



# CASMAG

The official magazine of the Canterbury Astronomical Society

[www.cas.org.nz](http://www.cas.org.nz) [www.facebook.com/CanterburyAstronomicalSociety](https://www.facebook.com/CanterburyAstronomicalSociety)

**Monthly Meeting:** Our Monthly Meetings are held on the 3rd Tuesday night of the month. Refreshments from 7.30pm Meeting starts at 8pm the month. Our meeting venue is room ER225 in the Ernest Rutherford building at Canterbury University. Level 2 Refreshments from 7.30pm Meeting starts at 8pm

## MARCH MEETING: CAS AGM 19th MARCH 2024

Come along to hear what the society has been doing in the last year, This includes Financial reports and other reports from the Office holders. Then we have the election for the 2024 Committee. Refreshments from 7.30pm. Meeting starts at 8pm

### 2024 ANNUAL SUBSCRIPTIONS/MEMBERSHIP

Payment for the 2024 Year is due from 1st April 2024

This can be paid via internet banking, PayPal, eftpos/cash in person, Please use your name & member number in your reference when making payment, (this can then be matched to your membership)

*PLEASE advise any changes to your details: Address, Phone Number, email,* Please email any changes to [membership@cas.org.nz](mailto:membership@cas.org.nz)

If these details are not updated we will be unable to contact you.

Membership Fees and Banking payment details are

MEMBERSHIP

included on the back page of every CASMAG

[membership@cas.co.nz](mailto:membership@cas.co.nz)



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### From Your Editor

*Its March already*

*This month is the AGM, your chance to have your say for the committee so they can look after CAS for you.*

*Library Corner is always looking for Book/Video Reviews to be Submitted. See page 16 for info*

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,

Any questions, Ideas or suggestions please email to [editor@cas.org.nz](mailto:editor@cas.org.nz)

Dale Kershaw

*[Please see page 20 for notes:](#)*

CAS Calendar MARCH—MAY 2024MARCH 2024

Monday 4th	Last Quarter
Sunday 10th	New Moon
Tuesday 12th	Committee Meeting
Sunday 17th	First Quarter
Tuesday 19th	AGM Members Meeting @ University from 7.30pm
Friday 22nd	BHT Lecture Prof Lisa Kaltenegger @uc info on page 9
Saturday 23rd	Members Night @ Observatory
Monday 25th	Full Moon
Friday 29th	Easter Friday Holiday
Saturday 30th	Easter Saturday
Sunday 31st	Easter Sunday

APRIL 2024

Monday 1st	Easter Monday Holiday
Tuesday 2nd	Last Quarter
Sunday 7th	Daylight saving change's 2am
Friday 12th	Open Night Season starts
Tuesday 9th	New Moon
	Committee Meeting
Tuesday 16th	First Quarter
	CAStroNauts @ University 6.30-7.30pm
	Members Meeting @ University from 7.30pm
Saturday 20th	Members Night @ Observatory
Wednesday 24th	Full Moon
Thursday 25th	ANZAC Day Holiday

MAY 2024

Wednesday 1st	Last Quarter
Wednesday 8th	New Moon
Sunday 12th	Mother's Day
Tuesday 14th	Committee Meeting
Wednesday 15th	First Quarter
Tuesday 21st	CAStroNauts @ University 6.30-7.30pm
	Members Meeting @ University from 7.30pm
Friday 24th	Full Moon
Saturday 25th	Training and Members Night @ Observatory
Friday 31st	Last Quarter

## 2024 Open Night Season

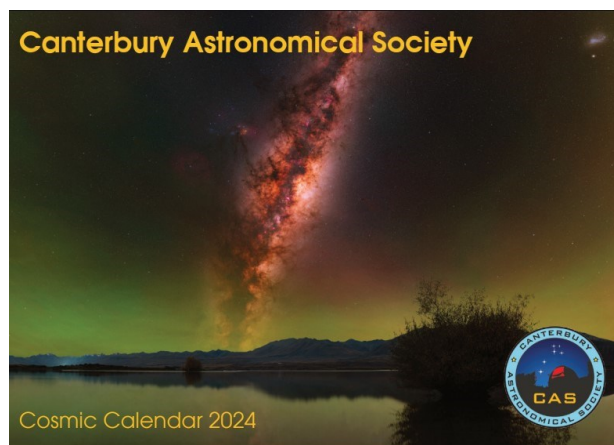
Our 2024 Open night season will start on 12th April 2024 after the daylight saving change on 7th April 2024. Notices will be posted on our website. We look forward to seeing you at these events. More information on the next page  
Your CAS Committee

## 2024 CAS COSMIC CALENDAR

Limited numbers left

Amazing images from our very own CAS Members

A4 size format  
\$15.00 each +shipping  
Pickup from Edgeware  
or post \$4.60  
Contact:  
Dale  
editor@cas.org.nz  
Or Mandy  
secretary@cas.org.nz



## MONTHLY MEETINGS:

### Meeting Venue:

**Room ER 225 in the Ernest Rutherford Building, University of Canterbury, 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](mailto:member2@cas.org.nz)

### Upcoming Members Meeting Dates:

**19th MARCH: CAS AGM.**

**16TH APRIL: Leah Albrow. "What it is like working at NASA" 21st**

**MAY: David Hill. "Canterbury's 21st Birthday Present"**

**19th JUNE: Rob Glassey. "Texas Star Party and Total Solar Eclipse" (correct as at 10th March 2024, 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

## 2024 Open Night Season

Its that's time again! Doesn't it come round quick!!!

