks. These are not for the purpose of watching people, but rather to check that entry to the lodge is by legitimate members. Given the assets we have on site, this is necessary for any insurance claims. Access to these cameras is limited to Webmaster, Vice President and Observatory director only. We already have a surveillance network installed (several years ago) which records to a hard drive but cannot be remotely viewed in real time.

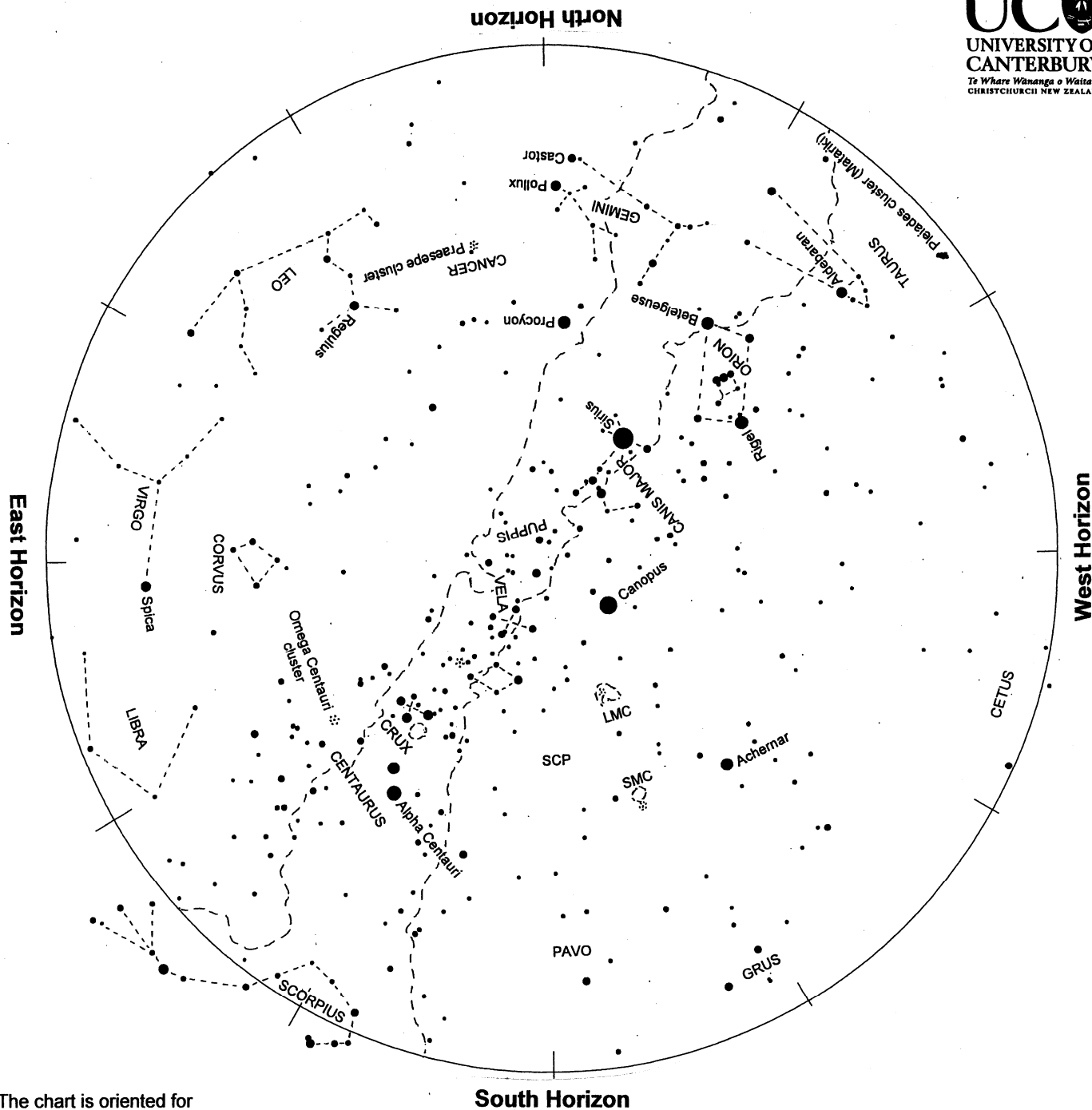
If anybody needs to know more please feel free to email me
observatory.director@cas.org.nz
Terry Richardson

SECURITY FOR OBSERVATORY KEYS- Accredited Members

Committee have decided that we need improved security for access to the observatory equipment. From now all keys are stored in a lock box in the library. Any accredited member will be given the combination (just ask me). This includes the key to the equipment room and for the dobs. Although the dobs do not require formal accreditation, they are precision instruments that can be damaged if not used correctly. A member accredited on any of the scopes can open these for you. Members still have free access to the lodge and its facilities, but any other access will require an accredited person to be present. Any accredited member can get access to the keys, but of course can only use (or supervise) the instrument they are accredited for. This sounds a bit restrictive, but has become necessary due to recent misuse and possible damage to some instruments.

