



CAS MAG

The official magazine of the Canterbury Astronomical Society

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

Monthly Meeting: [FEBRUARY 2020](#)

We will be meeting in a new venue at the University of Canterbury with the venue yet to be confirmed, Notices will be posted on our website when this happens

Refreshments start at 7.30. Meeting starts at 8pm

FEBRUARY MEETING:

Venue and Guest speaker to be confirmed, We will update on our website when sorted.

CAS COFFEE MUGS & PENS

Cas now has these for sale see page 7 for information.



We wish you all a very Happy and Safe Holiday Season,
Have fun with what ever you plan to do.
The observatory is operational over the holiday time for
those who wish to visit,
Please remember the rules and enjoy

Your CAS Committee

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/ Observatory News/Editor Notes |
| Page 6: | Meteor Shower Chart/2020 RASNZ Conference Information |
| Page 7: | Notes from your Committee |
| Page 8: | NOTICE OF MOTION; Proposed By-Law Addition for AGM, |
| Page 9: | Code of Practise for Laser Use |
| Page 10: | Celebrate the Night by Tracey Richards |
| Page 11: | Photos from Our Members (Tracey Richards Tekapo Trip) |
| Page 12: | Evening Sky in Text for January 2020 |
| Page 13: | Evening Sky in map for January 2020 |
| Page 14: | Contact Information |
| Page 15: | Membership Form |

CAS Calendar, DECEMBER 2019 - MARCH 2020

December 2019

Tuesday 31st **New Years Eve**

January 2020

Wednesday 1st **New Years Day**

Friday 3rd **First Quarter**

Saturday 11th **Full Moon**

Saturday 18th **Last Quarter**

Saturday 25th **New Moon**

February 2020

Sunday 2nd **First Quarter**

Thursday 6th **Waitangi Day**

Sunday 9th **Full Moon**

Tuesday 11th **Committee Meeting**

Sunday 16th **Last Quarter**

Tuesday 18th **Members Meeting**

Friday 21st **Stardate South Island Staveley**

Saturday 22nd **Stardate South Island Staveley**

Sunday 23rd **Stardate South Island Staveley**

Monday 24th **New Moon**

March 2020

Tuesday 3rd **First Quarter**

Tuesday 10th **Full Moon**

Committee meeting

Monday 16th **Last Quarter**

Tuesday 17th **CAS AGM**

Saturday 21st **Members Night at Observatory**

Tuesday 24th **New Moon**

Saturday 28th **Earth Hour 8.30-9.30pm**

UPCOMING EVENTS:

2020 Calendar:

18th February 2020: 1st Members Meeting Night for 2020,
Speaker and venue to be confirmed

21st-23rd February 2020: Staveley Stardate South Island

17th March 2020: CAS AGM Meeting

21st March 2020: Members Club Night at Observatory

Earth Hour 2020: Saturday 28th March at Observatory

Public Open Nights Start April 3rd (Full List to Follow)

Daylight Savings Ends April 5th

Easter Weekend 10th-14th April



STAVELEY STARDATE SOUTH ISLAND 2020

2020 Stardate South Island.

www.treesandstars.com/stardate/

21st 22nd 23rd February, Friday 3pm - Sunday 2pm

at the Christian hostel and Camp at Staveley with the following facilities, Full toilet and Showers, Bunkrooms, The auditorium, Full Kitchen with shared fridges and freezer with plenty of space for tents and caravans/campervans

Excellent horizons in all directions and heaps of room for many telescopes

\$20 per night per adult, 5-15 years \$5.00 per night under 5 free

Euan has asked for anyone who wishes to give a talk to please contact him, president@cas.org.nz

Registration's are open and can be completed on this link

<https://www.treesandstars.com/stardate/>

use the registration link



MONTHLY MEETINGS:

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 Meetings

18th FEBRUARY 2020.

Members meeting: Speaker and Venue to be confirmed

17th MARCH.