This years open night programme kicks off on **Friday 12th April.**

These nights are run as part of our Public Outreach.

This is our main income towards running our society and of course the observatory. These events also bring in our new members.

Full training is available for those who come along to help.

This can also work towards your accreditation

For the newcomers to the society, we run open nights every Friday night to the general public and some Tues/Weds nights for private groups.

Of course in July we have Kidsfest ... 6th -20th July ..

but that's 15 nights of fun!

### Why are these so important to CAS?

They give CAS an opportunity to engage with our local communities and build strong relationships with them and key stake holders like Selwyn Council.

Provide a perfect opportunity to educate our visitors on the night sky and the hobby of astronomy

They are a great source of new members !

Your volunteering helps assist in supporting the society financially.

### So how can you help?

We need volunteers for our open nights to help run the evenings.

It takes about 6-7 people a night to run these, from helping people check in, our welcome brief, laser tour of the night sky and then running our scopes.

We normally assemble at CAS around 6.30pm and run till about 9-9.30 depending on bookings.

The more volunteers we get the less burden it places on others and helps spread the load but I can say its VERY rewarding and highly engaging activity, the kids love it and its amazing to see and hear them so excited about their time at CAS.

If you would like to help you can approach any of the committee

We have a volunteer booking system we use so you can choose a night to volunteer for and the system will also send you reminder emails too!

Check it out at [cas.ivolunteer.com](https://cas.ivolunteer.com)

There is 3 heading to chose from

1/ for FCAS open Nights 2024 (Fridays)

2/ for Kidsfest 2024

3/ for Private Group Nights 2024

## 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. Welcome to these New Members we accepted recently:

Alex Chapman



*Welcome to all our New Members, I hope you enjoy reading CASMAG and remember to keep an eye on the website for any updates*

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

*Apologies from the editor for any spelling mistakes in the names*

## OBSERVATORY IMPORTANT INFORMATION

### DOOR CODE & ALARM AT THE OBSERVATORY

**The Door code and Alarm code has been changed** with the new lock being installed available to members, 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, Please ask our Observatory Director how you can get your Accreditation. There is a full list of accredited person's on the wall above the kitchen sink inside the lodge. contact Kieren (our Observatory directory via his email listed on our website or the inside back page of this casmag

## Constitutional Change Proposals CAS Annual General Meeting, 2024

The Committee has realised that it would be beneficial to the running of the Society to make a few amendments to the Constitution. These proposals have arisen mainly due to the advent of more efficient and reliable electronic communication, in addition to help make the current constitution compliant with the privacy act and the way in which CAS collects, stores and manages members personal information.

To better understand the rationale and implications, we have added a brief, explanatory statement after each of the changes. These explanations will, of course, not be included in the Constitution but are presented here for the Membership's benefit.

### Amendments to CASmag section

Currently the constitution has an operational requirement for the delivery of at least 10 CASmags in a calendar year. With communication being sent out to members by both CASmag and also regular monthly members update emails.

The committee is proposing to remove the quantity requirement to allow the editor to control the release and publication on CASmag.

### MOTION of Notice of Constitutional Change proposal:

**Delete :**

#### **7.2.4 EDITOR**

7.2.4.3 The Editor shall be responsible for the publication of the society's magazine, CASMAG. CASMAG shall be the official publication of the Society and shall be produced at least ten times per year.

**ADD :**

#### **7.2.4 EDITOR**

7.2.4.3 The Editor shall be responsible for the publication of the society's magazine. CASMAG shall be the official publication of the Society.

Amendments to constitution to ensure the CAS constitution complies with the Privacy Act

### 3 MEMBERSHIP

**Delete :**

3.1 The Society's membership is made up of the persons whose names, addresses and occupations appear in the membership records of financial members of The Society prior to the registration of this Constitution and those persons or bodies admitted by the Committee in accordance with this Constitution after the date of registration.

**Add:**

3.1 The Society's membership is made up of the persons whose names, addresses, contact phone numbers, and email address appear in the membership records of financial members of The Society prior to the registration of this Constitution and those persons or bodies admitted by the committee in accordance with this Constitution after the date of registration.

Removal of the requirement to records members occupation withing the membership database. Including the additional requirement for members email address.

We need this for communication and there is also a further reference to using emails address to notify members – section 6.7.5.5.

## Constitutional Change Proposals CAS Annual General Meeting, 2024 cont

### 3.6 APPLICATIONS FOR MEMBERSHIP

**Delete :**

**3.6.1** Every person or organisation wishing to become a member of The Society shall make application, using the Society's Application Form, stating name, address and email address and other details as may be required by The Society. The application shall be proposed and seconded by two financial members of the Society.

The application must be accompanied by the appropriate subscription in accordance with the by-laws.