Any questions please email me
observatory.director@cas.org.nz
Terry Richardson





The chart is oriented for
 Feb. 15 at midnight NZDT
 Mar. 1 at 11 p.m. "
 Mar. 15 at 10 p.m. "
 April 1 at 9 p.m. "

Evening sky in March 2022

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 westward shift each night as we orbit the sun.

Sirius the brightest star, appears northwest of the zenith in early twilight. Orion, containing 'The Pot', is below Sirius in the northwest sky. Canopus, the second brightest star, is southwest of overhead. The Southern Cross and Pointers are midway up the southeast sky. Nearby galaxies the Clouds of Magellan, LMC and SMC, are high in the south looking like misty patches in a dark sky. All the bright planets are in the morning sky (so not on the chart.)

The Evening Sky in March 2022

Northwest of overhead is **Sirius**. It is the brightest true star in the sky. Southwest of the zenith is **Canopus**, the second brightest star. Below Sirius are bluish **Rigel** and orange **Betelgeuse**, the brightest stars in **Orion**. Between them is a line of three stars: Orion's belt. To southern hemisphere star watchers, the line of stars makes the bottom of 'The Pot'. Orion's belt points down and left to a V-shaped pattern of stars. This makes the face of **Taurus** the Bull, upside down to us. The orange star **Aldebaran** is at one tip of the V making one eye of the bull. Continuing the line from Orion down and left finds the **Pleiades** or **Matariki** star cluster, low in the northwest. It sets after 9 pm, mid-month. The cluster is about 440 light-years* away.

Sirius is the brightest star both because it is relatively close, nine light years away, and 23 times brighter than the sun. **Rigel** is a bluish supergiant star, 40 000 times brighter than the sun and much hotter. It is 800 light years away. Orange **Betelgeuse** is a red-giant star, cooler than the sun but much bigger and 9000 times brighter. Betelgeuse is 400 light years from us.

The handle of "The Pot", or Orion's sword, has the Orion Nebula at its centre; a glowing gas cloud many light-years across and 1300 light years away. It is a place where dust and gas in space is gathering together to make new stars. Some of the stars are much bigger and hotter than the Sun. Ultra-violet light from them causes the left-over gas to glow, making the nebula.

Near the north skyline are **Pollux** and **Castor** marking the heads of **Gemini** the twins. Though paired in mythology, the two stars are not related at all. Castor is a hot white star like Sirius but 52 light years away. Golden Pollux is bigger and brighter but cooler than Sirius and 34 light years away. Above and right of them is the star cluster **Praesepe**, marking the shell of **Cancer** the crab. Praesepe is also called the Beehive cluster, the reason obvious when it is viewed in binoculars. It is some 500 light years from us.