Canterbury Astronomical Society AGM

21st April. TBA

19th May. TBA

16th June. TBA

21st July. TBA

18th August. TBA

15th September. TBA

20th October. TBA

17th November. TBA

(correct as at 29th December, Subject to change as required)

Many thanks go to Orlon Petterson, Rosalie Reilly, Sharlene Wilson 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



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 REAA 2008
 379 Halswell Road, Halswell
 Christchurch 8025
www.harcourtshalswell.co.nz



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. We like to welcome our new members here after the membership is accepted by the committee at the next meeting

It is always great to see our new members coming along to our Members Meetings, Members Nights and Events.



OBSERVATORY NEWS

ALARM AT THE OBSERVATORY

The installation of our ALARM at the observatory is now fully operational, Ask a committee member for the password.

INTERNET WI-FI:

Ask a committee member for the password

GARDENING/LAWNS:

If you are going out to the observatory over the next month, if you could check the lawns need mowing or if plants need watering we would be grateful If you are able to do either please do so

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 will present at the AGM to be 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

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.

So please email your Article or favourite photo with details for me to include in future issues.

Remember you can have your advert added in the future casmag's,
Contact me for detail's

Please email to editor@cas.org.nz

Dale Kershaw

METEOR SHOWERS FOR 2020

At time of publishing the RASNZ website does not have
the updated the new chart for 2020.
Hoping it will be updated before our next issue

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

2020 Conference and RASNZ Centenary

RASNZ 100

The 2020 Conference will be held 8-10 May at Wellington with the Wharewaka Function Centre the venue (near the Michael Fowler Centre) in downtown Wellington. The Wellington Astronomical Society is hosting this conference.

2020 marks a significant milestone in the life of the Society as it was founded in November 1920 with 75 members.

The SCC invites ideas from members how the Society might commemorate its centenary at next year's conference.

Please send your suggestions to the SCC at

conference@rasnz.org.nz.

Conference registrations and more information at
www.rasnz.org.nz

NOTES FROM YOUR COMMITTEE

SIGNING IN WHEN YOU ARE AT THE OBSERVATORY

Please remember to sign in the book on the table in the Lodge whenever you are out at the observatory, This helps give us an idea of who has been using the equipment etc, even if you are out there to do gardening or the like PLEASE SIGN THE BOOK and add what you have been doing, Also please note and issues that have happened or that need fixing, and its good to follow that up with a email or phone call to Terry or the committee

CAS COFFEE MUGS & PENS

With our new logo we have had Coffee Mugs printed and also Pens which we have for sale to our members,
Coffee Mugs are \$15.00 each
Pens are \$2.50 each
Payment can be cash or bank deposit

They are available from Editor (Dale),
contact via editor @cas.org.nz
or 0272426376

We are still looking at other items like beanies and patches, And will advise when they are available for you to purchase



Canterbury Astronomical Society would like to acknowledge the following

Trees for Canterbury for the donation of tress and shrubs, which were planted along the bank,



AND

Southern Woods

for discounted trees to replace the trees that were cut down over the last summer holidays

CAS Membership Subscriptions for 2020-2021

NEXT YEARS MEMBERSHIP SUBSCRIPTIONS WILL BE DUE FROM 1ST APRIL 2020

Discounted fees until 31st May 2020

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.

You are also welcome to pay by cash or cheque at our monthly meetings.



NOTICE OF MOTION

As required by our Constitution section 5,
The Committee is advising that the following will be presented at
the AGM on 17th March 2020

SECTION 10: To Add the following.

10.1

The society's observatory and equipment are intended to further the Society's objects as set out in section 2.

They will not be used for the purposes of generating profits for any person or other organisation.

Then re-number all other clauses in section 10 by adding 0.1 to their labels

BY-LAWS: To ADD the following By-Law

LASER USE

Current members who have legally obtained green lasers may use them at the observatory.

Users of lasers at the observatory must observe the code of practice at all times (Published at the Observatory).

Unsafe use observed by any committee member will result in a warning and advice regarding safe use.

Continued unsafe use will result in a written warning from the committee.