**Add :**

**3.6.1** Every person or organisation wishing to become a member of The Society shall make application, using the Society's Application Form, stating names, addresses, contact phone numbers, and email address and other details as may be required by The Society.

The application shall be proposed and seconded by two financial members of the Society. The application must be accompanied by the appropriate subscription in accordance with the by-laws.

### 7.2 DUTIES:

**Delete :**

**7.2.3.2** The Membership Secretary keeps the register of members containing their names, addresses, occupations and the dates on which they became members and ceased to be members in accordance with legislation. Twice- yearly, at the February and August Committee meetings, he presents to the Committee a list of all members, distinguishing financial from unfinancial ones. A copy of the register of current members is made available for inspection at each Annual General Meeting.

**Add:**

**7.2.3.2** The Membership Secretary keeps the register of members containing their names, addresses, contact phone numbers, email address and the dates on which they became members and ceased to be members in accordance with legislation. Twice-yearly, at the February and August Committee meetings, he presents to the Committee a list of all members, distinguishing financial from unfinancial ones. A copy of the register of current members is made available for inspection at each Annual General Meeting.

CAS is required to make sure our actions are compliant with privacy act.

We don't have to write them into the constitution, as we can't contract out of the Privacy Act, applying a constant wording across the constitution will ensure a consistent information gathering approach.



## 2024 RASNZ BHT LECTURE 22nd March 2024

The RASNZ Lecture Trust is pleased to announce that the 2024 BHT lecturer is Professor Lisa Kaltenegger.

Lisa Kaltenegger is the Director of the Carl Sagan Institute for the Search for Life in the Cosmos at Cornell and Associate Professor in Astronomy. She is a pioneer and world-leading expert in modeling potential habitable worlds and their detectable spectral fingerprint.

A1 Lecture Theatre University of Canterbury 7pm .Friday 22nd March 2024

Tickets free but [please registers \(even if CAS members\)](#)

<https://www.eventbrite.com/e/searching-for-alien-earth-an-evening-with-professor-lisa-kaltenegger-tickets-853420492667>



## SEARCHING FOR ALIEN EARTHS

**Dr Lisa Kaltenegger**

Director of Carl Sagan Institute for Life  
Associate Professor Astronomy Cornell University

*Are we alone? The question should have an obvious answer: yes or no. But how do you find life over cosmic distances?*

# Oxford Forest Conservation Area earns International Dark Sky Park Accreditation

## Press Release February 2024

**Oxford Forest Conservation Area** (11,350 hectares) has become the latest accredited dark sky site in New Zealand. DARKSKY INTERNATIONAL has recognised the community's work in

- Promoting practical and quality lighting policies,
- Conducting outreach and education on the benefits of better lighting,
- Gaining local support to reduce light pollution.

The location now consequently stands out as a regional attraction.

The first conversations on creating a dark sky site date back to more than 5 years ago. However, it wasn't until early 2023 when residents put together a plan and created OXFORD DARK SKY, the volunteer Group made up of more than 20 local public and private organisations, who would go on to drive the initiative. Mike Hart, OXFORD AREA SCHOOL Principal and OXFORD DARK SKY member, says "We believe the introduction of the Oxford Dark Sky Park will increase our connection with the community enabling us to link with the cultural and celestial heritage of our area. It will provide many learning opportunities for our students through work around environmental impacts and energy resources, underpinning our work with the Observatory". Local support and momentum have continued to grow across schools and the township over these last 12 months. Thomas Robson, OXFORD-OHOKA COMMUNITY BOARD Chairperson and OXFORD DARK SKY member, adds "The area's night sky has long been appreciated by locals, and it will be good to share this natural unspoiled beauty with night sky enthusiasts. We look forward to supporting this initiative in any way we can going forward." Collaboration with neighbouring Christchurch City, Selwyn and Hurunui is already under discussion.

"This effort is an excellent example of how collaboration, education, and outreach can raise awareness and inspire change at the community level. Economic development, marketing strategies, and district lighting plans are now being developed with an eye towards dark sky conservation for the benefit of the community and future generations. Such outcomes are a goal of the Dark Sky Places certification program," stated Amber Harrison, Dark Sky Places Program Manager at DARKSKY INTERNATIONAL.

Sky darkness measurements in the **Oxford Forest Conservation Area** average 21.46 mag/arcsec<sup>2</sup>, well surpassing the 21.20 required threshold, with some individual readings as high as 21.80 mag/arcsec<sup>2</sup>. "The Oxford sky is truly pristine — we get some of the best naked eye views of the Milky Way, and from just about anywhere in Oxford" says OXFORD DARK SKY President Raul Elias-Drago. Specialised sensors measure light emanating from a very small patch of night sky overhead equivalent to about the size of a blueberry at a distance of 4 kilometres.

Unshielded external lights, moonlight, cloud cover, fog, month and time of night all greatly affect sky darkness. The Park is open to the public 365 days/year and 24 hours/day.