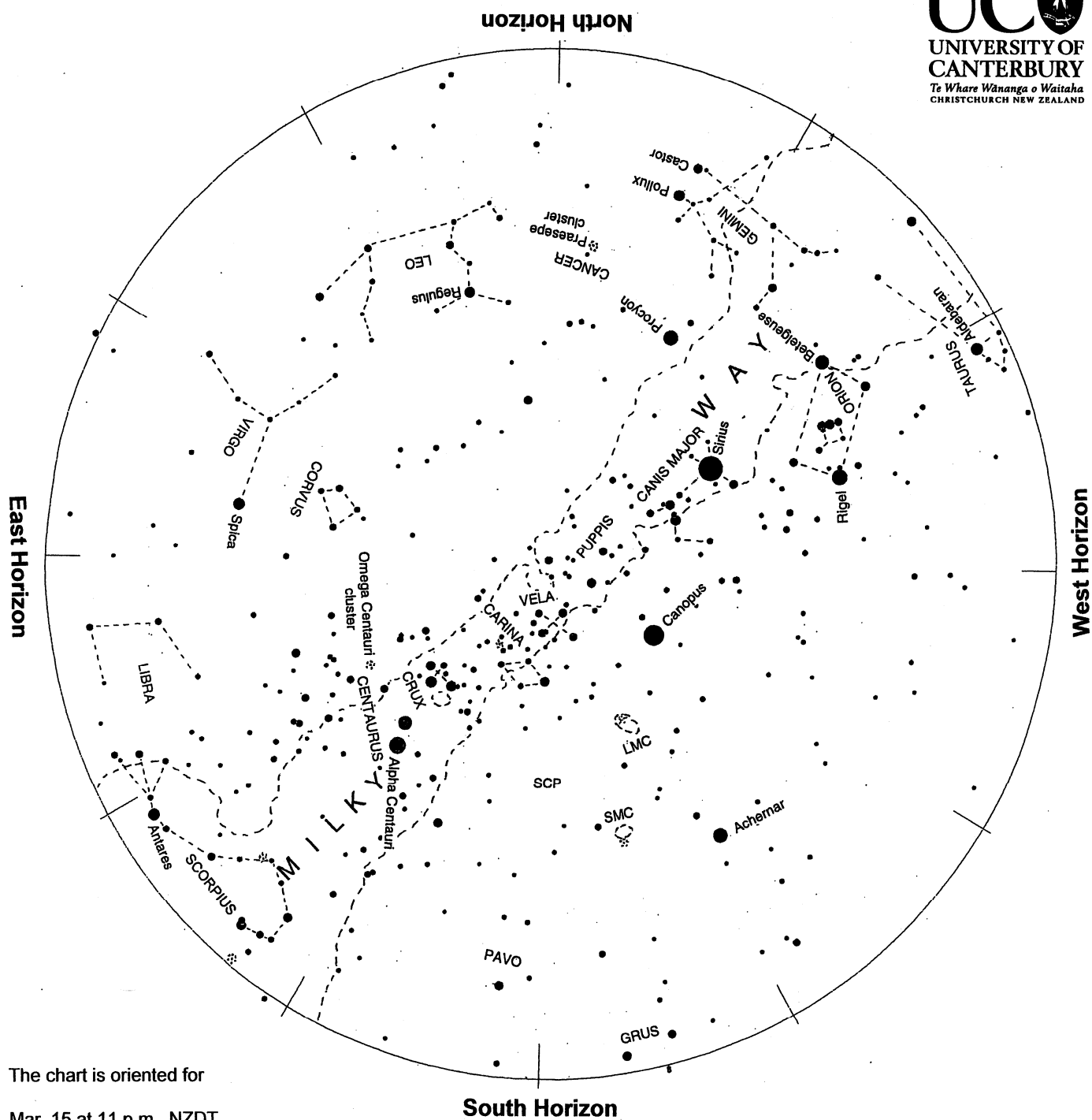
Crux, the Southern Cross, is in the southeast. Below it are Beta and **Alpha Centauri**, often called 'The Pointers'. Alpha Centauri is the closest naked-eye star, 4.3 light years away. Beta Centauri, like most of the stars in Crux, is a blue-giant star hundreds of light years away. **Canopus** is also a very luminous distant star; 13 000 times brighter than the sun and 300 light years away.

The **Milky Way** is brightest in the southeast toward Crux. It becomes broader lower in the southeast toward **Scorpius**. Above Crux the Milky Way can be traced to nearly overhead where it fades. It becomes very faint in the north, right of Orion where we are looking toward the Galaxy's nearby edge. The centre of the Galaxy is in the broad part of the Milky Way below Scorpius in the southeast.

The Clouds of Magellan, **LMC** and **SMC** are high in the south sky. They are easily seen by eye on a dark moonless night, looking like misty patches. They are two small galaxies about 160 000 and 200 000 light years away. The Large Cloud is around a quarter the mass of the Milky Way

All the bright planets are in the morning sky, some better placed than others. (So none are on the chart.) **Venus** is the beacon for the region, rising due east after 3:30 at the beginning of the month. To the right of Venus is **Mars**, much fainter and red-coloured. Well below and right of Venus are **Mercury** and **Saturn**. They make a close pair at the beginning of the month, rising after 5 a.m. Mercury is the brighter of the two. All the planets are the brightest 'stars' in this empty part of the sky. Saturn rises earlier each day, as we catch it up, while Mercury falls lower as it moves to the far side of the Sun. By mid-month Saturn is rising after 4:30 and Mercury doesn't appear till twilight. By the end of March, Saturn and Mars are above Venus, roughly equally-spaced up the sky. Venus rises around 4 a.m. by then, Mars and Saturn a bit earlier. The crescent Moon will be beside Venus and Saturn on the 29th with Mars above them. If you have a low eastern skyline, or a sea horizon, then on the 31st you might see **Jupiter** and the very thin crescent Moon rising after 6 a.m. The apparent closeness of the planets is all line-of-sight, of course. At mid-month Mercury is 194 million km away, Venus 96 million, Mars 285 million, Jupiter 890 million and Saturn 1600 million km 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.