If a person continues to use a laser in an unsafe manner after a written warning, the committee has the right to ban that person from using a laser at the observatory.

CAS does not take any responsibility for members or past members who use lasers.

Laser users are personally responsible for their behaviour.

CODE OF PRACTICE FOR THE USE OF GREEN LASERS AT THE OBSERVATORY (OR ANYWHERE)

Lasers must only be operated by Laser owners who are permitted to use them.

They must not be given to, or used by third parties.

Astronomers must identify targets. Sometimes aircraft look like stars, and so if in doubt do not use a laser.

Generally waiting and watching for a minute will resolve the issue. If there is an approaching aircraft (lights or sound),

DO NOT USE the laser until the aircraft is no longer visible.

NOTE that Sometimes aircraft can suddenly appear from behind trees or buildings.

Point lasers at a specific targets rather than waving them around the sky.

Be aware that if you are pointing to objects low on the horizon, there may be people on a higher terrace who could walk past or into the beam.

A direct or indirect (reflected) beam can permanently damage eyes of an innocent victim.

Be careful not to shine on domes, buildings, or vehicles as bright reflections can occur.

Never use the laser inside. Reflections from windows, walls mirrors can be dangerous.

Be careful when retrieving a laser from a pocket as a button can be inadvertently pressed.

Lasers should be stored in a safe place out of reach of children

CELEBRATE THE NIGHT – THE FORGOTTEN ENVIRONMENT

By Tracey Richards

No one would have believed in the last years of the nineteenth century that the world would reach a level of technology with the ability to light up the night sky so that the stars would become invisible. No one would have dreamed the world would blot out such beauty. And slowly and surely a group of dedicated people gathered from around the world and drew their plans to bring the night sky back to the people, their cultures and the environment of New Zealand.

Over four days, 20-23 October 2019, a Starlight conference was held in Tekapo, New Zealand. Bringing together 112 experts from 14 countries. There were representatives from City and District Councils, MPs, Universities, lighting industry, science and research centres, observatories, UNESCO, DOC, National Geographic, Tourism, local Iwi, local and international Dark-sky organisations and the IDA (International Dark Sky Association).

The focus of the conference was to provide help to those aspiring for dark sky status and the concept of New Zealand becoming a Dark Sky Nation. With presentations from those who have already achieved a dark sky status in their respective countries in an effort to protect the night sky from one of the easiest pollutions to eradicate. Other areas of discussion were the impact, and need, to control of light pollution. The impact this light pollution has on the astronomer's ability to view the night sky, acknowledged effects on ecology – plant, insect, animal and human well-being. The importance of the night sky to humanity and history of other cultures was touched on. There were 56 presentations packed with wide range of information that eventually the concept of my brain is full set in. If you wish to know the details of who specifically was there and what presentations were given contact me for a look at the book of abstracts.

On the final day the conference concluded with a meeting which brought together all the knowledge of those who had already been accredited a dark sky reserve, those seeking accreditation and investigating the concept of creating New Zealand as a dark sky nation. What was needed to accomplish it, how it could be done, and seeds sown for a plan of approach. The concept is not quite as farfetched when one looked at how many reserves in New Zealand are already accredited, those looking to be accredited and with 30% of the islands land under DOC protection.