The Oxford sky combined with its proximity to Christchurch makes the dark site unique. "Oxford offers one of the darkest and most accessible dark sky experiences in New Zealand. Here, you can enjoy an amazingly dark sky and peer straight into the Galactic Centre – all of this, at less than 1 hour from downtown Christchurch, the Canterbury ski fields or our international airport" adds Mr. Elias-Drago. Given the choice in accommodation, restaurants, shopping, astronomy and outdoor activities, the Group expects Oxford to feature on many weekend and travel itineraries. "Oxford, its Observatory, the Park are among the many local jewels. So come for a visit and just look up!"

**Oxford Forest Conservation Area** now joins more than 200 Places that have demonstrated robust community support for dark sky advocacy and strive to protect the night from light pollution.

*Raúl Elías-Drago*  
President, OXFORD DARK SKY  
[oxford.darksky@gmail.com](mailto:oxford.darksky@gmail.com)

# RASNZ 2024 CONFERENCE

**24th-26th May 2024**

Prepare for the highlight of 2024 - the RASNZ Conference in Nelson! Gather with leading astronomers and passionate enthusiasts to discuss, share, and expand knowledge in astronomy and related sciences.

The Nelson Astronomical Society proudly hosts this year's event, offering a platform for dialogue and collaboration among astronomers, astrophysicists, and related professionals.

Whether you're a seasoned expert or a curious beginner, there's something to spark your interest. Seize the chance to network, engage in hands-on sessions, and explore fresh ideas with fellow astronomy lovers and scientists. Don't let this opportunity pass you by!

More information and bookings at  
<https://www.rasnzconference.org.nz/>

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## NEW ZEALAND STARLIGHT CONFERENCE 2024

The New Zealand Starlight Conference in Tekapo, New Zealand will take place between the **20th and 23rd of October 2024**.

The main theme of the Starlight Conference 2024 is

### **Dark Skies for All: a Call for Action!**

The conference helps to promote New Zealand as a world leader for dark skies protection and astro-tourism.

It also highlights the health and environmental impacts of artificial light at night (ALAN) by engaging with world experts who contribute conference presentations.

Presentations of the latest research on the hazards of blue light emissions from LED streetlights will be made, so that New Zealand communities, local government officials and lighting engineers can install lights which comply with the best international practices.

<https://starlightconference.org.nz/registration/>

## CAS MERCHANDISE

# EFTPOS now available for payments

### NEW STYLE OF CAS PENS NOW AVAILABLE IN 2 STYLES \$3.00



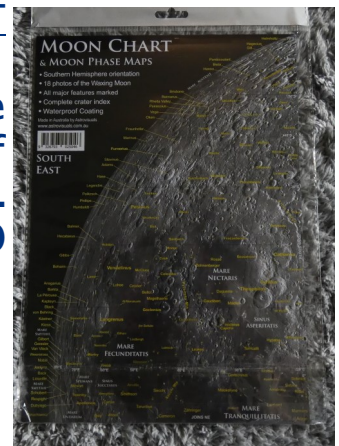
*These are all black ink and with a variety of barrel colours*

### STAINLESS DRINK BOTTLES: \$15.00 with flip top 750ml



### MOON CHART

8 sheets showing Moon phase maps, with waterproof coating.  
\$15.00



### DOUBLE -SIDED PLANISPHERE FOR SOUTHERN HEMISPHERE

\$20.00

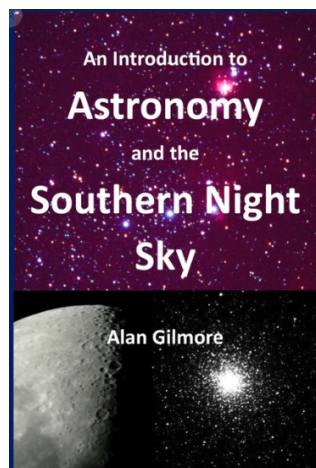


SUN-DISK KIT, \$25.00  
Make a sundial at home



We have a wide selection of other merchandise items available, including:

Earrings, Necklaces, Magnets, Children's Sox's, String Lights, Moon Lights, Fleece Blankets, Bags, Red light torches, Space Plasters, Placemats. To view /purchase contact Dale editor@cas.org.nz or 0272426376



An Introduction to Astronomy and the Southern Night Sky,  
by Alan Gilmore  
\$45.00

## CAS CLOTHING RANGE

**Waterproof Stickers** **New TYPE** with our logo are also available \$2.50 each

**CAS Beanies:** Now in stock. Wool Blend Beanie with the CAS logo \$20.00

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

The following we will take orders and then order the items, 1-2 weeks Delivery from order) We have some 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

Full size charts available for 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



## CAS ASTRONOMY LOG BOOKS FOR SALE

The CAS Committee lead by Terry have designed and produced these Log Books for sale.