The chart is oriented for

Mar. 15 at 11 p.m. NZDT
 April 1 at 10 p.m. "
 April 15 at 8 p.m. NZST
 May 1 at 7 p.m. "

Evening sky in April 2022

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 westward or clockwise shift each night as we orbit the sun.

Sirius, the brightest star, is midway down the western sky. Below it is Orion with bright stars Rigel, blue tinted, and orange Betelgeuse. Canopus, the second brightest star, is southwest of overhead. Below Sirius, 'the dog star', is Procyon marking the smaller dog. Below it are Pollux and Castor, the Gemini twins. Regulus in Leo is due north and Spica in Virgo is due east. Crux, the Southern Cross, and The Pointers, Alpha and Beta Centauri, are high in the southeast sky. Bright planets are in the dawn sky.

The Evening Sky in April 2022

Sirius is the first star to appear at dusk, midway down the northwest sky. It is soon followed by **Canopus**, southwest of the zenith. Below Sirius are bluish **Rigel** and orange **Betelgeuse**, the brightest stars in **Orion**. Between them is a line of three stars: Orion's belt. To southern hemisphere star watchers, the line of three makes the bottom of 'The Pot', now tipped on its side. In the Pot's handle, or Orion's Sword, is the Orion Nebula, a glowing cloud easily seen in binoculars.

Below and right of Sirius is **Procyon** marking the head of Canis Minor one of the two dogs following Orion across the sky. Sirius marks the head of Canis Major, the big dog. The big dog's hindquarters are made by the bright stars above Sirius.

Low in the north below Procyon are **Pollux** and **Castor**, the heads of **Gemini** the twins, making a vertical pair of stars. Though related in myth, the Twins are quite different from each other. Pollux is an orange star 31 times brighter than the sun and 34 light-years(l.y)* from us. Castor is a hot white star about 47 times the sun's brightness and 51 l.y. away. The first-quarter Moon will be beside Pollux on the 9th.

Above and right of The Twins is the **Praesepe** star cluster, looking like a hazy spot to the eye. It marks the shell of **Cancer** the Crab. Praesepe is also called the Beehive cluster, the reason obvious when it is viewed in binoculars. Praesepe is 600 light-years away. Its age is around 600 million years so its biggest and brightest stars have long ago burnt out.

Right of Praesepe, almost due north, is a medium-bright star **Regulus**. It is the brightest star in **Leo** the Lion. The curve of stars below Regulus outlines Leo's mane, upside down in our southern hemisphere view. A crooked vertical line of stars right of Regulus makes Leo's hind quarters with the brighter star further right being his tail. The Moon will be in the curve of the Lion's mane, below Regulus, on the 12th.

The lone bright star due east is **Spica**, the brightest star in **Virgo**. Spica marks the ear of wheat that the Roman goddess Ceres is holding. From her we get the word cereals for grain crops. Above Spica is the roughly kite-shaped constellation of **Corvus** the Crow. Some navigators called it "Spica's spanker (spinnaker)", the sail that towed Spica across the sky. Corvus was a handy cross-check that they were sighting on the right star. The near-full Moon will be below and left of Spica on the 16th.

Crux, the Southern Cross, is high in the southeast. Below it, and brighter, are Beta and **Alpha Centauri**, often called 'The Pointers'. Alpha Centauri is the closest naked-eye star, 4.3 light-years away. Beta Centauri, like most of the stars in Crux, is a blue-giant star hundreds of l.y. away. **Canopus** is also a very luminous distant star; 13 000 times brighter than the sun and 300 l.y. away.

The **Milky Way** is brightest in the southeast above Crux. It can be traced to nearly overhead where it fades and becomes very faint in the northwest, right of Orion. The Milky Way is our edgewise view of the galaxy, the pancake of billions of stars of which the sun is just one.

The Clouds of Magellan, **LMC** and **SMC** are midway down the southwest sky, easily seen by eye on a dark moonless night. They are two small galaxies about 160 000 and 200 000 light years away.

The bright planets are all in the morning sky. Brilliant **Venus** rises around 3 a.m. NZST. At the beginning of the month **Saturn** and **Mars** are in line just above it. Saturn is cream-coloured, Mars is red. Golden **Jupiter** rises around 5 a.m., nearly two hours before the Sun. Saturn and Jupiter move higher, morning to morning, as we catch up on them. On the 5th and 6th Saturn and Mars will be a close pair less than a full-moon's width apart. Mars holds its position as Venus slowly falls lower. By mid-month Jupiter, Venus, Mars and Saturn will make a line up the eastern pre-dawn sky. At the end of the month Venus and Jupiter will be a close pair, just half a full-moon's width apart on the morning of May 1st. The Moon will be above Saturn on the April 25th, above Mars on the 26th, above Venus on the 27th and below and right of Jupiter on the 28th.