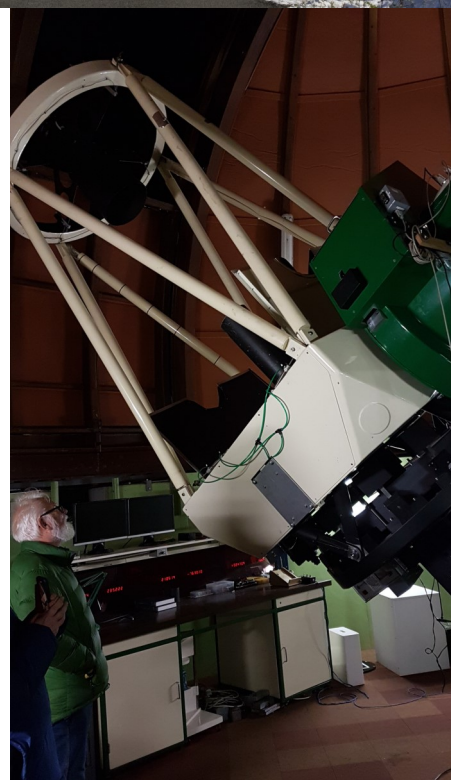
The conference was a meeting of like minds on a subject of beauty, wonder and awe and a wish to protect that beauty. Of intense learning of fascinating topics and gathering of a wide range of people from so many walks of life. The conversations sparkled like the heavens above as friends got reacquainted and new friends were made.

It was also a week of drama, of lost light meters and butterfly clips, rescuing a baby thrush from a garden shed, of a measles outbreak forcing the opening ceremony to a local hotel and for the Aucklanders and Australians a chance to scamper around in the inches of snow that fell on the Thursday night during the conference dinner. I confess to taking the morning off the next day to rush around and take a few landscape shots before slinking in for morning tea and the rest of the day's presentations. I also had the chance to go up Mt John twice and the awe of seeing the telescopes and the equipment of Mt John Observatory and the jaw dropping moment of seeing the brilliant white and red MOA telescope.

For myself, from the time I left Christchurch to the day I got back there was adventure moments on every day and the week became a week to remember.

PHOTOS FROM OUR MEMBERS PAGE

This months featured photos from Tracey Richards, Her trip to Tekapo for the Starlight Conference, October 2019.



The Evening Sky in January 2020

Venus is the brilliant 'evening star', appearing in the western sky soon after sunset. It sets two hours after the sun. It isn't of much interest in a telescope, looking like a tiny featureless gibbous (near full) Moon. It is on the far side of the sun, 180 million km away. It slowly catches up on us over the next four months. The thin crescent moon will be near Venus on the 28th. At the end of the month **Mercury** might be seen from places with a low western skyline. It sets toward the southwest 40 minutes after the sun.

Bright 'true' stars appear in the eastern half of the evening sky. **Sirius** is the brightest, appearing northeast of the zenith. Left of Sirius are bluish **Rigel** and orange **Betelgeuse**, the brightest stars in **Orion** the hunter. Between them, but fainter, is a line of three stars making Orion's belt. To southern hemisphere star watchers, Orion's belt makes the bottom of 'The Pot' or 'The Saucepan'. A faint line of stars above and right of the belt is the pot's handle or Orion's sword. The sword has a glowing cloud at its centre: the Orion Nebula.

Left of Orion is the V-shaped pattern of stars making the face of **Taurus** the Bull. The V-shaped group is called the Hyades cluster. It is 150 light years* away. Orange **Aldebaran**, making one eye of the bull, is not a member of the cluster but on the line of sight, half the cluster's distance.

Left again, toward the north and lower, is the **Pleiades/Matariki/Seven Sisters/ Subaru** star cluster. Pretty to the eye and impressive in binoculars, it is 440 light years from us. From northern New Zealand the bright star **Capella** is on the north skyline. It 42 light years away and 190 times brighter than the sun.

Low in the south are **Crux**, the Southern Cross, and 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 very luminous and distant: 13 000 times brighter than the sun and 300 light years away.

The **Milky Way** is in the eastern sky, brightest in the southeast toward Crux. It can be traced towards the north but becomes faint below Orion. The Milky Way is our edgewise view of the Galaxy, the pancake of billions of stars of which the sun is just one. Binoculars show many star clusters and a few glowing gas clouds in the Milky Way, particularly in the Carina region. The Milky Way is faint left of Orion because we are looking toward its thin outer edge. The centre region of the Galaxy, in Sagittarius, is hidden by the sun at this time of year.