\$15.00 each. (Plus postage if required)

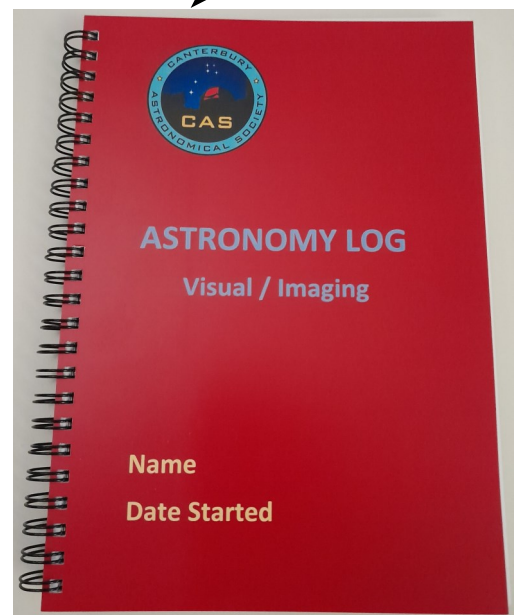
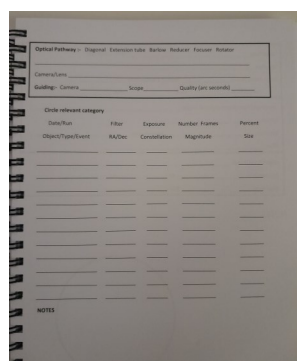
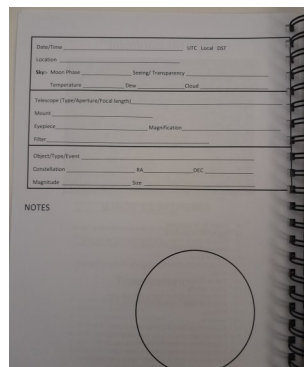
Contact Dale for your copy. Email: editor@cas.org.nz

A5 size 100 pages ring bound.

Inside 1st 2 pages has handy hints for observing

- \*Assessment if Seeing
- \*Transparency
- \*Angle Measurement Guide
- \*Brightness Scale

**EFTPOS  
Available**

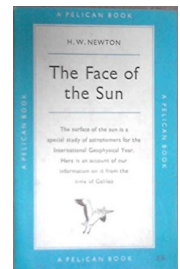
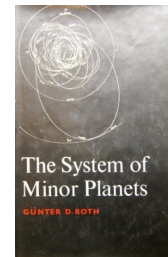
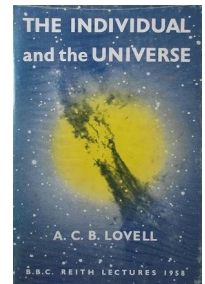
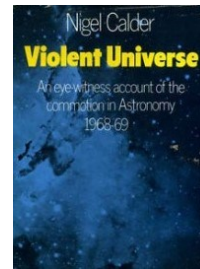


## LIBRARY CORNER

Our CAS Librarian, Sean has been working through our library at the Observatory, sorting the many donated books, filing those returned to the shelves, often finding 2 and sometimes 3 copies of the same book. Along with a general tidy up. While doing this he has discovered that we have multiples of some copies, and the committee has agreed that we offer these to our members on a no return basis. (when you have finished with it (if ever) pass it onto someone else who will enjoy it). Books will be listed in future casmags and can be claimed for adoption by emailing Sean at [librarian@cas.org.nz](mailto:librarian@cas.org.nz).

### This Months Books for Adoption are:

1. Violent Universe by Nigel Calder.
2. The Individual and the Universe.
3. The System of Minor Planets by Gunter D Roth
4. The Face of the Sun by H W Newton
5. Sky Atlas 2000.0 (Second Edition)



If you are interested in any of these books please email Sean which book/s you are after and he can organise getting the book/s to you (1st in gets the book)

***Remember these are not for return to the library***

### NEW BOOKS: New to the Library:

An Introduction to Galaxies and cosmology, 2nd Edition

An Introduction to the Sun and Stars. 2nd Edition

If you have seen a new book available and think it would be a good addition to our CAS Library please email the details to Sean and he can sort purchasing this

### BOOK COLLECTION DONATIONS:

As we have had many generous donations of books over the years to avoid double ups and disappointment

Please contact Sean before hand, if you or your family wish to donate books so he can advise the best plan for this.

*Email Sean @ [librarian@cas.org.nz](mailto:librarian@cas.org.nz)*

**LIBRARY CORNER cont BOOK/DVD REVIEW**  
**Welcome to the BOOK/DVD REVIEW Page**

Each month I ask for a Book/DVD reviews from our members.

It only needs to be several lines, but mostly about some of its content and your thoughts,

**Turn left at Orion**

**Guy Consolmagno and Dan Davis**

Not as yet catalogued for our library

This is a classic reference for all amateur astronomers, first printed in 1989. Our copy is the 5th edition (9th printing) so it is the latest edition. It has plenty of information for beginners, and is a wonderful reference for more experienced viewers.

You need to read the first 20 pages in order to understand how to use the book and telescope basics. It goes on to the moon, the sun and planets, and finally looks at seasonal skies, the Northern skies and the Southern skies. Each object is viewed and drawn as from a binocular, a small refractor, and an 8 to 10 inch dob (or a catadioptric telescope of similar aperture).

The book is very readable and clearly shows the delight that backyard Astronomy has given both of the authors over many combined years.

Each object is shown on a star chart with notes on how to find it, and then there are the diagrams of the view (in black and white) from the various telescopes described. This is accompanied by descriptions and facts about the object.