*A **light year (l.y.)** is the distance that light travels in one year: nearly 10 million million 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 2021/2022

Public Nights and Group Bookings		bookings.liaison@cas.org.nz
President:	Rob Glassey	president@cas.org.nz
Vice President:	Simon Lewis	vice.president@cas.org.nz
Treasurer:	David Brian	treasurer@cas.org.nz
Secretary:		secretary@cas.org.nz
Observatory Director:	Terry Richardson	observatory.director@cas.org.nz
Editor:	Dale Kershaw	editor@cas.org.nz
Membership Secretary:	Marc Bunyan	membership@cas.org.nz
Librarian:		librarian@cas.org.nz
Web Master:	Marc Bunyan	casweb@cas.org.nz
Committee Members:	Carol McAlavey	member2@cas.org.nz
	Sean Mullis	member1@cas.
	Kieran Edan	member4@cas.org.nz

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

CAS Contact Information

Canterbury Astronomical Society Inc.

PO Box 25-137

City East

Christchurch 8141

Web: www.cas.org.nz

Canterbury Astronomical Society Facebook Group:

www.facebook.com/groups/CanterburyAstronomicalSociety

West Melton Observatory: 43° 29' 55.5" S, 172° 20' 59.0" E 218 Bells Road, West Melton

CAS Members Meetings:

The *CAS monthly members* meetings are currently held from 7.30pm onwards every third Tuesday of the month (except December and January) at the University of Canterbury,

Room ER225 Ernest Rutherford Building (2nd floor)

CAStronauts Meeting's are 6.30-7.30, in the same venue on the same night (3rd Tuesday of the month)

Any member of the public who is considering in joining the society are most welcome to attend the meetings.

Members Nights at the Observatory are detailed on our website

Observatory Members Nights:

Cas holds these nights as follows

Members Nights (Training) on the 1st Saturday of the month

Members Nights (General) on the 3rd Saturday of the month after the Tuesday Members meeting at UC, (be aware some months it is the 4th Saturday, depending on the start of the month) check the website for details

CAS on Facebook:

Cas has a Facebook presence, Useful to keep up to date with events, interesting articles, asking for advice, For members please use the website forums for more detailed information etc

CAS Membership:

Subscriptions are due 1st April each year

Fees for current members shown on the membership form included on the back page of your Casmag,

Full details are included on our website.

Contributions to CASMAG:

Member contributions to CASMAG are always most welcome (letters, observing notes, articles, news)

Please submit articles by email to editor@cas.org.nz

The deadline for each issue is the 1st of each month

Small personal advertisements are free to financial members, (less than 8 lines in a column)

Charges for larger items range from \$5 to \$40, email the editor for more details.

The Constitution of The Canterbury Astronomical Society Inc:

This is available on request, Please ask for a copy if required

DISCLAIMER:

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
 City East
 Christchurch 8141

Applicants Name in Full _____

Address: (Note a P.O.Box is NOT a legal address) _____

Home Phone: _____ Cell Phone: _____

Email: _____ Date of Birth: (if under 18) _____

Membership Category (*tick, subscripton must accompany application*)

Online Banking Details (Please identify your payment): 03 0802 0098273 00

	Full
<input type="checkbox"/> Adult (any person 18years of age or over who is not eligile for any other category)	\$70
<input type="checkbox"/> Family (two or more persons living at the same address)	\$105
<input type="checkbox"/> Junior (under 18 years of age on 1st April in the current year)	\$35
<input type="checkbox"/> Senior (over 65 Years)	\$35
<input type="checkbox"/> Community Services Card Holder	\$35
<input type="checkbox"/> Student (any person studying full-time at a tertiary instition, must reapply annually)	\$35
<input type="checkbox"/> Corporate (members have voting rights of one member, but cannot take office)	\$210

Name:	Date of Birth(if Under 18yrs)	Signature
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

All CAS members receive CASMAG a monthly newsletter,

Do you have access to a telescope? What type and size? _____

I the undersigned declare that the information given herein is true.

Signature: _____ Date: _____

By signing this application the applicant agrees to comply with the Constitution and By-Laws of the Canterbury Astronomical Society Inc.

Date Approved: _____