The Clouds of Magellan, **LMC** and **SMC**, are high in the southern sky and easily seen by eye on a dark moonless night. They look like faintly luminous clouds. They are two small galaxies about 160 000 and 200 000 light years away. The Large Magellanic Cloud is about 5% the mass of the Milky Way. The Small Cloud is about 3%, but that is still billions of stars.

Mars and Jupiter are visible in the morning sky. **Mars** rises in the southeast around 3 a.m. It looks like a moderately bright reddish star. It will be near Antares, an orange-red star. The name Antares means 'rival to Mars' in Greek. Just now Antares outshines its rival by half a magnitude. Mars will be above and left of Antares at the beginning of the month; below and right by the end. It is 310 million km away, so very small in a telescope. The moon will appear close to Mars on the 21st.

Jupiter is low in the southeast dawn twilight at the beginning of the month. It rise four minutes earlier each day so, by mid-month, it is rising an hour before the sun. It is the brightest 'star' in the morning sky. Jupiter is 920 million km away but, being the biggest planet, shows a disk even in binoculars. Its four big moons can be seen in a small telescope but the view will be blurry while Jupiter is low in the sky. The moon will be near Jupiter on the 23rd and 24th.

*A **light year** 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 sunlight four years to reach the nearest star, Alpha Centauri.

Notes by Alan Gilmore, University of Canterbury's Mt John Observatory, P.O. Box 56, Lake Tekapo 7945, New Zealand.

CAS COMMITTEE AND OFFICERS 2019/2020

| | | |
|----------------------------------|------------------|---------------------------------|
| Public Nights and Group Bookings | | bookings.liaison@cas.org.nz |
| President: | Euan Mason | president@cas.org.nz |
| Vice President: | Rob Glassey | vice.president@cas.org.nz |
| Treasurer: | David Brian | treasurer@cas.org.nz |
| Secretary: | Dale Kershaw | secretary@cas.org.nz |
| Observatory Director: | Terry Richardson | observatory.director@cas.org.nz |
| Editor: | Dale Kershaw | editor@cas.org.nz |
| Membership Secretary: | Simon Lewis | membership@cas.org.nz |
| Librarian: | Colin Fortune | librarian@cas.org.nz |
| Web Master: | Simon Lewis | casweb@cas.org.nz |
| Committee Members: | Carol McAlavey | member2@cas.org.nz |
| | Mak Matthews | member1@cas.org.nz |
| | Marc Bunyan | member3@cas.org.nz |
| | Tracey Richards | member4@cas.org.nz |
| | Malcolm Flain | casweb@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, Venue for 2020 is still to be confirmed. Any member of the public who is considering in joining the society are most welcome to attend the meetings.

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 who renew before 31st May are at the discounted price 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)

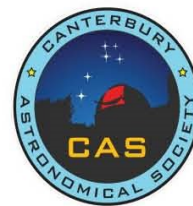
CAS has taken all reasonable measures to ensure that the material contained herein is correct, but gives no warranty for, and accepts no responsibility for its accuracy or completeness.

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)**Discounted if Membership is renewed before 31st May****Online Banking Details (Please identify your payment):** 03 0802 0098273 00

| | Discounted | Full |
|---|------------|-------|
| <input type="checkbox"/> Adult (any person 18years of age or over who is not eligile for any other category) | \$70 | \$80 |
| <input type="checkbox"/> Family (two or more persons living at the same address) | \$105 | \$120 |
| <input type="checkbox"/> Junior (under 18 years of age on 1st April in the current year) | \$35 | \$40 |
| <input type="checkbox"/> Senior (over 65 Years) | \$35 | \$40 |
| <input type="checkbox"/> Community Services Card Holder | \$35 | \$40 |
| <input type="checkbox"/> Student (any person studying full-time at a tertiary instition, must reapply annually) | \$35 | \$40 |
| <input type="checkbox"/> Corporate (members have voting rights of one member, but cannot take office) | \$210 | \$240 |

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

All CAS members receive CASMAG a monthly newsletter, Would you prefer to receive this (please tick)

☐ by email as a PDF attatchment ? ☐ or by post as a hard copy?

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: _____