The book is larger than A4 in ring bound format and there is an unusual configuration of the cover that seems to be a bit awkward. The book is designed to be folded back (rather than folded out) so that a page can be viewed for reference. In this way it is designed to be outside with the astronomer and the telescope. They even comment that your favourite objects can be identified by the number of damp smudges and grass stains on the pages!

As often the case, the general information (eg phases of the moon, polar alignment etc) is all Northern Hemisphere orientated which I always find confusing and needing interpretation from our southern perspective.

They even comment that most of their experience is from the North, but the info and facts for the southern viewer are nonetheless just as useful.

It is a great companion to Alan Gilmore's book

"An Introduction to Astronomy and the Southern Night Sky".

This is a book for personal reference outside with the telescope. It is Completely orientated to the visual astronomer (as opposed to the astrophotographer) and is full of objects to observe, how to find them, and factual information about them. As a library book, once read and referred to, it will clearly demonstrate the need to get your own copy!.

*Reviewed by Terry Richardson*

*So please send in your reviews to be published,*

*We have fantastic library out at the observatory and its there for you the members to make the most of. Thanks Editor*

## 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 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

[member1@cas.org.nz](mailto:member1@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](mailto:Vice.president@cas.org.nz)

Cell: 022 640 6649

### Spectroscopy

CAS has recently purchased a diffraction grating which can be attached to a telescope eyepiece or camera on the telescope.

The grating, like a prism, spreads the light from starlight into component colours (distribution of wavelengths). Thus begins the engaging look into the not so private lives of stars, nebulas and galaxies.

Ray Pointon

[rpointon@cyberxpress.co.nz](mailto:rpointon@cyberxpress.co.nz)




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## QUOTES OF THE MONTH

“Logic will get you from A to Z; imagination will get you everywhere”. **Einstein.**

“Be yourself; everyone else is taken”. **Oscar Wilde.**

“If you feel pain, you're alive. If you feel other people's pain, you're a human being”. **Leo Tolstoy.**

Valentine's mishap: “There's no girl on the planet I love more than you. What about the other planets?”.

“I made pancakes for my cat this morning.

Why?

She doesn't know how to make pancakes.” **Shoe Comics.**

*Quotes sourced from RASNZ Newsletter*



## OBSERVATORY NEWS IMPORTANT INFORMATION

### New Security System in Lodge

The new security system in the Lodge is up and running well. 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](mailto:observatory.director@cas.org.nz)

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### 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.

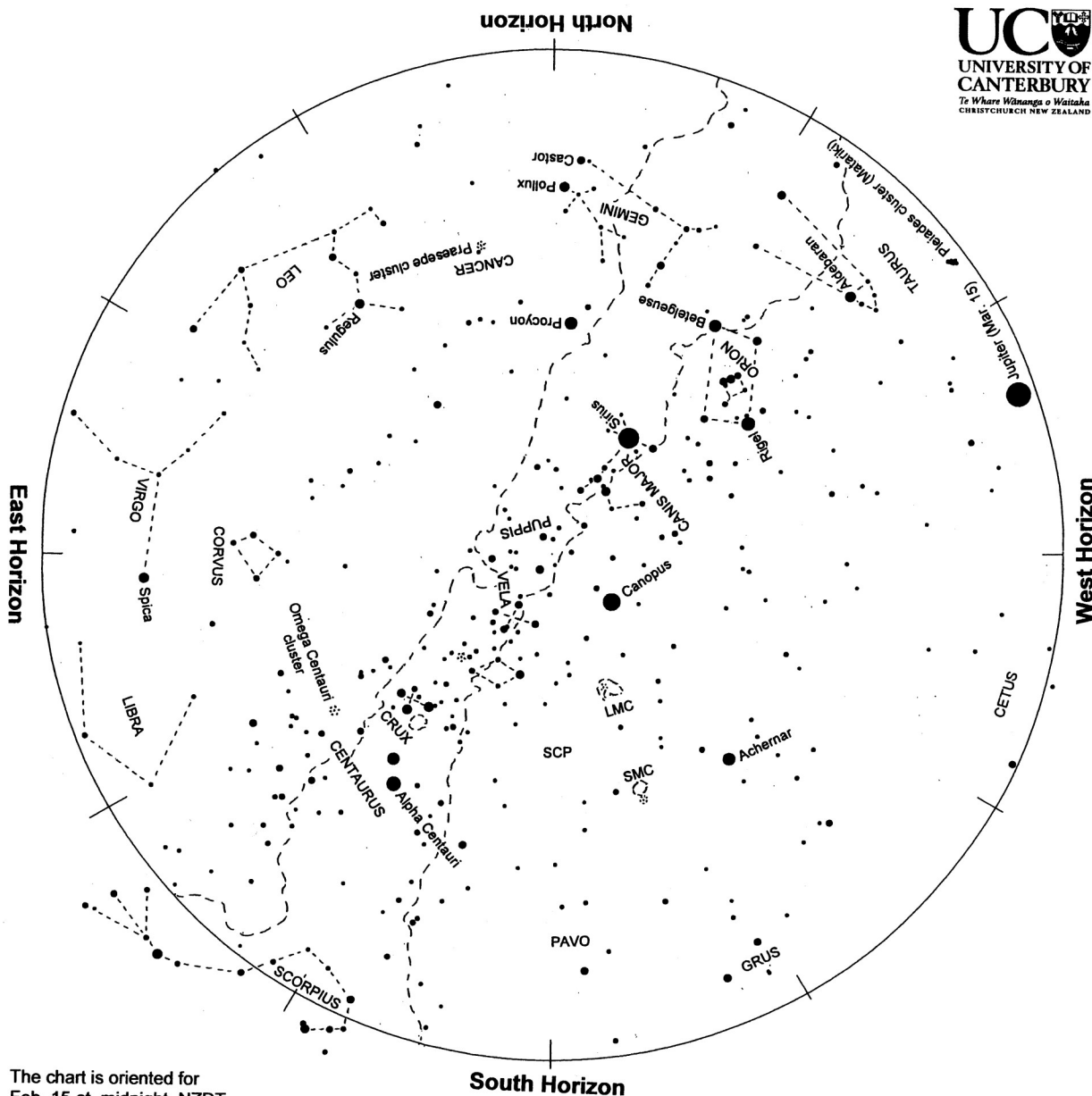
This sounds a bit restrictive, but has become necessary due to recent misuse and possible damage to some instruments.

Any questions please email me [observatory.director@cas.org.nz](mailto:observatory.director@cas.org.nz)

*Kieren Eden*



# The Evening Sky Map for MARCH 2024



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 2024

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.

Jupiter is the 'evening star', appearing in the northwest soon after sunset. Sirius, the brightest true 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, Crux, and the 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.

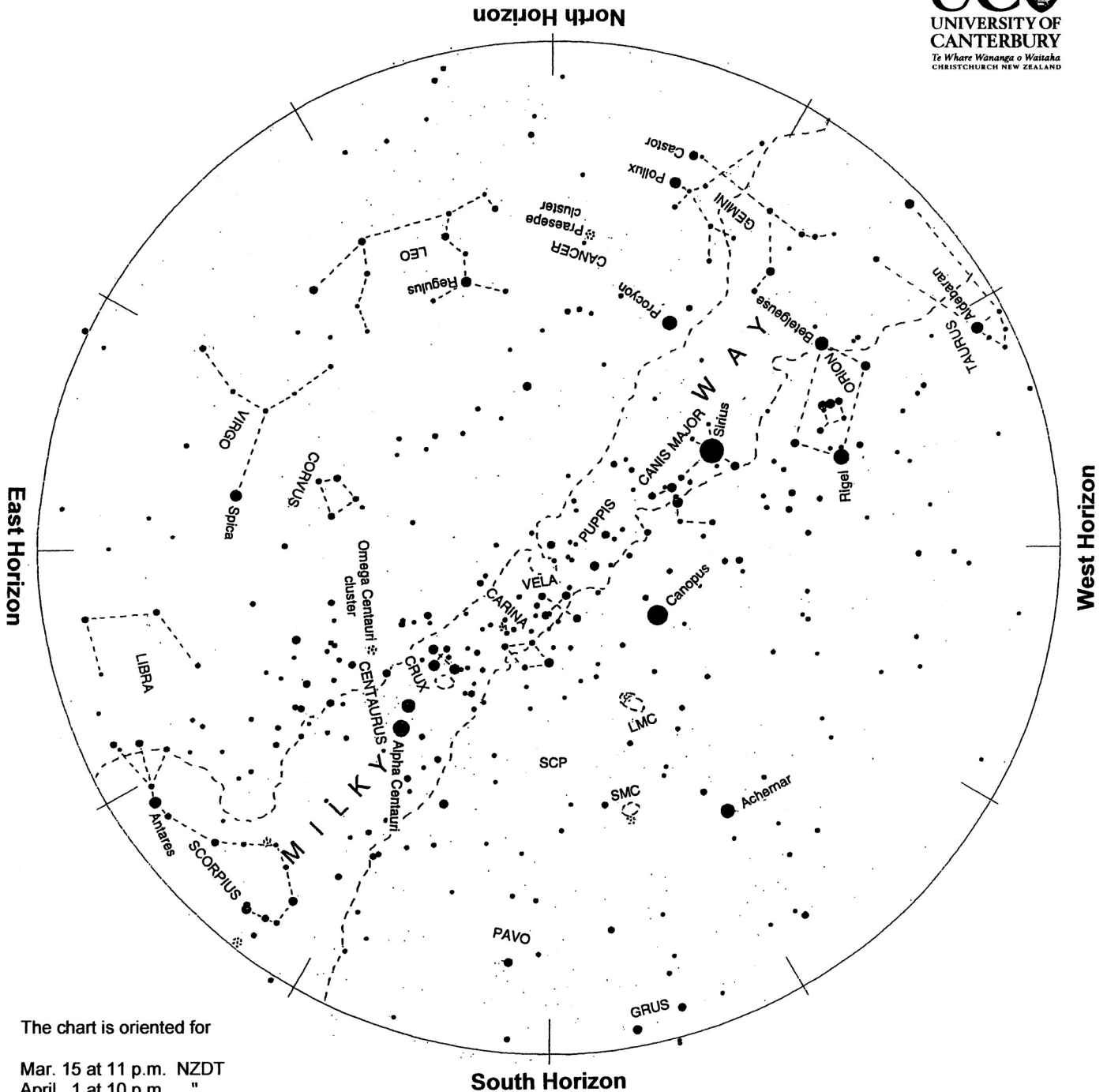
Chart produced by Guide 8 software; [www.projectpluto.com](http://www.projectpluto.com). Labels and text added by Alan Gilmore, Mt John Observatory of the University of Canterbury, P.O. Box 56, Lake Tekapo 7945, New Zealand. [www.canterbury.ac.nz](http://www.canterbury.ac.nz)

## The Evening Sky in MARCH 2024

Jupiter is the 'evening star', appearing in the northwest at early twilight. It sets around 11 pm at the beginning of the month and 9 pm at the end. The Moon will be near Jupiter on the 14th. 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 10 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. The full Moon may look a little odd on the 25th as it grazes the outer part of Earth's shadow, the penumbra. It will be most in the shadow around 8:13 pm NZDT. The top edge of the Moon will be darkest. Bright planets are in the dawn sky. Venus is the brilliant 'morning star', rising soon after 5 a.m. at the beginning of the month and around 6:30 at the end. At the beginning of the month Mars is just above Venus, looking like a medium-bright reddish star. It moves up and away from Venus. Later in the month, Saturn appears and moves up the sky morning-to-morning. It is the same brightness as Mars. On the 22nd Saturn will be just to the right of Venus, with less than a full Moon's width between them. Mars and Saturn move up the sky while Venus stays put. By the end of the month Mars, Saturn and Venus are roughly equally spaced on a line. The Moon will be near Venus on the 9th. 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 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. [www.canterbury.ac.nz](http://www.canterbury.ac.nz) 240128*

# The Evening Sky Map for APRIL 2024



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 2024

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.

Jupiter is the 'evening star' at the beginning of the month but sets early, so isn't on the chart. Sirius, the brightest true 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. Medium-bright planets are in the dawn sky.

## The Evening Sky in APRIL 2024

Jupiter is the 'evening star' at the beginning of the month, setting 1½ hours after the Sun (so isn't on the chart). It slips steadily lower, disappearing in the twilight by the end of the month. Sirius, the brightest true star, appears midway down the northwest sky at dusk. 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. 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 Moon will be beside Pollux on the 15th.

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 18th. 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 full Moon will be just below Spica on the 23rd.

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 edge-wise 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. Bright planets are low in the eastern pre-dawn sky. Mars and Saturn, the same brightness, make a vertical pair at the beginning of the month. Mars is reddish; Saturn cream-coloured.

Brilliant Venus is directly below them, rising around 5:30 NZST. Saturn moves up the sky, night-to-night, while Mars stays put. On the morning of the 11th they will be just a full-moon's width apart. After that Saturn moves higher. At the end of the month Mercury appears, making an equally spaced line of Saturn, Mars and Mercury down the sky. By then Venus is rising at 6:30, just 50 minutes before the Sun. The thin crescent Moon will be just below Venus on the 8th.

\*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.

*Notes by Alan Gilmore, University of Canterbury's Mt John Observatory,  
P.O. Box 56, Lake Tekapo 7945, New Zealand. [www.canterbury.ac.nz](http://www.canterbury.ac.nz) 240219*

## CAS COMMITTEE AND OFFICERS 2022/2023

Public Group Bookings		bookings@cas.org.nz
President:	Simon Lewis	president@cas.org.nz
Vice President:	Terry Richardson	vice.president@cas.org.nz
Treasurer:	David Brian	treasurer@cas.org.nz
Secretary:	Mandy Heslop	secretary@cas.org.nz
Observatory Director:	Kieren Eden	observatory.director@cas.org.nz
Editor:	Dale Kershaw	editor@cas.org.nz
Membership Secretary:	Dale Kershaw	membership@cas.org.nz
Librarian:	Sean Mullis	librarian@cas.org.nz
Web Master:	Marc Bunyan	casweb@cas.org.nz
Committee Members:	Carol McAlavey	member2@cas.org.nz
	Goran Balvan	member5@cas.org.nz
	Orlon Petterson	member4@cas.org.nz
	Ray Pointon	member3@cas.org.nz

For more specialized information please see the contact information page on [www.cas.org.nz](http://www.cas.org.nz)

### CAS Contact Information

Canterbury Astronomical Society Inc.

PO Box 25-137

Christchurch 8140

Web: [www.cas.org.nz](http://www.cas.org.nz)

Canterbury Astronomical Society Facebook Group:

[www.facebook.com/groups/CanterburyAstronomicalSociety](https://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 (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 1<sup>st</sup> 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](mailto:editor@cas.org.nz)

The deadline for each issue is the 1<sup>st</sup> 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.

# APPLICATION FOR MEMBERSHIP



To: Membership Secretary  
Canterbury Astronomical Society Inc.  
PO Box 25137  
Christchurch 8140

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: \_\_\_\_\_